Forum: ECOSOC

Issue: Preparing the global job market for the rise of artificial intelligence

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Introduction

Artificial Intelligence (AI) was a term first coined in the 1950s by researchers who specified four criterions that would have to be reached in order to consider AI as a replacement of human workers. It included the capability of AI to meet certain thresholds of mechanical, analytical, intuitive, and empathetic qualities. AI in the labor market is used for two general purposes. Firstly, many corporations and businesses have started to utilize AI in order to quantify applicants for positions. However, many ethical issues rise as subjective biases can be unintentionally trained into AI algorithms. Without sufficient information, it may display biases against specific genders, races, or nationalities. However, when discussing the issue of Artificial Intelligence in the job market, a more conventional debate revolves around AI's ability to imitate or exceed human capabilities as workers. For example, recent innovations in chatbots like ChatGPT is undermining the need for customer service representatives. Data analysts, computer programmers, paralegals, travel advisors, etc... are some of the occupations that are traditionally seen as having lower barriers to entry towards AI. Yet, debate is still ongoing whether the development of AI will simply be a repeat of the Information Age that began in the mid 20th century and culminated in the 90s with the invention of the modern-day computer. Although some temporary structural unemployment occurred, the information age and most revolutionary changes in the economy provided for new business opportunities, the start of fresh industries, and the creation of employment opportunities in the long term.
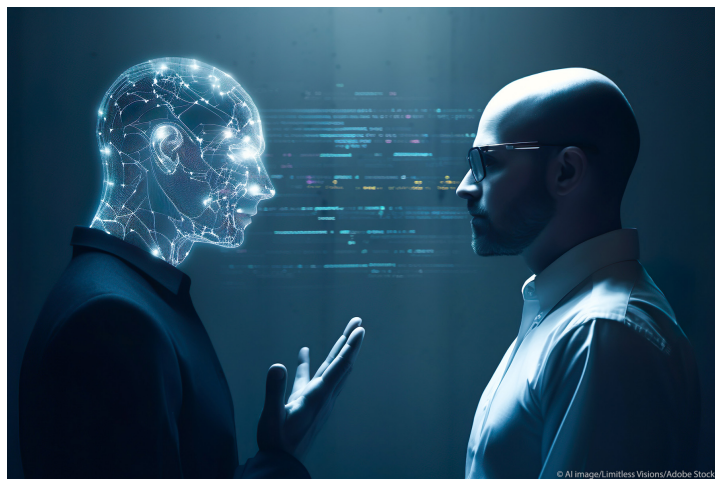

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Figure 1: A depiction of AI by an AI image generator (European Parliament).

Therefore, there is cause for optimism. Examining the information age, however, inequality spiked. Part of the explanation behind a rise in inequality is embedded in the structural changes which the labor market experienced during the information age. Phenomenons like the digital divide and skills-bias exacerbated income inequality. To prevent AI from having a destructive short-term impact and ensure that its development leads to an equitable distribution of newfound wealth, preparing the job market for adjustments is crucial.

Definition of Key Terms

Gig economy

A labor market characterized by short-term, flexible jobs, often facilitated by digital platforms and AI matching algorithms.

Job displacement

The potential impact of AI and automation on traditional job roles, leading to changes in the job market and eliminating the need for certain jobs.

Skill gap

The disparity between the skills demanded by the job market, particularly in AI-related fields, and the skills possessed by the workforce.

Employee reskilling

Training employees to adapt to a different post within a company by encouraging employees to learn new skills outside of their original skillset.

Talent Acquisition Strategy

A comprehensive plan outlining how an organization attracts, hires, and retains top talent, often incorporating advanced technologies such as AI and data analytics.

Human capital

Human capital refers to the stock of skills, knowledge, experience, and attributes possessed by individuals within a population or workforce.

Poverty Trap

Circumstances that make it difficult for individuals or families to escape poverty due to various interconnected factors, such as lack of education or access to opportunities.

Gini Coefficient

an index for the degree of inequality in the distribution of income/wealth, measured by calculating the degree of deviation from perfect equality

Background

In examining current limited literature on the issue of Artificial Intelligence and its influence on the job market, it is revealed that the quality of occupations was more heavily affected than the quantity of available jobs. According to a report by the Organization for Economic Co-operation and Development (OECD), the rise of Artificial Intelligence has reduced tedious and dangerous tasks. In turn, the presence of AI in the job market has increased worker engagement and safety. However, by replacing simple and tedious jobs with automation enabled by AI, the OECD report indicates that risks of a higher intensity work environment may become more prevalent. Still, the potential impacts of AI in increasing unemployment and displacing jobs cannot be ignored. It is most likely that the negative effects of AI may simply not have materialized yet due to relatively low adoption rates by firms or the gradual process of adjusting the workforce.

