

Firm Data on AI

Ivan Yotzov, Jose Maria Barrero, Nicholas Bloom, **Philip Bunn**, Steven Davis, Kevin Foster, Aaron Jalca, Brent Meyer, Paul Mizen, Michael Navarrete, Pawel Smietanka, Gregory Thwaites & Ben Wang

Atlanta Fed, Bank of England, Bundesbank, King's College London, Macquarie, Nottingham & Stanford

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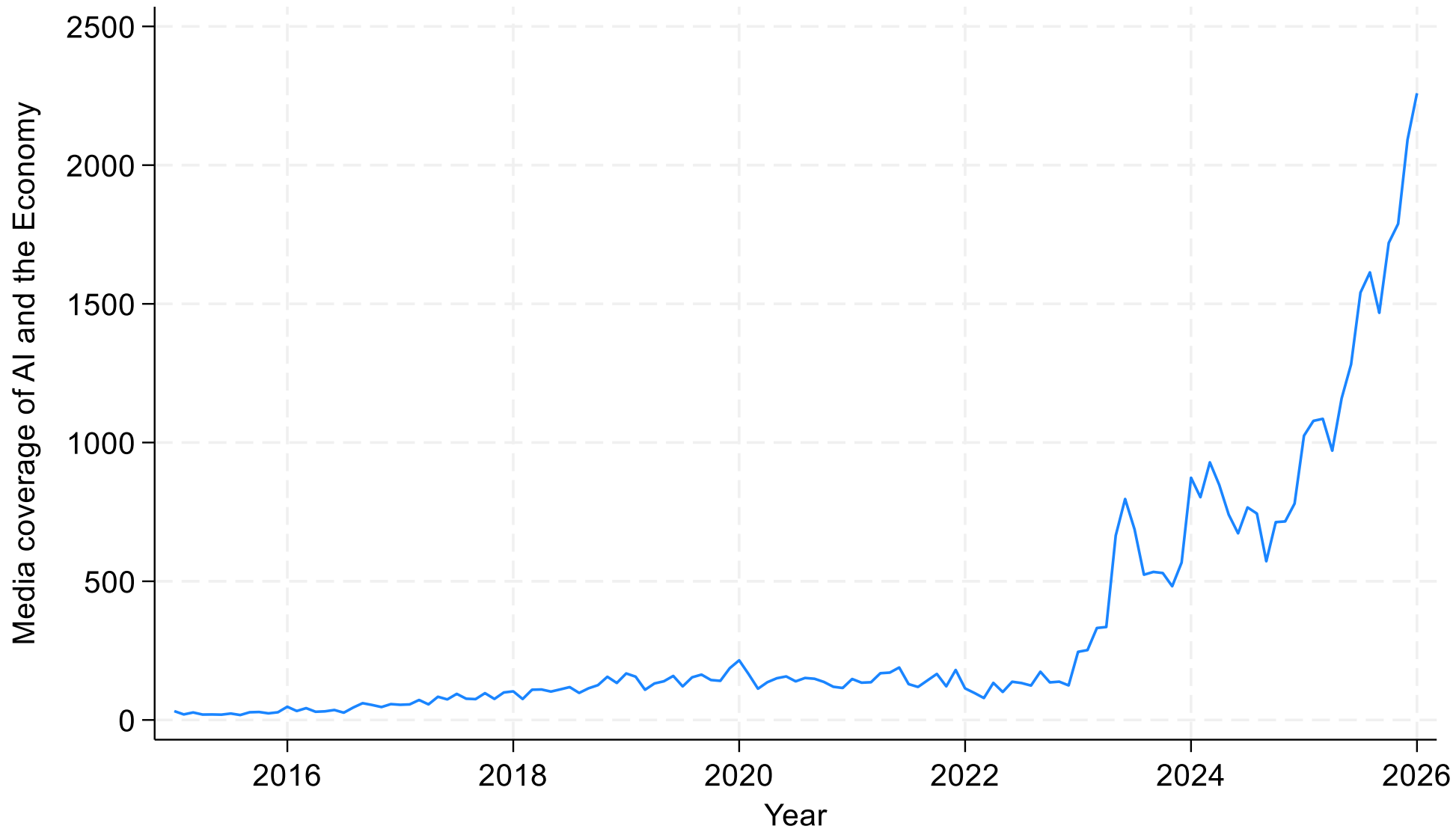
We present the first representative international data on firm-level AI use. We survey almost 6000 CFOs, CEOs and executives from stratified firm samples across the US, UK, Germany and Australia. We find four key facts. First, around 70% of firms actively use AI, particularly younger, more productive firms. Second, while over two thirds of top executives regularly use AI, their average use is only 1.5 hours a week, with one quarter reporting no AI use. Third, firms report little impact of AI over the last 3 years, with over 80% of firms reporting no impact on either employment or productivity. Fourth, firms predict sizable impacts over the next 3 years, forecasting AI will boost productivity by 1.4%, increase output by 0.8% and cut employment by 0.7%. We also survey individual employees who predict a 0.5% increase in employment in the next 3 years as a result of AI. This contrast implies a sizable gap in expectations, with senior executives predicting reductions in employment from AI and employees predicting net job creation.

>>>> Motivation

>>>> Our Survey Process

>>>> Results

Rapid growth in AI interest over recent years



Source: AI Economic Uncertainty Index, measuring the coverage of AI in around 2000 daily newspapers in the US. Normalized to 100 on 2015 to 2021 inclusive. Coverage defined as articles that included (AI, artificial intelligence, genAI, machine learning, computer vision) AND (economic, economy). Based on the methodology of Baker, Bloom and Davis (2016) and provided on www.policyuncertainty.com

Wide range of views on the macro economic impact of AI

Dario Amodei



The Adolescence of Technology

Confronting and Overcoming the Risks of Powerful AI

January 2026

economic growth. In *Machines of Loving Grace*, I suggest that a 10–20% sustained annual GDP growth rate may be possible.

The Simple Macroeconomics of AI
Daron Acemoglu
NBER Working Paper No. 32487
May 2024
JEL No. E24,J24,O30,O33

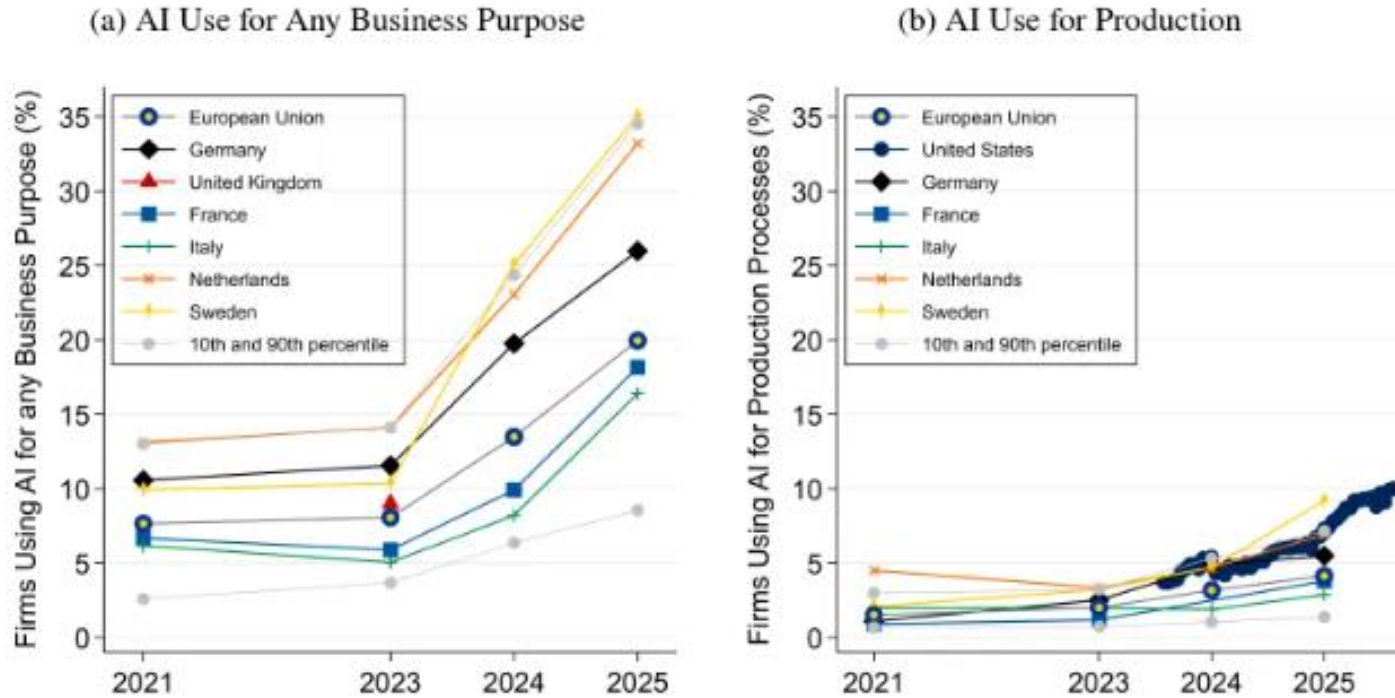


ABSTRACT

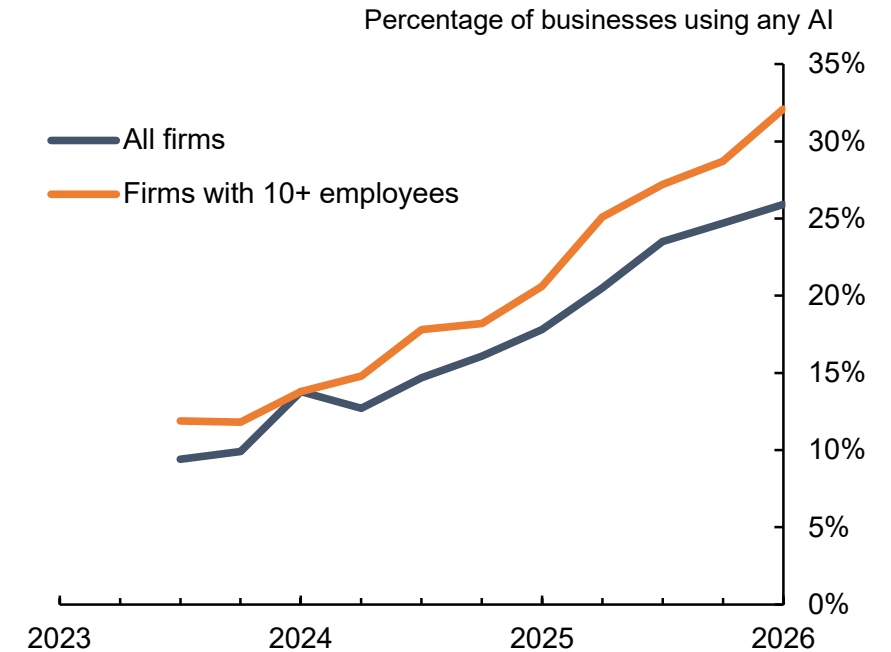
This paper evaluates claims about large macroeconomic implications of new advances in AI. It starts from a task-based model of AI's effects, working through automation and task complementarities. So long as AI's microeconomic effects are driven by cost savings/productivity improvements at the task level, its macroeconomic consequences will be given by a version of Hulten's theorem: GDP and aggregate productivity gains can be estimated by what fraction of tasks are impacted and average task-level cost savings. Using existing estimates on exposure to AI and productivity improvements at the task level, these macroeconomic effects appear nontrivial but modest—no more than a 0.66% increase in total factor productivity (TFP) over 10 years. The paper then argues that even these estimates could be exaggerated, because early evidence is from easy-to-learn tasks, whereas some of the future effects will come from hard-to-learn tasks, where there are many context-dependent factors affecting decision-making and no objective outcome measures from which to learn successful performance. Consequently, predicted TFP gains over the next 10 years are even more modest and are predicted to be less than 0.53%. I also explore AI's wage and inequality effects. I show theoretically that even when AI improves the productivity of low-skill workers in certain tasks (without creating new tasks for them), this may increase rather than reduce inequality. Empirically, I find that AI advances are unlikely to increase inequality as much as previous automation technologies because their impact is more equally distributed across demographic groups, but there is also no evidence that AI will reduce labor income inequality. Instead, AI is predicted to widen the gap between capital and labor income. Finally, some of the new tasks created by AI may have negative social value (such as design of algorithms for online manipulation), and I discuss how to incorporate the macroeconomic effects of new tasks that may have negative social value.

