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Task Force 05

INCLUSIVE DIGITAL TRANSFORMATION

Labour Market Implications of Generative AI and the Case for Universal Basic Income Schemes

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Abstract

Artificial Intelligence (AI) is a major driver of economic progress, but also of an increasingly insecure labour market – similar to the early stages of the first Industrial Revolution. Preliminary evidence suggests that generative AI is more likely to alter job quality than eliminate positions, yet approximately three jobs out of ten are at high risk of displacement. Moreover, creative, highly skilled jobs will be most vulnerable to disruption, creating the danger of widespread social unrest. It is difficult to predict the future effects of this technology shock, as older market categories on labour policies are hardly applicable anymore in the age of generative AI. However, without timely policy responses, AI risks creating a trilemma of rising inequality, low productivity growth, and high environmental costs that the G20 should address. To this end, we propose reconceptualising the idea of Universal Basic Income (UBI) not only as a tool for income equality, but also as a vector for empowering the new cadre of "data workers" at the heart of this digital revolution. Previous UBI experiments in different parts of the world show that, contrary to common intuition, the unconditional guaranteed income provided did not reduce citizens' incentives to work; on the contrary, it often had a positive impact on employment and well-being. Overall, a basic income would provide an efficient mechanism to relocate jobs and businesses more flexibly, as demanded by the globalized economy and the technological disruption brought about by generative AI applications. It would also help to compensate for the lack of aggregate demand in our future, increasingly digitized economies. Finally, UBI schemes would also remunerate useful activities that are currently unpaid. As a form of digital commons with significant positive externalities, such a scheme can be developed best in international formats such as the G20.

Keywords: Universal Basic Income, Generative AI, Labour Market, Data Workers

Diagnosis of the issue: The advent of generative AI as a new Industrial Revolution

The recent rise of generative Artificial Intelligence (AI) marks a watershed in technological evolution, comparable to the transformative impact of the industrial revolution. As AI continues to advance at a rapid pace, its impact on the labour market is becoming increasingly apparent, sparking debates and concerns similar to those experienced during the early stages of industrial automation (Brynjolfsson and McAfee 2014). This policy brief delves into the labour market challenges posed by generative AI tools, such as OpenAI's prominent chatbot ChatGPT and Stability AI's image-generating model Stable Diffusion. It focuses on their impact on job quality and employment around the world, which can best be addressed by an international forum such as the G20.

Recent scientific advances in generative AI and its implementation by many companies worldwide have led to significant changes in the labour market, which are likely to intensify in the coming years. Based on a meta-analysis of the research literature, we estimate that 10% of jobs in Europe are at high risk of displacement in the short to medium term (Küsters and Poli 2024). More generally, around 30% of jobs worldwide could be negatively affected by AI (Cazzaniga et al. 2024). Moreover, unlike traditional automation, which has primarily affected low-skilled jobs, generative AI poses a unique threat to creative and high-skilled positions (Hui et al. 2023; Albanesi et al. 2023). This shift raises concerns about potential widespread social unrest, as the sectors most vulnerable to AI-induced disruption are those previously considered immune to technological unemployment.

Taking stock of the policy proposals highlighted by the Task Force 5 of the Indonesian T20 on the need for a Global Universal Citizen Income to face the economic shocks

caused by the Covid19 pandemic (Task Force 5), this policy brief argues for a reimagined approach to Universal Basic Income (UBI). UBI should not only interpreted as an unconditional income paid by the state to each member of the community, on an individual basis, regardless of income from other sources, and without any work requirement (Birnbaum 2016). In response to the evolving threats to the labour market driven by cross-sector implementation of AI, UBI should be re-conceptualised as a mechanism to empower the emerging class of "data workers" at the heart of the digital revolution (Zuboff 2018), sustain consumer spending, and strengthen societal resilience in fragile times. This approach not only addresses income inequality, but also facilitates the flexible reallocation of jobs and businesses that is a necessity in the still globalised but increasingly technologically driven world economy.

