Candidate 1 evidence

Will artificial intelligence hollow out the labour market in the UK?

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Introduction

Creating systems that can replicate human intelligence and problem-solving abilities has been one of the main objectives of artificial intelligence research since the 1950s.[1] With 20% of businesses in the UK using AI[2], there is a clear trend of increasing AI adoption rates. In the labour market, people are increasingly concerned about their jobs being replaced by AI, as by 2027, 42% of business tasks are set to be automated.[3] Jobs with repetitive and predictable tasks are at the most risk of being displaced by AI due to AI's ability to manage vast volumes of information without fatigue.

It is important to study the impacts of AI on the labour market because AI has the potential to significantly alter unemployment rates and productivity levels in the UK. On one hand, structural and technological unemployment could leave millions of people displaced from their jobs. However, contrastingly, productivity changes could provide a solution to the UK's productivity problem and help promote economic growth and create new job opportunities. The impact on income inequality is also likely to be significant, as AI is expected to affect lower-wage occupations more.

The aim of this assignment is to explore the effects of artificial intelligence on the labour market, driven by its increasing integration into the workforce. I aim to analyse how AI in the UK is impacting labour market dynamics and productivity changes in several crucial sectors such as education and healthcare. Additionally, this project will examine how AI changes wealth distribution and income inequality in the labour market, identifying both the opportunities and challenges created by AI. Ultimately, I will ask whether AI will lead to the hollowing out of the labour market in the UK.

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[1] https://www.scottishai.com/news/the-history-of-ai (Scottish AI Alliance, 2024)
[2] https://www.economist.com/the-world-ahead/2024/11/20/there-will-be-no-immediate-productivity-boost-from-ai (Williams, 2024)
[3] https://www.weforum.org/publications/the-future-of-jobs-report-2023/in-full/ (Zahidi S. e., 2023)

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Labour Market Dynamics

New Jobs Creation

In the last few decades, the UK, along with other developed nations, has seen significant advancement in technology, including AI. These new technologies are creating new jobs and, indeed, new industries. This is because there is both a need to develop and update technologies. Similarly, the new opportunities AI presents require human capacity. Techopedia references this point when considering the UK's increase in AI usage: "The same businesses need humans to man AI tools and turn them into productivity machines".[4] This indicates that AI development and deployment require a skilled human workforce, meaning there is a higher demand for people with programming skills and computer science-related degrees specialised in AI. A recent report from the WEF develops this point by showcasing how "technological skills are projected to grow in importance more rapidly than any other type of skill. AI and big data top the list as the fastest-growing skills".[5] This shows that in the short term, this demand shift to the right in the labour market will increase wages for workers in those sectors. This aligns with PWC's findings, which state that workers with AI skills are expected to earn 14% more.[6] Furthermore, in 2023 software engineering saw the steepest rise in applications, up 16% compared to 2022.[7] This shows that higher pay incentivises more people to graduate from computer science-related degrees, resulting in a rightward shift in the supply of workers, transforming markets towards reaching equilibrium in the long run. As a result, a greater number of individuals are employed in highly skilled positions, contributing to a more advanced labour market.

However, having a higher demand for workers in AI-related fields does not necessarily mean there are enough workers to meet that demand. Evidence regarding this states: "A severe shortage of the nation's tech skills may stifle the government's push to turbocharge AI".[8] This shows that labour shortages in key areas, such as AI-related

