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# Macroeconomic Consequences of AI

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# AI's Macroeconomic Impact

# AI Powers GDP Growth

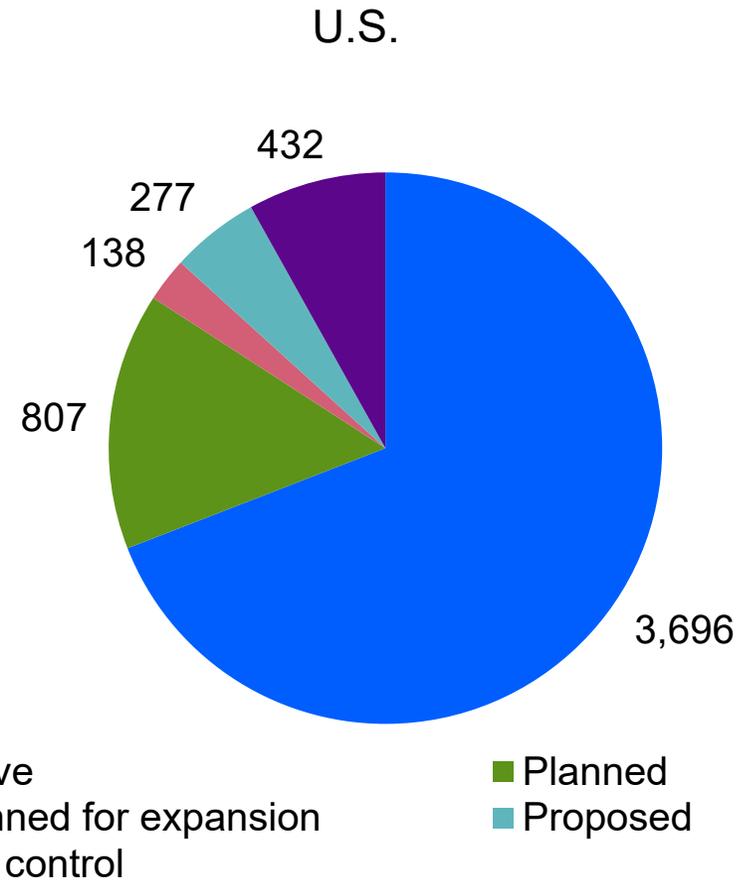
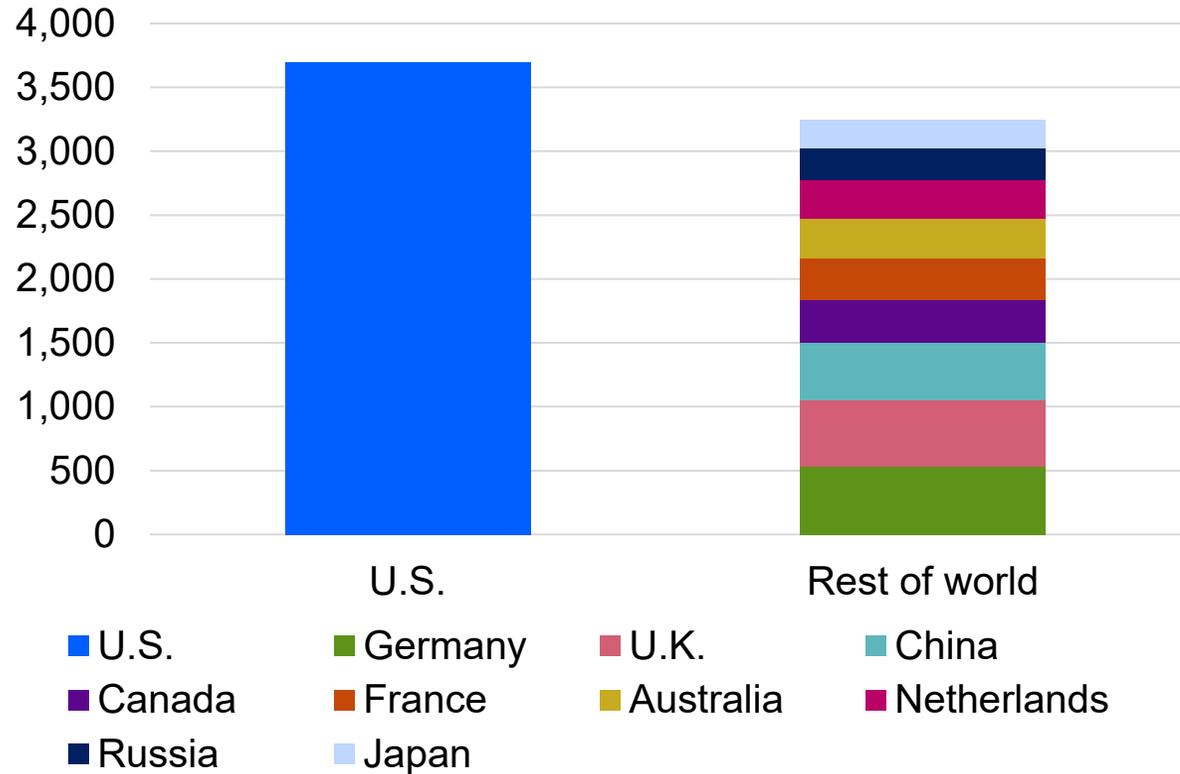
Projected change in U.S. real GDP growth, 4th qrt to 4th qrt, ppt, Feb 2026 baseline forecast

