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The Impact of Automated Robots on Employment and Countermeasures

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Abstract: Robots have become a pressing issue in workplaces and the academic field. Some people worry that they may decrease employment opportunities and labor costs. In this situation, the government plays a crucial role in ensuring a fair and just labor market. This paper discusses the government's role in addressing the influence of robots on employment.

Keywords: Robot; Automation; Labor; Government

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1. Introduction

Workplaces worldwide are undergoing automation, which is altering and redefining various aspects of traditional work practices. This inevitably creates uncertainty about the present and future, posing a challenge for human capital. The World Bank reported that the global workforce comprises 3.5 billion people [1]. Before this revolution, they were entitled to know how to secure employment, earn an income, and receive social security. However, with the advent of automation and its accompanying changes, they require additional support and protection.

In this regard, governments have a critical role to play. All legal and policy tools are necessary for promoting fair and equitable labor market conditions through regulation, creating new opportunities for workers, supporting the unemployed, and other innovative solutions.

This paper focuses on measures that governments can take to mitigate the barriers posed by the use of robots in the workplace. The content of the article is divided into three parts: (i) the impact on labor and uncertainty in forecasting the application of new technologies, (ii) the need for comprehensive government efforts in work regulation, and (iii) conclusions.

2. Impact on labor and uncertainty in forecasting the application of new technologies

In comparison to past revolutions, modern technologies are being implemented more rapidly and across all

industries, with no limitations on the learning capacity of machines. The current situation has been analyzed by scientists and organizations, as evidenced in various documents, including a comprehensive review conducted by the European Commission. The European Commission conducted a comprehensive review of studies on forecasting, categorizing them into four groups: pessimistic, threat of inequality, optimistic, and moderate.

The first group predicts mass unemployment, with Frey and Osborne estimating that 47% of employment in the US is at risk [2]. The second group identifies jobs at risk as those associated with low skills and education levels. Automation of jobs may lead to inequality and polarization in the labor market. The views of the optimistic and moderate groups suggest that complete automation is unlikely to occur, but the nature of jobs will surely change. Robotics will have a significant impact on certain jobs, particularly those that require middle-skilled workers. The categorization of these groups raises questions about the credibility of automation claims. Each group is different from the other. Notably, the assumptions and databases used vary from group to group. Information from various sources may account for differences between results, but not for significant differences among them. Regardless of the materials and models employed, they collectively lead to the following conclusions.

Firstly, anxiety and fear of technology are inevitable. Labor is a means by which societies create, renew, and justify human dignity. Labor has a domino effect on the economy — wages are earned through jobs, which enable consumption, increase overall demand, and stimulate economic growth. If one primary link is threatened, the others will be jeopardized. Secondly, expectations of robots may be overly idealistic, as technical feasibility is currently limited. Robots are capable of working in routine and predictable environments. However, it is important to note that robots require maintenance, support, supervision, and augmentation for tasks that they are unable to perform. Third, it is a misconception that there is a fixed amount of labor in the economy. Demand and innovation are potentially unlimited, and both existing and unpredictable labor, with or without robots, can fulfill these needs.

3. The need for comprehensive government efforts in work regulation

The government should establish a contemporary society ruled by law and democratic structures to ensure freedom, equality, and social rights such as work, freedom of association, social security, and education.

Several effective national and international laws have been created to provide workers with justice and equality. These laws cover various industries such as health and safety, social security, and trade unions. They aim to uphold the right to work as an expression of human dignity and success. The government's economic role is to intervene in the market to ensure efficiency and balance. It is capable of creating incentives and changing decision-making scenarios. Therefore, rejecting or ignoring the market would be a denial of the existing social contract.

3.1. Analysis

The government should analyze the market situation and decide on areas to prioritize. It is important to consider other combination characteristics as well.

Firstly, predictable daily tasks can be automated based on their technical feasibility. These activities usually involve intermediate and low-level basic skills and training, which means that jobs related to these tasks or skills may be replaced or resumed. Secondly, companies can enhance their competitiveness by owning intellectual property rights related to robots. Thirdly, robots can create new opportunities for other industries. For instance, agricultural robots can reduce the impact on the environment. Finally, the time and impact of adopting robots vary from country to country, depending on variables such as financing, infrastructure,

supervision, social acceptance, and labor costs.

In general, there are three potential threats posed by robots. Firstly, robots are introduced into an existing environment, which may expose the shortcomings of human workers. Secondly, while robots increase productivity, they also lead to unemployment. This creates a "wealth paradox," where society as a whole may become more prosperous, but certain groups may become poorer.

3.2. Resolution

Jobs that require low-to-medium skills are more likely to be automated, and 54% of jobs will require retraining. For adults who cannot adapt to automation technology, the solution is educational democracy and broad tolerance rules, covering all ages, backgrounds, and working conditions. This will reduce the risk of discrimination or exclusion from the labor force.

Furthermore, it is worth noting that when employees can elevate their market status by learning skills that are needed in non-routine tasks like social skills, together with digital technology. To support this, the European Commission has implemented a digital education program that includes activities to improve digital literacy in schools, such as coding, network security, and data analysis. In this context, business education should be prioritized in higher education. In an increasingly automated world, students and graduates face limited job opportunities and require advanced skills, including business acumen. Therefore, there is no reason to stick to strict technical education norms. Education should serve to improve opportunities in the labor market and increase productivity across various industries.

Adult education is essential, although it presents significant policy challenges. Teaching adults is more challenging due to differences in cognitive processes and competing priorities such as family life, lack of time or money, and negative school experiences. To address these challenges, flexibility and innovation are crucial. Fortunately, there are adult education programs available. The government can monitor the adult population using various methods. For instance, partnerships between employers and companies like Starbucks and the University of Arizona, online education platforms such as Coursera, and work-related lifelong learning and training accounts for educators. However, implementing these methods may come at a political cost. Education is a long-term investment in society. It is not possible to see the results immediately, but it is a commitment to the future.