Estimates of firm AI use in Government surveys tend to be quite low

Cross-country data from Bick et al (2026)



UK BICS survey

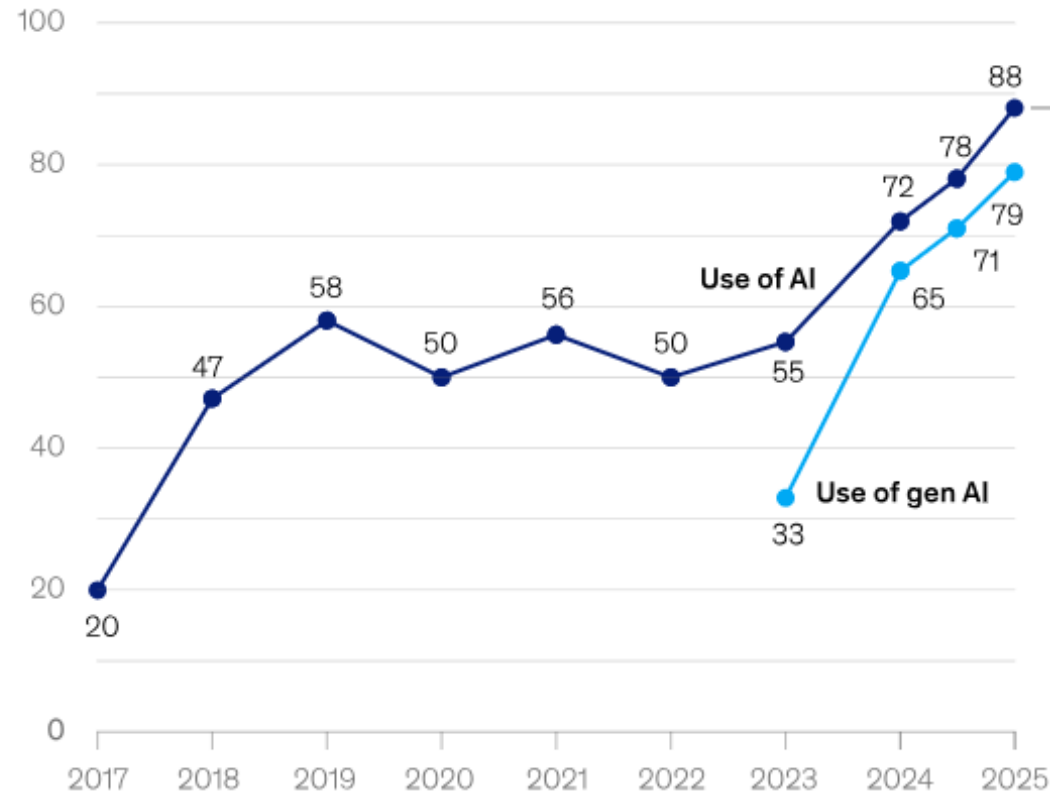


- It matters what question you ask, when you ask, which firms you ask, and who in the firm you ask

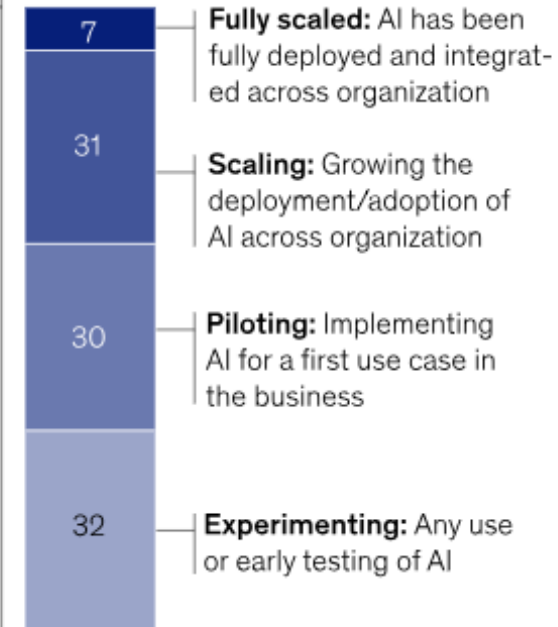
But can be high in other data

Use of AI by respondents' organizations, % of respondents

Organizations that use AI in at least 1 business function¹



Phase of AI use among organizations using AI in 2025



¹In 2017, the definition for AI use was using AI in a core part of the organization's business or at scale. In 2018–19, the definition was embedding at least 1 AI capability in business processes or products. From 2020, the definition was that the organization has adopted AI in at least 1 function, and in 2025, the definition was regular use of AI in at least 1 function.

Source: McKinsey Global Surveys on the state of AI, 2017–25

McKinsey & Company

- It matters what question you ask, when you ask, which firms you ask, and who in the firm you ask

>>>> Motivation

>>>> Our Survey Process

>>>> Results

What we do

- Use large and representative business surveys (mostly run by Central Banks) to ask firms about current and expected future AI use:
 - US: Survey of Business Uncertainty (Atlanta Fed, 1100 firms)
 - UK: Decision Maker Panel (Bank of England, 2000 firms)
 - Germany: Bundesbank Online Panel of Firms (Bundesbank, 2700 firms)
 - Australia: Business Outlook Scenarios Survey (Macquarie University, 600 firms)
- Also ask about realised and expected impacts on employment and productivity
- Consistent set of questions across all surveys and consistent time period (between November 2025 and January 2026)
- Questions typically answered by senior executives within firms

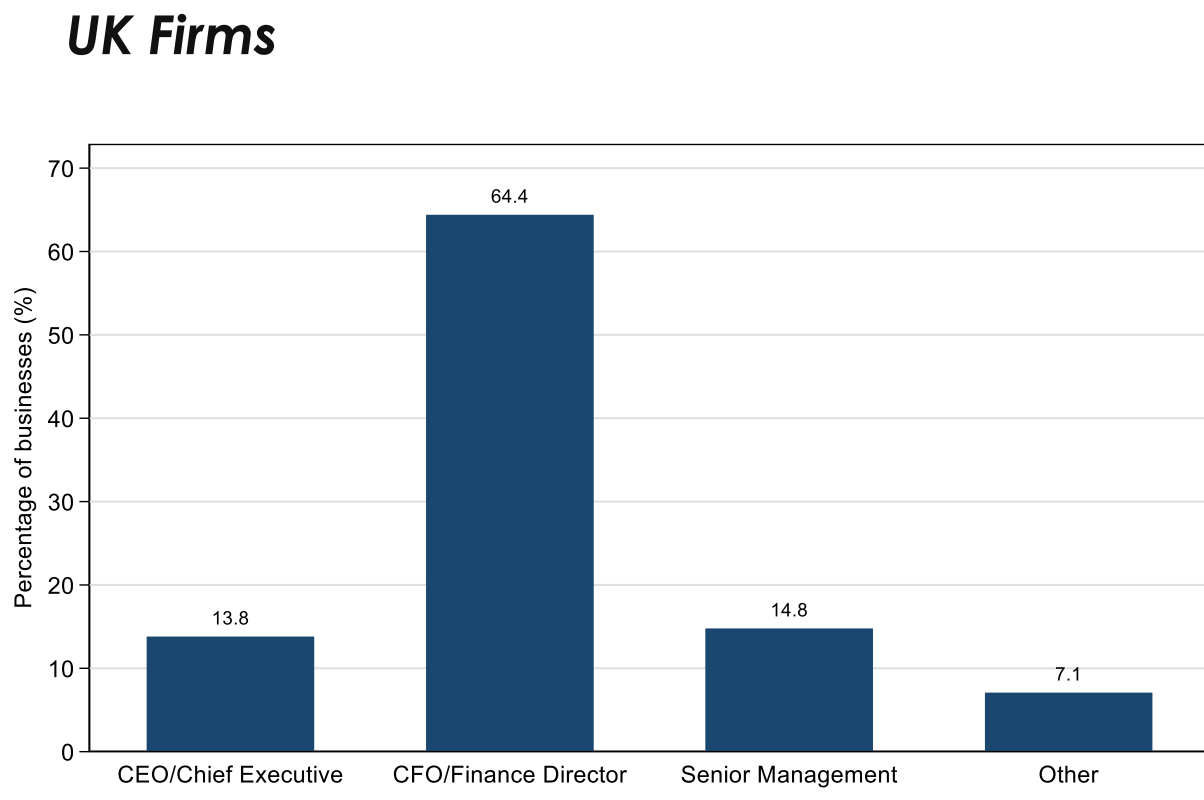
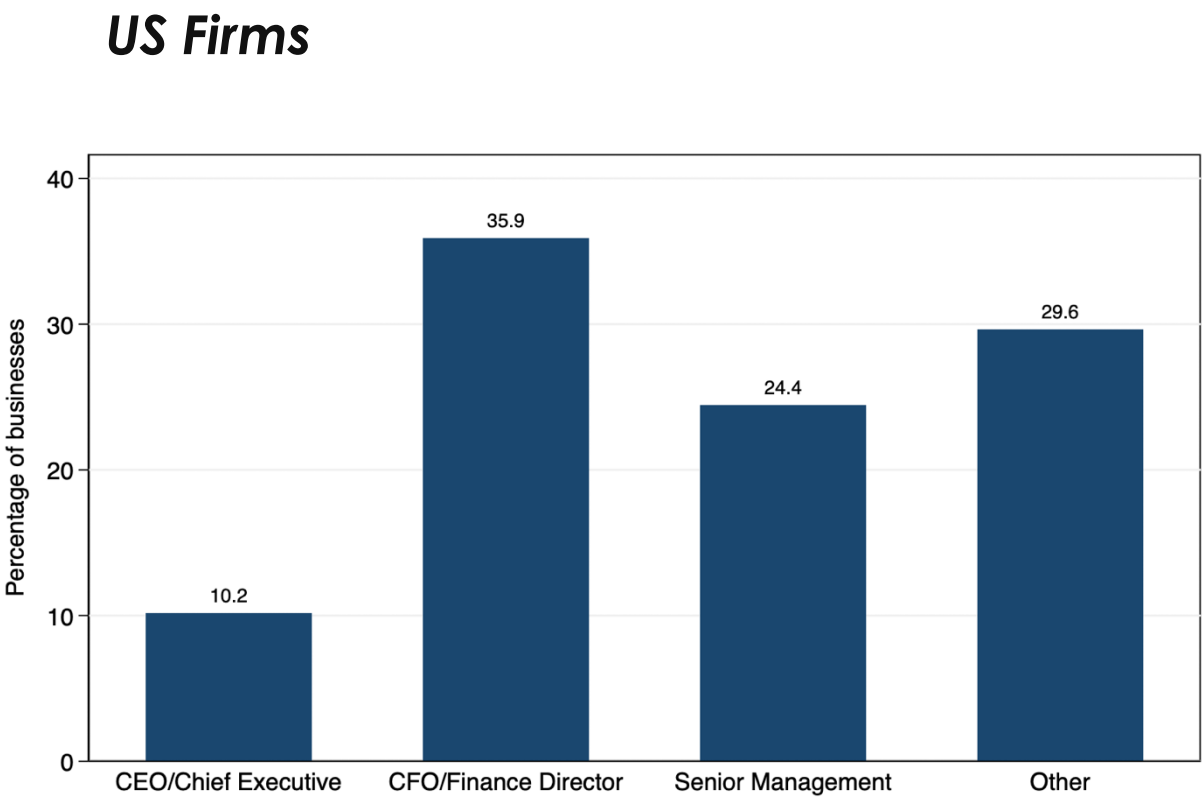
These surveys panels phone recruit execs and then move them to an online panel (so you know it's a real person answering....)