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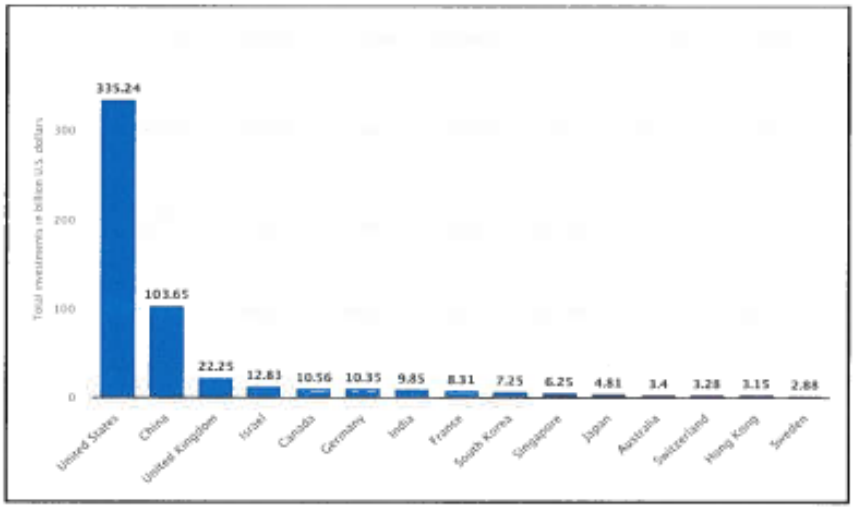
[4] https://www.techopedia.com/the-state-of-the-ai-workforce-in-the-uk (Okeke, 2024)
[5] https://www.weforum.org/publications/the-future-of-jobs-report-2025/ (Zahidi S. , 2025)
[6] https://www.pwc.co.uk/issues/generative-artificial-intelligence/uk-ai-jobs-barometer.html (PWC, 2024)
[7] https://www.bbc.com/news/technology-66178247 (McCallum S. e., 2023)
[8] https://uk.finance.yahoo.com/news/uk-skills-gap-threatens-stall-092943835.html (Koopman, 2025)

fields, can disrupt the market expansion due to a limited supply of skilled workers, since firms struggle to find qualified workers to fill roles. Moreover, evidence from CK Group confirms that skill shortages can disrupt economic expansion: "STEM skills gap projected to cost the UK £120 billion by 2030".[9] This highlights that skill shortages can reduce government revenue and cost businesses profits as they struggle to fill the roles. One of the reasons is because wages in the AI sector are likely to rise due to a limited supply of workers. Reduced profits can potentially reduce firms' capital available to spend on innovation and investment in areas such as R&D, which often drives the creation of additional high-skilled jobs, and this underinvestment can lead to higher unemployment. This link between R&D and unemployment has been referenced on the WEF: "Increasing R&D expenditure as a percentage of GDP has been found to decrease a country's unemployment rate".[10]

Figure 1- Total private investments in artificial intelligence (AI) worldwide from 2013 to 2023, by region



Source 1 - Statista[11]

[9] https://ckgroup.co.uk/stem-skills-gap-projected-to-cost-the-uk-120-billion-by-2030/ (CK Group, 2024)
[10] https://www.weforum.org/stories/2023/05/research-development-create-jobs/#:~:text=A%20one%2Dpoint%20increase%20in,analyzed%20data%20from%2071%20countries (Charlton, 2023)
[11] https://www.statista.com/statistics/1472607/private-investments-ai-by-region/ (Statista, 2024)

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AI, like any other industry, both influences and is influenced by globalisation. From the graph above,[12] I can analyse that China's private sector invested over 4.5 times more than the UK in AI, while the USA invested 15 times more than the UK. Higher investment in AI by the private sector can drive both job creation and potential wage growth by expanding high-skilled opportunities. If the UK's AI industry receives less investment than other developed nations, it risks slower AI development compared to the USA and China. This could significantly impact labour market dynamics, as the UK's high-skilled AI professionals may relocate to countries offering better career opportunities and higher wages, a phenomenon known as 'brain drain' economic theory. This has been referenced by The Independent, stating that 'brain drain' of talented AI specialists may occur.[13] This talent loss could weaken the UK labour market by further reducing the supply of high-skilled professionals and become increasingly reliant on low-skilled jobs, leading to the hollowing out of the skilled jobs in the UK labour market. Thus, 'brain drain' may undermine the UK's AI plan to establish a strong global presence: "the skills gap in the UK's workforce could hinder the adoption of AI technologies".[14] This highlights the concern that the skills gap caused by the 'brain drain' could be damaging; as high-skilled professionals migrate elsewhere, the economy risks falling further behind in the global AI race, contributing to a higher structural unemployment.

