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Gradual Transformation of the Right to Work in Digital Environment

(A perception of increasing digi-technological unemployment)

Introduction

Apparently, AI has already reshaped our lives and will continue to do so.¹ It supports the societies in many ways,² however, there are important concerns regarding its negative impact on employment and the labour market.³ On the contrary, AI will hopefully create new jobs,⁴ reinforce the need for existing areas of expertise, and require new skills of a modern workforce.⁵

The disappearing jobs by AI and robots directly deteriorate human work and increase the probability of an eternal *digi-technological unemployment* (hereinafter: *DTU*)⁶ and ultimately undermine the right to work as a basic human social right.⁷

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¹ How artificial intelligence is reshaping our lives (2018) <https://www.technology.org/2018/04/19/how-artificial-intelligence-is-reshaping-our-lives/> (access: 30.05.2023).

² AI helps employees to ease work, generates more profit for owners and diminishes inequality and/or poverty in the society.

³ There is an assumption that AI based on costs, quality and capacity gradually supersedes human beings from the labour market.

⁴ According to an OECD study, „Despite fears, the technological progress experienced in recent decades has not led to mass unemployment. In fact, employment in OECD countries has risen. Forthcoming OECD research finds no suggestion that automation leads to the overall contraction of employment. This is because the forces at play do not only destroy jobs, they also create and transform them.” Marguerita Lane (2021) The impact of AI on the labour market: is this time different? <https://oecd.ai/en/wonk/impact-ai-on-the-labour-market-is-this-time-different> (access: 30.05.2023).

⁵ The Impact of Artificial Intelligence on Unemployment (2022) <https://www.technology.org/2022/09/17/the-impact-of-artificial-intelligence-on-unemployment/> (access: 30.05.2023).

⁶ Eternal digi-technological unemployment means a *life-long unemployment*, due to the fact that AI will replace work and the unemployed human persons cannot enter (as career starters) or return back at all to the labour market. This will be a fundamental and paradigm shift in the life of the industrial society. Finally, the function of the labour market simply disappears.

⁷ The genuine human rights context of the right to work means a) the right to participate in the producing and servicing activities of the human society and b) the right to participate in the benefits accrued through these joint

The aim of this paper is to answer two basic questions: 1. What is the possible impact of digi-technological unemployment on the content of the right to work in the Post-work World's⁸ "labour market"?⁹ 2. How to provide income security (maintenance) for the eternally (digi-) unemployed persons (former employees).

Based on the above-mentioned research questions, the following hypotheses were revealed. 1. Transitionally, a positive correlation can be expected between AI (robots) and the unemployment rate of the least educated/skilled workers, and a negative correlation between robots and the unemployment rate of those with a high level of education.^{10,11} 2. Using AI and robots, the first step is increasing productivity instead of human replacement. Supposedly, as the next steps, productivity will further develop, and in line with it the number of employees will decline as well.¹² 3. Widening the sectors applying AI (horizontal expansion of AI).¹³ 4. Accelerating the change of the robot generations (vertical expansion) in workplaces. (Gradually, cobots¹⁴ will replace industrial robots.)

These hypotheses imply that the nature, content and necessity of human work are gradually disappearing, therefore the function of the employees' decisive human rights (right to work) is persistently changing and becoming, in a certain sense, meaningless. Since in the current industrialised societies almost everything is based on human work – more precisely on remuneration for work, – the vanishing of the right to work influences several other human social rights (e.g. social security, etc.), and work-based income security and human dignity might be ceased.

1. Impact of AI on the labour market

1. Gradual transition of the labour market: short- and middle-run perspective

On the one hand, high-level estimates say that AI and automation could affect or eliminate a quite big amount of current jobs. As AI evolves and more tasks fall into the category of

activities to an extent that guarantees an adequate standard of living. The right to work thus strives to ensure that nobody is excluded from the economic sphere.

⁸ It means a society where the huge majority of the jobs and traditionally work-related tasks are taken over by AI and robots.

⁹ The definition of the traditional labour market, often known as the job market, is concerned with the supply and demand for labour. Employees provide the supply and employers provide the demand. The labour market is a fundamental part of a country's economy as it is intertwined with capital, goods, and service markets. Source: <https://www.studysmarter.us/explanations/microeconomics/labour-market/> (access: 30.05.2023).

¹⁰ This hypothesis is consistent with the skill-biased technical change (SBTC) theory: unskilled workers are negatively impacted by technological progress, while skilled workers benefit from it.

¹¹ FLORENT BORDOT: Artificial Intelligence, Robots and Unemployment: Evidence from OECD Countries, *Dans Journal of Innovation Economics & Management* 2022/1 (N° 37), pages 117 à 138.

¹² This hypothesis corresponds to Bob Tita's work on 'Robots Pick Up More Work at Busy Factories (2022), <https://www.wsj.com/articles/robots-pick-up-more-work-at-busy-factories-11653822002> (access: 30.05.2023).

¹³ The use of industrial robots for years had been concentrated in the automotive industry, where robots took on repetitive tasks such as welding on assembly lines. Robots made inroads into other sectors including food production, consumer products and pharmaceuticals, etc.