Random sampling from
population of firms with 10+
employees (median ≈ 250)



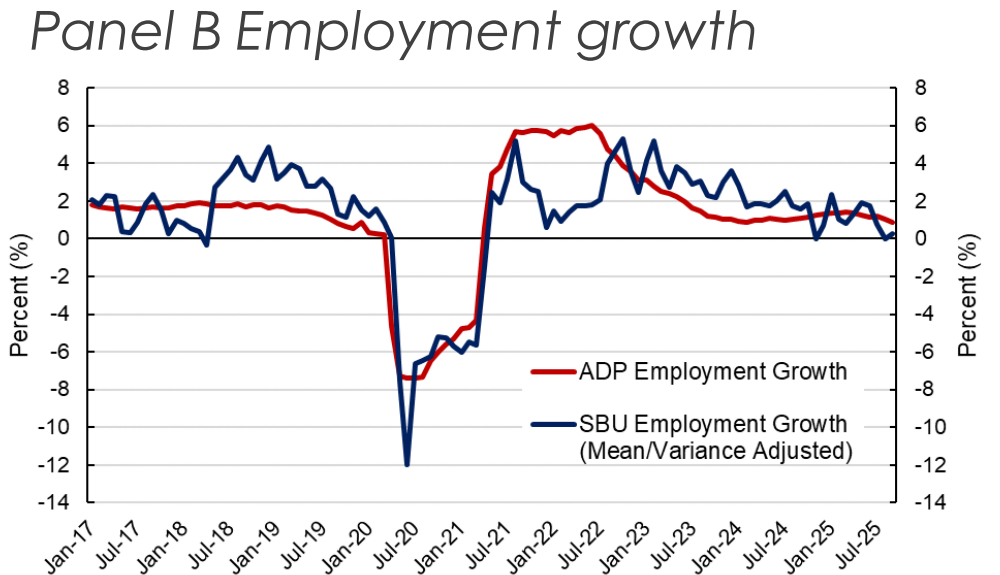
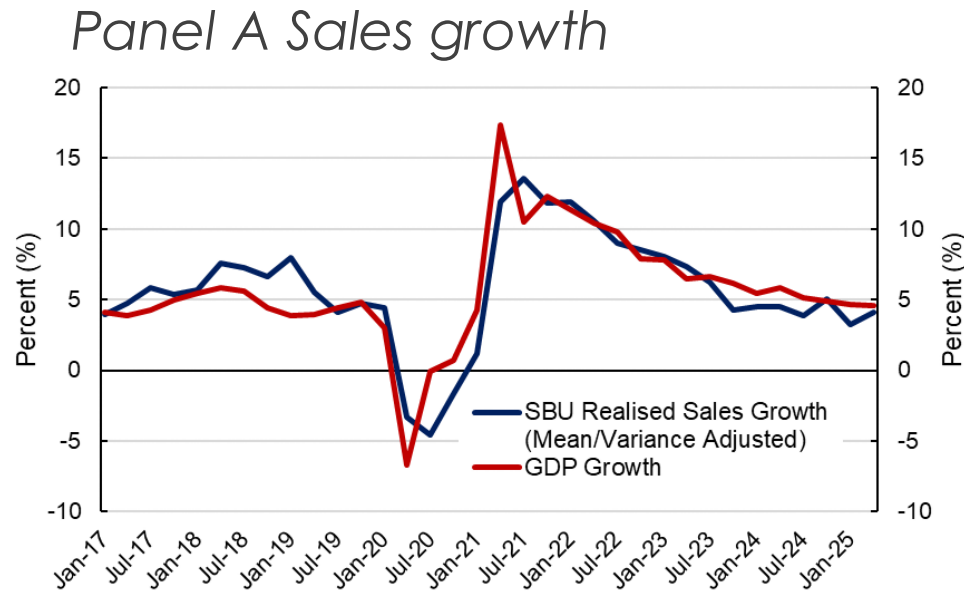
Our Recruitment Team targets CFOs, CEOs and Senior Execs



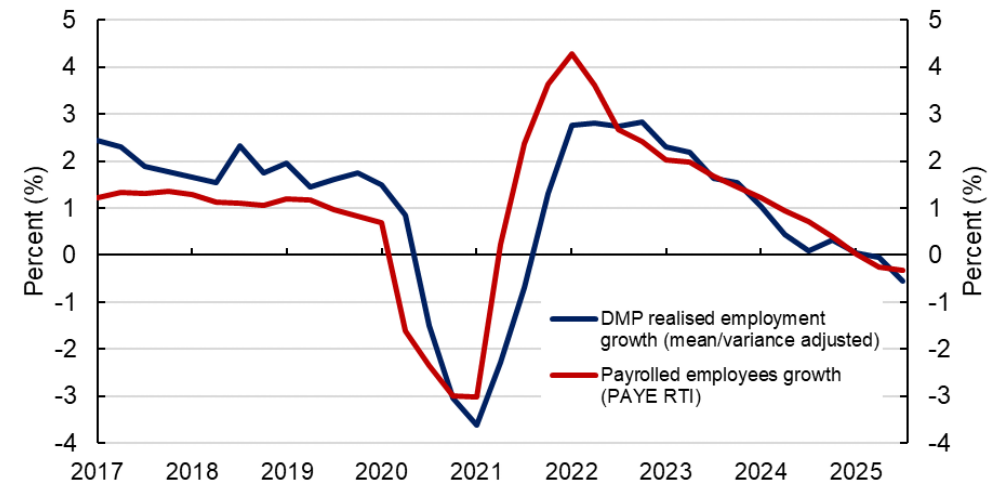
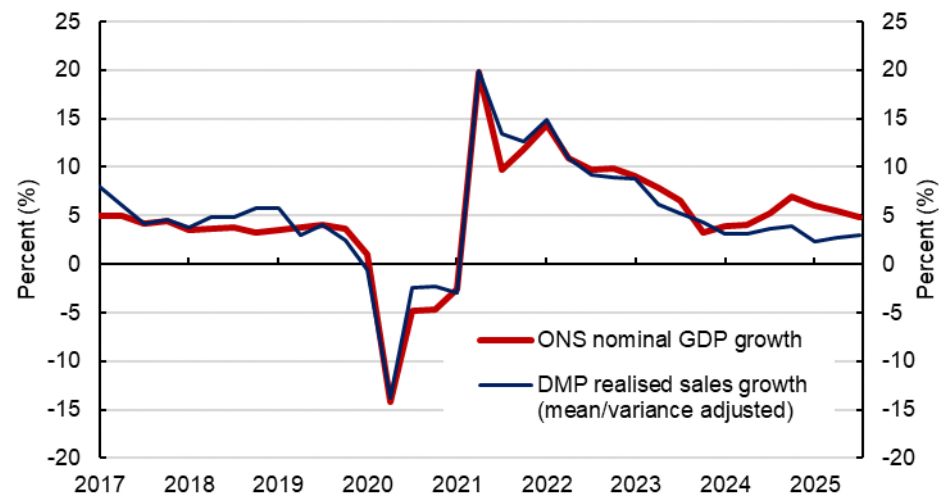
Notes: This figure shows the position of survey respondents. Panel A shows data from the US Survey of Business Uncertainty (SBU), averaged over January 2017 to January 2025. Panel B shows data from the UK Decision Maker Panel (DMP), averaged over 2017-2025.

Data Quality Check: Historic data align with macro data

US Firms
(SBU)

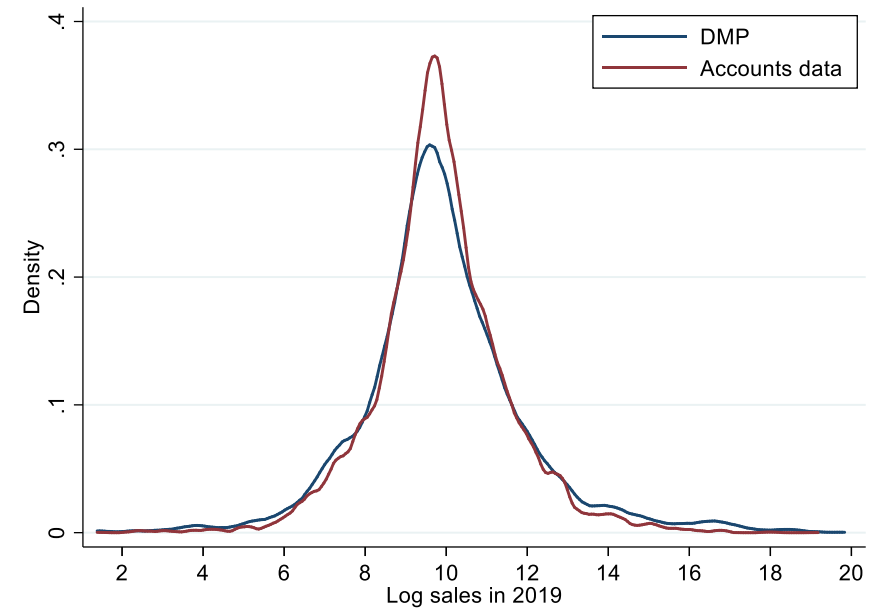
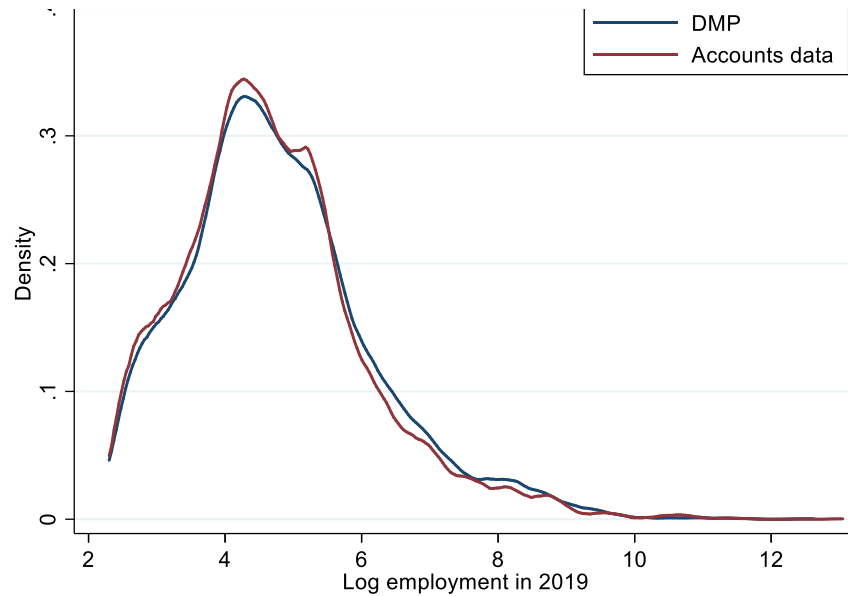
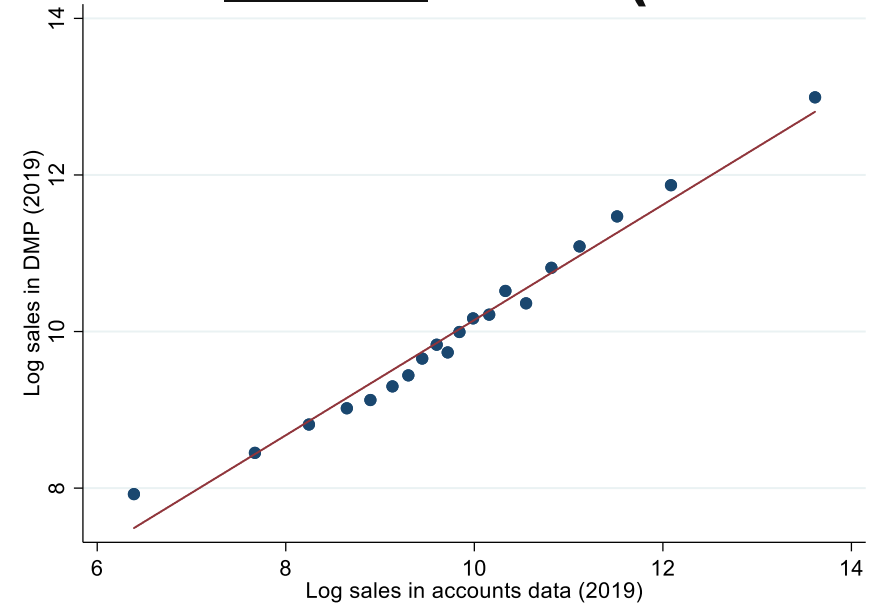
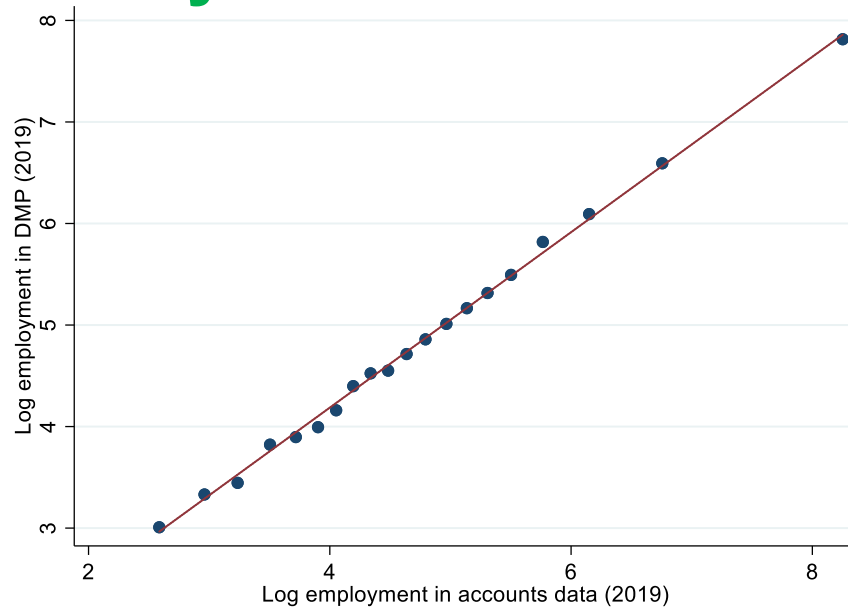


UK Firms
(DMP)



Sources: SBU; ADP; BEA; DMP; ONS; HMRS and authors' calculations. **Notes:** SBU sales data are compared to GDP growth from the BEA. SBU employment growth data are compared to ADP employment growth. DMP sales data are compared to whole economy nominal GDP growth at current market prices. DMP employment (for the private sector) is compared to ONS/HMRC data on the number of payrolled employees. DMP and SBU data are adjusted to match the mean and variance of growth in the corresponding ONS, HMRC, GDP, and ADP series over the time period shown on each chart.

