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AI and Productivity: What the Evidence Shows

AI is speeding up individual tasks, but its measured effect on national and firm productivity is still small. The Bank of England puts the UK gain at about 0.5% over three years, and 89% of firms in a four-country survey report no effect.

Oliver Rochford

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Summary

AI is speeding up individual tasks, but its measured effect on national and firm productivity is still small. The Bank of England estimates AI added about 0.5% to UK productivity over three years, or 0.1 to 0.2 percentage points a year. In a survey of nearly 6,000 executives across four countries, 89% of firms reported no productivity effect over three years.

Controlled trials and field experiments find real gains on well-specified work, with the largest gains for less experienced workers. A large share of the gross time saved goes back into checking, correcting and supervising AI output. One survey of 6,000 workers put gross savings at 11 hours a week and supervision at 6.4 hours.

The clearest labour market signal is weaker hiring of 22 to 25 year olds into AI-exposed US occupations. Statistics Canada finds no comparable effect in Canadian data. Employer-cited AI layoffs rose sharply in 2026, but these are the reasons employers give, and nobody has verified them.

Most of AI's current contribution to GDP comes from investment in building and deploying it. The Bank of England attributes just under a fifth of UK GDP growth in 2026 to AI-related activity, concentrated upstream. Firms expect more: about 0.9 percentage points a year in the UK, which is four to nine times the gain measured so far.

Evidence base and caveats

This report draws on Aunoo's news corpus, searched on 12 November 2026 for coverage from February to November 2026. Most figures come from news reports of studies, so they are second-hand. Each section links the article the figures were taken from.

Several worker surveys were commissioned by companies that sell AI or software tools, including Glean, Foxit and Jellyfish. Self-reported time savings consistently exceed measured ones, so survey figures should be read as upper bounds.

The February 2026 survey of nearly 6,000 executives and the August Atlanta Fed write-up appear to describe the same survey, fielded between November 2025 and January 2026. This report treats them as one dataset.

Every citation was checked against the cited page with Aunoo's citation validator on 12 November 2026. The validator could not read the Computerworld page, so the 13% figure attributed to it rests on Aunoo's stored copy of that article.

01

Aggregate evidence: a small effect so far

Central banks and national statistics show at most a small AI effect on productivity to date.

United Kingdom

The Bank of England's November 2026 Monetary Policy Report estimates AI raised UK productivity by about 0.5% over three years (The Register). Productivity in AI-heavy sectors such as information and communications has improved but is still below pre-pandemic averages. The Bank says part of the recent UK productivity rise reflects firms hiring fewer people while output grows.

The Bank attributes just under a fifth of UK GDP growth since the start of 2026 to AI-related activity. It says this growth comes from developing and implementing AI, with little yet from adoption elsewhere in the economy. Firms in its Decision Maker Panel expect AI to add about 0.9 percentage points a year to productivity growth over the next three years.

LSE economists find annualised UK productivity growth of 1.6% between Q3 2024 and Q1 2026, against 0.3% in the previous decade (Business Standard). Payroll tax records show employment falling by 133,000 over the same period, so part of the gain is a smaller workforce.

United States

US productivity has run above its 2010s trend of about 1% a year, rising 2.5% in the year to Q4 2025 (Yahoo Finance). Growth slowed to a 0.8% annualised rate in Q1 2026, which left it 2.9% above a year earlier (Reuters). Barclays economists note that income-based and output-based productivity measures have diverged, so the acceleration itself is disputed.

Analysts who have looked for AI in these figures have mostly not found it. Goldman Sachs economist Ronnie Walker said in March that he found no meaningful economy-wide link between productivity and AI adoption (Fortune). Wolfe Research attributes recent strength to heavier use of existing capital and notes the CBO assumes AI adds only 0.1 percentage points a year (Investing.com).

Fed Chair Kevin Warsh told Congress in July that AI has not displaced workers so far and appears to have made them somewhat more productive. He added that the long-term gains could be a long way off (FedScoop). In August Reuters described AI's footprint in the inflation and jobs data as too small and contradictory to move policy (Reuters).