¹⁴ Cobot means collaborative robot. It can safely operate alongside humans in a shared workspace. The simplest difference between robots (traditional industrial robots) and cobots is the partnership with humans.

activities that can be easily automated, entire jobs, tasks and even industries might disappear.¹⁵ The shift toward a more AI-dominated job economy will largely eliminate low-skilled work positions. Jobs that involve highly repetitive tasks are the most vulnerable to the shift. As such, most jobs created by the evolution and growth of AI will require the “upskilling” and “reskilling” of the workforce.¹⁶ As far back as in 2013, Oxford University academics *Carl Frey* and *Michael Osborne* were the first to capture this anxiety in a paper titled: “The Future of Employment: How susceptible are jobs to computerisation?”¹⁷

On the other hand, the amount of work is not fixed. “AI and robots will take all the jobs” thesis, frequently suffers from the “lump of labour” fallacy.¹⁸ Over the long run, machines have not created a zero-sum labour market – at least not yet. That is because there is no fixed amount of work to do. Yes, definitely machines can take over tasks performed by human workers. But the job-displacing effects of automation are countered by two forces, which economist Daron Acemoglu calls the “productivity effect” (a virtuous circle where machines allow companies to produce stuff more cheaply, increasing consumer purchasing power, which then makes companies more profitable, resulting in more job creation) and the “reinstatement effect” (technology creates new tasks to do). Acemoglu’s research shows that about half of the employment growth over 1980-2015 took place in occupations in which job titles or tasks performed by workers changed.¹⁹

While most of the conversation about artificial intelligence and unemployment plus the job market focuses on automation’s ability to replace workers, it is worth discussing how AI might create jobs or help job seekers avoid unemployment. In 2018, a report from the World Economic Forum²⁰ estimated that AI would create a net total of 58 million new jobs by 2022. The report also posits that AI will displace or eliminate 75 million jobs by 2022.

Another report by the World Economic Forum in 2021 estimated that by 2025, 97 million new jobs will be created by AI. Many of these jobs are also likely not to follow the traditional full-time employment model. Instead, more employers are expected to expand their remote workforces and rely on contractors for the bulk of their personnel needs.²¹

There are a number of reasons why the contemporary world is not moving towards becoming a robot’s world just yet. For example: 1. AI will rarely be able to substitute an

¹⁵ Over 30 million U.S. workers will lose their jobs because of AI (2019) <https://www.marketwatch.com/story/ai-is-set-to-replace-36-million-us-workers-2019-01-24> (access: 30.05.2023).

¹⁶ The Impact of Artificial Intelligence on Unemployment (2022) <https://www.technology.org/2022/09/17/the-impact-of-artificial-intelligence-on-unemployment/> (access: 30.05.2023).

¹⁷ CARL BENEDIKT FREY – MICHAEL A. OSBORNE: (2013): *The Future of Employment: How Susceptible are Jobs to Computerisation?* https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf (access: 30.05.2023).

¹⁸ KÓNYA ÁDÁM: (2023) *Kiszámolták, hány ember veszítheti el a munkáját az MI miatt.* <https://haszon.hu/megkeresni/munka/mesterseges-intelligencia-munkakor> (access: 30.05.2023).

¹⁹ JAMES PETHOKOUKIS: (2022) *The Case against Mass Technological Unemployment.* (And What Happens If I’m Wrong.), <https://www.aei.org/articles/the-case-against-mass-technological-unemployment-and-what-happens-if-im-wrong/> (access: 30.05.2023)

²⁰ World Economic Forum: *The Future of Jobs Report* (2018) Centre for the New Economy and Society, https://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf (access: 30.05.2023).

²¹ The Impact of Artificial Intelligence on Unemployment (2022) <https://www.technology.org/2022/09/17/the-impact-of-artificial-intelligence-on-unemployment/> (access: 30.05.2023).

entire occupation, which, in most cases, requires much more versatility and adaptability. 2. The new technologies not only destroy, but also create jobs. 3. Just because it is technically feasible to substitute an entire profession with computers, it does not mean that it will happen because: 3.1. in many cases, people will continue to do the work cheaper than machines; 3.2. legal responsibility (e.g. who should be held responsible for AI's wrong action); 4. New technologies are contributing to increasing inequalities – both between different groups of workers and business owners. While they do not cause a widespread loss of jobs, they do change the demand for certain skills and contribute to a shift towards more flexible but precarious “contingent work” arrangements.²²

As for further considerations, there are at least two influencing and reshaping dimensions of AI and robots in the labour market: 1. horizontal dimension²³ and 2. vertical dimension.²⁴ There are at least three recognised generations of robots: a) industrial robots,²⁵ b) collaborative robots²⁶ and c) fully autonomous (augmented) robots.²⁷

1. Horizontal transition means that currently and in the future many human tasks and jobs will be at risk in the labour market. Mainly the 3Ds (dirty, dangerous and difficult), low-skilled and monotonous tasks can be easily automated, and this can gradually make certain jobs redundant. For instance, tasks and activities related to customer care/call center operation, document classification, discovery and retrieval, content moderation are more and more based on technology and automation and less on human work. The same is true for roles related to operation and support of production lines and factories: humans are being replaced by smart robots that can safely navigate the space, find and move objects (such as products, parts, or tools) or perform complex assembling operations.²⁸

2. The vertical dimension of robotisation is based on the development of robot generations. In the literature there are many generations distinguished, but we use the three mainstreams only. The first generation of *industrial robots* were mechanical machines that were built by humans and they are simple mechanical arms without considerable AI.²⁹ Second generation robots are known as *collaborative robots* or cobots.

²² Will robots and AI cause mass unemployment? Not necessarily, but they do bring other threats, <https://www.un.org/en/desa/will-robots-and-ai-cause-mass-unemployment-not-necessarily-they-do-bring-other> (access: 30.05.2023).

²³ It means that AI increasingly takes over tasks/jobs and to a certain extent professions from human workers in the labour market.

²⁴ It means that the generations of robots will replace and/or complement each other in the future.

²⁵ A first-generation robot is a simple mechanical arm. These machines have the ability to make precise motions at high speed, many times, for a long time.

²⁶ A second-generation robot has rudimentary machine intelligence. Such a robot is equipped with sensors that tell it things about the outside world. These devices include pressure sensors, proximity sensors, tactile sensors, radar, sonar, lidar, and vision systems.

