

THE ECONOMIC CONSEQUENCES OF AI:A NEW INDUSTRIAL

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Abstract

This article explores the transformative consequences of AI on economic structures, labor markets, productivity, and wealth distribution. Unlike previous technological shifts, AI's capacity for autonomous decision-making and continuous learning introduces unprecedented efficiency gains while simultaneously challenging traditional employment models. This study examines how AI-driven automation, data-driven decision-making, and algorithmic innovation are redefining economic principles, creating new sectors, and altering the dynamics of global competition. While AI promises enhanced productivity and economic expansion, it also raises concerns about labor displacement, income inequality, and regulatory challenges. Ultimately, we argue that the success of this transformation hinges on strategic policy frameworks, adaptive workforce strategies, and ethical AI deployment.

Keywords: Economic transformation, Market disruption, Labor market shifts, Productivity growth, Wealth distribution, Economic inequality, Job displacement, Workforce adaptation.

Introduction

Artificial intelligence (AI) is transforming various industries by providing new solutions, enhancing the efficiency, and reducing costs. Artificial intelligence (AI) refers to the development of computer systems that can perform tasks that typically require human intelligence, such as learning, problem solving, perception, decision-making, and language understanding. AI systems use various techniques, including machine learning, deep learning, natural language processing, and computer vision, to analyze large amounts of data and make predictions or decisions based on that analysis. Some examples of AI applications include virtual personal assistants, self-driving cars, fraud detection systems, image and speech recognition, and medical diagnosis and treatment. AI is a rapidly advancing field that can transform many industries and aspects of everyday life. The progress of AI gives hope for a revival of consumption, a growth in productivity in most professions, better risk management, but at the same time gives rise to fears of the massive destruction of jobs in developed countries, a large retraining of skills, a widening of the digital divide within social structures (Bostrom, 2017; Mateu & Pluchart 2019). Most observers, such as practitioners and academics, agree that AI is the lever of the “3rd transformation of economic history” after that of the industrial revolution of the 19th century and that of computing in the 20th century (Baldwin, 2019). In



this regard, a study was carried out in November-December 2021 by the Ipsos group on 19,504 individuals from 28 countries, aged between 16 and 74, on the impact of AI in several areas. Respondents indicated that, in the coming years, AI will have an impact of 35% on education, 33% on security, 32% on employment, 31% on shopping, 30% on transport, 27 on entertainment, 26% on the cost of living, 23% on income, 22% on the environment, 15% on food and 15% on personal relationships.

Body:

What is AI and how could it impact the economy?

Artificial intelligence (AI) is a rapidly growing market, with revenues expected to reach almost \$50 billion by 2025. It is poised to have a transformative effect on consumer, enterprise, and government markets around the world. PwC released Bot. Me 6, a report that was constructed from insights gathered at a 2017 AI Expert Salon, and a survey of 2,500 U.S. consumers and business decision makers on attitudes towards AI and its current and future implications on society. Key findings include that AI is no longer viewed as primarily a corporate tool to increase automation, but instead as an emerging technology to be leveraged to handle global challenges – 63% of consumers agree that AI will help solve complex problems that plague modern society, such as closing the education gap, establishing cures for cancer and other diseases, and even gender inequality challenges. AI and many AI-enabled products could save consumers time and lead to increased consumption. Gartner predicts that, in 2018, half a billion users will save two hours a day as a result of AI-powered tools¹³. This could manifest itself in a variety of ways. Firstly, AI technologies could reduce the search costs, or general effort involved in identifying the ideal product or service, therefore reducing friction in the purchasing process leading to more consumption or greater utility derived from existing consumption. For example, the more a beauty brand knows about a shopper's skin tone, complexion, age, and lifestyle through a combination of image analysis and data mining, the better it can effectively offer products that will please the customer. From another perspective, AI assists consumers to avoid having to perform non-value adding tasks, which also frees up their time, some of which is likely to be spent consuming additional products or services. For example, autonomous vehicles which do not require the driver to actively engage in operating the vehicle yield extra time for the driver to undertake an alternative activity as they move from A to B. This could include working, consuming media or entertainment content, shopping online or using a telecommunications platform to communicate with family or friends. Rapidly increasing computing power and connectedness have made it possible to compile and share large volumes of valuable data, which is now more accessible than ever before. This has created momentum for AI technologies. Importantly, AI patents have been on the rise worldwide (see Figure 1), Most relevant studies emphasize that AI has the potential to significantly impact economic growth in various ways. However, it is worth noting that the impact of AI on economic growth is not uniform across all sectors and regions. Some industries may experience more significant changes and growth, while others may face challenges or disruptions. Additionally, the successful adoption and integration of AI technologies need adequate infrastructure, data availability and supportive policies, which can vary across different





economies. In its 2017 study, the British consulting company PricewaterhouseCoopers (PwC) estimates the specific contribution of AI to global GDP at \$15,700bn between 2018 and 2030, an increase of 14%. Value creation should be higher in Asia Pacific (26%) and North America (14.5%) than in Europe (9.9% to 11.5%) and developing countries. It would mainly lead to productivity gains (55%) and a recovery of consumption (45%) until 2030, but this ratio should be reversed beyond these benchmarks, because of an optimal productivity threshold. AI and the future of productivity According to a well-known productivity paradox, we are experiencing low productivity in an age of accelerating technological progress. One possible explanation for this is that the diffusion of those capabilities of AI that can spur productivity remains limited. Even with their broad uptake, their full effect may only materialise with ensuing waves of complementary innovations. On the contrary, some experts say that the ICT revolution has reached maturity and that research productivity is declining sharply, having diminishing impacts on the economy. Taking into account the low rate of increase in physical and human capital, which can have a stronger effect on overall productivity compared with innovation, they foresee only a gradual evolution of productivity due to AI. According to opposing views, AI will significantly improve human capital by offering novel ways of teaching and training the workforce. Some consider that in reality, technological progress has a much greater impact on productivity than shown by many estimates, as a result of mis-measurement. The OECD expects that through detection of patterns in enormous volumes of data, AI will significantly improve decision-making, cut costs and optimise the use of production factors and consumption of resources in every sector of the economy. Overall, it seems likely that, while AI has significant potential to boost productivity, the final effects will depend on the rate of AI diffusion across the economy and on investment in new technologies and relevant skills in the workforce.

CONCLUSION

The rise of artificial intelligence marks not only a technological breakthrough but also a profound economic transformation, comparable to previous industrial revolutions. As AI reshapes industries, automates tasks, and redefines the nature of work, economies must adapt to new models of productivity and employment. While AI promises significant economic growth and innovation, it also raises critical questions about inequality, job displacement, and the concentration of wealth. Therefore, navigating this new industrial revolution will require proactive policies, investments in education and skills, and a balanced approach that ensures the benefits of AI are widely shared. Ultimately, the economic consequences of AI will depend not just on technological advances, but on the choices societies make in adapting to this powerful force.

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