AI and the future of work: Linking generative AI with social, economic, and labour market policies

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Executive summary

The rise of generative Artificial Intelligence (AI), exemplified by the fast-paced commercialisation of large language models (LLMs) like Open AI's ChatGPT, has prompted widespread discussion on its potential to increase productivity while severely affecting labour markets. In Europe, specifically, there has been a huge focus on AI's potential impact on blue and white-collar jobs, knowledge work, and the creative industry.

Aiming to counter the most pressing risks associated with the rise of such new technologies, the EU recently approved the AI Act, which is the first comprehensive regulation related to AI. Specifically, the democratic world's objective of the Act is to mitigate the potential for harm of AI technologies through a tiered risk-based approach and ultimately promote trustworthy, human-centric, and fair AI across Europe. However, such an ambitious objective is met with a relatively limited scope of application of the AI Act, which only covers AI systems and general-purpose AI models (GPAI), among which are some LLMs. This means that the AI Act falls short of addressing the broader societal impacts of new AI technologies, such as their significant potential to affect the labour market.

This Discussion Paper focuses on illustrating the potential of generative AI to affect blue and white-collar workers by catalysing automation, augmentation, and 'platformisation' dynamics. In tackling these phenomena, the main aim of this research is to promote a constructive dialogue tackling generative AI's impact on the workforce and labour markets from an intersectional perspective and to put forward concrete policy recommendations to ensure a successful and fair uptake of AI in Europe. Specifically, this research outlines the need to research further the interplay of structural inequalities and the fair distribution of the benefits brought about by AI, to improve social dialogue ahead of and during the adoption of AI, and for employers to invest in inclusive upskilling and reskilling programmes for their employees.

1. Introduction

Rapid AI advancements, such as recent developments in the field of Generative AI, have sparked a significant shift in discussions about the automation of work. Previously focused on manual tasks and the automation of routine tasks, attention has now turned to the potential benefits and challenges that blue and white-collar and knowledge workers face. However, before analysing AI's potential impact on the labour market, it is fundamental to make a distinction between two different phenomena: AI systems, and generative AI. Although the former, and specifically AI systems for statistical inference based on unsupervised learning from large datasets, also promise to have repercussions on the future of work, this research focuses on the impact of generative AI.

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Generative AI has emerged as a transformational force in the technological world, marked by its ability to create content with little guidance and its appearance to exhibit human-like thinking processes through large language models (LLMs). The capabilities of generative AI extend beyond statistically informed automation, allowing it to appear to engage in complex tasks such as content creation, problem-solving, and decision-

making, transforming it into a catalyst for business productivity and economic growth.

However, the trajectory of AI and the speed at which it develops raises two fundamental questions. Firstly, what impact will AI have on the composition of the European (EU) labour market and its workforce? And secondly, how can the EU prepare for these changes? To address these questions, we suggest that generative AI will have a qualitative rather than quantitative impact on jobs and labour markets and that AI is unlikely to lead to job redundancy and displacement in the near future. On the contrary, we agree that the uptake of AI in the foreseeable future will lead to the augmentation of tasks rather than to full automation, and towards the transformation of new AI-jobs into gig-work, or 'platformisation'.

To support this research process, the EPC has organised a roundtable to explore the connections between generative AI and the social, economic, and labour market policies that will impact European labour markets, workers, and sectors. Experts from trade unions, academia, employers' representatives and the business sector participated in this closed-door event and dialogued with representatives from national governments and EU institutions. This Discussion Paper results from such a consultative process and is structured in the following way. An introductory section sets the scene by taking stock of the EU's regulatory framework on AI. Then, in section 3, we look at the impact of AI on workers and the workplace, and in section 4, we advance the hypothesis that generative AI is more likely to create gig work rather than lead to labour shortages. Lastly, in section five, we outline recommendations for EU policymakers and social partners.

2. Setting the scene: The EU AI Act in the workplace

Following intense negotiations,[1] in early February 2024, European lawmakers approved the text of the AI Act, the Western world's first comprehensive regulation in matters of AI,[2] which is expected to fully enter into force in 2026.