As highlighted by the ILO and the OECD at the 1st Meeting of the G20 Employment Working Group in 2018 (ILO &OECD, 2018), the case for UBI is bolstered by empirical evidence from various global experiments, which challenge the popular notion that guaranteed income discourages work. On the contrary, these experiments have often shown a positive impact on employment and overall well-being (Kangas et al. 2019). In this context, UBI schemes could function as a form of digital commons, generating significant positive externalities. Designed as a tax-funded collective risk-sharing strategy, UBI steps in where private insurance schemes fall short, providing a minimum level of financial security that insulates workers from the disruptive forces of automation and AI. The introduction of such a scheme also circumvents the less favourable economic implications of direct taxes on automation, such as so-called "robot taxes". While intuitively appealing as a means of slowing the rise of AI-based robots, such taxes would lead to a misallocation of resources and could inadvertently stifle innovation and competitiveness. In contrast, some form of financial insurance would facilitate a more

adaptable workforce, encourage continuous learning, and foster an environment in which the beneficial deployment of generative AI can proceed at an accelerated pace.

Following this logic, we argue below for several strategic responses based on a re-conceptualised UBI to ensure that the benefits of technological advances in generative AI are shared equitably across societies. By adopting this approach, the G20 members can lead the way in promoting inclusive growth and sustainable development in the face of the next industrial revolution.

Recommendations: Strategic response to generative AI

The emergence of generative AI, based on large language models such as OpenAI's GPT-4, has ushered in a new era of economic progress, coupled with significant disruptions in the labour market, particularly affecting high-skilled, creative jobs (Küsters and Poli 2024). These disruptions pose a dual challenge: mitigating the risk of job displacement and harnessing the potential of AI to increase productivity and economic resilience. In light of these challenges, this policy brief recommends the adoption of some form of UBI as a strategic policy tool to address the negative impacts of AI on the labour market while harnessing the opportunities it presents for economic growth and social stability.

However, UBI is not a silver bullet and requires several complementary policy measures to achieve optimal long-term effects. Overall, we propose the following measures:

- **Promote discussions on a basic income framework that is explicitly linked to technological progress in generative AI:** As a starting point, G20 countries could task the Digital Economy Working Group to map previous UBI experiments as a form of safety net for individuals at risk of displacement due to AI advances. Empirical evidence

from UBI trials have shown positive impacts on employment, well-being, and social cohesion (Kangas et al. 2019). Yet, a mapping on UBI experiments across the world could provide a coherent framework to develop effective systems to tackle the negative externalities originated by AI.

- **Facilitate international debate and cooperation on AI-centred UBI schemes:** Given the global nature of the implications of generative AI, whose impact (both positive and negative) does not stop at physical borders, G20 countries should seek to develop this emerging framework with other countries outside the G20. Discussions with these countries should foster international cooperation to develop standardised approaches to UBI, ensuring that policies are aligned and mutually reinforcing. In addition, this international effort should go beyond nation states and include key private sector stakeholders, such as the leading developers of generative AI models. In this respect, the UK's recent AI Safety Summit, with its diverse audience, is a worthwhile model to emulate.

- **Promote a global dialogue on how to implement UBI schemes:** More broadly, G20 countries should initiate and participate in global discussions on UBI, sharing best practices, lessons learned, and research conducted. This collaborative effort can help develop a targeted, re-conceptualised approach to the polarised issue of UBI that avoids the mistakes of the past. Overall, engaging in such a dialogue with researchers, NGOs, and individual governments invested in this space can help promote a unified approach to the challenges and opportunities of generative AI-centred UBIs.

- **Invest in AI skills and education:** G20 members should complement the discussion and implementation of new UBI-style policies with significant investment in education and skills development, focusing on so-called digital literacy and the skills required in an AI-driven economy. This relates primarily to skills developed in natural

language processing (NLP), such as prompt design, but also in robotics, as future iterations of large language models will be increasingly multimodal (i.e. able to process different inputs, such as texts, pictures, and voices) and connected to physical devices. This dual approach will not only provide immediate financial security, but also equip individuals with the skills needed to thrive in new employment landscapes. In particular, we note the potential of virtual reality tools, often referred to as the "metaverse", to improve digital literacy and skills in developing countries (Küsters and Stockebrandt 2023).