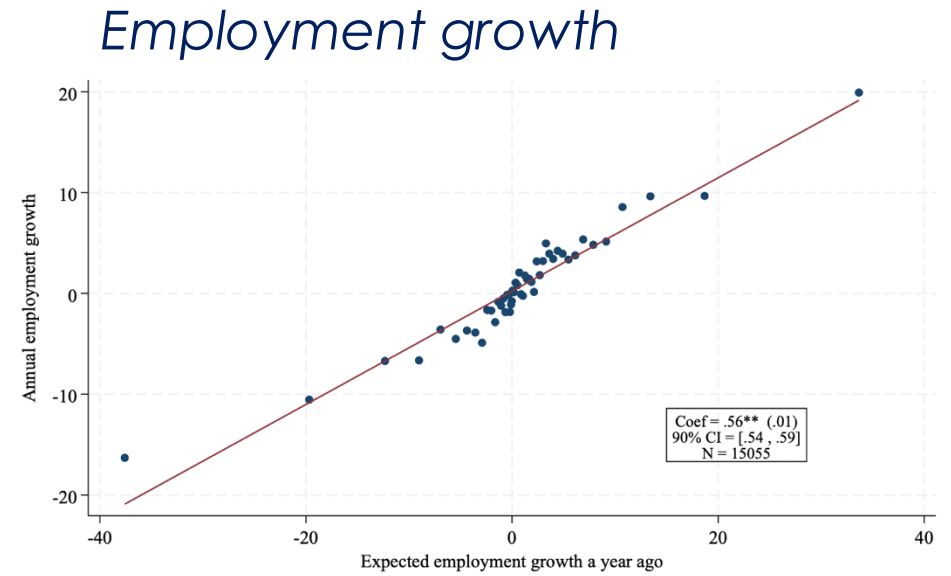
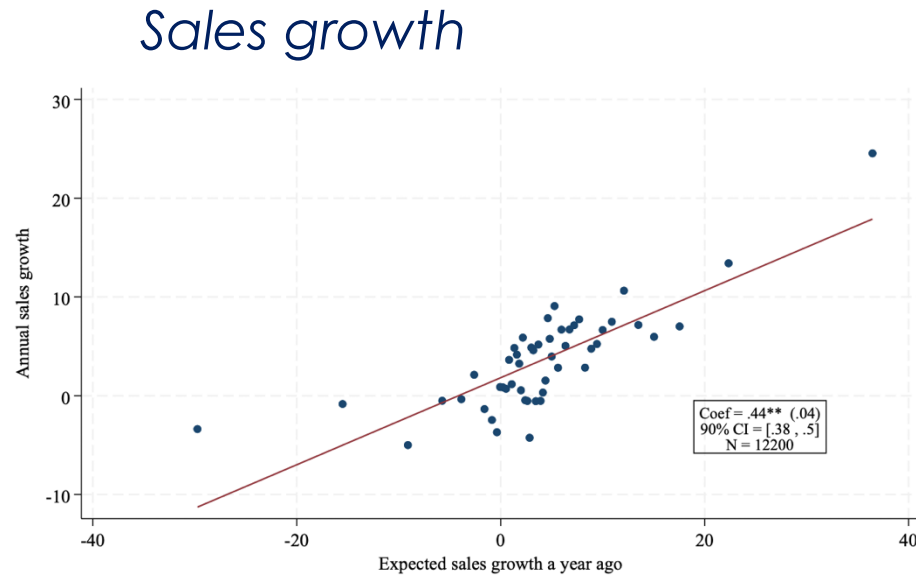
Data Quality Check: Historic data align with micro data (UK firms)



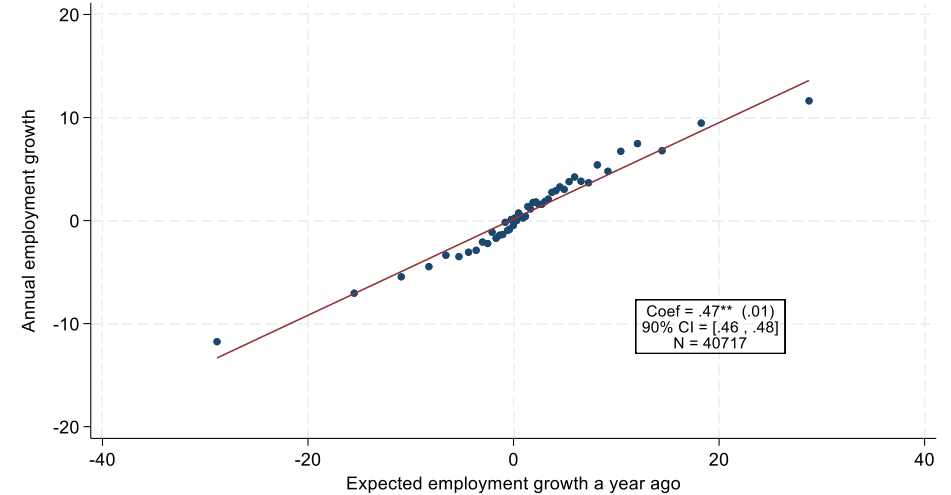
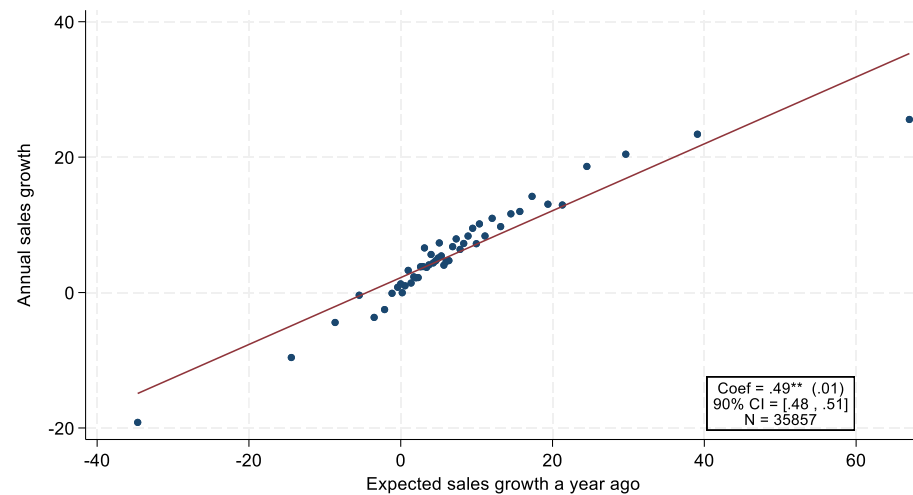
Notes: Sales values from the DMP survey are based on annualised quarterly sales reported by businesses plotted here against Bureau van Dijk company accounts data. The dots on the top charts each represent 5% of observations, grouped by log employment/sales from accounts data in 2019.

Data Quality Check: Forecasts look good (e.g. sales & employment)

US Firms
(SBU)



UK Firms
(DMP)



Notes: This figure shows binned scatter plots of the relationship between expected year-ahead sales growth and annual sales growth a year later at the firm level (Panel A) and expected year-ahead employment growth and annual employment growth a year later (Panel B). The sample from the SBU covers 2014-2025. The sample from the UK DMP covers 2017-2025.

>>>> Motivation

>>>> Our Survey Process

>>>> Results

Ask about use of AI in firms and about respondents' personal use

Decision Maker Panel



Which of the following artificial intelligence technologies, if any, does your business currently use? And which do you expect to make use of over the next three years?

Please select all that apply.

	Currently using	Expect to use in next 3 years
Autonomous vehicles	☐	☐
Data processing using machine learning	☐	☐
Image processing using machine learning	☐	☐
Robotics	☐	☐
Text generation using Large Language Models	☐	☐
Visual content creation	☐	☐
Other AI technology	☐	☐
Don't know	☐	☐
Not using/Do not expect to use any artificial intelligence technologies	☐	☐

Decision Maker Panel



On average, how frequently do you personally use artificial intelligence technologies in a typical working week?

Note: Amongst other things, AI technologies could include text generation using large language models (eg Microsoft Copilot), data or image processing using machine learning and visual content creation.