²⁷ The concept of a third-generation robot encompasses two major avenues of evolving smart robot technology: the autonomous robot and the insect robot. An autonomous robot can work on its own.

²⁸ GEORGE KRASADAKIS: *How Artificial Intelligence Disrupts Employment and the Workforce – the Types of Jobs to be Impacted*.

²⁹ Robot Generations: 1st, 2nd, 3rd, and 4th Generations (2022) <https://www.electricalterminology.com/robot-generations/> (access: 30.05.2023).

These are designed to work side by side with humans. They are collaborative in the sense that they can be programmed to help with a task and learn from their mistakes. Third generation robots encompass the most important avenues of evolving clever robotic generation: *self-sustaining robotic* and *insect robotic*.³⁰

2. Time dimension of the gradual transition of the labour market by AI: longer-run perspective

Due to the horizontal and vertical development of robots, in the longer run, it might be witnessed that certain roles and jobs will become less and less relevant, and finally will be outdated or even disappear forever. But, in most of the cases, AI will have a supportive role to humans – empowering the human factor to perform better in handling complex and critical situations which require judgment and creative thinking. In parallel, there would be numerous new roles and specialties with a focus on technology and science. For example, there will be a need for highly skilled professionals to oversee or manage or coordinate the training of complex AI systems; to ensure their integrity, security, objectivity and proper use.

Under certain assumptions, and following the initial disruption due to digi-technological unemployment,³¹ the AI 4.0 (r)evolution will lead to a new era of prosperity, creativeness, and well-being. Humans will no more need to perform routine, limited-value jobs or formal jobs at all. The workforce and the underlying employment models will move from *full employment* (right to work approach) to *full unemployment*³² (right to activity³³ approach). However, there will be a relatively small-scale stream of new business opportunities, on the one hand, empowering the culture of entrepreneurship, innovation, and on the other hand, volunteer activity.

The above mentioned positive scenario requires a common, shared understanding of AI technology, its opportunities, and its risks. Societies need to adapt to the new technology landscape, become more flexible, and also inherit an attitude of life-long learning, collaboration, innovation, and philanthropic entrepreneurship.

³⁰ LIU, ZHIHAO ET AL.: Robot learning towards smart robotic manufacturing; A review *Robotics and Computer-Integrated Manufacturing*, Volume 77, October 2022, 102360.

³¹ The original meaning of technological unemployment is the unemployment that results from the introduction of new technology into the economy. It can be caused by the replacement of workers by machines or the automation of tasks that were once done by workers. Technological digi-unemployment is caused by the displacement effect, in which robots or other automation complete tasks formerly done by workers. The effects of technological unemployment are both positive and negative. On the one hand, technology can make workers more productive and create new jobs and tasks for them. On the other hand, technology can also lead to the displacement of workers as machines or robots complete tasks formerly done by human beings. This can lead to a decrease in wages and employment.

³² Free Press Interview: A. C. Clarke author of '2001', (Interview of Arthur C. Clarke conducted by Gene Youngblood), 1969 April 25, Los Angeles Free Press, p. 42, Quote Page 43, Column 4 and 5, Los Angeles, California. (Reveal Digital Independent Voices Collection at revealdigital.com)

³³ Activities are things that humans do with their time. This can include the pursuit of fun, learning, play, adventure, self-fulfillment, connectedness, growth, household work, volunteer activity, and bonding with others.

Even more traditional professions which are built on top of strong human relationships, such as legal professions, will be significantly impacted: typical support services in a legal context have to do with document handling – classification, discovery, summarization, comparison, knowledge extraction, and management – tasks where AI agents can do a great job already. In addition, financial services, insurance, and any other sector requiring a significant amount of data processing and content handling will also benefit from AI. Admittedly, in state administration, public governance, and social mechanisms AI can have a great role in eliminating bureaucracy, improving the efficiency of public administration services to citizens, along with the design and performance of social programs.

With automation's threat to work – due to the continuously increasing digi-technological unemployment³⁴ – the debate on the definition of the right to work (as a human right) will arguably increase. Originally, technological unemployment (one type of structural unemployment) was the loss of jobs caused by technological change.³⁵ However, the recent digi-technological unemployment is unemployment that results from the introduction of modern digital technology (AI) into the economy and the labour market. It can be caused by the replacement of workers by digitalisation and automation of tasks that were once done by workers. As it was mentioned, in the long term, AI will replace human beings not only in manufacturing and service, but across almost all economic sectors, including public administration as well.³⁶

II. Right to work in the transition from the “Work-based World” to the “Post-work World”

It is urged that there should be more discussions on how the right to work³⁷ can take its updated shape and formulate in the new age of AI. The traditional perception of the right

³⁴ The traditional technological unemployment is the loss of jobs caused by technological change. It is a key type of structural unemployment.

³⁵ The history of technological unemployment is long and varied. In the early days of the Industrial Revolution, workers were displaced by new machines that could do the same tasks faster and more cheaply. In more recent times, computerization and automation have led to widespread job losses in manufacturing and other sectors. While technology has created new jobs in other sectors, these often require higher levels of education and skills, leaving many workers behind. (<https://www.alibabacloud.com/topic-center/faq/4ib792pykys-what-is-technological-unemployment-definition-alibaba-cloud>) (access: 30.05.2023)

³⁶ JAMES PETHOKOUKIS: (2022) *The Case against Mass Technological Unemployment*. (And What Happens If I'm Wrong.), <https://www.aei.org/articles/the-case-against-mass-technological-unemployment-and-what-happens-if-im-wrong/> (access: 30.05.2023)

³⁷ The main and original international legal definitions of the right to work: According to Article 23 of the Universal Declaration of Human Rights (1948): „Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment.”