- **Encourage public-private partnerships and dedicated AI taxes**: Encourage partnerships between governments, the private sector (especially dominant AI hyper-scalers such as Microsoft and Google), and educational institutions to support the implementation of generative AI and related training programmes. These collaborations can enhance the effectiveness of generative AI and ensure alignment with market needs but could also be used as a means to co-finance any UBI schemes.
- **Address the issue of how to finance UBI:** Within the work of the G20 International Taxation Agenda, the G20 should implement further analysis and discussion on how to finance UBI. Partnerships or additional UBI programmes could be financed by the productivity gains generated by the rapid adoption of generative AI and/or by progressive tax mechanisms that ensure a fair contribution from individuals and companies that benefit most from AI and digital technologies. This approach will help maintain economic equilibrium in disruptive times and promote social equality.
- **Encourage flexible and adaptable UBI schemes:** Once a concrete UBI programme has been proposed, G20 members should ensure that it remains adaptable to the dynamic nature of the digital economy, as prominent AI architectures may change over time. This includes regular assessments by G20 members and the above-mentioned

expert group, as well as ongoing adjustments to the agreed UBI framework to ensure that it remains relevant and effective in response to technological advances and labour market changes, such as demographic shifts and acute skills shortages.

Overall, as generative AI continues to evolve, the need for policies that support economic stability and social well-being will become increasingly important. A well-designed basic income insurance can serve as a key tool in this context, providing financial security to those at risk of displacement while fostering a more resilient and adaptable workforce. Rather than resorting to taxes on automation and robotics – which could lead to welfare losses and inefficient resource allocation – a reimagined form of UBI would provide an efficient mechanism for the more flexible relocation of jobs and businesses demanded by the globalised economy and the technological disruption brought about by novel generative AI models. It could also serve as a more effective buffer during periods of technological upheaval, helping to compensate for the lack of aggregate demand in our increasingly digitalised economies. Finally, it would remunerate useful activities, such as data-generating private activities, that are currently unpaid (Zuboff 2018). By following the above recommendations, the G20 countries can lead the way in developing comprehensive policies that harness the benefits of AI, mitigate its risks, and ensure a prosperous future for all citizens in the digital age.

Scenario of Outcomes

The use of generative AI technologies is rapidly reshaping global labour markets, as discussed above, presenting both unprecedented opportunities and challenges for industry and G20 policymakers alike. Since these technologies will continue to evolve, following their inherent "scaling laws" that rewards the largest models with unprecedented "jumps" in capabilities, they are likely to unleash a wave of change that could significantly impact employment patterns, particularly in high-skilled and creative sectors. This section explores the possible scenarios that could emerge from the implementation of the policy recommendations outlined above, in particular the introduction of a UBI-style scheme by G20 members in response to the rise of generative AI tools.

- Smoother labour market shifts: As AI continues to transform the nature of work, UBI could facilitate a smoother transition by supporting individuals through periods of job displacement and retraining. This could accelerate adaptation to new employment paradigms and ensure that the workforce composition remains relevant in the face of rapid technological change.
- Increased social cohesion: By addressing income inequality and providing a universal safety net, UBI could foster greater social cohesion and reduce the risk of social unrest, akin to the rise of the "Luddites" during the first Industrial Revolution. As the labour market is transformed by AI, UBI could act as a stabilising force, ensuring that the benefits of technological advances are more equitably distributed across society.
- Increased economic resilience and innovation: The introduction of UBI could lead to a more resilient economy by providing individuals with a safety net that encourages risk-taking and innovation – key skills in an era of transformative and rapid technological change. With guaranteed financial security, more individuals could pursue entrepreneurial

ventures or engage in creative endeavours, potentially leading to a surge in new start-ups and innovative solutions that could drive the economic growth of the future.

- Reduced fiscal sustainability: One of the main challenges in implementing UBI is to ensure its fiscal sustainability. Financing a comprehensive UBI programme would require substantial resources, possibly leading to increased taxation or the reallocation of existing welfare funds. This could be a significant challenge, especially in times of economic downturn or fiscal constraint, such as the world is currently experiencing. We therefore suggest that any UBI schemes should be explicitly linked to the productivity gains from the rapid deployment of generative AI services and to new public-private partnerships with leading developers of large language models to co-finance them (Küsters and Poli 2024).