Not at all

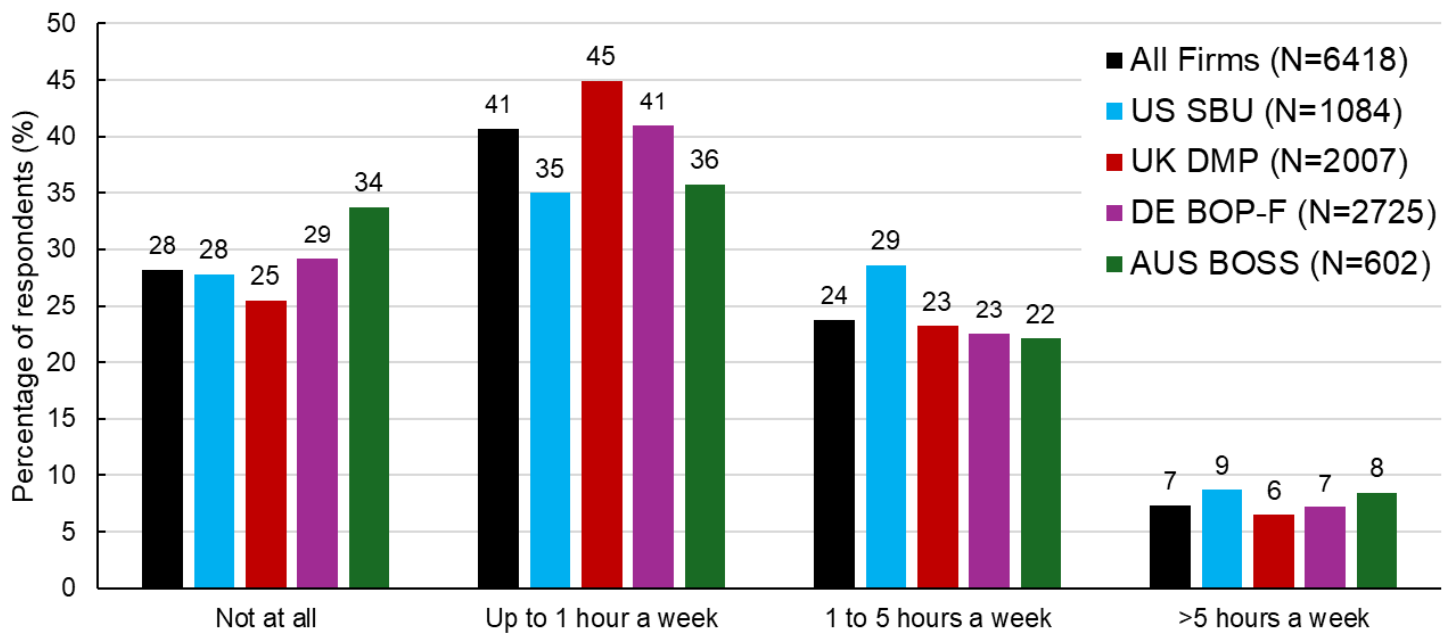
Up to 1 hour a week

1 to 5 hours a week

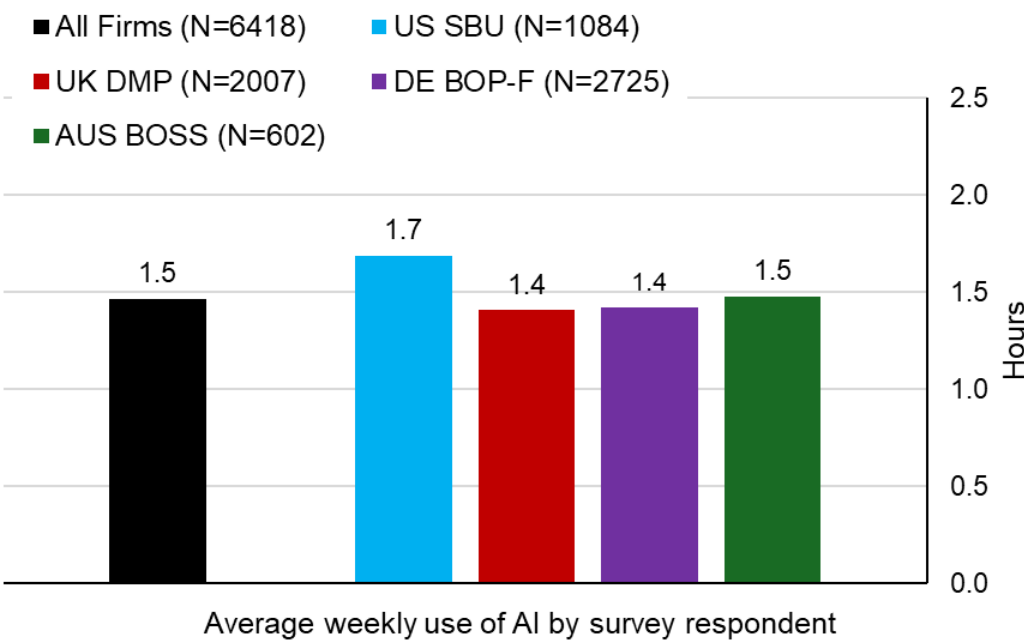
More than 5 hours a week

Most use respondents use AI a few hours a week, about 30% never use it

Panel A Distribution of responses

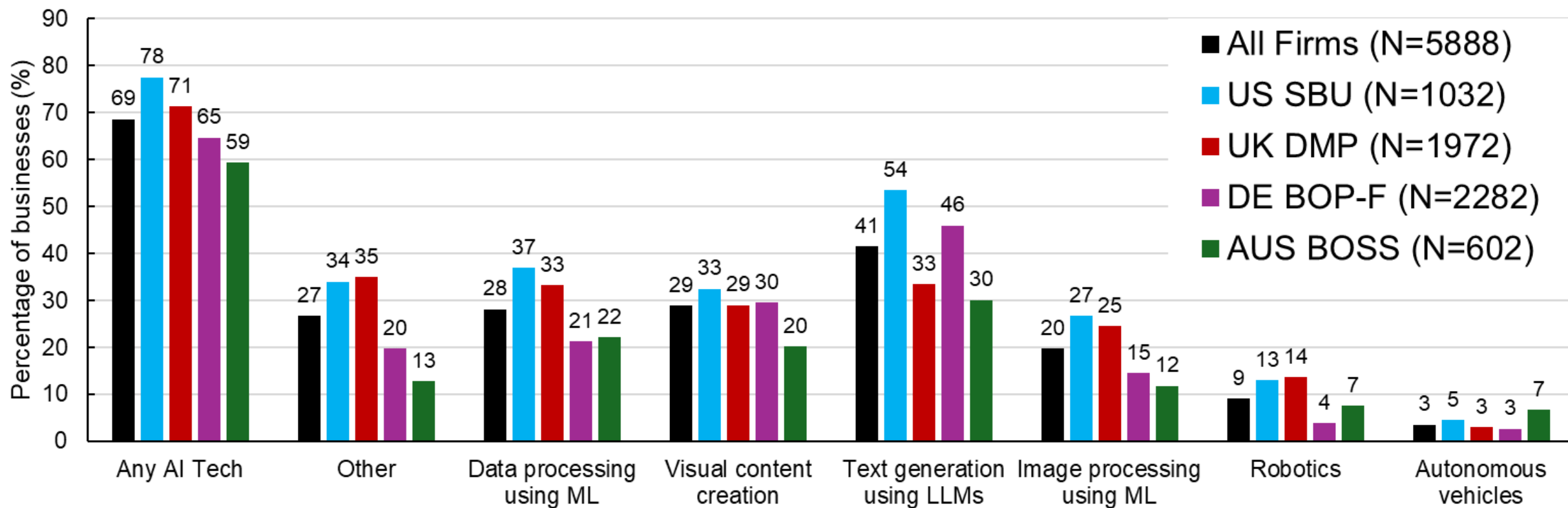


Panel B Average AI use per week



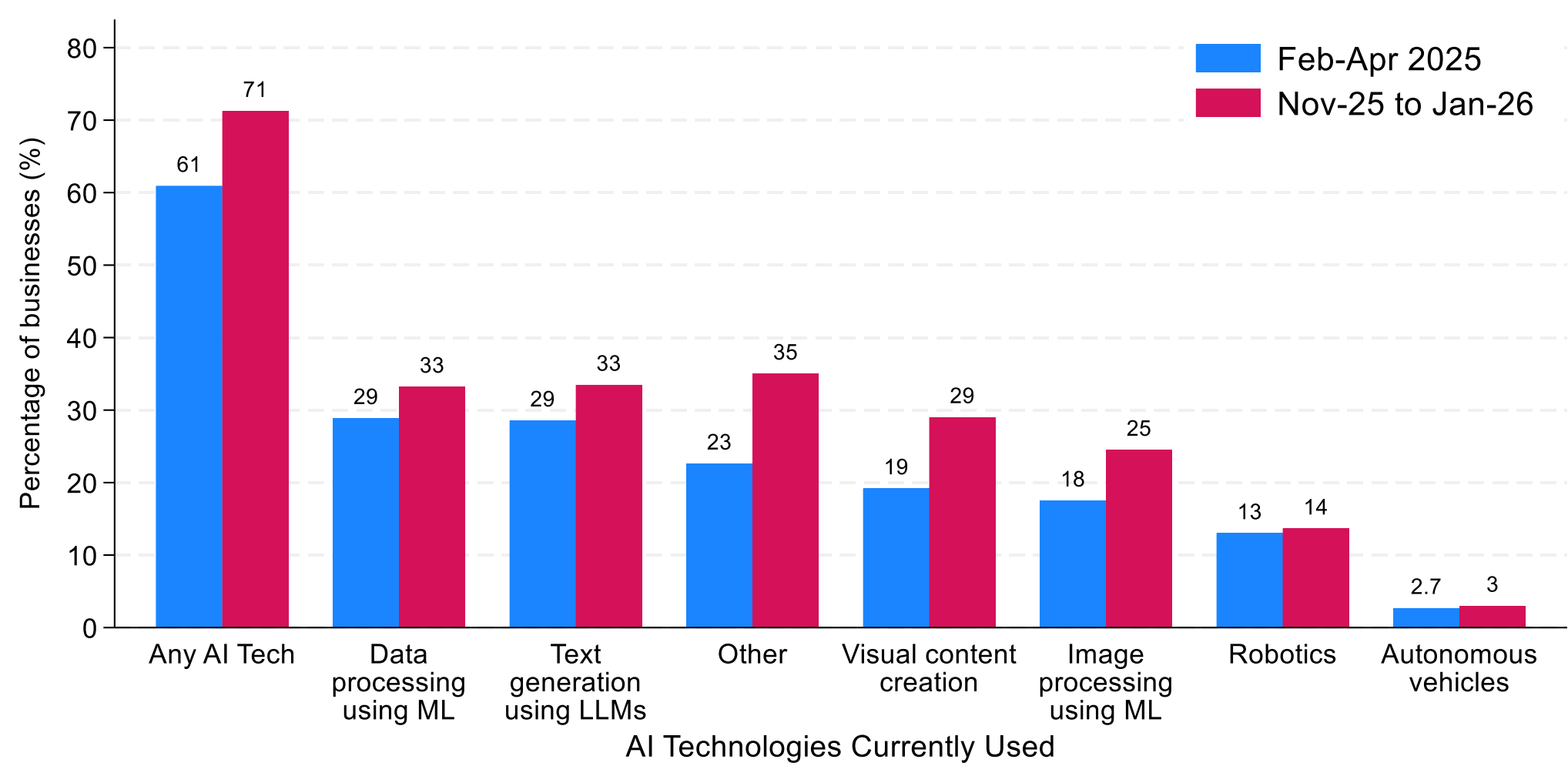
Notes: This figure is based on responses to the question: “On average, how frequently do you personally use artificial intelligence technologies in a typical working week?” The data from the US Survey of Business Uncertainty was collected in November 2025. The data from the UK Decision Maker Panel was collected over November 2025 – January 2026. The data from the Australian Business Outlook Scenarios Survey was collected in December 2025. The data from the German Bundesbank Online Panel – Firms (BOP-F) were collected in January 2026. The data results from the SBU, DMP, and BOP-F are employment-weighted; the results from the BOSS are unweighted. The results for all firms is the average of the four surveys, weighted by the respective number of responses. To calculate the average use per week (Panel B), values are assigned to each of the options in Panel A: 0 to “Not at all”; 0.5 to “up to 1 hour a week”; 3 to “1 to 5 hours a week”; 7.5 to “>5 hours a week”.

Most firms use AI, around 30% do not



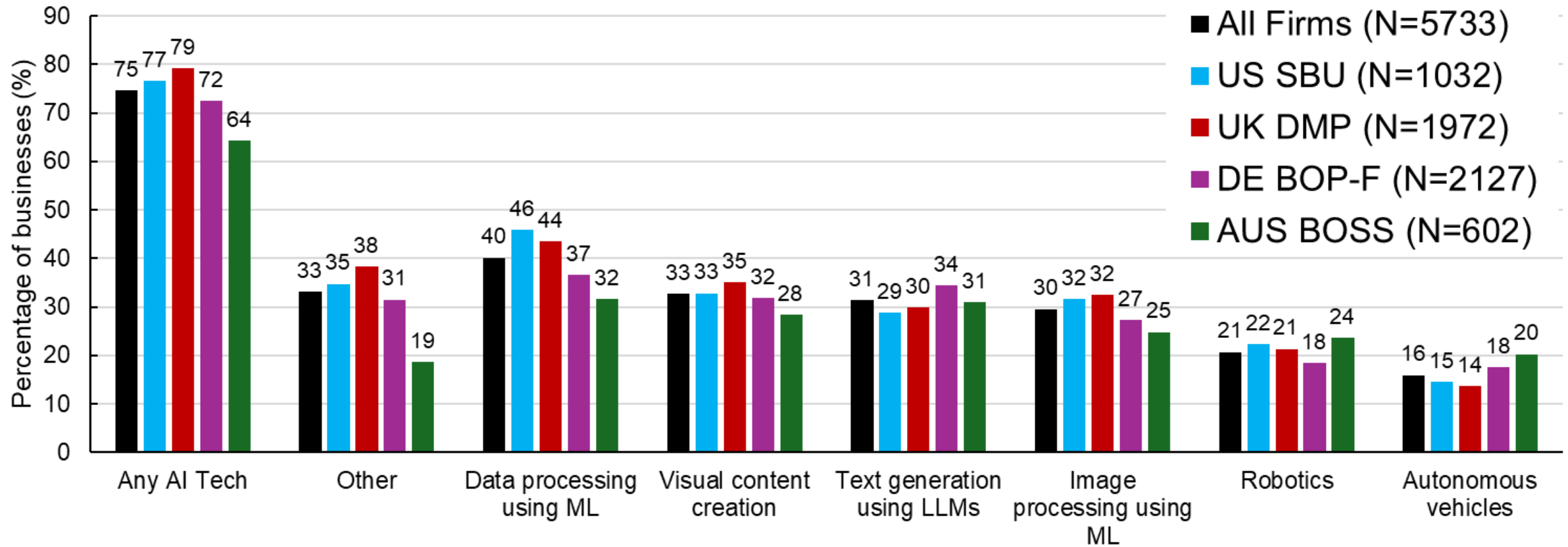
Notes: This figure is based on responses to the question: “Which of the following artificial intelligence technologies, if any, does your business currently use?” Firms could select more than one option. The data from the US Survey of Business Uncertainty was collected in November 2025. The data from the UK Decision Maker Panel was collected over November 2025 – January 2026. The data from the German Bundesbank Online Panel-Firms (BOP-F) was collected in January 2026. The data from the Australian Business Outlook Scenarios Survey was collected in December 2025. The data results from the SBU, DMP, and BOP-F are employment-weighted; the results from the BOSS are unweighted. The results for all firms is the average of the four surveys, weighted by the respective number of responses.

Use of AI is increasing rapidly (UK data)



Notes: This figure is based on responses to the question: “Which of the following artificial intelligence technologies, if any, does your business currently use?” The results are based on responses from the UK Decision Maker Panel, collected over February-April 2025 and November 2025 – January 2026. The results are employment-weighted.