	2025	2026
Real GDP growth, %	2.28	2.62
<i>Change in real GDP growth</i>	<i>-0.12</i>	<i>0.34</i>
Artificial intelligence	0.52	0.50
Capital investment	0.18	0.22
Stock wealth effects	0.34	0.28
Deglobalization	-0.83	-0.63
Tariffs & trade restrictions	-0.51	-0.32
Restrictive immigration policy	-0.32	-0.31
Economic policy	0.09	0.49
Monetary policy	0.18	0.10
Fiscal policy	-0.09	0.39
Other factors	0.10	-0.02

Source: Moody's Analytics

# AI Powers Investment

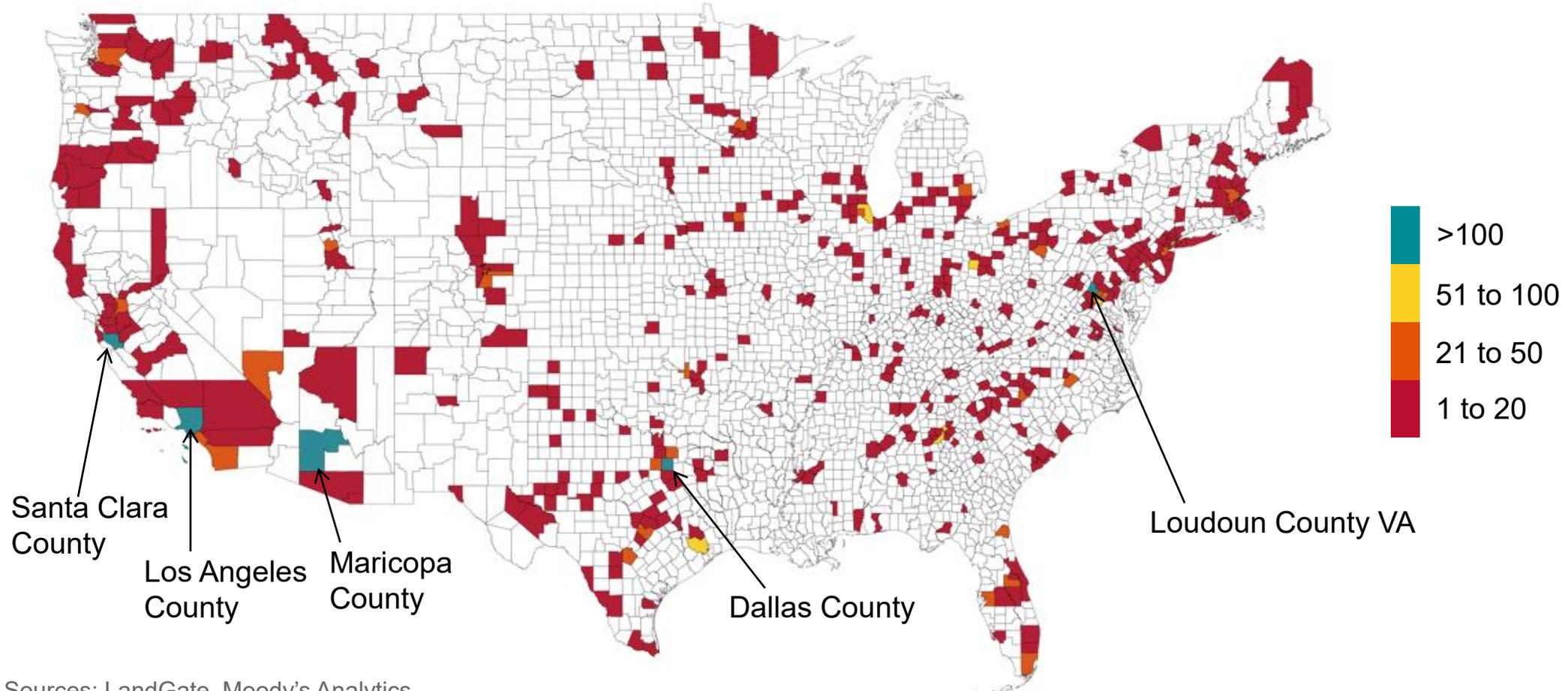