In terms of structure, the AI Act's approach to AI systems is built around the New Legislative Framework (NLF), an internal mechanism that the EU established in 2008 to create standards for products and help standardise the infrastructure of the Single Market.[3] More specifically, the framework's core is the concept of "presumption of conformity," for which manufacturers abiding by harmonised standards are regarded as complying with the relevant EU legislation regulating a specific product. The reason behind the implementation

of the NLF is to make compliance easier for the industry. Taking on from the Framework, the AI Act essentially regulates AI systems as products and aims to create harmonised standards across the EU to ensure a fair, trustworthy and human-centric adoption of AI.[4]

In terms of scope and objectives, the AI Act focuses on regulating AI applications through a tiered approach, distinguishing among uses based on their associated risks. Specifically, there are three categories of risk – unacceptable, high, and limited – each characterised by different sets of obligations and reporting requirements. AI uses for employment and workers management have mostly been banned or categorised as high-risk.[5] With this label comes an increased amount of safety, transparency, and other requirements for the concerned

AI models before deployment, attempting to reduce the risk of bias.[6] In addition to the risk categories, the AI Act also covers general purpose AI (GPAI), i.e., models described by significant versatility, for which the AI Act foresees greater transparency requirements with downstream providers and creating a code of conduct through the European AI Office, which will be set up within the Commission.[7]

While commendable for its emphasis on transparency and accountability to uphold fundamental rights, the AI Act's narrow focus on use cases, unusual anticipatory approach to regulating AI systems,[8] and the current lack of clarity surrounding its implementation and enforcement raise fundamental concerns. Adding to them, the AI Act fundamentally lacks focus on the broader societal impact of new AI technologies, particularly regarding generative AI's impact on the labour market, meaning it neglects to address crucial concerns about the future of work in increasingly digitalised societies.

The AI Act fundamentally lacks focus on the broader societal impact of new AI technologies, particularly on generative AI's impact on the labour market.

To partially address some of these concerns, the Commission has also worked on advancing more ad hoc legislative proposals tackling new working dynamics stemming from significant technological developments, such as platform work. Specifically, recognising the need

to grant new categories of workers with new forms of social protection, in December 2021, the EU Commission put forward a package on platform work, which included a legislative initiative, also known as the Platform Work Directive (PWD).[9] Although mainly focused on levelling power asymmetries between vulnerable workers and Big Tech in the context of flexible employment through digital platforms, the Directive was characterised by an innovative chapter on regulating the use of algorithmic management practices in the workplace, which had not yet been directly tackled at the EU level.[10] Additionally, Chapter III of the PWD somewhat extended the protection granted by other provisions – such as the General Data Protection Regulation (GDPR)[11] – to cover the category of gig workers, which is expected to grow from 28 million people to 43 million by 2025.[12]

However, after two years of tense negotiations and a tentative provisional agreement, in December 2023, Member States' ambassadors failed to agree on the text of the proposal put forward by the Spanish Presidency, effectively pushing the file to the Belgian Presidency of the Council.[13] In an attempt to push forward this key file ahead of the June parliamentary elections, Belgium presented negotiators with a diluted version of the Directive, which nevertheless failed to gather the support of the national governments.[14] Although the bone of contention is another chapter of the PWD, the one on the criteria for the presumption of employment, this latest failure currently puts the proposal and its much needed take on algorithmic management in a stalemate that is unlikely be solved in time for the elections.

Although a EU digital policy landscape comprising of the PWD would have perhaps had to come to terms with issues regarding the level of intricacy of the EU *acquis* dealing with digital and social rights, a scenario without will have to deal with the gloomier picture of less social protection for an important share of workers.