3.3. Monitoring intervention

Many fields involve some kind of automation, so it is necessary to consider several regulatory areas. While the primary focus of this paper is on labor-related issues, legislation is needed to address various topics pertaining to work. In this aspect, three key areas require intervention.

The first area is data protection, primarily due to the role of software in processing information. It is integral for perceiving and reacting to stimuli. When robots and humans work alongside each other, there is a potential for machines to gather personal data, posing three significant risks to data protection. Firstly, to prevent collisions, robots might capture biometric data from workers, a type of information considered sensitive. Secondly, there is a risk of not fulfilling certain obligations. Thirdly, the absence of transparent control jeopardizes the maintenance of data rights. It is unclear who holds control: the employer, the robot supplier, or both. Furthermore, robots can monitor worker performance, which employers may utilize for making decisions like reallocating tasks or terminating employment. These decisions stem from automated processing, where robots gather data on worker performance [3]. Hence, it is crucial to contemplate the ramifications of automated decision-making and the accompanying responsibilities.

Intellectual property (IP) rights were initially designed to protect and reward innovation. However, when companies view these goals as part of their workforce, the objectives become unclear [4]. IP rights may lead to unequal consequences. In this context, IP legislation and the introduction of robots have strengthened the dominant position of employers in two ways. On one hand, automation can lead to the concentration of wealth in the hands of a few individuals. On the other hand, employers can use robots to control their workers, which further exacerbates the existing power imbalances. Despite these challenges, it is important to note that IP is a form of private property. Therefore, any attempt to amend the intellectual property legislation in this field may cause controversy. However, it may be worth studying measures such as collective ownership, collective profit, and stock option plans.

Taxation is a third option for intervention. It can directly prevent the adoption or repetition of decisions. However, it is important to consider the risks involved, as planning and implementation can be difficult. When it comes to the labor market, there are several aspects that need to be taken into account. For example, capital import tax is often unpopular because it reduces a company's profits. It is also important to consider the potential impact on tax supervision, as companies may become powerful pressure groups. Additionally, taxation is influenced by significant political objectives. For instance, South Korea has implemented a tax on robots to restrict investment in automation. Conversely, Britain has introduced tax incentives for robots as capital. In summary, taxes aim to balance the costs of robots and workers. Options such as increasing the tax on robots or providing tax incentives to hire, retrain, or redistribute workers may encourage companies to prioritize human resources over capital. This could help reduce the risk of unemployment.

3.4. Comprehensive evaluation

As previously stated, technology is limitless, and robots will continue to advance. Their impact on the labor force may become more extensive and intense. Therefore, continuous evaluation and analysis are mandatory. This will enable the government to identify new trends and developments, allowing for more accurate prevention and mitigation policies. For instance, as part of the Industry 4.0 initiative, the German government has engaged with multiple industries and proposed preventative measures to overcome technical obstacles [5].

In addition to the aforementioned threats and features, automation also raises ethical and social concerns. These issues must be addressed by the government. The application of laws and regulations to robots reveals potential concerns about the final legal system, including discrimination and prejudice between capital and labor, and the balance between the rights of workers and employers. Clear and concise language is used to explain the importance of active participation and supervision of market and social reactions and behaviors.

4. Conclusion

Technology has significantly impacted the workplace, with an increasing number of robots and industries changing the labor market and its dynamics. Many researchers have attempted to predict the extent to which employment, productivity, and wages will be affected. The four main predictions that were made are mass unemployment, employment-related unemployment, job restructuring based on tasks and skills, and low-risk automation. However, the outcome remains uncertain.

The government is responsible for addressing this issue in accordance with the rule of law, utilizing all available tools to ensure equality, human dignity, and fair distribution of work. It is important to note that these changes are not solely the result of automation, and therefore, public policy and active government intervention are necessary to ensure a comprehensive approach. Prior to taking action, it is crucial to gather relevant data. Understanding the composition of supply and demand of population and employment is crucial in determining

the objectives and priorities of policies and regulations. Regulations and interventions must cover various fields, which may lead to controversy and challenges. For instance, a holistic approach should include data protection, intellectual property rights, and taxation. Additionally, it is essential to establish the positive responsibility of employers. In short, it is crucial to maintain a balance of rights between workers and employers. Trade unions and judges should have the right to actively participate in the protection of the labor force.

Disclosure statement

The author declares no conflict of interest.

References

[1] Top 5 Robot Trends 2024, n.d., viewed March 6, 2024, https://ifr.org/ifr-press-releases/news/top-5-robot-trends-2024

[2] Acemoglu D, Restrepo P, 2019, Automation and New Tasks: How Technology Displaces and Reinstates Labor. Journal of Economic Perspectives, 33(2): 3–30.

[3] ARC2020, 2018, Texting Cows, AGTech & the Future of Farming in Germany, P2P Foundation, viewed March 7, 2024, https://blog.p2pfoundation.net/70350-2/2018/04/09

[4] Guidelines on Automated Individual Decision-Making and Profiling for the purposes of Regulation 2016/679, 2018, viewed March 7, 2024, https://ec.europa.eu/newsroom/article29/items/612053/en

[5] De Stefano V, 2018, Negotiating the Algorithm: Automation, Artificial Intelligence and Labour Protection, International Labour Organization, viewed March 7, 2024, http://www.ilo.org/employment/Whatwedo/Publications/working-papers/WCMS_634157/lang--en/index.htm