# of data centers, yr-end 2025



Sources: Cloudscene, Moody's Analytics

# Data Centers Are Primarily Near the Coasts

Active data centers, by county, #



Sources: LandGate, Moody's Analytics

# Surging AI Stocks Power Large Positive Wealth Effects

Annualized real GDP growth due to changes in household wealth, %

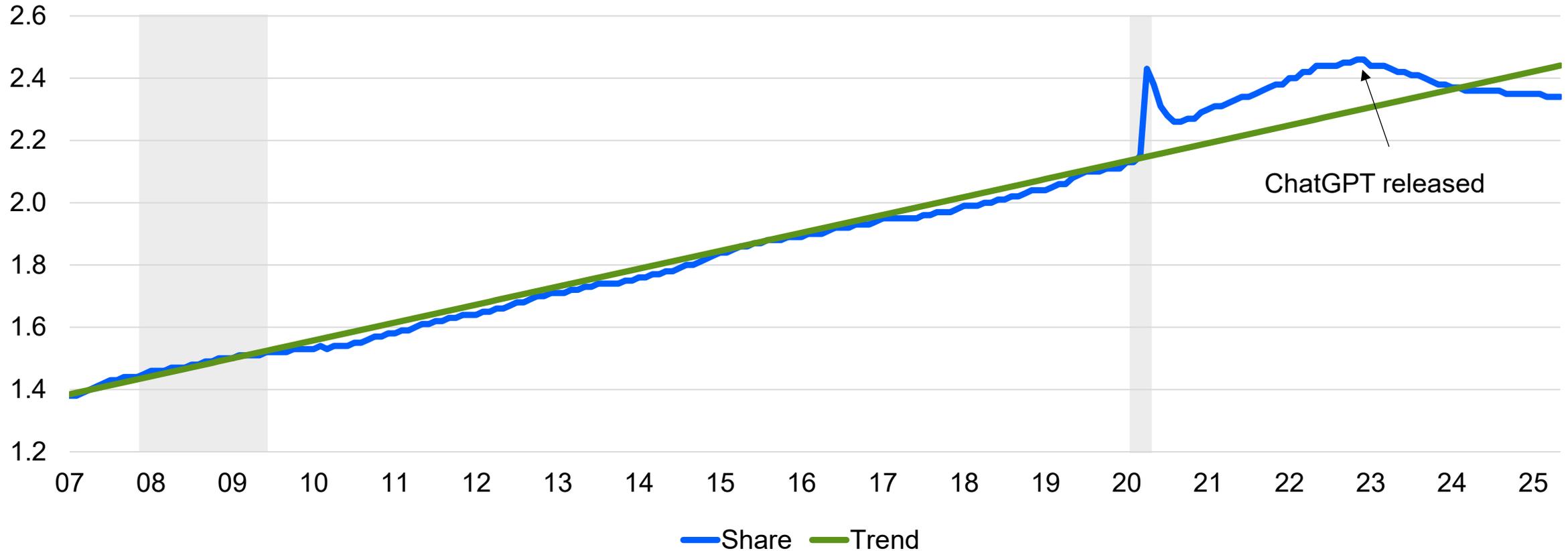


Sources: BEA, Moody's Analytics

The wealth effect measures the annualized % change in GDP due to a 1% change in stock wealth.