3. Work and productivity implications of generative AI

For decades, technology has shaped the structure of the workplace. Looking at historical economic shifts, comparisons can be made between the transition of European societies and economies from Fordism[15] to the knowledge economy and the current AI transition. Examining the introduction of digital technology in Germany in the 2000s, some observed that while highly skilled workers became integral to advanced manufacturing, employers' preferences led to labour market deregulation and weakened social protection standards.[16] This dynamic is known as 'skill-biased liberalisation,' where the push for competition disproportionately affected low-skilled workers, deepened labour market dualisation,[17] and led to conflicts with trade unions. This historical precedent allows us to anticipate socio-economic consequences as generative AI becomes increasingly prevalent in workplaces.[18]

Previous waves of automation predominantly impacted "routine" tasks consisting of explicit sequences of steps that could be easily codified and programmed into a computer.[19] Likewise, AI has the immense potential to make a positive difference in workers' conditions, such as a shift towards safer and less monotonous tasks, as well as improved performance, productivity, and human resources processes.[20] At a macroeconomic level, generative AI's impact on workers' productivity could bring significant benefits to the global economy, an increase in gross domestic product (GDP), and positive spillover effects across industries.[21]

When introducing AI to the workplace, it is crucial that all stakeholders interacting with it are involved in the process. Employers and workers should develop an adoption plan for this technology together, ensuring

that everyone encountering it has the necessary skills and knowledge to use it and roughly understand its decision-making process. This social dialogue is of the utmost importance,[22] and must be accompanied by proper up and reskilling programmes, with budgets made available by employers.

Should this not occur, the EU risks witnessing a shift towards down-skilling dynamics.[23] Examples illustrating the risks associated with the improper adoption of AI in the workplace were discussed during the roundtable. For instance, the adoption of AI without adequate training could result in a situation where tasks initially manageable by employees independently now necessitate a different, albeit smaller, set of skills to be executed using AI tools. Such de-skilling can potentially diminish productivity levels as employees may encounter challenges in effectively utilising the corresponding AI tools.

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Social partners thus have a key role to play in determining what technology and training are adopted, helping companies define tailor-made and fair solutions to organisational and technological changes at the workplace level and enhancing the quality of the working environment.[24] Yet, despite the evidence showing how unions may influence the process of technological change, consultations between workers and employers about AI introduction has been limited thus far. A recent survey[25] shows that across Germany, Austria, France, Ireland and the United Kingdom, only 43% and 45% of employers that have adopted AI in the finance and manufacturing sectors, respectively, consulted workers or their representatives regarding the use of new technologies in their workplace.

Unlike past shifts, which mostly affected blue-collar professions and manual tasks, the AI revolution brought about by generative AI seems to mostly impact white-collar, medium-skilled professions[26] and exacerbate the already ongoing polarisation of the labour market along the lines of low and highly-skilled professions.[27] This is not to say that blue-collar professions will remain unaffected, but the AI revolution would have to be accompanied by major leaps in robotics before it can meaningfully affect blue-collar professions.[28]

Furthermore, given the European labour shortage in blue-collar work,[29] it is possible that a takeover of those professions by AI would first go towards closing that gap

before posing a threat to current employees, especially in occupations related to bricklaying and carpentry. Therefore, as intermediate-level jobs potentially face greater exposure to LLM-powered software, it is also likely that AI may alter the composition of workers in the labour market by either exacerbating or minimising wage inequalities between and within professions.[30] Additionally, according to both recent empirical evidence and reflections spurred from the roundtable, freelancers in highly affected occupations (such as writing-related services) also suffer from the introduction of generative AI, experiencing greater reductions in both employment and earnings than other professions.[31]

A major question stemming from this issue revolves around the impact that AI is going to have on labour demand. AI, like other technology before, can make some jobs redundant, leading to decreased demand and narrower, more polarised labour markets. Yet, there is currently little evidence indicating decreased labour demand due to AI, with several factors explaining this trend so far. One contributing factor is the relatively low adoption rate of AI in the workplace, with only 42% of EU enterprises having adopted at least one AI technology so far.[32] Companies and SMEs might opt for a gradual reduction of the workforce.[33] Firms including SMEs may moreover delay the introduction of AI in their workstream due to technical difficulties, resulting in unchanged labour demands.