Job Displacement

As I have recognised in my preceding section, AI has the potential to create new opportunities in the labour market. However, it too has the potential to displace jobs. In the UK alone almost 8 million jobs could be lost to AI.[15] This shows that technological and structural unemployment could rise in the UK labour market. Workers in low-wage occupations are 14 times more likely to need to change their job following the impact of

[12] https://www.statista.com/statistics/1472607/private-investments-ai-by-region/ (Statista, 2024)
[13] https://www.independent.co.uk/business/uk-risks-becoming-incubator-economy-where-tech-startups-develop-then-leave-b2690908.html (Shead, UK risks becoming 'incubator economy' where tech start-ups develop then leave, 2025)
[14] https://www.sciencemediacentre.org/expert-reaction-to-the-governments-ai-opportunities-action-plan/ (Science Media Centre, 2025)
[15] https://www.theguardian.com/technology/2024/mar/27/ai-apocalypse-could-take-away-almost-8m-jobs-in-uk-says-report (Partington, 2024)

AI.[16] This shows that a higher proportion of low-wage workers will be affected. The result of this is that this demographic will most likely need to seek retraining, and in doing so will encounter challenges due to the financial costs of upskilling. Given this demographic already experiences wealth inequality, this issue is particularly exacerbated. Evidence suggests that almost a third of people are prevented from upskilling due to financial barriers.[17] This shows that there could be a lack of mobility in the labour market amongst low-wage workers, which would increase the time taken in transitioning, potentially leading to a rise in frictional unemployment. This aligns with the finding: "AI adoption by businesses is likely to lead to substantial short-term frictional unemployment."[18]

In the short term, increased spending on unemployment benefits and retraining schemes due to frictional, technological and structural unemployment can increase the government deficit and national debt. This in turn may lead to higher borrowing costs if investors perceive greater risk. Thus, reallocation of public spending might be necessary, as the government may have to allocate a bigger proportion of a budget to paying the interest on debt. The government faces the basic economic problem of scarce resources, creating an opportunity cost. Thus, the government may have to sacrifice additional spending on public services, which would hinder demand and further job creation. This contractionary fiscal policy can further lead to higher unemployment.

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[16] https://blogs.lse.ac.uk/businessreview/2023/12/14/how-the-most-recent-ai-wave-affects-jobs/ (Josten, 2023)
[17] https://www.siliconrepublic.com/careers/ucd-professional-academy-report-costs-barrier-upskilling (O'Dea, Costs and lack of employer input are barriers to workers wanting to upskill, 2023)
[18] https://dataspace.princeton.edu/handle/88435/dsp01tq57nv379 (Duncan, 2024)

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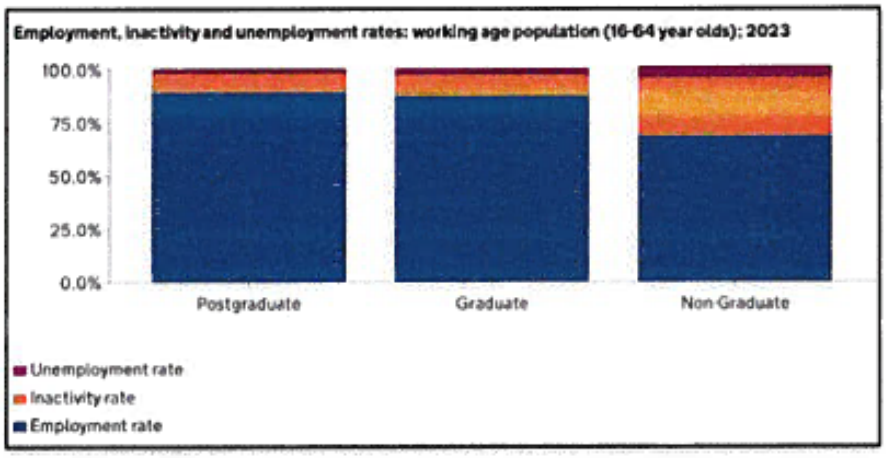
Figure 2 - Employment, inactivity and unemployment rates: working age population (16-64 year olds); 2023



Source 2 - Graduate labour market statistics [19]