Investment, prices and distribution

The nearer-term macro effect of AI is on demand and prices. Governor Lisa Cook said in September that AI investment is pushing up chip, computer, software and electricity prices (Benzinga). The Reserve Bank of Australia's chief economist said data centre construction alone could equal 2% of Australian GDP for the next two years (Brisbane Times).

Where US productivity has risen, workers have captured little of it. EY-Parthenon's Gregory Daco puts the labour share at 52.8%, the lowest since records began in 1947, with profit margins at a record 14.9% of GDP (Fortune). He attributes the underlying productivity gains mostly to automation and cost discipline that predate generative AI.

Long-run projections

Model-based projections are larger and less certain. An IMF working paper estimates AI could raise labour productivity by up to 3.8% in the long run, using AI patents from 2000 to 2017, before generative AI (NDTV). Goldman Sachs projects 0.4 percentage points a year for India over a decade, with a range between 0.1 and 0.8 percentage points (Economic Times).

02

Firm-level evidence: broad adoption, thin returns

Most firms now use AI, and few can show a productivity return from it.

Survey	Sample	Finding
Four-country executive survey, fielded Nov 2025 to Jan 2026	Nearly 6,000 senior executives in the US, UK, Germany and Australia	69% use AI. 89% report no productivity effect over three years, and the average effect is 0.29%. Firms expect productivity up 1.4% and employment down 0.7% over the next three years.
Duke, Richmond Fed and Atlanta Fed CFO survey, March 2026	About 750 CFOs	Self-reported 2025 gains averaged 1.8%. Gains implied by revenue and employment data were much smaller in every major industry.
Same CFO survey, employment	About 750 CFOs	44% plan some AI-related cuts, implying about 502,000 US jobs (0.4%) cut in 2026.
Gartner board survey, October 2026	Corporate board members	3% of organisations have hit their AI productivity and cost targets. 38% are over budget on AI and 85% plan to spend more.
BCG AI at Work, June 2026	White-collar workers	74% of non-managers use AI regularly and 42% save a full workday a week. 66% got no guidance on how to use the saved time.

The CFO study's authors read the gap between reported and revenue-implied gains as a delay. Self-reported 2025 gains roughly match revenue-implied gains for 2026, which points to a lag of about a year.

The four-country study also tracked employee reviews at US public companies. Employee sentiment toward AI was one of the strongest predictors of firm productivity where AI was used, and AI-linked layoff announcements damaged that sentiment. Separately, Gallup panel data show adoption is higher where workers report a clear AI strategy and trust in leadership (The Conversation).

03

Worker-level evidence: time saved, then spent checking

Workers report large gross time savings, and between about 60% and just over 100% of that time goes back into checking and correcting AI output.

Survey (sponsor)	Sample	Gross saving per week	Checking and correcting per week	Net per week
Work AI Institute (Glean), June 2026	6,000 digital workers (Spokesman-Review)	11 hours	6.4 hours	4.6 hours saved
State of Document Intelligence (Foxit), March 2026: executives	400 US and UK executives	4.6 hours	4 hours 20 minutes	16 minutes saved
Same survey: end users	1,000 US and UK desk workers	3.6 hours	3 hours 50 minutes	14 minutes lost

In the Glean study, 75% of workers said AI made them more productive, but only 13% said their organisation was benefiting significantly (Spokesman-Review). Arden University's survey of 2,000 UK workers found staff spend nearly seven hours a week correcting AI-generated content, much of it from colleagues (Headtopics). In that survey 19% had redone a colleague's AI output entirely, and 53% do not tell managers when they use AI.

Time saved does not reliably become slack. UC Berkeley researchers followed a US tech company of about 200 staff for eight months and found people worked faster, took on wider scope and worked longer hours without being told to (Headtopics; Boston Globe). BCG found 41% of workers report higher cognitive load, and nearly half spend more time managing AI than doing their own work (PR Newswire).

Reported benefits rise with the breadth of use. Gallup found 52% of US employees used AI at work in Q2 2026, up from 27% two years earlier (US News). Among all users, 45% reported a positive effect on their productivity, rising to 90% among those who use it for seven or more purposes.

AI also creates work outside the organisation that uses it. UK councils, MPs' offices and courts report a surge in AI-generated complaints and legal correspondence that takes longer to handle (The Guardian). One caseworker estimated that half the emails her office receives now involve AI.