However, labour markets are poised to experience a change in their composition. The impact of AI on the workforce will affect men and women differently, particularly in certain occupational sectors. As with every major social transformation, the digital transition and the AI revolution are not gender neutral. The gender distribution of employment in certain sectors points towards a particular impact of AI on female employment.[34] This is because traditionally, and as described by Eurofund data,[35] women play a predominant role in fields such as office administration (70%), healthcare (79%), education (73%), and community and social services (67%). However, given how different these areas are and the variety of roles women play in these fields, a lot more research is needed to fully grasp the gendered impact of AI-powered automation. Work activities that involve communication, supervision, documentation, and interacting with people in general have been identified by both roundtable participants and recent grey literature as highly exposed to AI. This may accelerate the transformation of work in occupations such as education, communication, and graphic design, suggesting that generative AI has the capability to automate tasks traditionally performed by women.

This scrutiny becomes particularly crucial in the realm of skills development, which is also intimately, though quite differently, connected with female employment. The continuous growth of AI underscores the escalating demand for digital and AI-specific skills,[36] underscoring a need for re-skilling. However, gender disparity persists, with women trailing behind men

in the development of essential digital and AI skills across OECD countries.[37] At EU level, the information and communication technology (ICT) sector suffers from a severe gender imbalance, with 81% of employed ICT specialists being male as of 2022.[38] This outcome highlights the broader challenges in attracting women to science, technology, engineering, and mathematics (STEM) subjects at the university level, irrespective of their abilities.[39]

However, although generative AI may disproportionally affect employees along gendered lines, it also has significant potential to negatively impact specific social groups and categories of workers. Recent research has shown that algorithms are prone to replicate human biases and produce biased and discriminatory content originating from skewed and/or incomplete datasets.[40] Given that the usage and development of generative AI continues to expand, such proneness has great potential to further exacerbate discrimination and exclusion in the workplace. Therefore, there is a pressing need for holistic scrutiny of the pervasive effects of generative AI on workers from more vulnerable backgrounds, which can only be achieved through the adoption of an intersectional[41] lens.

Although there has been an increase in data reflecting diversity in employment and AI, datasets are still severely limited, and mostly focusing on the STEM field. Instead, datasets reflecting on the extent to which the intersection of structural inequalities affects workers in other sectors are missing.[42] Hence, it is fundamental to bridge this gap through further research followed by targeted initiatives and policies that will guarantee fair distribution of the benefits of AI, but also among people from different backgrounds and social groups.

4. Automation, augmentation, or platformisation?

Another aspect highlighted in the roundtable concerns the debate between generative AI being a catalyst for automation or, conversely, for augmentation. As mentioned in the previous section, freelancing workers on specific tasks such as graphic design or copywriting have seen their number of jobs and earnings go down significantly since the release of ChatGPT, indicating that these already precarious workers are more at risk of social disadvantages than their regularly employed peers.

At the same time, the debates generated from the roundtable participants point in a different direction, showing that the most recent iteration of generative AI is unlikely to lead to massive unemployment or full automation. Nonetheless, it does suggest many important transformations, with ultimate outcomes highly dependent on policies that accompany the digital transition.

At the current stage, generative AI is likely to lead towards augmentation rather than automation, for it bears a more qualitative impact rather than quantitatively impacting labour demands. AI, we argue, bears instead the potential of leading to a process of 'platformisation' of work (e.g., labelling tasks) before reaching the stage of increased productivity and greater benefits for workers and businesses.

Indeed, as also highlighted by the OECD's panel of experts on AI, the widespread development and use of AI models have the potential to substantially increase the proportion of gig workers in the population.[43] This shift is expected because platform jobs, such as data labelling and other activities, will likely rely substantially on AI technologies.[44] As these roles become more widespread and are often advertised by platforms, the gig work landscape is expected to grow substantially, with more people resorting to gig work as a source of income as the demand for AI jobs grows. Therefore, the anticipated polarisation of the general workforce due to the advent of AI is expected to further bolster the platform workforce's expansion. The challenges currently faced by platform workers, such as lack of social protection, may pose a risk of affecting a much larger part of the population in the future.