In the long term, job displacement by AI can be beneficial if those who are displaced get additional education for the labour market. The ONS graph above shows the differences in unemployment between different levels of education. It can be analysed from the graph numbers that post-graduates are around 2.4 times more likely to be employed compared to non-graduates, stating that non-graduates have an unemployment rate of 5.1%, while graduate unemployment is at 3% and post-graduate is at 2.1%.[20] This shows that higher education and upskilling opportunities can significantly lower unemployment rates. Furthermore, workers who were previously in low-wage jobs can be transformed into high-skilled individuals with higher wages and higher productivity due to additional education they consumed while they were unemployed. Such a well-educated workforce is beneficial for the economy, as there are fewer unemployment benefits to pay out and more taxes collected from higher-earning workers, contributing to a higher-skilled labour market.

[19] https://explore-education-statistics.service.gov.uk/find-statistics/graduate-labour-markets (UK Government, 2024)
[20] https://explore-education-statistics.service.gov.uk/find-statistics/graduate-labour-markets (UK Government, 2024)

Sub-Conclusion

The rapid advancements in AI and technology have significantly increased the demand for highly skilled workers, especially in computer science-related fields, promising higher wages. However, there is a risk of not being able to provide enough supply of workers in AI as the number of skilled workers is still limited. "Brain Drain" could negatively impact the UK's labour market, as many high-skilled individuals may be attracted to higher wages in countries where AI industries are bigger. While AI may lead to job losses in the short term, there is an opportunity for effective retraining and education in the long term, which if used effectively, can lead to a more productive labour market with a larger number of high-skilled workers than before the integration of AI, and ultimately a decreased unemployment rate.

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Productivity

Healthcare

One of the reasons for the UK's productivity problem is rooted in the large number of people with long-term illness. Figures from the ONS show that there are around 600,000 people who are willing but unable to work due to sickness.[21] Additionally, research from Microsoft states: "AI is already helping to support earlier cancer and disease detection in the NHS. Not only could this save the NHS an additional £500 million by 2030, but it would transform outcomes for patients and families."[22] This shows that AI is efficient at supporting the healthcare system in several ways. Assuming the government allocates the savings effectively, the vast sums of money saved by AI indicate that more can be invested in the NHS to improve healthcare outcomes and boost the size of the workforce by reducing the number of individuals unable to work due to long-term illness. This would expand the labour force, increasing the economy's productive capacity and potentially raising overall economic output. Larger funding is likely to lead to reduced waiting lists, as evidence suggests: "9 in 10 health leaders say reducing waiting lists is being hindered by a decade long lack of investment."[23] This shows that more investment in the NHS from the money saved by AI is likely to decrease waiting lists, potentially reducing absenteeism due to illness and long waiting times. This can increase productivity as less people will be absent from work. This point has been highlighted in The Guardian, stating: "500 UK business leaders polled for the TUC said workers had to take time off in the last year because of problems accessing public services."[24]

Secondly, according to Pat McFadden AI can detect some cancers earlier that are not detectable by the human eye.[25] This suggests that people are more likely to survive

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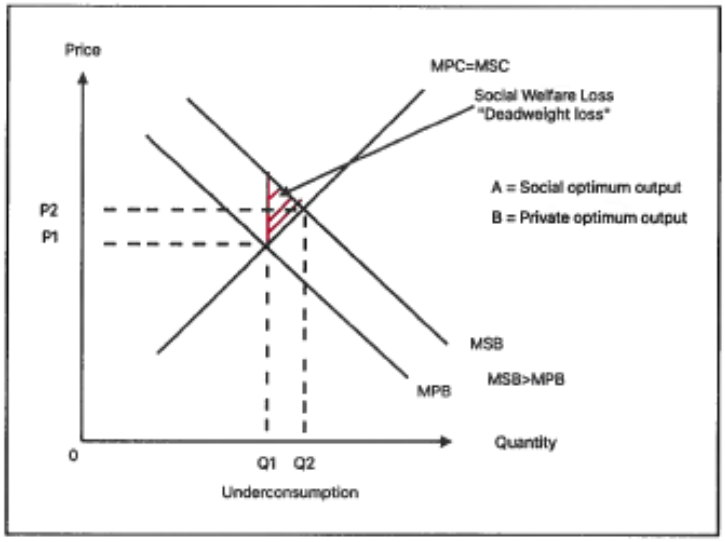
[21] https://www.bbc.com/news/business-52660591 (Cuffe, 2024)
[22] https://ukstories.microsoft.com/features/ai-could-boost-uk-gdp-by-550-billion-by-2035-research-shows/ (Dawson, 2024)
[23] https://www.nhsconfed.org/news/lack-capital-funding-risking-patient-safety-and-waiting-list-recovery (NHS Confederation, 2022)
[24] https://www.theguardian.com/business/2024/oct/28/creaking-public-services-are-costing-companies-in-absent-staff-employers-tell-tuc (Jolly, 2024)
[25] https://www.bbc.com/news/articles/crr05jykzkxo (McMahon, 2025)