04

Software development: the best-measured case

Software has the strongest evidence, and the measured effect ranges from 55% faster to 19% slower depending on the task and the developer.

Study	Setting	Measured effect
GitHub, 2022	95 developers, one greenfield HTTP server task	55% faster
Cui, Demirer and others (Microsoft Research), 2025	4,867 developers in three company field experiments	26% more tasks completed, with larger gains for less experienced developers
METR, 2025	16 experienced open-source maintainers, 246 tasks in their own repositories	19% slower. Developers expected a 24% speedup and afterwards believed they had been 20% faster.
METR follow-up, 2026	57 developers, more than 800 tasks	18% faster for returning developers, with a range from 9% slower to 38% faster. METR calls the result unreliable because of selection bias.
DORA, 2025	Nearly 5,000 technology professionals	Higher delivery throughput and lower delivery stability
Jellyfish, 2026	700 companies, 200,000 engineers	High-adoption firms merged 2.2 pull requests per engineer per week, against 1.12 at low adopters. Revert rates barely rose.
Tilburg University, 2025	Thousands of open-source projects	Senior developers spent more time reviewing AI code, and their own coding output fell by nearly 20%
Anthropic, February 2026	52 mostly junior engineers learning an unfamiliar library	Same completion time, with 17% lower comprehension scores for the AI-assisted group

The first five studies are summarised in one review (dev.to). The most consistent finding across them is the gap between perceived and measured speed. Zoho founder Sridhar Vembu puts end-to-end gains at 25% to 50% at best, because prototyping is much faster while finished products still need a lot of human work (Times of India).

Output metrics leave out the cost side. JPMorgan capped some engineers' Claude Code spend at $2,000 a month in September, and Cisco is moving its managers onto token budgets (Business Insider). Pull-request counts measure volume, and DORA's stability finding suggests some of the extra volume returns as rework.

05

Labour market effects: entry-level hiring is the clearest signal

The strongest evidence that AI is affecting employment is reduced hiring of young workers into AI-exposed jobs, and that evidence is contested.

Entry-level hiring

Brynjolfsson, Chandar and Chen's analysis of ADP payroll data through June 2026 finds employment of 22 to 25 year olds in the most AI-exposed occupations 19% below trend (News18). The trend is set by employment growth in less exposed occupations, and the gap was 13% a year earlier (Computerworld). The decline comes mainly from fewer hires and is concentrated in occupations where AI automates tasks.

Similar patterns appear elsewhere. The Bank of Korea found employment of 15 to 29 year olds fell by 211,000, almost all of it in highly AI-exposed industries, while employment of workers in their 50s rose by 209,000 (Economic Times). Switzerland's AI Report 2026 recorded a 16% fall in junior roles and a 26% rise in senior roles in exposed sectors (Swissinfo).

Statistics Canada found no broad evidence that AI reduced hiring or raised job separations in Canada since November 2022, including for young workers (CTV News). Youth hiring fell across industries, including those less exposed to AI, which makes it hard to attribute the decline to AI. The Bank of England's Decision Maker Panel also reports almost no overall employment effect, though some firms are slower to hire or to replace leavers.

Industry exposure

Makridis and Johnston find positive effects at industry level using US administrative data for 2017 to 2024 (The Conversation). In 2024, an industry one standard deviation more exposed to AI had 10% higher productivity, 3.9% more jobs and 4.8% higher wages than comparable industries in the same state. Employment rose where AI complements workers and did not change where AI can work autonomously, though wage growth was slower there.

Layoffs

Employers named AI as the leading reason for US job cuts in March, April and May 2026, according to Challenger, Gray & Christmas (WFLA / The Hill). Cuts attributed to AI reached 87,714 in the first five months of 2026, more than in 2024 and 2025 combined (NDTV Profit). Challenger records the reasons employers state, and Andy Challenger said the budget for those roles is moving to AI whether or not AI replaces the individual jobs.

06

Why task-level gains are not reaching the aggregate numbers

Six explanations have evidence behind them, and several can hold at once.