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Considering the recent failure of the PWD negotiations and given the lack of discussion of broader societal themes in the AI Act, what is currently needed is a legislative framework ensuring the protection of more vulnerable categories of workers, which will likely expand due to the rise of Generative AI. Indeed, the level of protection afforded to workers by the current legislative framework does not suffice to effectively regulate practices of "datafication of the workplace" and grant vulnerable workers actionable collective rights regardless of their employment classification. Therefore, EU institutions should come together in a common understanding that it is of the utmost importance to address and regulate practices of algorithmic management and should push for the PWD file to stay up on the political agenda before the window of opportunity for it to pass closes.

Overall, EU regulation is making strides to protect workers both in the face of the deployment of AI in the workplace and of losing their status as employees by moving to platform work. But as this technology is in its infancy, it is too early to determine what other regulation, if any, will be needed in the future. Moreover, the adoption of AI in European businesses is still at a relatively low level. Consequently, the adverse effects on employment may take time to materialise, or not materialise at all.

The adoption of AI in European businesses is still at a relatively low level.

Although EU firms' adoption of AI is still relatively low,[45] some businesses seem to be on the brink of a technical revolution. Already in 2022, 69% of EU SMEs reached basic digital intensity, indicating that they show at least some usage of ICT such as social media, AI or computers with an internet connection.[46] [47] The increasing digitisation trend among SMEs signals a broader shift toward embracing advanced technologies, and this transition is poised to gain momentum as businesses further integrate AI and other digital tools into their operations.

The AI Pact is an initiative urging companies to voluntarily disclose their approaches for AI compliance and trustworthy development.[48] While it operates on a voluntary basis, it currently lacks the involvement of workers' representatives and trade unions in the decision-making process. In early 2024, the European Commission plans to engage with the business ecosystem to discuss the initiative's goals and gather initial ideas and best practices, potentially influencing future commitments.

While such an increased digital intensity among European SMEs creates a favourable environment to boost innovation and make Europe more competitive on the AI stage, it does not automatically translate into success stories. Indeed, AI's successful adoption also hinges on the responsiveness of European institutions, governments, businesses and social partners to invest in critical infrastructures, mitigate socio-economic changes in the labour market, and push for appropriate ethical frameworks to regulate its use. Concretely, as member states have diverging national priorities and capacities, some of them have committed to achieving such goals through different strategies, overseeing the allocation of national resources to different sectors. For example, countries like Denmark and the Netherlands have set out detailed strategies, with clear commitments to invest in AI for social good. Other countries, such as Croatia, have resorted to not reporting specific funds or otherwise committed to general investments in AI.[49]

These policies, while effective on a regional level, essentially operate in silos, disregarding the potential advantages of exploiting cross-country synergies and ultimately failing to reflect the pan-European sentiment of the AI Act. For this reason, the next consultative process and the subsequent publication in this project will further delve into researching the maturity of national European AI strategies through their level of commitment to responsible and human-centric AI and their prioritised areas of investment. In doing so, the key objective is not so much to mark strategies as inadequate but rather to identify potential synergies and to promote a constructive dialogue between governments and social partners. This social dialogue may be conducive to enhanced social good and competitiveness across Europe.

5. Policy recommendations and conclusion

The concerns expressed in this discussion paper must be mitigated through concrete and targeted policy efforts. To this end, the following actions are recommended in order of expected implementation timeline:

1. On a shorter term:

a. Push for a legislative proposal specifically addressing the concerns surrounding the uptake of algorithmic management processes in the workplace. Although very narrow, the window of opportunity for the PWD to pass is not over yet. Therefore, pushing for a fair deal should remain up on the political agenda of the Belgian Presidency.