cancer, since AI allows earlier detection, and if treatment is available, then it can increase chances of survival. This would have a direct impact on labour force participation and economic output, as earlier diagnosis and treatment increase the chance of survival. A higher survival rate would enable more individuals to remain in or return to work, increasing economic productivity. Healthcare is an example of positive consumption externality, making investment in that area particularly beneficial, as a healthier population will lead to social benefits including improved productivity, as shown on the graph below where MSB>MPB.

Figure 3 - Positive Consumption Externality



Education

High-quality education often reflects a high-quality workforce that is typically skilled, adaptive and innovative. According to The Guardian "This investment will … face to face teaching".[26] This suggests that AI could enhance teaching quality by allowing teachers to spend more time educating students, leading to a more productive workforce since students may acquire more skills and gain deeper knowledge of their subject, becoming experts in their fields. This is advantageous for the economy, as a

[26] https://www.theguardian.com/education/article/2024/aug/28/make-ai-tools-to-reduce-teacher-workloads-tech-companies-urged (Adams, 2024)

higher-educated future workforce is likely to lead to more innovations, and a more competitive economy, especially if AI skills can be taught, helping reduce the AI labour shortages. This has been referenced in The Guardian article, which states: "Artificial intelligence, when made safe and reliable, represents an exciting opportunity to give our school leaders and teachers a helping hand with classroom life".[27] Meanwhile, firms benefit from a higher-skilled pool of labour, increasing their productivity and the overall productivity of the economy.

Transport jobs

While AI could enhance occupational mobility by improving education, geographical mobility is also likely to improve. For example, Forbes article states: "it's predicted that 50% of transport jobs are at risk of automation by the mid-2030s."[28] This point is developed further by evidence: "The automation of transport presents us a unique opportunity. It can make the network … cheaper and more efficient."[29] This suggests that transport firms such as bus companies might expand transport connectivity between towns, since automation allows to save costs. This is because instead of paying wages, more can be spent on capital assets, such as buses, allowing bus companies to run more routes. In the long-term, this means that both the working population and the unemployed will experience greater geographical mobility, exposing them to more job opportunities, potentially increasing labour force participation and boosting aggregate productivity.

However, in the short-term AI and automation can reduce aggregate productivity as they change the job market. For example, as transportation jobs are automated, workers who specialised in these areas may find themselves without suitable jobs. This can lead to higher structural unemployment and skill mismatches, where displaced workers take jobs that do not use their full skills, reducing labour productivity in the short term. Additionally, even with training programs, there is a temporary period where

[27] https://www.theguardian.com/education/article/2024/aug/28/make-ai-tools-to-reduce-teacher-workloads-tech-companies-urged (Adams, 2024)
[28] https://www.forbes.com/sites/byronscole/2023/08/09/jobs-on-the-verge-of-disruption-how-is-ai-set-to-redefine-the-workforce/ (Cole, 2023)
[29] https://www.businessandindustry.co.uk/manufacturing/lets-ensure-automation-of-transport-takes-everyone-on-the-ride/ (Feldman, 2023)

productivity decreases due to workers learning new skills or adapting to new jobs. This displacement of workers could also cause reduced demand for labour in routine jobs, putting downward pressure on wages. This is mentioned in "Displacement effect" as argued by Acemoglu and Restrepo (2018): "displacement effect causes a decoupling of wages and output per worker".[30]

Infrastructure

According to Gov.uk, AI can help address some of the most drastic challenges - including the housing market crisis. AI can help with planning consultations, helping to achieve the plan to build more affordable houses.[31] This shows that the government believes AI can speed up the time of approvals as well as reduce the time between project conception and the start of construction. This, in turn, has a chance to reduce unemployment. As more houses are completed more quickly, new areas can develop faster, allowing businesses to open sooner and create jobs. This will also lead to positive multiplier effect as higher economic activity leads to higher job creation.

