

Artificial Intelligence

The impact of artificial intelligence on employment, wages, and the structure of the labor market

- Artificial intelligence has not led to widespread unemployment, despite initial fears, but it is reshaping labor markets through task reallocation, skill-biased complementarity, and organizational change.
- The main economic risk lies in increased wage and employment polarization, making education, reskilling, and adaptive labor-market institutions critical to ensuring an inclusive AI-driven growth path.

Introduction

Artificial intelligence (AI) is evolving at an extraordinary speed, driving profound changes across industries and fundamentally altering the nature of work. And unlike previous industrial revolutions, which primarily automated manual and routine tasks, the AI revolution targets domains typically associated with medium- and high-skilled workers.

AI is expected to boost productivity, accelerate global growth, and increase incomes. One study estimates that AI could boost global GDP by an additional 15% by 2035.¹ However, AI also threatens to displace workers and disrupt traditional career ladders, leading to widespread public anxiety that it could replace jobs and deepen economic and social inequalities.

The central questions will be how AI will change the composition of employment, wage structures, and career trajectories across sectors and workers, and how governments, firms, and individuals should respond.

Impact on employment

Historically, major technological disruptions in labor markets unfold over decades rather than abruptly. And current evidence indicates that AI has not led to widespread unemployment, despite initial fears.

Estimates suggest that AI-related innovation could displace 6-7% of the U.S. workforce if AI is widely adopted, but these effects are likely to be transitory.² New job opportunities created by AI are expected to absorb displaced workers over time. However, the pace of technological change often outpaces the adaptive capacity of training systems, leading to sectoral and occupational reallocation.

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Recent firm-level evidence indicates a reduction in entry-level hiring following generative AI adoption, particularly for roles filled by junior staff performing

tasks that are easily automatable.³ This adjustment appears to operate primarily through slower hiring rather than massive layoffs, as firms rely on natural attrition to realign their workforces. As AI adoption matures and task bundles stabilize, entry-level demand may recover in redesigned roles that emphasize complementary skills.

Impact on wages

AI tends to amplify wage dispersion by increasing returns to skills that are complementary to advanced technologies. Workers with advanced skills that complement AI are experiencing wage growth, while many medium-skill workers face stagnation or wage pressure as AI automates core analytical tasks.⁴

The effects on low-wage workers are more ambiguous. In some service occupations, AI may raise productivity without fully substituting labor, supporting employment and wages; in others, it may increase monitoring and standardization, limiting wage growth.

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This pattern reinforces labor-market polarization. Occupations where AI lowers expertise thresholds may experience downward wage pressure due to increased competition. At the same time, roles that become more demanding as AI handles routine components may see higher wages but lower overall employment.

Overall, AI shifts the wage structure in favor of highly skilled labor and capital owners, raising concerns about income inequality if countervailing policies are not implemented.

Impact by skill level and age

The distributional effects of AI differ by skill and age group, leading to a partial reversal of the traditional experience premium.

Historically, technological change disproportionately affected older workers. AI, by contrast, automates many entry-level cognitive tasks while empowering more experienced workers. Younger workers tend to adapt more quickly to new technologies, but they increasingly face competition from large language models that can perform cognitive work adequately at low cost. As a result, unemployment among 20- to 30-year-olds in tech-exposed occupations has risen by almost three percentage points since the start of 2025.⁵ Evidence suggests that within two years of adoption at some firms, junior employment has declined significantly.⁶

Senior professionals with deep domain expertise and human-centric skills, such as judgment, negotiation, and complex problem-solving, are using AI to handle routine tasks, making them more productive. This dynamic risks creating a barrier to entry for the next generation, as the ladder from junior to senior becomes increasingly fragmented.

Highly skilled workers benefit most from AI adoption, while medium-skill workers are the most vulnerable, given their concentration in tasks that are technically feasible to automate but still central to many occupations.

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Theoretical framework

To understand AI's impact, one must move beyond the binary view of jobs being replaced. The dominant economic theory for understanding AI's labor-market effects is the task-based model of production. This model suggests that labor demand is determined by the allocation of tasks between humans and machines, rather than by indivisible units of labor.⁷ In this framework, AI can act as either a substitute or a complement to human labor.

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When AI is primarily substituted for labor in specific tasks, it reduces the demand for workers in these specific roles and may exert downward pressure on wages. When AI complements labor, it enhances productivity in remaining tasks, allowing workers to specialize in higher-value activities, potentially raising output and wages.

By reallocating tasks, AI can lower or raise entry barriers, depending on whether complex or routine activities are automated.

Policy recommendations

Policymakers and firms should maximize the benefits of AI while mitigating the social and economic costs.