# AI's Supply-Side Impact Is Mostly in the Technology Industry

Technology share of nonfarm payroll employment, %



Sources: BLS, Moody's Analytics

# Alternative AI Scenarios

## AI Falls Flat (25%)

- The AI equity market bubble bursts, sending stock prices down by ~25% from peak to trough.
- AI companies have difficulty raising new capital and managing their heavy debt loads. There are increasing defaults straining the financial system.
- A relatively short, shallow recession ensues, followed by a jobless recovery.
- Negative externalities from AI, along with government responses and increased regulations, impede long-term productivity gains.
- Productivity gains are much smaller and more diffuse than initial expectations.

## Job Market Upheaval (20%)

- AI is rapidly adopted and effectively implemented. AI capabilities improve quickly; there are no signs of diminishing returns to the technological improvements.
- Productivity gains from AI accelerate, justifying the high valuations for AI stock prices.
- The benefits of AI are not evenly distributed because AI companies leverage significant economies of scale.
- There are large job losses as productivity gains are realized immediately with little offset from new job formation.
- The economy suffers a recession.

## Productivity Boon (15%)

- AI is rapidly adopted and effectively implemented. AI capabilities quickly improve. There are profound impacts on productivity growth that are broadly beneficial to the economy.
- Any lost jobs due to the AI productivity gains are more than offset by new jobs created by the increased demand for other goods and services supported by the increased AI-generated income and wealth.
- The late 1990s internet boom is an apt, albeit imperfect, historical analogue. It was a period of rapid productivity gains and a strong job market.

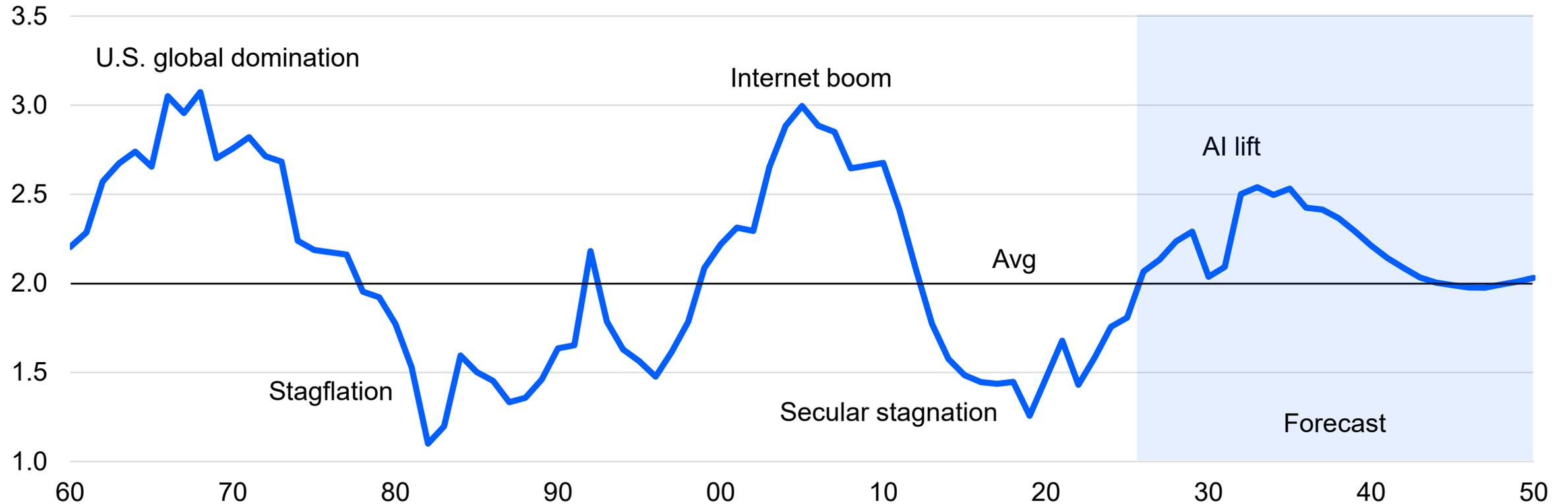
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Baseline: AI-Empowered Economy (45%)