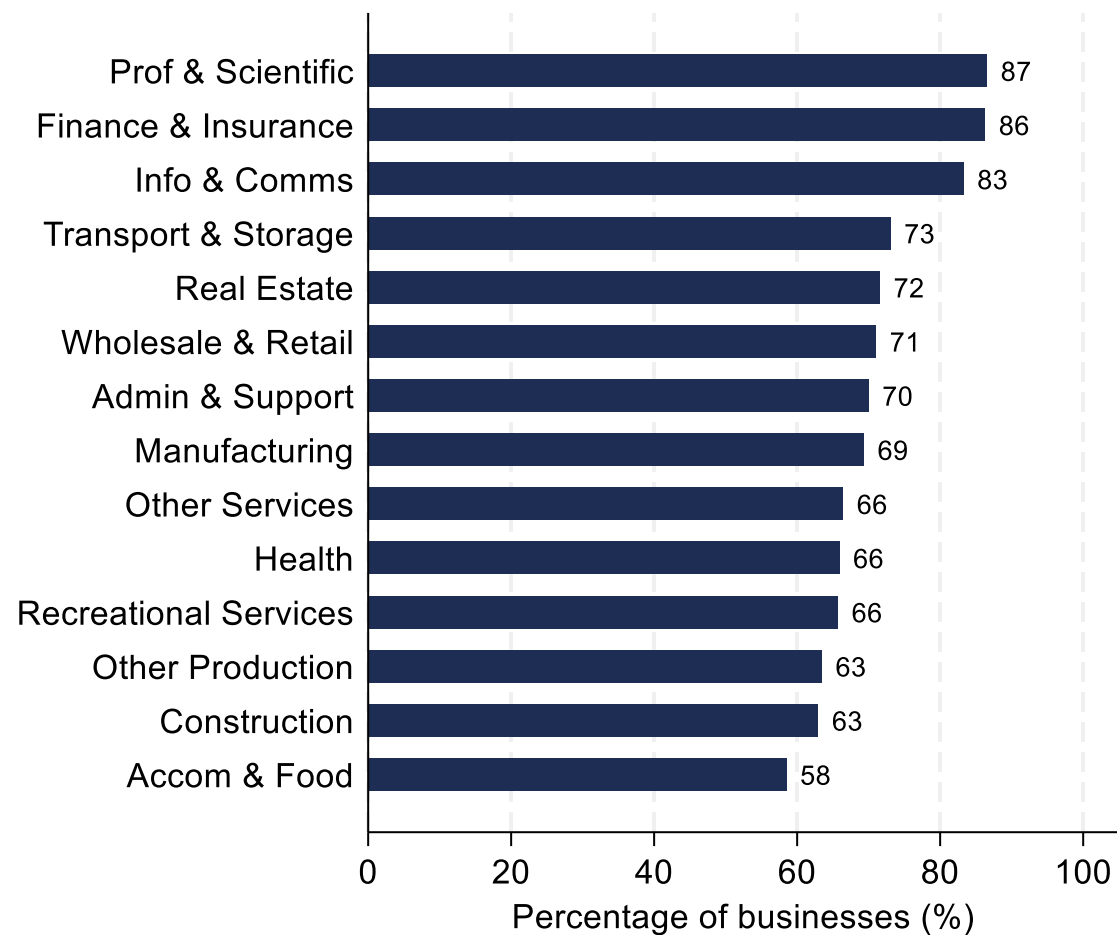
Further increase in AI use expected over next 3 years



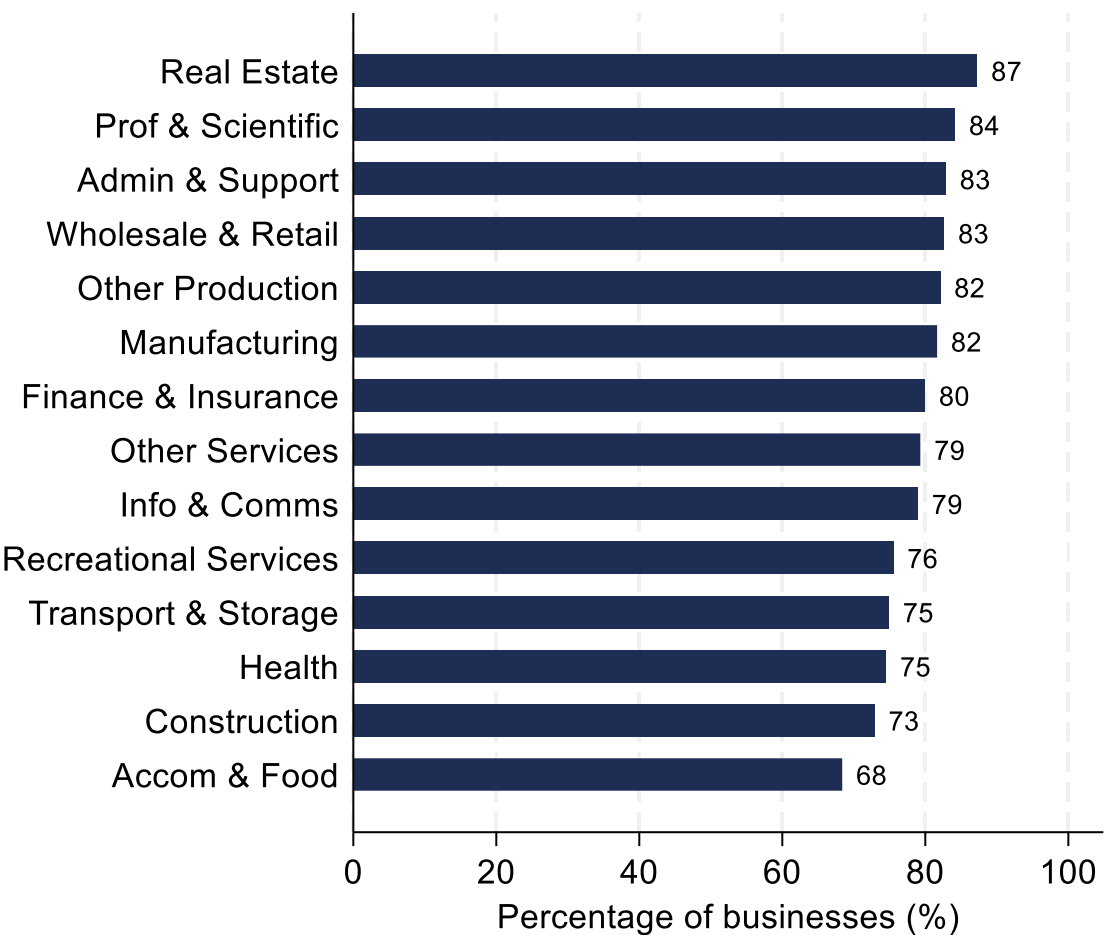
Notes: This figure is based on responses to the question: “Which of the following artificial intelligence technologies, if any, does your business currently use? And which do you intend to make use of over the next three years?” Firms could select more than one option. The data from the US Survey of Business Uncertainty was collected in November 2025. The data from the UK Decision Maker Panel was collected over November 2025 – January 2026. The data from the German Bundesbank Online Panel – Firms (BOP-F) were collected in January 2026. The data from the Australian Business Outlook Scenarios Survey was collected in December 2025. The data results from the SBU, DMP, and BOP-F are employment-weighted; the results from the BOSS are unweighted. The results for all firms is the average of the four surveys, weighted by the respective number of responses.

Current and expected AI adoption by industry (UK firms)

Panel A Current AI Adoption



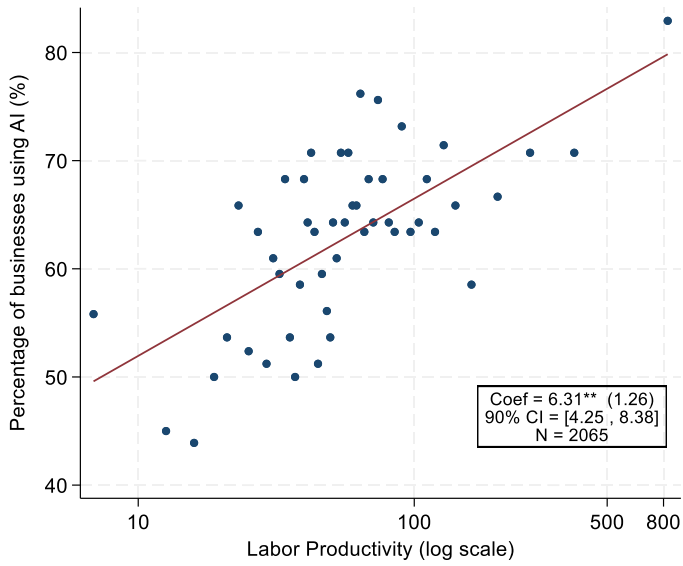
Panel B Expected Adoption Next 3 Years



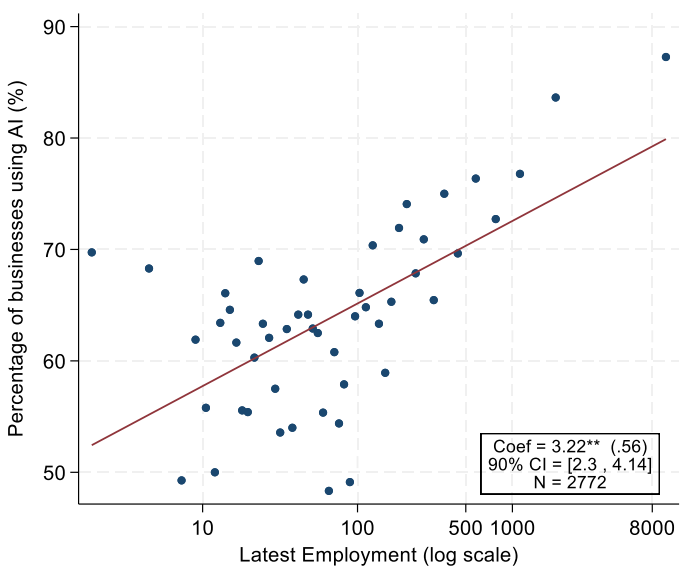
Notes: This figure is based on responses to the question: “Which of the following artificial intelligence technologies, if any, does your business currently use? And which do you intend to make use of over the next three years?” The results are based on responses from the UK Decision Maker Panel, collected over November 2025 – January 2026. The results are employment-weighted.

AI using firms are productive, large, high-paying and young (UK firms)

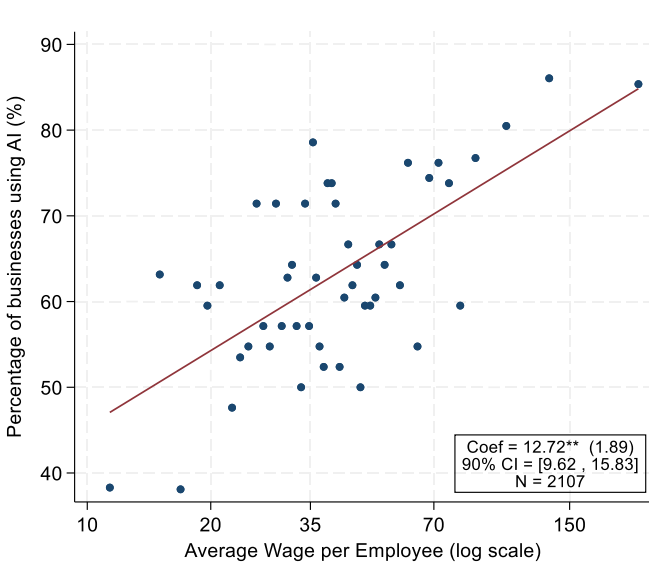
Panel A Labor Productivity



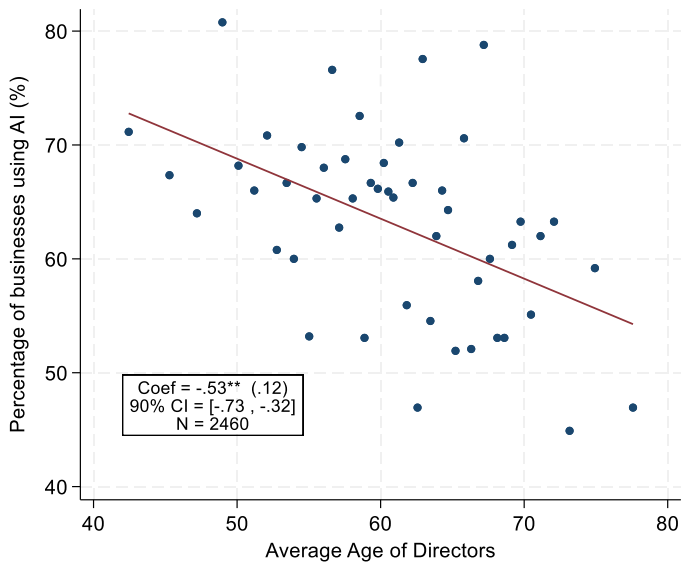
Panel B Firm employment



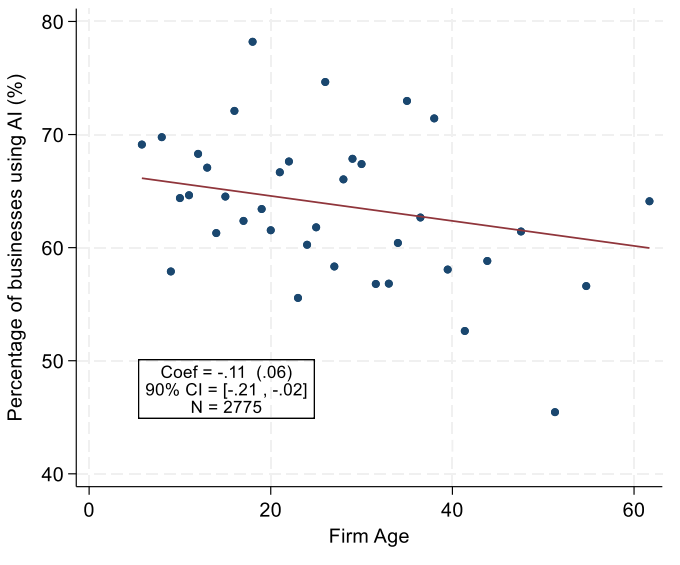
Panel C Average wage per employee



Panel D Average age of directors



Panel E Firm age



Notes: This figure shows binned scatter plots. The vertical axis is the percentage of businesses currently using any AI technology. The data are from the UK Decision Maker Panel, collected over February-April 2025 and November 2025 – January 2026, with the latest firm observation used in the figures.