AI's Disproportionate Effects

Goldman Sachs, a well-known investment bank, states that Artificial intelligence (AI) could replace the equivalent of 300 million full-time jobs. The issue of job displacement is yet even more complex than a simple reduction in job opportunities. Firstly, different fields will be impacted at different periods of AI development. During the first and second waves of AI development, women may be disproportionately affected due to their heavy concentration in clerical and other administrative roles. By 2030, according to accounting firm PwC, AI's enabling of autonomous vehicles and AI's encroachment into manual tasks will significantly affect men's employment. Considering that different industries will see changes occur due to the rise of AI at varying time periods, this is only natural. Teachers, lawyers and judges, and surgeons are inherently harder to replace as they demand higher level cognitive thinking that cannot be simply deduced from pattern-based learning on a constrained data set, even with machine learning (ML).
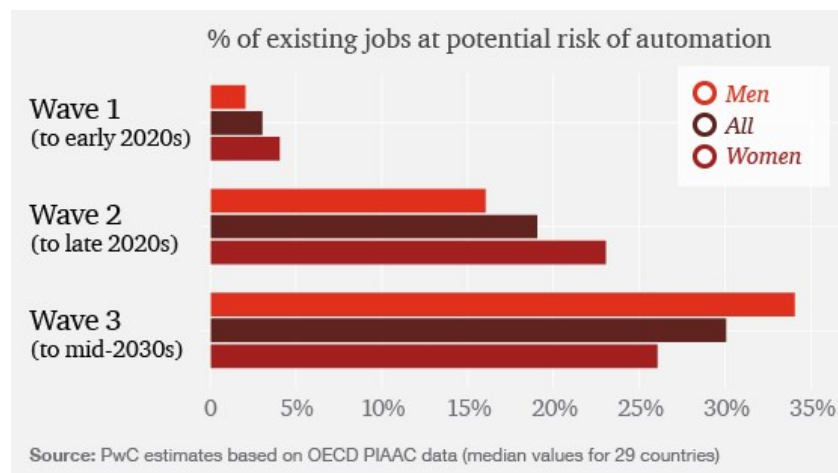

Source: PwC estimates based on OECD PIAAC data (median values for 29 countries)

Figure 1: a bar chart illustrating the disproportionate effects of automation on different genders during different waves of innovation (PwC estimates based on OECD data).

Technological Development and Labor Markets

Utilizing historical evidence and general economic consensus, many predict that without any intervention labor market trends will lead towards adverse effects: hyper-acceleration of wage growth for skilled workers, a decoupling of wage growth from productivity growth, and wage stagnation for low- and middle-income households. Germany, faced with routine-based technological change (RBTC) and similar conditions of an increasingly digitized and globalized economy, did not face the same polarization of wages as in the United States. The establishment of a higher minimum wage, the promise of broader collective bargaining rights, and robust training systems implemented by the German legislature assisted in limiting the adverse effects of the technological boom. On the other hand, the United States was a negative outlier that presents a pessimistic view of how AI could shape labor markets, as their policies were direct opposites of Germany and yielded opposite results of reinforcing wealth inequality through the job market during the 90s technological boom. If regulating job markets fails to accommodate the introduction of AI, deciding which party pays compensation for low-skilled workers and those displaced by AI becomes a debate. Even if training programs to upskill workers are implemented, the question of funding for retraining programs for employees remains an issue.

Figure 2: A line graph, showing stagnating growth of minimum wage and a decrease in real minimum wage since the 1970s (Pew Research).

AI in Emerging and Developed Countries

In most recent studies, the investigation of AI's impacts on developed countries is more widespread than research into its influence on emerging economies' labor markets. Standard Chartered's head of thematic research and economist Graham, stated that emerging economies' tighter fiscal space hinders their ability to upskill their workers and a smaller digital space may increase wealth inequality between LEDCs and MEDCs. They also

hypothesized that the adoption of AI could create economic self-sufficiency for countries that weaken emerging economies' export industries. As a whole, this would decrease job opportunities in emerging markets.

Major Parties Involved

Organization for Economic Cooperation and Development (OECD)

"Working with over 100 countries, the OECD is a global policy forum that promotes policies to improve the economic and social well-being of people around the world." The OECD was established in 1961 to encourage world trade and economic progress. The OECD continues to research the issue of AI in the labor market and maintains a position that it is too early to determine AI's true impact on the job market.

United States

The United States government sponsors a multitude of AI programs from Covid-19 response tools to AI-based mapping technologies. Anthony Blinken, U.S. secretary of state, stated that the United States' emphasis on AI development was to maintain the U.S.'s competitive edge on technology against other leading powers.

China

China has been slightly more cautious in their approach to both support and navigate how AI regulations should be applied. The government issued a formal list of 24 guidelines on AI in August, and China's major technology firms including Tencent, Baidu, and Alibaba entered the market with chatbot prototypes.

Pause AI

Pause AI is a non-governmental organization that emphasizes the risk of losing control, human extinction, and the necessity to pause developments in AI. They participated in physical protests, but mostly rely on online activism to promote the event.

UN High-level Advisory on Artificial Intelligence:

It is a panel of 32 experts on AI and a discussion forum for offering diverse perspectives and options on governance of AI.

OpenAI:

A firm founded by Sam Altman that specializes in AI generative technology like DALL-E and ChatGPT. The founder, who has just been released from OpenAI, was pessimistic on the way AI could affect society and surprisingly encouraged regulations and a slower approach towards AI development.