Physical jobs

For many jobs that require physical interference, strong health conditions are vital. AI is now able to support those with physical jobs by filming workers and then identifying the pressure points and potential problem areas on the body. That information is then used to provide workers with "exoskeletons" that support their body.[32] This evidence suggests that AI could lead to higher productivity of the workforce as they are more likely to work longer hours as they are less likely to feel pain from working long hours. This is particularly relevant for the UK's aging population, as AI-driven systems would allow older people to work longer and therefore increase number of economically active people, making workforce more productive. The BBC reinforces this point, stating: "This type of technology assists them in working for longer".[33]

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[30] https://www.nber.org/system/files/working_papers/w24196/w24196.pdf (Acemoglu, 2018)
[31] https://www.gov.uk/government/news/prime-minister-sets-out-blueprint-to-turbocharge-ai (UK Government, 2025)
[32] https://www.bbc.co.uk/news/uk-england-68969349 (Machin, 2024)
[33] https://www.bbc.co.uk/news/uk-england-68969349 (Machin, 2024)

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Financial sector jobs

Financial services are one of the biggest exports in the UK economy as well as 12% of UK's GVA in 2023.[34] Evidence suggests that AI has led to a significant rise in productivity in the UK's financial sector: "Up to 30% productivity gains across analyst roles by processing information at speed and scale that were not possible before".[35] This shows that AI directly increases productivity, decreasing the time of producing services. Thus, firms' costs of production could potentially drop as workers require fewer paid hours for the same service. Firms are unlikely to decrease the prices of their services in response to reduced production costs due to oligopolistic markets.[36] However, higher profits are likely to lead to more R&D enhancing productivity and innovation.

Market Structures

Due to AI having a profound impact on productivity, as mentioned earlier, this can lead to bigger firms gaining a higher advantage from technology, potentially driving out competition, as smaller firms cannot compete due to higher barriers to entry, as it is expensive to adapt to AI. The evidence states: "High fixed training costs are the main AI market entry barrier. This favours large firms with the financial capacity to cover these costs".[37] This shows that some firms are likely to turn into oligopolies/monopolies since barriers to entry rise. This is because new firms are less likely to enter the market, leading to consolidation around major firms. The range of employers could narrow, potentially leading to less competitive wages in the labour market. Monopolies could also lead to a lack of incentive to improve, which will lead to lower quality products and lower productivity. While oligopolies may engage in price wars, leading to higher prices

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[34] https://www.pwc.co.uk/industries/financial-services/insights/framework-for-growth-and-uk-financial-services.html#:~:text=Financial%20services%20and%20related%20professional,2.4%20million%20jobs%20in%202022. (PWC, 2024)

[35] https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2023/nov/uk-finance-report-2023.pdf (Mackintosh, 2024)

[36] https://www.economicsonline.co.uk/business_economics/banks.html/#:~:text=The%20UK%20banking%20sector%20is,the%20market%20is%20clearly%20oligopolistic. (Ansari, 2020)

[37] https://www.bruegel.org/policy-brief/why-artificial-intelligence-creating-fundamental-challenges-competition-policy#:~:text=High%20fixed%20training%20costs%20are,agreements%20with%20big%2Dtech%20firms.&text=Model%20training%20requires%20expensive%20dedicated%20AI%20processors. (Martens, 2024)

in the long term and lower consumer spending as a result, this may slow down job creation and the UK's GDP growth.