2. Article 6(1) of the International Covenant on Economic, Social, and Cultural Rights (ICESCR) (1966) states: „The States Parties to the present Covenant recognize the right to work, which includes the right of everyone to the opportunity to gain [her or his] living by work which [she or he] freely chooses or accepts, and will take appropriate steps to safeguard this right.”

3. Article 1 of the Revised European Social Charter (ESC) (1996) says: “With a view to ensuring the effective exercise of the right to work, the Parties undertake: 1 to accept as one of their primary aims and responsibilities the achievement and maintenance of as high and stable a level of employment as possible, with a view to the attainment of full employment; 2. to protect effectively the right of the worker to earn his living in an occupation

to work and AI do not coexist by nature. One solution might be to stop or slow down automation, but nowadays it is clear that nobody and nothing can stop this development. In this environment the right to work, in the sense of having access to jobs for potentially all the working-age population, will inevitably and eventually become obsolete and outrageous. In the long run, there is no realistic chance to fully reintegrate – using active labour market policy measures – the digitally replaced workers into the labour market. However, this process will not happen from one day to another, rather a gradual transformation will drive to the final stage of mass (and finally full) digital technological unemployment.³⁸

Transitionally, there are two conceivable solutions to “preserve” the original concept of right to work. A) Revitalize the well-known Active Labour Market Policies (ALMPs) measures as long as possible (ALMPs were and still are very important elements of the Work-based World or traditional right to work concept), particularly the IT&AI-based reskilling digital-LLL approach;³⁹ and/or B) reconsider the concept (meaning) of work (its divided into two approaches: 1. Work-based World and 2. Post-work World approach). This paper will focus mainly on the second (B) subject-matter. Therefore, the aim of this sub-chapter is to highlight this debate and provide some proposals on how the right to work – mainly its inherited and indispensable values – might be applied or even transformed in the age of automation.

1. Right to Work in the “Work-based World”

In the past and recent Work-based World⁴⁰ era, the right to work was and still is one of the fundamental (economic) human rights, which is a foundation for the realization of other human rights (such as the right at work, or the right to social security, or the right to dignity in the workplace, etc.)⁴¹ It includes the opportunity to earn a livelihood by work freely chosen or accepted. In progressively realising this right, states are obliged to ensure the availability of technical and vocational guidance, and take appropriate measures to develop an enabling environment for productive employment opportunities. The right to work contributes at the same time to the survival of the individual and to that of his/her

freely entered upon; 3 to establish or maintain free employment services for all workers; 4. to provide or promote appropriate vocational guidance, training and rehabilitation.

³⁸ There is no one answer to the future of technological unemployment. It is still unclear how different technological advancements will affect employment and the labour market in the future. Some experts believe that technological digi-unemployment will increase as more jobs are replaced by robots or other forms of automation, while others believe that new opportunities will be created that will offset any negative effects. It is important to note that there is no evidence that technological digi-unemployment is a permanent trend, and that it is likely to vary depending on the specific technology and economic conditions.

³⁹ Digital Education Action Plan (2021–2027) <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>.

⁴⁰ It is the past and present work-based industrial society. One of the center issues is to find work and get remuneration for it.

⁴¹ Dignity means the importance of work for personal development as well as for social and economic inclusion into the society.

family, and insofar as work is freely chosen or accepted, to his/her development and recognition within the community.

Originally, the right to work encompassed all forms of work, whether independent work (under a civil law contract) or dependent work (under an employment contract). The right to work should not be understood as an absolute and unconditional right to obtain employment. Article 6 (1) of the ICESCR contains a definition of the right to work and paragraph 2 cites, by way of illustration and in a non-exhaustive manner, examples of obligations incumbent upon states parties. It includes the right of every human being to decide freely to accept or choose work. This implies not being forced in any way whatsoever to exercise or engage in employment and the right of access to a system of protection guaranteeing each worker access to employment. It also implies the right not to be unfairly deprived of employment.⁴²

Like all human rights, the right to work imposes three types or levels of obligations on states parties, namely the obligations to: 1. respect,⁴³ 2. protect⁴⁴ and 3. fulfil the human right(s).⁴⁵ In addition, the right to work includes the following interrelated and essential features: 1. Availability. (States must ensure the existence of tailored employment services to help people to identify employment opportunities and find work.) 2. Accessibility. (Access to work involves three key elements: a) non-discrimination, b) physical accessibility, and c) information accessibility.) 3. Acceptability and quality.⁴⁶

The principal obligation of states parties is to ensure the progressive realization of the exercise of the right to work. States parties must therefore adopt, as quickly as possible, measures aiming at achieving full employment. While the UN Covenant provides for progressive realization and acknowledges the constraints due to the limits of available resources, it also imposes on states parties various obligations which are of immediate effect. States parties have immediate obligations in relation to the right to work, such as the obligation to “guarantee” that it will be exercised “without discrimination of any kind” (art. 2, para. 2) and the obligation “to take steps” (art. 2, para. 1) towards the full realization of article 6. Such steps must be deliberate, concrete and targeted towards the full realization of the right to work.

⁴² The Right to Work, General comment No. 18 Adopted on 24 November 2005 Article 6 of the International Covenant on Economic, Social and Cultural Rights <https://docstore.ohchr.org/SelfServices/FilesHandler.ashx?access:30.05.2023>.

⁴³ The obligation to respect the right to work requires States parties to refrain from interfering directly or indirectly with the enjoyment of that right.

⁴⁴ The obligation to protect requires States parties to take measures that prevent third parties from interfering with the enjoyment of the right to work.