- Uncertain labour market dynamics: While UBI is designed to provide a safety net without creating disincentives to work, its overall impact on labour market dynamics remains uncertain. There is at least a theoretical risk that some individuals may opt out of the labour market, leading to labour shortages in certain sectors. Balancing the provision of UBI with the need to maintain a motivated and productive workforce will be crucial.

- Marginal inflationary pressures: The injection of a significant amount of unconditional income into the economy could lead to inflationary pressures, particularly if the increase in disposable income is not matched by a corresponding increase in goods and services. Managing these inflationary pressures while ensuring that the real value of UBI is maintained may be a theoretical challenge. However, with the natural real interest rate likely to remain in negative territory for the foreseeable future, we do not expect this problem to have a significant practical impact. Two channels contribute to this downward effect on the natural real interest rate in the G20 area: the increasing scarcity of effective

labour input and the increasing willingness of individuals to save due to longer life expectancy (Papetti 2019).

The introduction of UBI in response to the rise of generative AI opens up a complex scenario with significant potential benefits and challenges. However, the successful implementation of UBI could not only address the immediate challenges posed by AI, but also lay the foundations for more resilient, equitable and innovative societies in the long term. It is therefore worth exploring this concept in a structured format within the G20.

References:

Birnbaum, Simon. “Basic Income.” In *Oxford Research Encyclopedia of Politics*. Oxford: Oxford University Press, 2016.

Brynjolfsson, Erik, and Andrew McAfee. *Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York: Norton & Company, 2014.

Zuboff, Shoshana. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. London: Profile Books, 2018.

Cazzaniga, Mauro, Florence Jaumotte, Longji Li, Giovanni Melina, Augustus J. Panton, Carlo Pizzinelli, Emma J. Rockall, and Marina Mendes Tavares. “Gen-AI: Artificial Intelligence and the Future of Work,” *IMF Staff Discussion Notes* No. 2024/001, 2024. https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379.

Küsters, Anselm, and Eleonora Poli. “Resisting or Rebooting the Rise of the Robots? Reinventing the Idea of Basic Income Insurance for the Age of Generative AI,” *cepStudy* No. 2/2024, 2024. https://www.cep.eu/fileadmin/user_upload/cep.eu/Studien/cepStudie_Rise_of_the_Robots/cepStudy_Resisting_or_Rebooting_the_Rise_of_the_Robots.pdf.

Hui, Xiang at al.. “The Short-Term Effects of Generative Artificial Intelligence on Employment: Evidence from an Online Labor Market,” *CESifo Working Paper* No. 10601, 2023.

Albanesi, et al.. “New Technologies and Jobs in Europe,” *NBER Working Paper* No. 31357. Revised July 2023. http://www.nber.org/papers/w31357.

Kangas, Olli, et al. *The Basic Income Experiment 2017–2018 in Finland: Preliminary Results*. Helsinki: Ministry of Social Affairs and Health, 2019.

Küsters, Anselm, and Patrick Stockebrandt. “Das richtige Rezept für das Metaverse,“ *cepInput* No. 8/2023. https://www.cep.eu/Studien/cepInput_Metaverse_and_Healthcare/cepInput_Das_richtige_Rezept_fuer_das_Metaverse.pdf.

Papetti, Andrea. “Demographics and the Natural Real Interest Rate: Historical and Projected,” *ECB Working Paper Series* No. 2258, 2019. https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2258~32d1cdba97.en.pdf.

Grimalda, Gianluca, et al. *Building a Global Safety Net Through a Global Citizen Income and Progressive Global Taxation*. G20 Task Force on Inequality, Human Capital, and Well-being, 2022. https://www.t20indonesia.org/wp-content/uploads/2022/08/BUILDING-A-GLOBAL-SAFETY-NET-THROUGH-A-GLOBAL-CITIZEN-INCOME-AND-PROGRESSIVE-GLOBAL-TAXATION.pdf.

ILO & OECD. *Promoting Adequate Social Protection and Social Security Coverage for All Workers, Including Those in Non-standard Forms of Employment*, 2018. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms_646044.pdf.

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