Sub-Conclusion

The integration of AI into the UK economy has shown significant promise for enhancing productivity, particularly by improving disease diagnostics, automating administrative processes, and improving both occupational and geographical mobility of workers. AI's capacity to boost the workforce and reduce long-term illness-related absences in healthcare directly influences overall economic output. However, there are concerns including the risk of job displacement leading to lower productivity in short-term due to retraining efforts. Greater market monopolisation could also lead to less competitive wages, since firms are less incentivised to improve workers' conditions. Overall, AI is likely to increase productivity.

Socio-Economic Impact

According to a BBC article, AI is likely to help more journalists with average writing skills to write articles. More people will be able to work as journalists and other professions associated with writing, driving up competition, which may decrease their wages due to an increased supply of workers.[38] This shows that many professions in "middle class" might transform to lower income jobs as they become more accessible for everyone. Moreover, evidence states: "Good writing exhibits genuinely human qualities".[39] This shows that while journalism is likely to become accessible for more people, high earners in writing will still exist due to individual qualities of writers. This may deepen income inequality as AI is likely to make it harder to differentiate themselves, while high-skilled individuals with unique talents will still exist.

While the UK is planning to become one of the global leaders in AI, it is currently at risk of becoming an "incubator economy".[40] This shows that as AI businesses in the UK develop and earn profit, they are likely to leave the UK and move their businesses to another country where businesses are more profitable. This does not only lead less taxes collected but also fewer employers and less jobs available in the labour market. This aligns with the evidence: "Every UK unicorn that gallops overseas to list, or sells out to foreign investors, is a blow to UK PLC and our aspirations for growth".[41] This can lead to further socio-economic challenges due to lower economic growth, as there will be a rise in the proportion of low-skilled workers in comparison to before the AI industry has grown. Issues in funding public services may arise due to the hollowing out of high earners.

However, this argument can be opposed by the government's AI plan. If it proceeds as anticipated, the UK will experience growth and overall wealthier individuals due to the

[38] https://www.bbc.com/news/technology-65102150 (Vallance, 2023)
[39] https://www.theguardian.com/technology/2025/mar/04/humanities-teaching-will-have-to-adapt-to-ai (Endersby, 2025)
[40] https://www.parliament.uk/business/lords/media-centre/house-of-lords-media-notices/2025/february-2025/uk-risks-becoming-an-incubator-economy-if-we-dont-take-action-to-support-our-tech-companies-to-scale-up/ (UK Parliament, 2025)
[41] https://www.independent.co.uk/business/uk-risks-becoming-incubator-economy-where-tech-startups-develop-then-leave-b2690908.html (Shead, UK risks becoming 'incubator economy' where tech start-ups develop then leave, 2025)

positive multiplier effect. This has been mentioned on Gov.uk: "AI drives the economic growth on which the prosperity of our people and the performance of our public services depend".[42] This means more can be collected from taxes and could be redistributed to those areas with the highest poverty rates, improving their public services to help reduce inequality. Increased public spending can help acquire jobs and improve the population's health, leading to a lower inequality.

Digital exclusion is one of the most reinforcing factors for poverty among lower incomes, with around 7% of adults in the UK who did not have access to the internet at home in 2023.[43] The negative impact of not having access to the internet is likely to increase with the development of AI. This is because those who are digitally excluded will not be able to benefit from AI's productivity benefits, as mentioned by the WEF: "To fully harness AI, everyone needs access to the technology, as well as the tools, education and infrastructure that underpin it".[44] This shows that AI can create a higher barrier for lower income workers to access better opportunities. This could lead to more people living in poverty, as well as bigger gaps in unemployment due to workers not having the digital access and skills related to AI and programming.