⁴⁵ The obligation to fulfil includes the obligations to provide, facilitate and promote that right. It implies that States parties should adopt appropriate legislative, administrative, budgetary, judicial and other measures to ensure its full realization. This obligation requires States parties, inter alia, to take positive measures to enable and assist individuals to enjoy the right to work (e.g. active labour market policies) and to implement technical and vocational education plans to facilitate access to employment.

⁴⁶ The Right to Work General comment No. 18 Adopted on 24 November 2005 Article 6 of the International Covenant on Economic, Social and Cultural Rights <https://docstore.ohchr.org/SelfServices/FilesHandler.ashx?access:30.05.2023>.

While only States are parties to the UN Covenant and are thus ultimately accountable for compliance with it, all members of society – individuals, local communities, trade unions, civil society and private sector organizations – have responsibilities regarding the realization of the right to work.⁴⁷

The most important aim of the right to work⁴⁸ is characterized by the following life cycle: 1. find work (career starters' employment); 2. keep work with the possibility to lose work (unemployment) and 3. find work again (re-employment⁴⁹ with the help of active labour market policies & LLL) and so on. In this cyclical process the desire and hope to find a new job is an immanent feature and obligation. And the labour market helps to match employers' work demand and potential employees' work offer, in many times with the help of employment agencies.

However, in the Post-work World the labour market will gradually change and the labour market loses its matching function and the work will be (in one day close to entirely) done by robots and the unemployed employees – in the long run – will lose the real hope to be hired again in a formal employment status. Gradually, the concept of today's *full employment* will change to the *full unemployment* approach in the unforeseeable future.

2. The changing concept of work

The concept (definition) of "worker" (as a central subject of the dichotomy of dual legal relationship: whether the particular work is performed under a civil law contract or an employment contract) is used in many labour law literatures and court decisions.

Contrary to this mainstream approach, in this paper the concept (definition) of 'work' approach is offered to be reconsidered. When defining who a worker is, there are, at least, three decisive items used for delimitation: 1. subordination (employer-employee), 2. remuneration (employer's obligation to pay money for work) and type of contractual relationship (relationship is based on employment contract). In the case of the 'work' concept, the decisive factor is the nature of conducive activity itself. Accordingly, two basic concepts of work itself will be discussed under the A) Work-based World and B) Post-work World approach.

A) Nowadays, in advanced industrial societies (in our terminology: *Work-based World*), the traditional concept of work means usually remunerated, subordinated work, under employment contract, in industry, usually manufacturing, but it may also include service work and work for public administration.

⁴⁷ The Right to Work General comment No. 18 Adopted on 24 November 2005 Article 6 of the International Covenant on Economic, Social and Cultural Rights <https://docstore.ohchr.org/SelfServices/FilesHandler.ashx?access:30.05.2023>.

⁴⁸ Its most important target is to reach full employment.

⁴⁹ The act or an instance of employing or being employed again. <https://www.collinsdictionary.com/dictionary/english/re-employment> (access: 30.05.2023).

Making human work means achieving organizational success⁵⁰ by creating work experience that meets the most important human needs of each employee. However, the non-monetary aspects of employment are also key drivers of people's well-being. Social status, social relations, daily structure, and goals all exert a strong influence on people's happiness (societally gainful work). In industrialised societies, work and remuneration based on work were the immensely fundamental economic security for workers and often for their family members. Even social security per se was based on the redistribution of income.

Meaningful work can be understood to be a fundamental human need, which all persons require in order to satisfy their inescapable interests in freedom, autonomy, and dignity.⁵¹

Work in the Work-based World is 'a basic mode of being in the world', where 'to work means to humanise the world and to produce something'. In this sense, work functions to create and to sustain values and meanings beyond the realm of its economic productivity: work is a mode of being in the world which transcends the employment relation to include all the activities which contribute to producing and reproducing a complex system of social cooperation. However, work cannot be meaningful if it requires the enslavement of the worker.⁵²

B) The nature of work in the postindustrial society (in our terminology: *Post-work World*) will change due to the fact that AI and robots will gradually take over the huge majority of existing jobs in industry, service and public administration sectors as well. The traditional subordinated, organised and remunerated work will be ceased for many current employees. The original and theoretical aim of the Work-based World – *full employment* – will be replaced by *full unemployment* in the Post-work World society.

However, from the societal point of view, work (activity) is still a necessary "oil drop" for the pursuit of an active society, and for the sake of protecting the integrity and dignity of human beings in this new AI-based Post-work World. Inevitably, the nature, the genuine notion and forms of manifestation of the work in the AI-driven society might change.

In the Post-work World the classical legally organized work will gradually disappear and work-related remuneration will be replaced, probably, by the system of Unconditional Basic Income (hereinafter: UBI) and social security will not be based on work-related contribution or tax anymore. Income tax might be replaced by robotax.⁵³ In this new environment, the mental and dignital segment of work shall be crucial. One of

⁵⁰ According to Aristotle, all human functions contribute to eudaimonia, 'happiness'. Happiness is an exclusively human good; it exists in rational activity of soul conforming to virtue. This rational activity is viewed as the supreme end of action, and so as man's perfect and self-sufficient end.

⁵¹ YEOMAN, R.: *Conceptualising Meaningful Work as a Fundamental Human Need*. *J Bus. Ethics* 125, 235–251 (2014). <https://doi.org/10.1007/s10551-013-1894-9> (access: 30.05.2023).

⁵² KOVACS, G.: (1986). *Phenomenology of work and self-transcendence*. *The Journal of Value Inquiry*, 20(3), pp. 195–207.

⁵³ Taxing companies or robot owners that use robots to help pay for the workers they have displaced.

the potential solutions might be the combination of domestic and volunteer/philanthrop⁵⁴ work/activity. The very important precondition is that these kinds of work shall be treated equally with the former work (which has been done by the employee or the worker in a strict legal environment – mainly in the labour or civil law dichotomy) in industry, service and public administration sectors. In the discussed new concept, the status of the person doing work is irrelevant, since the human (social) rights protection (rights at work: labour law, social security, OHS, non-discrimination, privacy and data protection, etc.) will be available for every kind of working activity.