# The AI Productivity Boost Will Be Within Historical Bounds...

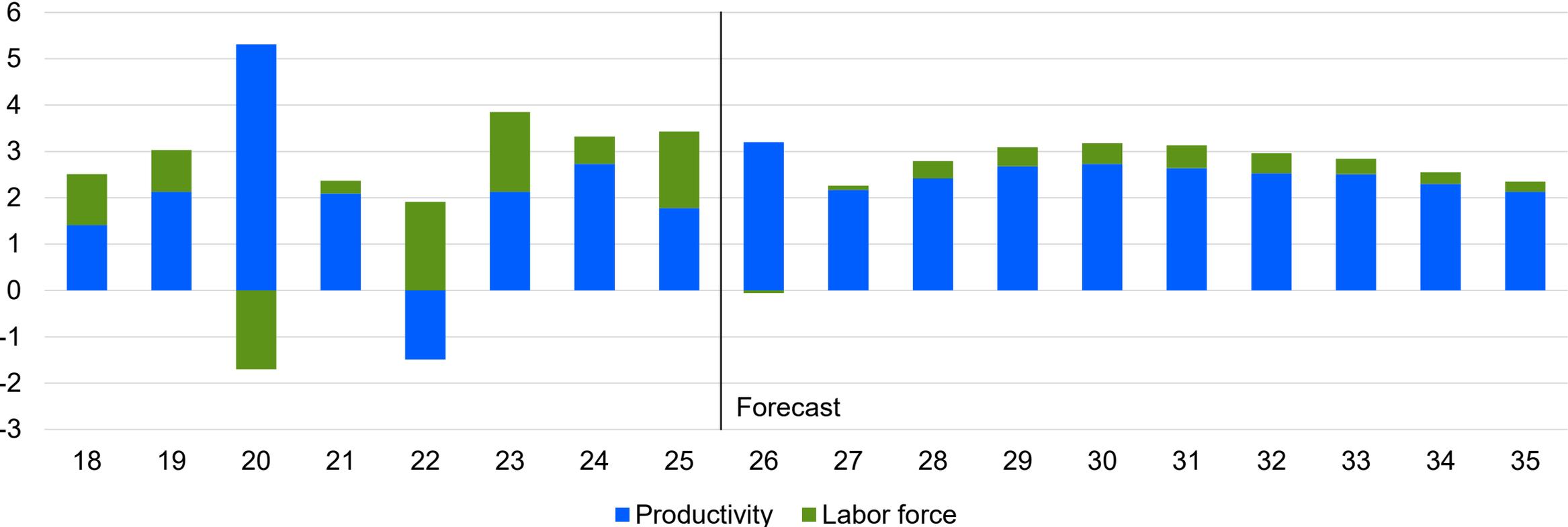
Nonfarm business productivity, avg annual %, rolling 10-yr periods, baseline scenario