Continuous investment in professional retraining is critical. Educational systems should prioritize AI literacy and complementary skills, while governments should provide incentives for reskilling and upskilling. Expanding apprenticeships, modernizing workforce programs, and supporting portable skill credentials would also help workers adapt to changing tasks and an evolving labor market.⁸

Governments should also explore how to enhance social safety nets in the face of AI-driven disruptions, including unemployment insurance, wage supports, and targeted tax credits.

Firms should consider how to use AI to develop new possibilities, such as tackling complex problems or generating new ideas.⁹ They should also allow teams to provide input on the versions and features the firm adopts and give employees a chance to try different AI tools.¹⁰

Finally, data and research capacity should be strengthened to better monitor AI's labor-market impacts and design evidence-based policy responses.¹¹

Conclusion

Managed effectively, AI can raise productivity, support wage growth, and create new forms of work. Managed poorly, it may deepen inequality and slow social mobility.

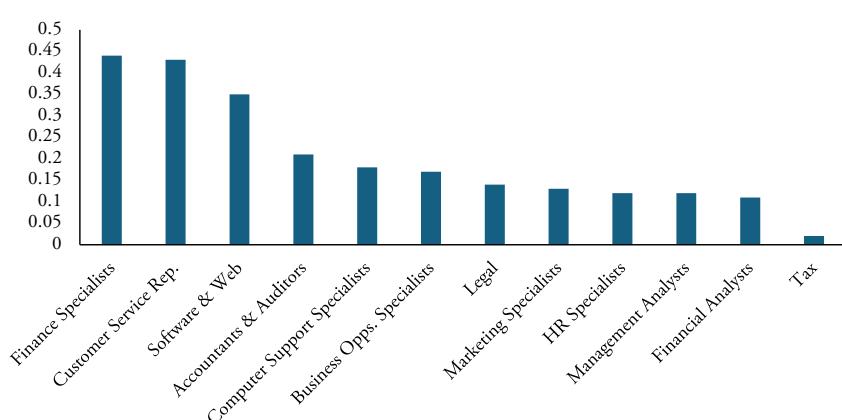
Task displacement is inevitable, though well-designed institutional and policy responses can accelerate the transition toward a labor market that harnesses AI as a complement to human labor, while limiting persistent wage and employment polarization.

EXHIBIT 3.0 – ESTIMATED GLOBAL GDP GAINS

Source	Estimate	Details
Goldman Sachs	7% or \$7 trillion	Generative AI alone could raise global GDP by 7%, or an additional \$7 trillion, over a 10-year period
McKinsey	\$17.1 – \$25.6 trillion annually	AI could generate between \$17.1 and \$25.6 trillion annually in value across all sectors, or an increase of 1.2% in global GDP per year by 2030
PwC	Up to 14% or \$15.7 trillion	AI could boost global GDP growth by up to 14%, or the equivalent of \$15.7 trillion, by 2030
International Monetary Fund	0.5% annually	AI adoption could lift output by 0.5% annually through 2030, with the potential to affect almost 40% of jobs worldwide
World Trade Organization	12-13%	AI could lift global GDP by 12-13% by 2040 and boost global trade by around 40%

Sources: International Monetary Fund, World Trade Organization, Goldman Sachs, McKinsey & Company, PwC.

EXHIBIT 4.0 – PERCENT OF TOTAL EMPLOYMENT AT RISK OF DISPLACEMENT DUE TO AI



Note: Early evidence from use cases where AI is driving productivity gains suggests that at most 2.5% of employment is at risk of automation today. Employment displacement implied by AI productivity anecdotes.

Source: Goldman Sachs.

Notes

- ¹ <https://www.pwc.com/gx/en/news-room/press-releases/2025/ai-adoption-could-boost-global-gdp-by-an-additional-15-percentage.html>
- ² *Ibid.*
- ³ https://digitaleconomy.stanford.edu/wp-content/uploads/2025/08/Canaries_BrynjolfssonChandarChen.pdf
- ⁴ <https://www.pwc.com/gx/en/news-room/press-releases/2025/ai-linked-to-a-fourfold-increase-in-productivity-growth.html#:~:text=Workers%20see%20rising%20wages:%20AI,9%25%20over%20the%20same%20period.>
- ⁵ <https://www.goldmansachs.com/insights/articles/how-will-ai-affect-the-global-workforce>
- ⁶ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5425555
- ⁷ https://www.nber.org/system/files/working_papers/w28257/revisions/w28257.rev1.pdf
- ⁸ <https://www.anthropic.com/research/economic-policy-responses>
- ⁹ <https://mitsloan.mit.edu/ideas-made-to-matter/how-artificial-intelligence-impacts-us-labor-market>
- ¹⁰ *Ibid.*
- ¹¹ <https://digitaleconomy.stanford.edu/news/ai-and-labor-markets-what-we-know-and-dont-know/#h-1>