The plain societal and anthropological⁵⁵ meaning of work itself refers to activities undertaken by an individual to achieve a specific set of objectives. In a wide sense, it is a purposive social practice that entails expending time and effort. Thus, work does not necessarily have a commercial purpose (as ‘employment’).⁵⁶ It can be paid, unpaid, daily or infrequent activities by humans.⁵⁷

The work/activity in general can be summed into seven viewpoints:⁵⁸ 1. continuous activity, 2. productive (not necessarily profitable in the economic sense), 3. requiring physical and mental exertion, 4. has psycho-social aspects, 5. is performed on a regular or irregular basis, 6. requires a degree of restraint, and 7. can be performed for personal or societal purposes.⁵⁹

According to our opinion, in the Post-work World two types of work might be differentiated: a) domestic (family) work and b) volunteer (philanthropic & altruistic) work. These two kinds of work might be fused in the future, since the family is also part of the society.

a) *Domestic work.* Domestic workers perform a variety of household services for an individual, from providing cleaning and household maintenance, or cooking, laundry and

⁵⁴ Greek playwright Aeschylus coined the term philanthropy in the 5th century BC. It meant “love of humanity.” Today, philanthropy means generosity in all its forms and is often defined as giving gifts of “time, talent, skill and treasure” to help make life better for other people. Anyone can be a philanthropist, regardless of status or net worth. (Source: What is a philanthropist? <https://www.fidelitycharitable.org/guidance/philanthropy/what-is-a-philanthropist.html>) (access: 30.05.2023).

⁵⁵ A basic anthropological requirement; leads human beings to act upon nature to produce and make material products necessary for survival. Also, it is a practical and creative activity that permits people to express themselves through objects. Joseph L. Flores (2020), Examining the Roles of IT and Social Media in Democratic Development and Social Change, DOI: 10.4018/978-1-7998-1791-8.ch002

⁵⁶ CHRISTIAN PAPSDORF – MARKUS HERTWIG: (2021) *Human-Computer Interaction and Technology Integration in Modern Society*. In: Varieties of Sharing: Action Frameworks, Structures, and Working Conditions in a New Field, DOI: 10.4018/978-1-7998-5849-2.ch009

⁵⁷ STEFFEN BOEHM – CHRIS LAND: (2009) *The 'Value' of Knowledge: Reappraising Labour in the Post-Industrial Economy*. In: Handbook of Research on Knowledge-Intensive Organizations, DOI: 10.4018/978-1-60566-176-6.ch029

⁵⁸ VICTOR WANG – NANCY JOHNSON: (2020) Handbook of Research on Ethical Challenges in Higher Education Leadership and Administration, Pages: 19, DOI: 10.4018/978-1-7998-4141-8.ch007

⁵⁹ MADDUX, W. W. – BARDEN, J. – BREWER, M. B. – PETTY, R. E.: (2005). *Saying no to negativity: The effects of context and motivation to control prejudice on automatic evaluative responses*. Journal of Experimental Social Psychology, 41(1), 19–35. <https://doi.org/10.1016/j.jesp.2004.05.002> (access: 29.05.2023).

ironing, or care for children and elderly dependents, and other household errands.⁶⁰ These kinds of work are useful for the household and for the society as well.

b) *Volunteer work (or philanthropic work)*. It is difficult to define what volunteer work means. In simple words, it can be called as a social service for the members of the entire society. Being in some ways helpful to the people can be broadly termed volunteer work. It contributes to human beings' labour (physical or brain work) for the welfare of the society. Volunteer work may differ in different places and circumstances. Some communities may need shelter, some others may need clothing, some food, some education, some material help (e.g. special schools where a lot of equipment is needed that is expensive), etc. The concept and content of volunteer work may change accordingly.

III. Some foreseeable solutions for Post-work World society

1. Universal Basic Income

The basic problem with full digi-technological unemployment (literally no traditional/ industrial work available) is that there is no possible workplace (or gradually decreasing) to legally earn money to live. In this context, instead of human beings, robots work in the factories, offices, etc. At the same time, human beings stay at home without pursuing traditional (e.g. industrial) work, which means that they lost their source of regular income and at the same time social security protection. In my view, one of the possible solutions – to AI-related digi-unemployment – is the robotax-based Unconditional & Universal Basic Income.⁶¹

By way of introduction to the topic, two similar expressions shall be defined: 1. *guaranteed (conditional) income* and 2. *universal (unconditional) basic income*. 1. *Guaranteed income* (income tested) redistributes wealth to people who need it most and who have historically been impacted by the lack of opportunities. 2. In contrast, Universal (Unconditional) Basic Income (UBI)⁶² refers to all people getting a set amount of regular

⁶⁰ The domestic work in Pro-work World concept is not equal with the definition of ILO's Domestic Workers Convention, 2011 (No. 189), since Article 1.b-c. of the Convention states: „(b) the term domestic worker means any person engaged in domestic work within an employment relationship; and (c) a person who performs domestic work only occasionally or sporadically and not on an occupational basis is not a domestic worker.”

⁶¹ This is different from the past and present experiments on Unconditional Basic Income. The big difference is that recent experiments are running in the traditional „right to work” environment (provide protection for the unemployed and keep in mind the main aim of full employment), namely encouraging UBI receivers to make every effort to be rehired in the formal labour market. The main target is to get back to organised work as soon as possible. However, the AI-driven UBI – as a plan – will provide an eternal source of income until the end of the life of the person. This is based on robotax. Social security benefits are meaningless, since every social security-related risk (e.g. maternity, sickness benefit, unemployment, disability, old-age pension, etc.) are purported in the UBI. The only exception is health care services.