Sources: Census Bureau, Moody's Analytics

# ...But Come at an Opportune Time

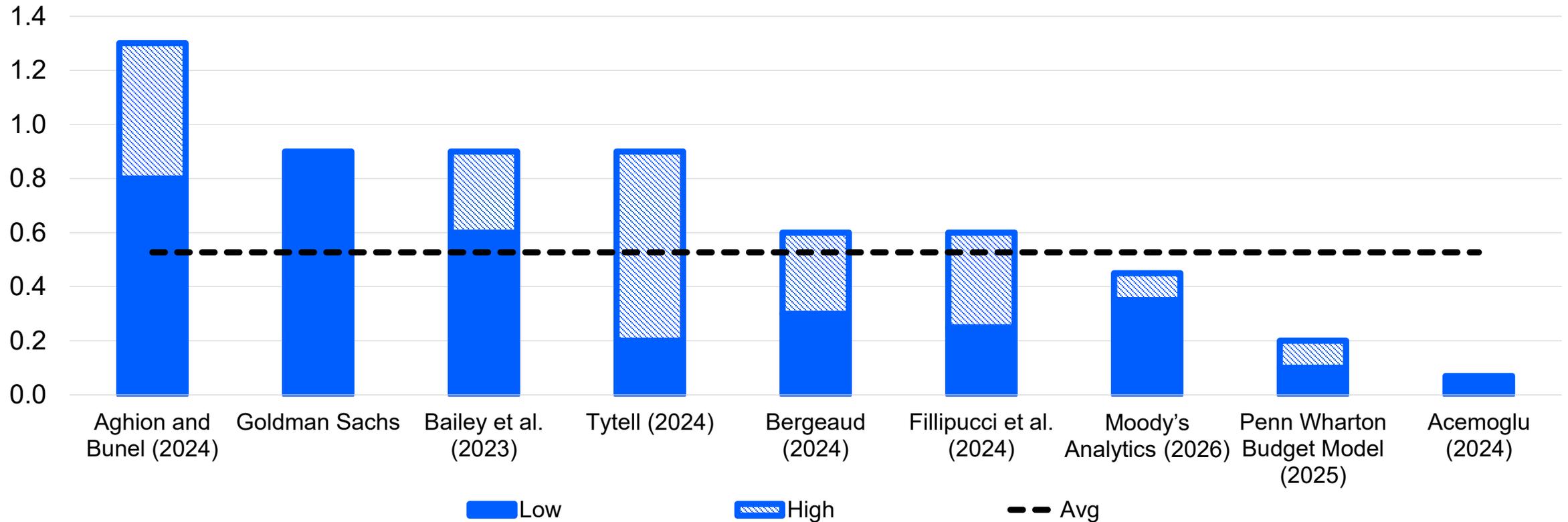
Potential GDP growth, % change yr ago



Sources: BLS, Moody's Analytics

# Big Differences in AI Productivity Expectations

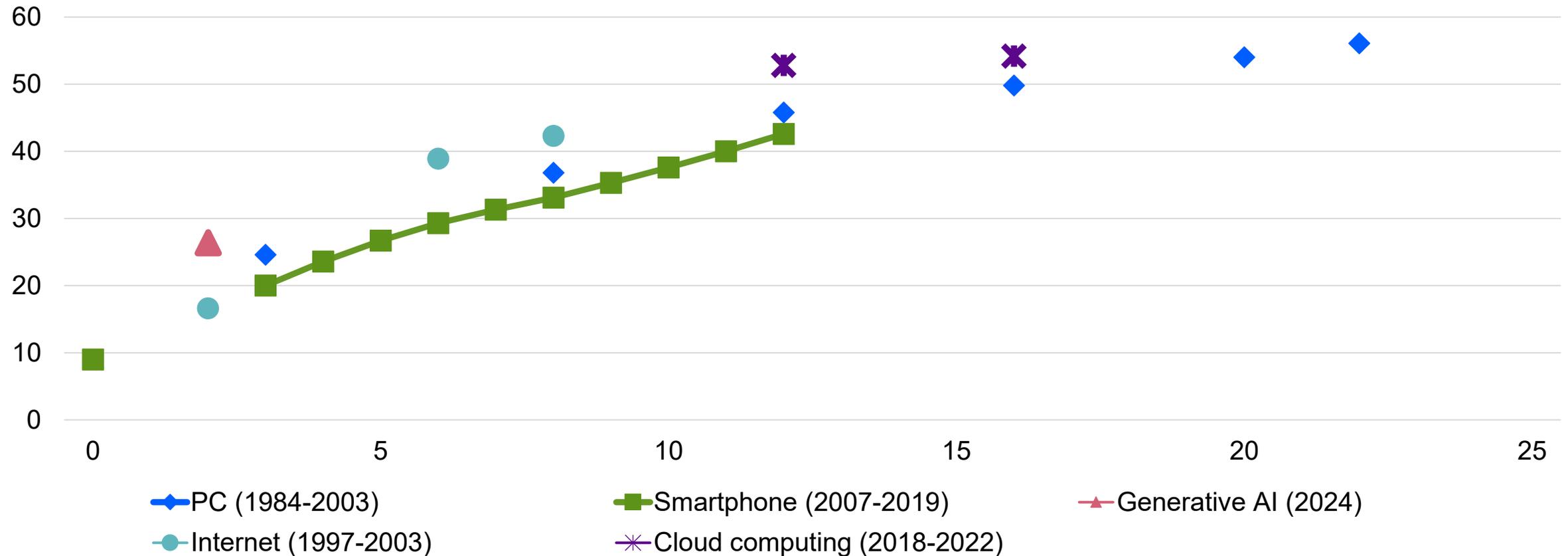
Total factor productivity growth over the next decade due to AI, ppt