Also asked about past and expected future impact of AI on productivity and employment

Decision Maker Panel



How has the adoption of artificial intelligence technologies affected the volume of SALES PER EMPLOYEE in your business over the past three years? And how do you expect this to affect your volume of SALES PER EMPLOYEE over the next three years?

	Past 3 years	Next 3 years
A large positive influence, adding 5% or more	☐	☐
A minor positive influence, adding less than 5%	☐	☐
No material impact	☐	☐
A minor negative influence, subtracting less than 5%	☐	☐
A large negative influence, subtracting 5% or more	☐	☐

Decision Maker Panel

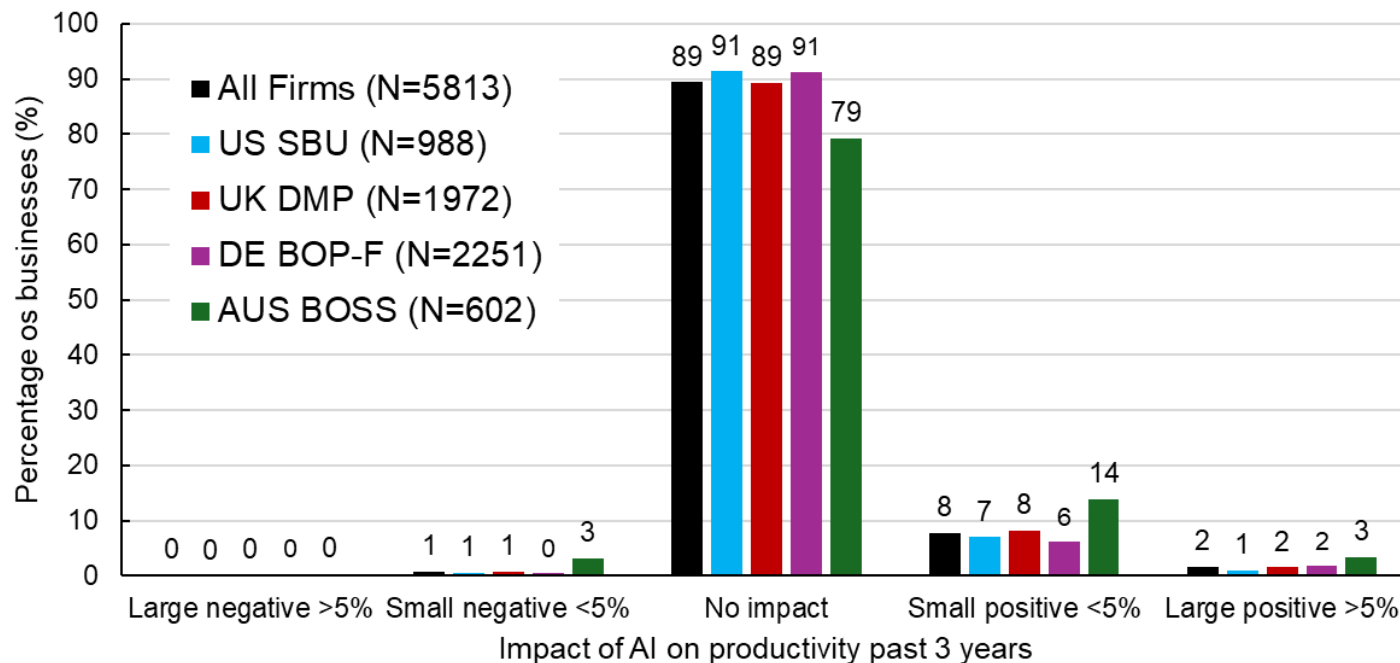


How has the adoption of artificial intelligence technologies affected the NUMBER OF EMPLOYEES in your business over the past three years? And how do you expect this to affect your NUMBER OF EMPLOYEES over the next three years?

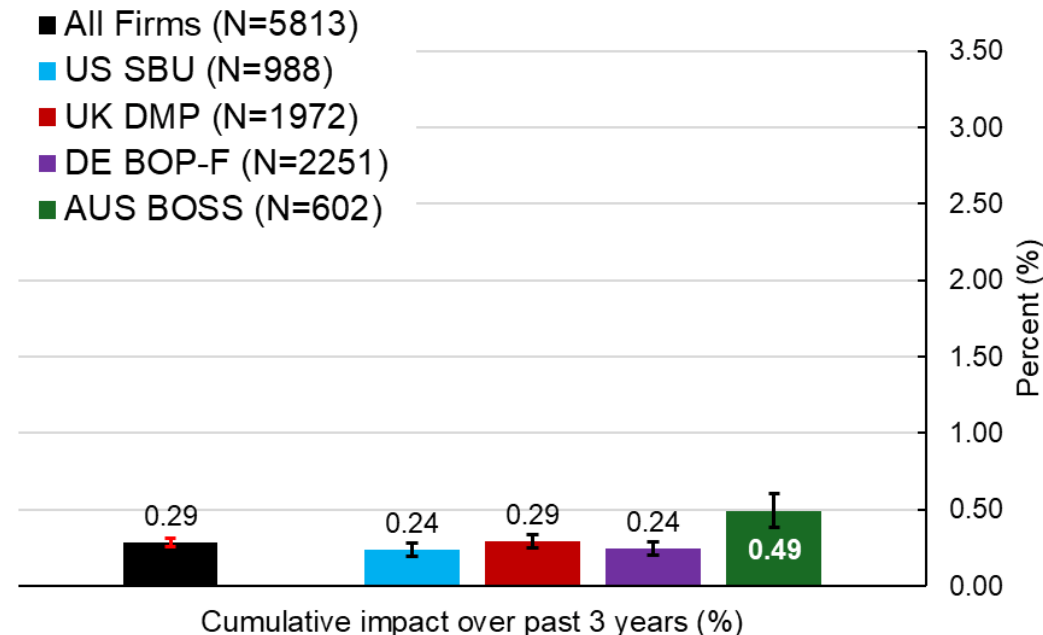
	Past 3 years	Next 3 years
A large positive influence, adding 5% or more	☐	☐
A minor positive influence, adding less than 5%	☐	☐
No material impact	☐	☐
A minor negative influence, subtracting less than 5%	☐	☐
A large negative influence, subtracting 5% or more	☐	☐

Execs reported little impact of AI on productivity over past 3 years

Panel A Distribution of responses



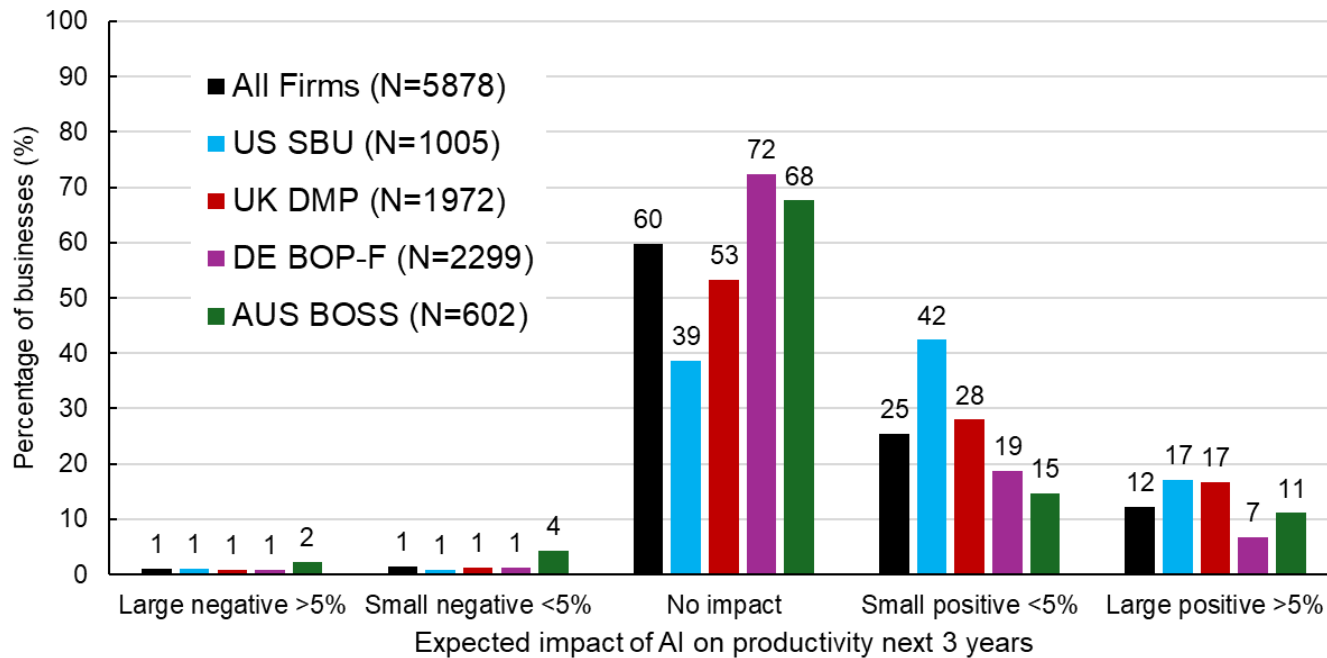
Panel B Average total impact



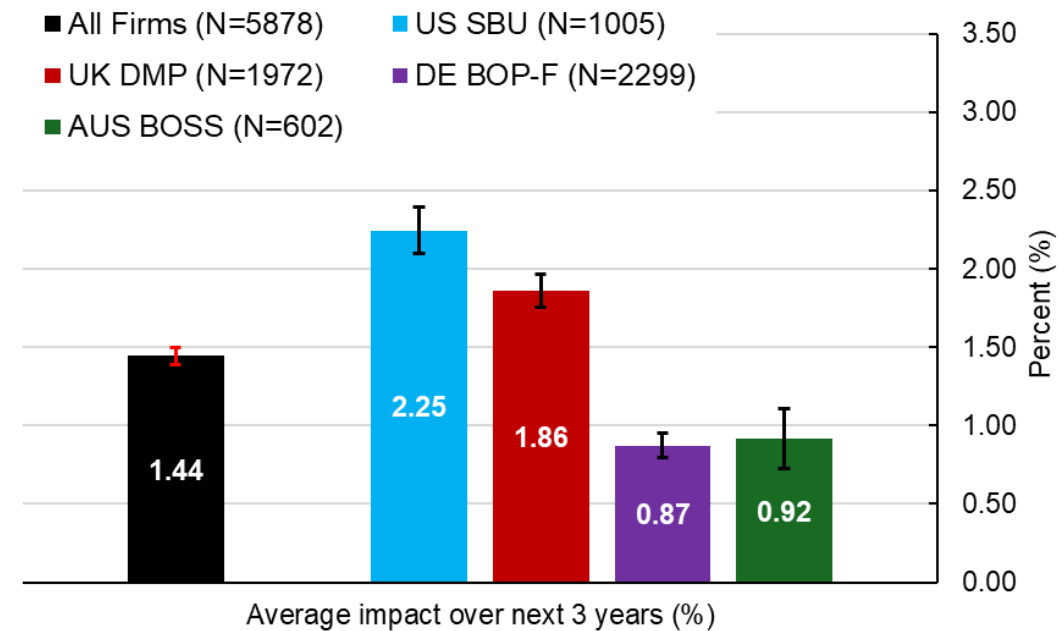
Notes: This figure is based on responses to the question: “How has the adoption of artificial intelligence technologies affected the volume of sales per employee in your business over the past three years?” The data from the US Survey of Business Uncertainty was collected in November 2025. The data from the UK Decision Maker Panel was collected over November 2025 – January 2026. The data from the German Bundesbank Online Panel-Firms (BOP-F) was collected in January 2026. The data from the Australian Business Outlook Scenarios Survey was collected in December 2025. The data results from the SBU, DMP, and BOP-F are employment-weighted; the results from the BOSS are unweighted. To calculate the average impacts (Panel B), values are assigned to each of the options in Panel A: large negative/large positive impacts are treated as $\pm 7.5\%$; small negative/small positive impacts are treated as $\pm 2.5\%$. The impact for all firms is the average of the impacts for the four surveys, weighted by the respective number of responses. 90% confidence intervals are shown for these impacts.