⁶² It is also known by many other names (e.g. Guaranteed Income, Freedom Dividend, and Unconditional Basic Income, etc.).

cash regardless of their income or need. In the case of UBI, there is basically no means-test or previous work requirement.⁶³ However, there may also be room to combine unconditional and conditional benefits, to some degree. Along the same lines, cash transfers conditional on recipients taking certain education or health steps might represent an interesting and less extreme version of UBI.⁶⁴

Income-tested basic income, most commonly called a Guaranteed Minimum Income (GMI), goes to those most in need and is phased out as income from work increases. This is the typical social assistance benefit in the current Work-based World context. On the contrary, the Universal Basic Income (UBI) is an unconditional, flat amount paid to all in the society. This might be the typical source of income in the Post-work World. A universal basic income would provide everyone with a level of income to ensure they could meet basic needs such as food, housing, and clothing while giving them additional support if they need it during challenging times.

UBI might be an efficient way to redistribute the benefits from automation. Presumably, AI will bring a significant increase in productivity, with enormous benefits, but also a dramatic reallocation of jobs, skills, and incomes, which might jeopardize the full realization of those benefits. Current social policies may not be adequate to successfully redistribute the gains from automation or to advance the reallocation of jobs and skills. Under certain circumstances, an UBI might be a better alternative for achieving these goals. It is simple, transparent, and has low administrative costs, though it may require higher taxes or a cut/reallocation of other public expenditures.⁶⁵

The theoretical and empirical evidence is sufficient to suggest that UBI might be a viable alternative, or a complement, to selective and conditional social assistance policies and to mainly work-based contributory social security systems. UBI appears to be an especially suitable approach for redistributing the gains from automation and globalization, by building an efficient and transparent buffer against global volatility and systemic risks, generating positive incentives, and avoiding recurrent risks of falling into poverty. The source of UBI might be the so-called robotax (tax and/or contribution paid by the robot's profit owner and the amount based on the profit made by robots.) See it later.

As one of the forerunners in EU on November 23, Social Europe published an article⁶⁶ by *Bo Rothstein* entitled 'UBI: A bad idea for the welfare state'. It starts from a definition of 'Unconditional Universal Basic Income' (UUBI) as 'every citizen will be entitled to a basic income that frees them from the necessity of having a paid job'; and it adds the details that the level of UBI would be £800 per month, and that 'all means-tested programs for those who cannot support themselves through paid work can be abolished'.⁶⁷

In the AI-driven labour market (Post-work World), the meaning and aim of UBI is different from *Bo Rothstein's* approach. In the Work-based World (industrial societies,

⁶³ <https://www.ubie.org/who-we-are/> (access: 30.05.2023).

⁶⁴ COLOMBINO, U.: *Is unconditional basic income a viable alternative to other social welfare measures?* IZA World of Labour 2019: 128 doi: 10.15185/izawol.128.v2

⁶⁵ COLOMBINO, U.: *Is unconditional basic income a viable alternative to other social welfare measures?* IZA World of Labour 2019: 128 doi: 10.15185/izawol.128.v2

⁶⁶ BO ROTHSTEIN: (2017) *UBI: A Bad Idea For The Welfare State*. <https://www.socialeurope.eu/ubi-bad-idea-welfare-state>

⁶⁷ UBI – European Initiative (2022), <https://eci-ubi.eu/> (access: 30.05.2023).

like many countries today), UBI serves as a universal (non-contributory, non-means-tested and demogrant model) basic amount of state money to avoid the pauperization by citizens who lost their job for a longer period and cannot be reintegrated into the (regular) labour market. This UBI fits in the Work-based World's labour market and concurs with the social assistance-based guaranteed basic income model for needy persons.

However, the new AI-UBI (or RoboUBI) concept in the expansive AI work-based World means that human persons – losing their jobs and becoming digi-unemployed – inherently cannot return back to the labour market, since the overwhelming majority of the human-made job positions are displaced by AI and robots. In this context, AI-UBI will permanently (even eternally) replace human work based remuneration for digi-technological unemployed persons. The source of this UBI will be the AI generated profit's tax (robotax).

In sum, the paradigm shift of the AI-based transformation of the labour market approach suggests that UBI will gradually and permanently replace work-based income and its social security replacement. Both means-tested (non-contributory) benefits and social security (contribution-based) benefits will be abolished for the increasing number of citizens who are eternally excluded from the labour market.

2. Social Security and Robotax

As a starting point, in the Work-based World, social insurance systems may fill the work-related income gap and provide individuals with some temporary (e.g. sickness, maternity, unemployment, etc.) or permanent (e.g. old-age pension) financial protection. In the AI-based Post-work World, as a basic function, social protection may provide sufficient basic income (e.g. UBI) to individuals so they are not forced into work.⁶⁸

However, if human labour becomes economically redundant and is replaced by AI and robots that are cheaper than the human employee, it will fundamentally affect the distribution of AI activity (work) based on “income” or profit. Even if the headway of AI is gradual and not every worker and employee will lose their job immediately, human work-based contributions and taxes will continue to decrease, making obstacles to the traditional distribution of income and redistribution of social insurance/security benefits, such as unemployment, retirement benefits or health care. Since machines that make labour redundant would be able to produce unprecedented levels of output, there would be significantly more resources available, making it easier to raise revenue that can be redistributed.⁶⁹

In the forthcoming years the taxation systems will have to adapt significantly if the role of human labour in the AI-driven economy constantly declines. Taxes would have to

⁶⁸ ANTON KORINEK – MEGAN JUELFs: (2022) *Preparing for the (Non-Existent?) Future of Work*, Working Paper 30172, <http://www.nber.org/papers/w30172> (access: 30.05.2023).