Previous Attempts to Resolve the Issue

The issue of AI in the specific application of job markets remains a relatively recent issue. However, some organizations including the European Union (EU) have started to discuss acts to regulate the general usage of AI by classifying AI technology into different categories. The proposed framework of the AI Act, proposed by the European Union, seeks to distinguish Artificial Intelligence technologies based on the threats they pose to societal welfare. Technologies classified with unacceptable risks are to simply be prohibited. Some examples of technologies that carry unacceptable risk are cognitive behavior manipulation tools used to influence children, social scoring technologies, and biometric identification softwares. On the other end of the spectrum, the EU AI Act proposes to classify some AI technologies with the branding of limited risk. These technologies would require minimal transparency protocols, while they would still be bound to basic regulations of notifying users when AI interactions take place. In the middle of the spectrum are generative AI technologies including ChatGPT. Although the initial objective of the EU AI Act was to reach a consensus by the end of 2023, this does not seem likely. Some barriers faced the initiative when the Franco-German-Italian bloc started to request for a weakening of some mandates on the originally proposed EU AI Act. This was mainly due to big tech lobbying as well as governments' desires to rapidly develop AI to gain a competitive edge in the global market. In addition, the European Commission's two-tier approach was also criticized. Again, the Franco-German-Italian document argued that imposing lighter regulations on less impactful technologies while imposing heavier ones on more influential ones were not logical. The target timeline for the passing of this legislature is set for February 2024.
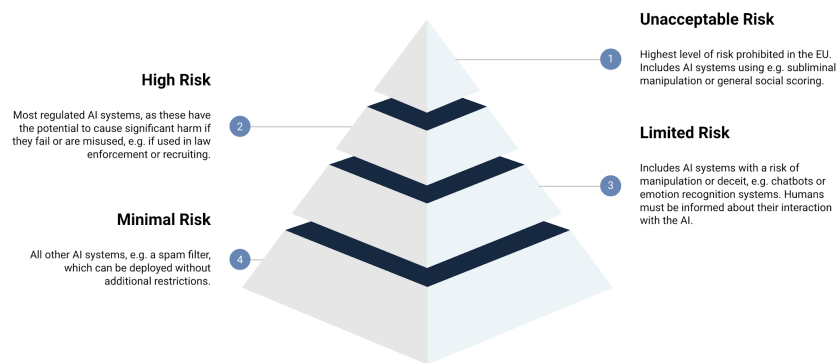

Figure 3: A pyramid showing the classifications of AI technology proposed by the EU AI Act (European Parliament).

In the United States, debate is ongoing on how to address the emergence of AI technology in job markets. Congress, in an article published by Bloomberg law, is said to be more focused on enabling the workforce to collaborate with AI instead of AI regulation. Lawmakers are on a consensus of the need to update the Workforce

Innovation and Job Opportunities Act, with corporations like Boeing and the U.S. chamber of commerce backing this attempt. Republicans Tim Walberg and Lisa Blunt are supporting the introduction of a bill to provide grants to community colleges in order to allow for the education of students in immersive AI technology and virtual reality tools. Senate Health, Education, Labor and Pensions Committee Chair Bernie Sanders also suggested that working hours should be reduced from 40 hours to 32 hours to reflect the benefits that AI brings to the workplace. However, there has been certain pushback as many argue that AI should be utilized as a tool to maximize productivity and total output and be applied without slowing down progress and decreasing incentives to work.

Possible Solutions

With the current absence of legislation on this issue, there are many potential measures that can be introduced to help adjust the labor market to AI innovation. Solutions should take into account the continuously changing nature of the issue. Looking at the situation of AI innovation as it is now with a static lens, with generative AI like ChatGPT as the only reference to potentially disruptive technology in the job market, may lead to a solution with a limited scope. Generally, it will be beneficial to look through past regulations or programs that governments or other parties have led. Many initiatives have helped adjust labor markets against innovations of computers and other technologies in the past. While AI is a widely different form of technology, its disruptive nature that other innovations also brought, were regulated and transformed into positive effects on the labor market during the 90s technology booms with the invention of emails and cell phones.

A large-scale training program to assist in the reskilling and upskilling of workers could reduce the unequal gains from a development in AI technology. It would ensure that workers with lower-skill occupations that entail simple and repetitive processes are given an opportunity to switch careers to avoid structural unemployment. A reskilling program would further encourage high-skill workers to incorporate AI within their daily work to improve productivity. Training programs could either be government-run or, most optimally, run by private corporations that understand the current state of development of AI technology. The establishment of such education and training programs for the workforce will also ensure that the elderly population and middle-age demographics will not be disproportionately affected by AI in the job market. These training programs could be career specific or simply include general sessions on learning about AI. If such programs are to be established, it should not be seen as a program that provides a last resort in finding a job, but it should be held for the general public in order to incite a broader impact on growing skills that are desired in the AI job market.

Another approach would simply be to regulate AI and its uses in the workplace. This would pose many downsides by restricting the net positive effect that AI could bring on the productivity of the economy. However, such interventionist solutions would allow for an adjustment period for the labor market in the short-run and could be plausible for the near-term in order to buy time for policy design and training programs.

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