Firms expect larger impacts on productivity in next 3 years

Panel A Distribution of responses



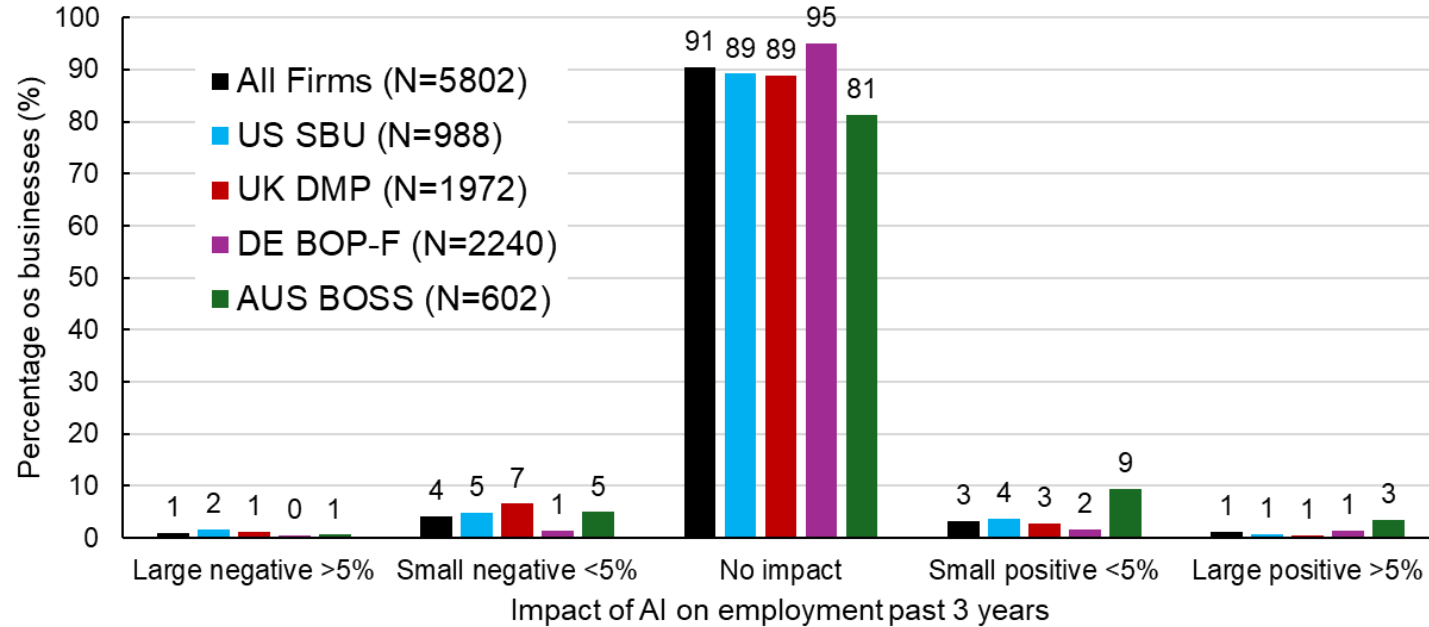
Panel B Average total impact



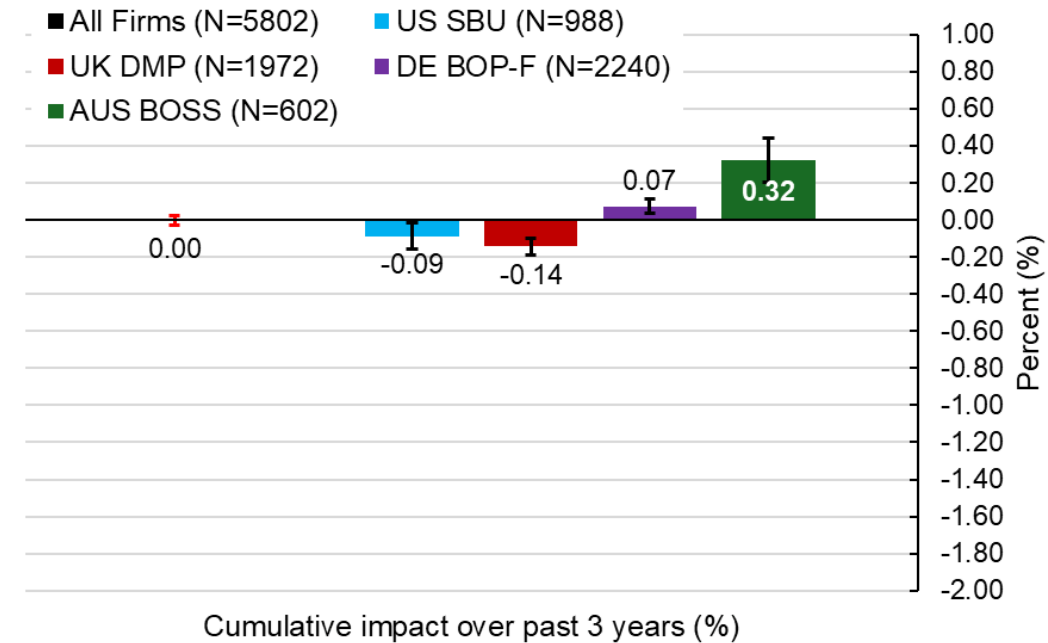
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Execs reported no impact of AI on employment over past 3 years

Panel A Distribution of responses



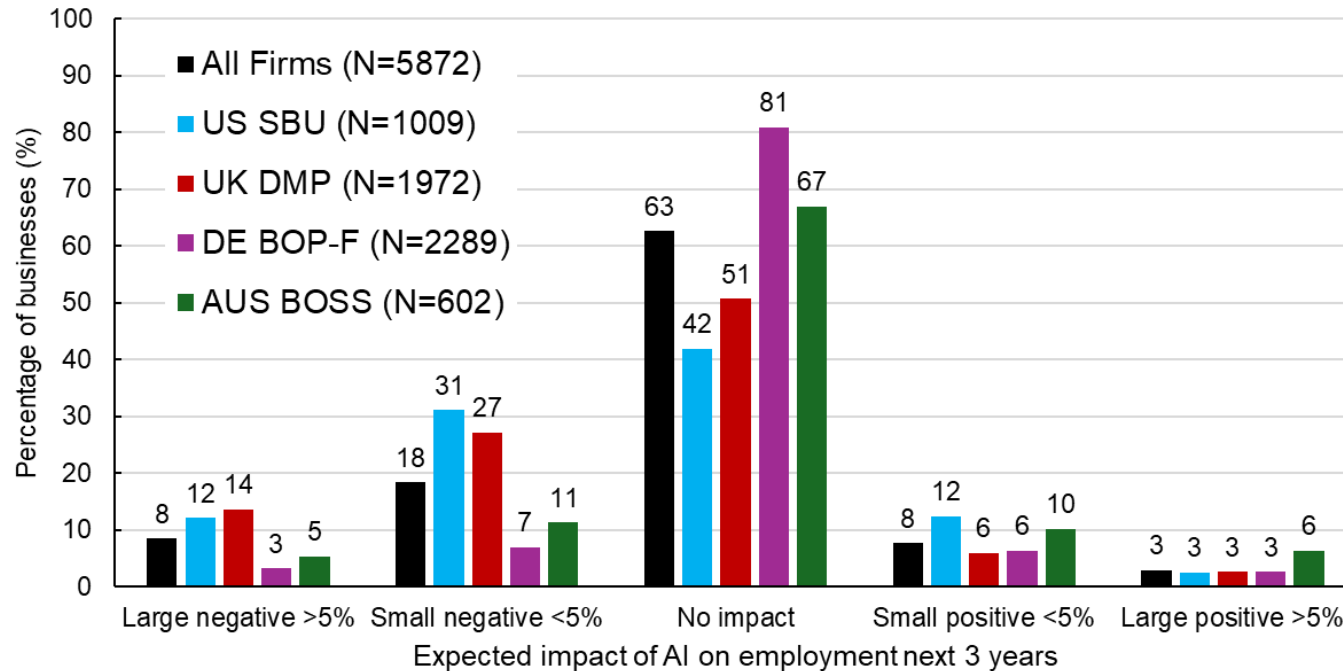
Panel B Average total impact



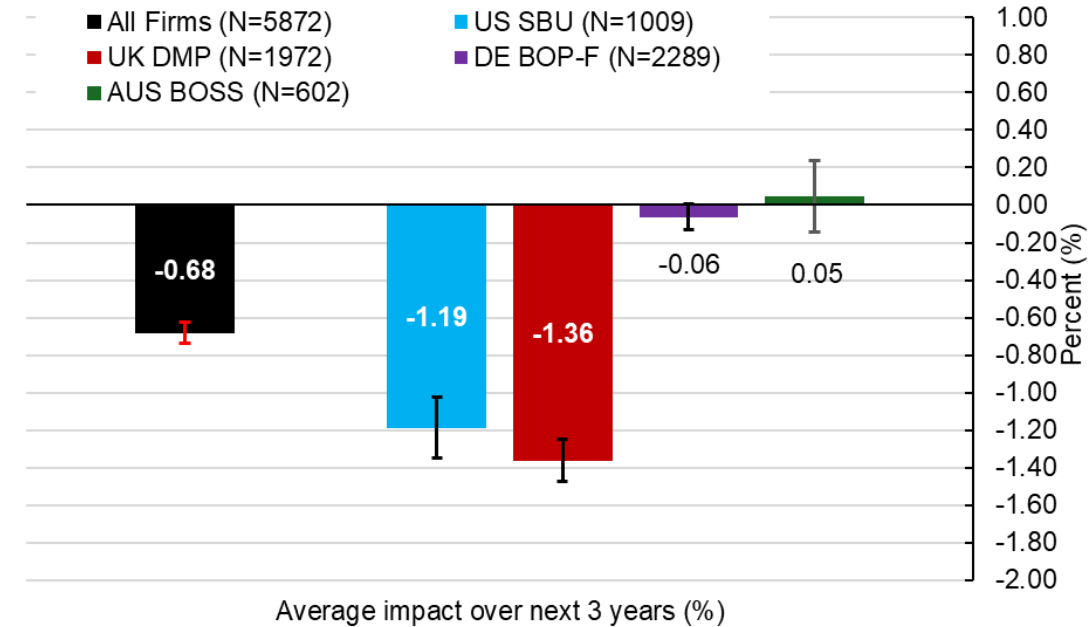
Notes: This figure is based on responses to the question: “How has the adoption of artificial intelligence technologies affected the number of employees in your business over the past three years?” The data from the US Survey of Business Uncertainty was collected in November 2025. The data from the UK Decision Maker Panel was collected over November 2025 – January 2026. The data from the German Bundesbank Online Panel-Firms (BOP-F) was collected in January 2026. The data from the Australian Business Outlook Scenarios Survey was collected in December 2025. The data results from the SBU, DMP, and BOP-F are employment-weighted; the results from the BOSS are unweighted. To calculate the average impacts (Panel B), values are assigned to each of the options in Panel A: large negative/large positive impacts are treated as $\pm 7.5\%$; small negative/small positive impacts are treated as $\pm 2.5\%$. The impact for all firms is the average of the impacts for the four surveys, weighted by the respective number of responses. 90% confidence intervals are shown for these impacts.

Negative impact on employment expected in their firms over the next 3 years

Panel A Distribution of responses



Panel B Average total impact



Notes: This figure is based on responses to the question: “How has the adoption of artificial intelligence technologies affected the number of employees in your business over the past three years? And how do you expect this to affect your number of employees over the next 3 years?” The data from the US Survey of Business Uncertainty was collected in November 2025. The data from the UK Decision Maker Panel was collected over November 2025 – January 2026. The data from the German Bundesbank Online Panel-Firms (BOP-F) was collected in January 2026. The data from the Australian Business Outlook Scenarios Survey was collected in December 2025. The data results from the SBU, DMP, and BOP-F are employment-weighted; the results from the BOSS are unweighted. To calculate the average impacts (Panel B), values are assigned to each of the options in Panel A: large negative/large positive impacts are treated as $\pm 7.5\%$; small negative/small positive impacts are treated as $\pm 2.5\%$. The impact for all firms is the average of the impacts for the four surveys, weighted by the respective number of responses. 90% confidence intervals are shown for these impacts.

Summary

- We collect representative international data on firm-level AI use from around 6000 CFOs, CEOs and executives in the US, UK, Germany and Australia
- Around 70% of firms actively use AI, particularly younger, more productive firms
- Firms report little impact of AI over the last 3 years, with over 80% of firms reporting no impact on either employment or productivity
- Firms predict more sizable impacts over the next 3 years – they expect AI will boost productivity by 1.4%, increase output by 0.8% and cut employment by 0.7%
- Plan to run these surveys every 6-months – next survey window is May to July 2026, also adding in Canada, Mexico, South Korea and South Africa