⁶⁹ Anton Korinek and Megan Juelfs (2022) *PREPARING FOR THE (NON-EXISTENT?) FUTURE OF WORK*, Working Paper 30172, <http://www.nber.org/papers/w30172> (access: 30.05.2023).

be raised increasingly on factors other than labour, for example, via Pigouvian taxes⁷⁰ on activities that generate externalities, or via taxes on inelastic factors such as land that are not distorted by taxation, or profit made by robots (robotax). Moreover, there may be equity reasons to tax any factors that benefit from technological progress at the expense of labour.⁷¹

IV. Conclusion

I share many experts' prediction that advances in AI may make it possible to build robots that are "perfect" substitutes for human labour and that may make human labour economically redundant within the current century.

AI technologies can lead to great gains for some economies but are not without harm for some people and communities. The overall impact will highly depend on social institutions, policies, ethical and legal norms and the reception by human beings. During long centuries, human societies successfully adapted to past technological revolutions – from the Neanderthal to the farmer during the Neolithic Revolution, and from the farmer to the worker during the Industrial Revolution. There is hope that the human work-based industrial society will also be able to adapt to the end of the Age of human labour. Moreover, it would be wasteful and frustrating to force humans to remain in low-productivity jobs when AI and robots become ever more productive.

Furthermore, there is a need for a new system of economic redistribution (e.g. robotax) to share the output that the Post-work World economy (AI and robots) produces – which does not depend on human labour. Building institutions that provide workers facing economic redundancy with alternative sources of income (e.g. UBI) would insure and be future-proof for the AI-driven Post-work World society.

Governments may be tempted to focus on the benefits of technological progress, while largely ignoring its negative impacts. Low-income countries are particularly vulnerable unless policymakers have a clear understanding of the risks and the potential of these new technologies. The sooner we start re-thinking and re-designing labour market policies, social security schemes and taxation systems, the better we can adapt to the AI-driven (r)evolution that is already happening.⁷²

⁷⁰ A Pigouvian tax, named after 1920 British economist Arthur Cecil Pigou, is a tax on a market transaction that creates a negative externality, or an additional cost, borne by individuals not directly involved in the transaction. Examples include tobacco, alcohol, sugar, chocolate, gasoline, and carbon taxes, etc.

⁷¹ ANTON KORINEK – MEGAN JUELF: (2022) *Preparing for the (Non-Existent?) Future of Work*. Working Paper 30172, <http://www.nber.org/papers/w30172> (access: 30.05.2023).

⁷² BOB TITA: (2022) *Robots Pick Up More Work at Busy Factories*. <https://www.wsj.com/articles/robots-pick-up-more-work-at-busy-factories-11653822002> (access: 30.05.2023).

JÓZSEF HAJDÚ

A MUNKÁHOZ VALÓ JOG FOKOZATOS ÁTALAKULÁSA
A DIGITÁLIS KÖRNYEZETBEN

(A digitális-technológiai munkanélküliség megjelenése)

(Summary)

A mesterséges intelligencia által fokozatosan megszűnő munkahelyek közvetlenül befolyásolják a munkához való jog tartalmát. Reális alternatívának tűnik, hogy a mesterséges intelligencia a költségek, a minőség és a kapacitás paraméterek alapján fokozatosan kiszorítja az embert a munkaerőpiacról. Eredeti emberi jogi kontextusban a munkához való jog a) az egyén a társadalom termelő és szolgáltató tevékenységében való részvételéhez való jogát és b) az e közös tevékenységekből származó hasznokból való részesedés jogát jelenti. A munkához való jog eredeti célja, hogy a munka szabad megválasztásával és az abban történő részvétellel mindenkinek lehetősége legyen a saját és családja megfelelő szintű megélhetését biztosítani.

Az automatizálásnak a szervezett munkavégzést fenyegető veszélyével – a folyamatosan növekvő digitális technológiai munkanélküliség miatt – a munkához való jog megvalósíthatóságának kérdése vitathatatlanul felerősödik. A klasszikus technológiai munkanélküliség már régóta ismert, és a strukturális munkanélküliség egy fajtájának tekinthető. Az új digitális-technológiai munkanélküliség (DTM) azonban az a fajta munkanélküliség, amely a digitális technológiáknak (főleg AI és robotok) a termelési folyamatokba és a munkaerőpiacra történő bevezetéséből ered.

Fokozatosan sürgető kérdéssé válik, hogy a munkához való jog hogyan nyerheti el új tartalmát a digitalizáció korszakában. A munkához való jog és az automatizálás természeténél fogva nehezen fér meg egymás mellett. A probléma megoldásának egyik lehetősége az automatizálás megállítása vagy lassítása, de ma már egyértelmű, hogy senki és semmi nem állíthatja meg ezt a folyamatot. Ebben az új és folyamatosan változó környezetben a munkához való jog – eredeti értelmében – nem vagy csak nagyon nehezen valósítható meg. Hosszú távon nincs reális esély arra, hogy – aktív munkaerő-piaci politikai intézkedésekkel – a digitálisan „lecserélt” munkavállalók teljes mértékben visszaintegrálódhassanak a munkaerőpiacra. Ez a folyamat azonban nem egyik napról a másikra fog végbemenni, inkább egy fokozatos átalakulás vezet majd a teljes digitális technológiai munkanélküliség végső szakaszához.

Ezen írás célja, hogy rövid vitaindító bevezetésként szolgáljon ebbe a vitába, és javaslatot tegyen arra, hogy milyen opciók állnak a munkához való jog újraértelmezésére a digitalizáció korában.