

High-Level International Conference

Towards a Digitalized World of Work: What Future Works for All?

In the context of the International Labour Organization's Centenary

1st Parallel Session

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M. K. Čiurlionio 84, Vilnius, Lithuania



Ministry of Social Security
and Labour of the Republic
of Lithuania

1st Parallel Session: Will robots take our jobs or help us to be more productive?

Chairperson: Prof. Dr. Holger Bonin, Research Director, Institute of Labour Economics (IZA), Germany

Participants: heads of delegations of Member States, international institutions

DISCUSSION POINTS:

- *How will technological change impact productivity? How can policy frameworks aid in managing potentially disproportional impacts of productivity gains along the lines of gender, sector and skill level? What is the role of taxation in redistributing these gains?*
- *How will robotics impact the labour market?*
- *Will new technologies, destroy jobs of low-skilled workers or improve their productivity? Can technology relieve the burden of undesirable jobs/tasks and empower human potential?*
- *What impact will technology have on the quality of work, including working time?*

Aim: To discuss the potential effects of automation of work on the quantity and quality of jobs, with a critical look at the distribution of gains from new technologies.

Context: A number of recent studies have predicted that more than half of current jobs could be fundamentally changed or destroyed due to automation. The fear of job losses is driven by rapid advances in computing, mechanics and biotechnologies. Some believe that a much larger range of tasks is under threat today, compared to previous waves of technological advancement. There is also evidence that the current technological changes may aggravate the ongoing trend towards job polarization between high and low skill jobs, which has the potential of further segmenting the labour market, crowding out the middle class, and widening inequalities in wages, job quality and job security. At the same time, technological advances may create yet unthought-of new jobs and improve job quality for some workers.

Common to new applications of artificial intelligence (AI) is that they concern tasks that usually require specific human capacities related to visual perception, speech, sentiment recognition and decision-making. In other words, AI is replacing mental tasks rather than physical ones, which were the target of previous waves of mechanization. Meanwhile, robotisation continues to replace ever more complex physical tasks, yet it does not necessarily lead to fewer jobs. Despite the fact that advanced economies such as Germany, Denmark, Italy and the Republic of Korea had the highest growth in robot density between 1993 and 2007, they lost significantly less jobs in manufacturing (as a share of total employment) than the US and UK, two countries with much lower growth in robot density in this period. This implies that some countries were more successful in translating productivity gains from automation into output expansion, economic diversification and jobs.

But which tasks are most susceptible to automation and how will this affect job growth? Work is typically made up of both automatable and non-automatable tasks. For many jobs routine tasks may be automated, removing some burden from the worker and potentially increasing the quality of work. However, those jobs that are made up of completely automatable tasks could disappear. Many of those who are at risk of job loss may be forced to accept lower-skilled and lower-paying jobs, thus putting further pressure on wages in the low-wage sector. This can depress wages and hurt overall economic growth as workers are ultimately also consumers. How this transition is managed (i.e. through regulation and government programs, like reskilling and social protection) will affect the outcome.

Researchers have different viewpoints on the impact automation and AI will have on workers. What these studies have in common, however, is that they focus on potential gross job destruction and cannot provide an answer to how certain jobs will change and what new jobs will be created due to automation. This would be useful knowledge to assess the challenge of automation from a policy perspective.

To harness the productivity benefits of new technologies, enterprises need to invest in research and development. However, we already see that technological dividends are being unevenly distributed between and within firms. A small group of firms can take advantage of new technologies, while many others are being left behind. Micro-, small and medium-sized enterprises (MSMEs) may face challenges with technology adoption. One sign of this challenge is the rise of firms using disruptive technologies, which accumulate resources and human capital by utilizing new know-how and big data. Unsurprisingly, the rise of such market power is associated with a falling income share for workers.

This raises a number of questions. Most fundamentally, policy needs to weigh in on who owns the factors of production and how productivity gains can be distributed so economic progress benefits all in society. Moreover, many advances in technology have been substantially aided by public investments in education, infrastructure and basic research, yet such public sector value creation does not express itself adequately in returns to the public purse. In addition, there is evidence that the current system of intellectual property rights, combined with favourable fiscal treatment of some large digital firms seems to entrench the advantage of technology leaders over other enterprises. These same enterprises benefit from formerly unseen network effects (i.e. the more customers an enterprise has, the more attractive it becomes for additional customers), increasing the challenge for policy-makers to effectively address emerging issues affecting the world of work.

As a result, new thinking is needed to explore innovative measures that require enterprises to account for impact – positive and negative – of their activities on the environment and the communities in which they operate. To ensure inclusive growth, new ways to tackle inequality should be explored, including alternative business models such as cooperatives or workers as shareholders. Other much debated ideas include the introduction of a universal basic income and tax systems that focus on workers' well-being, environmental sustainability and equality. Although there is some support for the idea of a universal basic income in the face of the uncertain number of jobs available in an increasingly digital economy, there are questions regarding its financing and the adequacy of this benefit. Another aspect neglected by such proposals is the intrinsic value of work as part of what creates the social fabric in our societies.

Beyond the existence of jobs, technology will also impact the quality and shape of work. More free time could allow for better social relations, assuming that livelihoods are nevertheless ensured, but might worsen existing inequalities further. Technology might enable access to the labour market for those who are currently facing barriers, and it could provide more flexibility to workers to achieve better work-life balance. At the same time, technology is threatening to create a system in which workers' privacy is eroded, and it might further augment task fragmentation, which can take away from the value people perceive in their jobs.

Lastly, education and training need to meet the new demands placed on the labour market to ensure that workers have the skillset necessary to find work. Meeting rapidly changing skill requirements is increasingly challenging, as the exact types of skills needed in the future are unknown and skills become more rapidly redundant. This increases the need for transversal skills such as creativity, imagination, openness to new ideas, social and communication skills. Current education systems often struggle to accommodate the increased emphasis on transversal skills. Hence, reform of these systems, and the development of new systems catered to these new demands, need to be explored. So we must ask ourselves how best to deal with skilling in an age of technological change. Namely, who is responsible for skilling workers over their entire life-cycle and how should relevant costs be absorbed? Individuals, enterprises, governments or a mixture of these? And what incentives are needed to

facilitate learning over the life cycle, considering that existing learning systems were set up largely for learning prior to the entry into the labour market?

What becomes apparent from these discussions is that a more holistic discussion about policy approaches is needed that does not shy away from questioning long-established approaches and that centres on social justice, rather than just economic growth. Such discussions need to venture beyond traditional labour market and education policies and cover questions of fiscal equity, competition policy, social protection, consumer protection and others.