2. On a short-to-medium term:

a. Produce more comprehensive datasets reflecting AI's impact across the European labour market that account for the interplay of different structural inequalities. Such effort will then have to be complemented by targeted policies to redistribute the benefits of AI fairly.

b. Improve social dialogue in the workplace. Incentivise the initiation and facilitation of discussions related to AI implementation through the AI Pact scheme, ensuring that a diverse range of perspectives is considered. To achieve this, discussions should occur

at specific stages of the AI adoption process, such as planning, development, and post-implementation, and include workers representatives throughout the phases of this dialogue between the Commission and the business sector.

c. Invest in inclusive AI training. Employers willing to introduce AI in the workplace should invest in tailored training for the employees that will be affected by the implementation of AI, taking into account their current skills level, scheduling needs, the specificities of their work, and other relevant characteristics such as their gender.

d. Promote a constructive dialogue among member states and social partners. This should be done both on a higher level – through European AI initiatives such as the AI Alliance[50] – and bilaterally – through multilateral and/or transnational projects. Promoting exchanges between entities with asymmetrical powers, agendas, and interests would create a cooperative environment that harnesses diverse strengths and drives innovation, which could lead to more successful AI strategies and increased technological competitiveness at the European level.

3. On a longer term:

a. Put forward new regulations that address broader societal implications tied to the rapid commercialisation and uptake of AI technologies. In doing so, reserve particular attention to the potential of generative AI tools to affect the labour market and contribute to augmentation, automation, and platformisation dynamics.

b. Address the fragmented state of EU digital legislation. Although there is already some level of regulatory overlapping among relevant provisions, it casts more doubts regarding enforcement than it affords an adequate level of protection to workers. Therefore, what is needed is to ensure that there is significant complementarity between the AI Act and GDPR.

In conclusion, we have seen how generative AI is described as having a dual potential to increase productivity in the workplace and enhance dysfunctional dynamics in the labour market. Given the relative infancy of the technology and the precedent absence of a European framework to regulate it, research has mostly been polarised between recognising generative AI's potential for augmentation or automation.

AI will likely not cause redundancy and displacement in the near future but rather favour augmentation dynamics.

This Discussion Paper, instead, looks at official statistics and datasets to explore both dynamics and then introduces a third one, namely platformisation. In doing so, what emerges from the research is that AI will likely not cause redundancy and displacement in the near future but rather favour augmentation dynamics. AI's long-term effects will ultimately depend on the following factors: implementation and adoption at the workplace level, the role and scope of EU regulation, and the level of commitment of the EU, national institutions, social partners, businesses and civil society to ensure that Europe can fully harness the potential of AI for social good.

Moving forward, what is needed on the EU side is a shift from regulating specific use cases of AI to mitigating broader societal harms brought about by AI, with a particular interest in the impact of generative AI on labour markets. Such effort will also have to be complemented by policy reforms that guarantee a better interplay among the legislation that makes up the EU digital policy landscape. Only by doing so will an extended level of protection from potential harms brought about by new technologies be afforded to everyone.

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NOTES

The **European Policy Centre** is an independent, not-for-profit think tank dedicated to fostering European integration through analysis and debate, supporting and challenging European decison-makers at all levels to make informed decisions based on sound evidence and analysis, and providing a platform for engaging partners, stakeholders and citizens in EU policymaking and in the debate about the future of Europe.

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The **Europe's Political Economy Programme (EPE)** is dedicated to covering topics related to EU economic governance, the single market, industrial and digital policies, and strategic autonomy in a context of deep geo-economic and technological shifts. The Programme has contributed actively to these debates over past years, leveraging its convening power, analysis and multistakeholder taskforce model. EPE analysts pioneered the concept of a 'wartime economy' following Russia's invasion of Ukraine, and the Programme is currently running projects focusing on the EU's ambitions and the private sector's capacity to deliver on the "triple" green, digital and economic security transitions. As fast-advancing components of 'economic security', digital and emerging technologies, such as quantum, are priority areas of focus. Linked to the changing international context, the Programme also focuses on trade policy, the transatlantic agenda, notably the EU-US Trade and Technology Council, China, and the EU's close economic partnerships (UK, EEA, Switzerland). The EPE Programme consists of a young and dynamic team, with recent recruitments bolstering analytical capacities linked to economic growth and crises, resilience and recovery, emerging tech and cybersecurity.