It is also argued that AI is likely to lead to greater wage polarisation, as the demand for technology educated workers with analytical thinking and innovative skills is expected to grow by 41%.[45] This shows that those without 'technology education' are likely to experience stagnating wages due to reduced demand, thus increasing the gap between income inequality. This is because of the reduction in job opportunities in the middle section of the income spectrum, which can increase the supply of workers in the lower income section, putting downward pressure on wages. This aligns with the IMF's managing director Kristalina Georgieva: "in most scenarios, AI will likely worsen overall inequality".[46] Furthermore, this can lead to more government spending on those with

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[42] https://www.gov.uk/government/publications/ai-opportunities-action-plan/ai-opportunities-action-plan?utm_source (UK Government, 2025)
[43] https://lordslibrary.parliament.uk/digital-exclusion-in-the-uk-communications-and-digital-committee-report/ (UK Parliament, 2024)
[44] https://www.weforum.org/stories/2025/01/digital-divide-intelligent-age-how-everyone-can-benefit-ai/#:~:text=It's%20important%20to%20pay%20attention,and%20infrastructure%20that%20underpin%20it. (Smith, 2025)
[45] https://sites.bu.edu/uea/2024/02/05/ais-impact-on-income-inequality/ (Kharate, 2024)
[46] https://www.bbc.co.uk/news/business-67977967 (Liang, 2024)

lower incomes, hindering investment in high-quality jobs and workforce skills due to the opportunity cost associated with income inequality. This reallocation of funds could limit the government's ability to invest in sectors that drive job creation and innovation of the workforce.

According to Techopedia, UK companies are already facing a significant AI skills shortage.[47] This shows that if the government fails to address these supply issues, the growth of the AI sector in the UK can slow down and become less competitive globally, as there would not be enough human resources to fulfil the roles. This could lead to wage-polarisation, where a small number of high-paying AI jobs coexist with a growing number of lower-skilled, widening income inequality in the labour market.

Sub-Conclusion

In conclusion, AI is likely to exacerbate income inequality and widen the gap between those with technology education and those without. Digital exclusion is likely to become a bigger problem as many AI benefits are online. Shortages in the AI labour market could also significantly increase wages for AI skilled workers, which creates extremely high earners. The potential relocation of AI firms could further strain the UK economy, reducing tax revenues and job opportunities. Unless the government interferes to make AI skills and digital devices more accessible for everyone, AI is likely to lead to higher socio-economic inequality in the UK.

[47] https://www.techopedia.com/the-state-of-the-ai-workforce-in-the-uk (Okele, Techopedia, 2024)

Conclusion

I conclude that the labour market is likely to be temporarily hollowed out in the short term but is extremely likely to benefit from additional education. AI is likely to widen income inequality and higher unemployment, as AI is 14 times more likely to affect low-wage occupation workers.[48]

One recommendation I can make is to integrate computing skills into the school curriculum as a mandatory subject alongside maths and English. This could bridge the unequal levels of computer skills and make the younger generation more prepared for labour market transitions. I would also recommend providing basic technology to those who cannot afford it, so they have equal access to online opportunities. This would help minimise disparities, prevent income inequality from widening and reduce the risk of hollowing out the labour market.

I conclude that while short-term productivity may be impacted by frictional, structural and technological unemployment due to job displacement resulting in almost 8 million jobs lost in the UK,[49] the long-term productivity gains depend on effective retraining policies and how well the government can support those who lost their jobs to AI. If the government fails to help the labour market transition, there is a risk of hollowing out in the labour market.

Thus, I recommend implementing supply-side policies aimed at those who lost their jobs to AI, such as building retraining centres focused on computer skills. This would be beneficial for the labour force, as workers displaced by AI can now transition to high-demand, higher-paying jobs. This would also benefit those entering the labour market, as higher wages in AI industries could stimulate economic growth, leading to more job creation and a healthier labour market.

Another conclusion I can make is that the UK's economy is at risk of becoming an "incubator economy" with businesses and workers leaving to seek higher earnings

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[48] https://blogs.lse.ac.uk/businessreview/2023/12/14/how-the-most-recent-ai-wave-affects-jobs/ (Josten, 2023)

[49] https://www.theguardian.com/technology/2024/mar/27/ai-apocalypse-could-take-away-almost-8m-jobs-in-uk-says-report (Partington, 2024)

abroad. I would recommend setting a lower corporate tax bracket for firms in the AI sector; this would be beneficial for the labour market, as the AI firms will be less incentivised to move abroad, while they will also earn higher profits, potentially providing more competitive wages compared to before the reduction in corporate taxes. This will disincentivise some people from moving abroad, preventing high-skilled workers from leaving the UK labour market.

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