1. Lag. In the CFO survey, firms' self-reported 2025 gains match their revenue-implied 2026 gains, which fits a delay of about a year. Makridis argues that the process and skills investments a new technology needs usually pay off a few years after it arrives.
2. Saved time is not redeployed. BCG found two-thirds of workers who save time get no guidance on how to use it (Fortune). About half do not move to more strategic work.

3. Verification cost. Checking, correcting and re-prompting absorbed between about 60% and just over 100% of gross time savings in the surveys above.
4. The bottleneck moves. Faster code generation shifts the constraint to review, testing and release. DORA links AI adoption to lower delivery stability, and Tilburg found senior developers absorbing the review load.
5. Measurement. US income-based and output-based productivity measures have diverged, and quality improvements are hard to capture in price-adjusted output. METR's developers and the surveyed CFOs both reported larger gains than were later measured.
6. Gains sit upstream and with capital. The Bank of England finds AI's GDP contribution concentrated in firms that build and deploy AI. In the US, the labour share is at a record low while margins are at a record high.

07

Assessment: supported, overstated or unresolved

The claim with the strongest support is that AI speeds up well-specified tasks. The claim with the weakest support is that it has already raised aggregate productivity by a material amount.

Claim	Assessment	Basis
AI speeds up well-specified individual tasks	Supported	GitHub trial, Microsoft field experiments, Gallup and BCG self-reports
Less experienced workers gain most	Supported for task speed	Microsoft field experiments. The Anthropic trial shows a cost to learning.
AI is reducing entry-level hiring in exposed US occupations	Supported in US payroll data, contested elsewhere	ADP data show a 19% gap. Statistics Canada finds no Canadian effect.
AI has already raised aggregate productivity materially	Overstated	Bank of England puts it at 0.1 to 0.2 points a year. 89% of firms report no effect, and Goldman finds no economy-wide link.
AI saves workers a day a week	Overstated as a productivity measure	These are gross self-reports. Verification absorbs most of the time, and much of the rest is not redeployed.
AI is the top cause of US layoffs	Overstated as a causal claim	Challenger records stated reasons. The Bank of England and Statistics Canada find little employment effect.
Recent US productivity strength comes from AI	Unresolved, with the evidence leaning against	Wolfe points to capital utilisation, Barclays to diverging measures, Daco to earlier automation
Experienced developers are faster with current tools	Unresolved	METR measured 19% slower in 2025. Its 2026 follow-up showed 18% faster but METR calls it unreliable.
AI will raise long-run productivity by several percent	Plausible and unproven	The IMF's 3.8% uses pre-generative-AI patent data. UK firms expect 0.9 points a year.

08

Indicators to watch

Five data sources will show during 2027 whether the gains firms expect are arriving.

- Bank of England Monetary Policy Reports: whether measured AI productivity moves from 0.1 to 0.2 points a year toward the 0.9 points firms expect.

- The next Duke CFO survey: if the one-year lag is right, revenue-implied gains for 2026 should approach the 1.8% firms reported for 2025.
- The Stanford and ADP Canaries dashboard: whether the 19% gap for 22 to 25 year olds keeps widening, and whether wages follow hiring down.
- METR's redesigned developer study, after selection bias compromised its 2026 follow-up.
- The Fed's productivity and jobs task force, which Warsh set up in June and which could change how the Fed models AI's effect on the economy (TheStreet).

09

Counter-argument: the case that gains are larger than measured

The strongest case for larger gains is that measurement lags adoption, as it did with computers in the 1980s. Makridis estimates that the rise in frequent AI users from 12% to 26% of US workers between mid-2024 and late 2025 corresponds to 1.4% to 2.8% higher real output. Jellyfish's data show high-adoption engineering teams merging twice as many changes with little change in revert rates.

UK productivity growth of 1.6% a year since 2024 is well above its previous decade, and some of it may be AI that the statistics cannot yet attribute. Quality improvements and new products are poorly captured in price-adjusted output. Gallup's panel shows higher adoption and engagement where management communicates a clear AI strategy, which suggests management capacity is the binding constraint.

The evidence most favourable to large gains comes from self-reports, vendor data and exposure correlations. The best-controlled evidence, such as METR's trials, finds smaller effects, or negative ones for experienced workers. Measured UK gains would need to rise four to nine times to reach what UK firms expect over the next three years.

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