Sources: Filippucci, Gal and Schief (2024); Moody's Analytics

# AI Adoption Is Similar to Past General Purpose Technologies

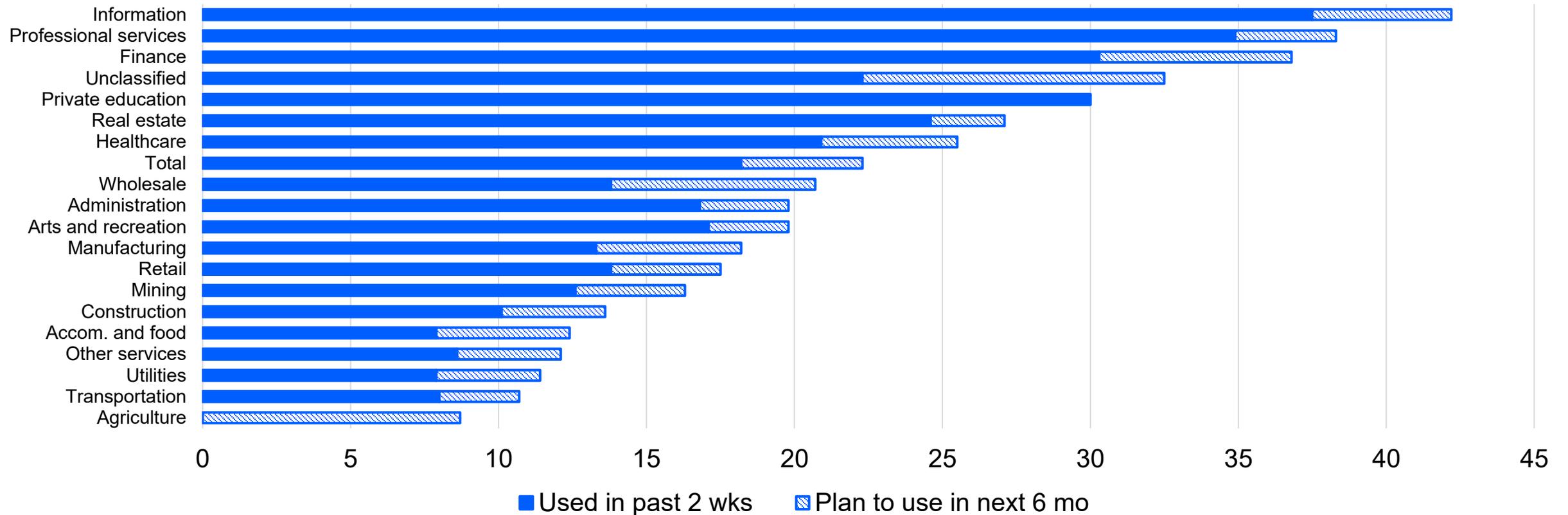
Adoption rates (y-axis) at work by yr since mass-market introduction (x-axis)



Sources: Penn Wharton Budget Model, Moody's Analytics

# Technology and Professional Services Lead the Way in AI Adoption

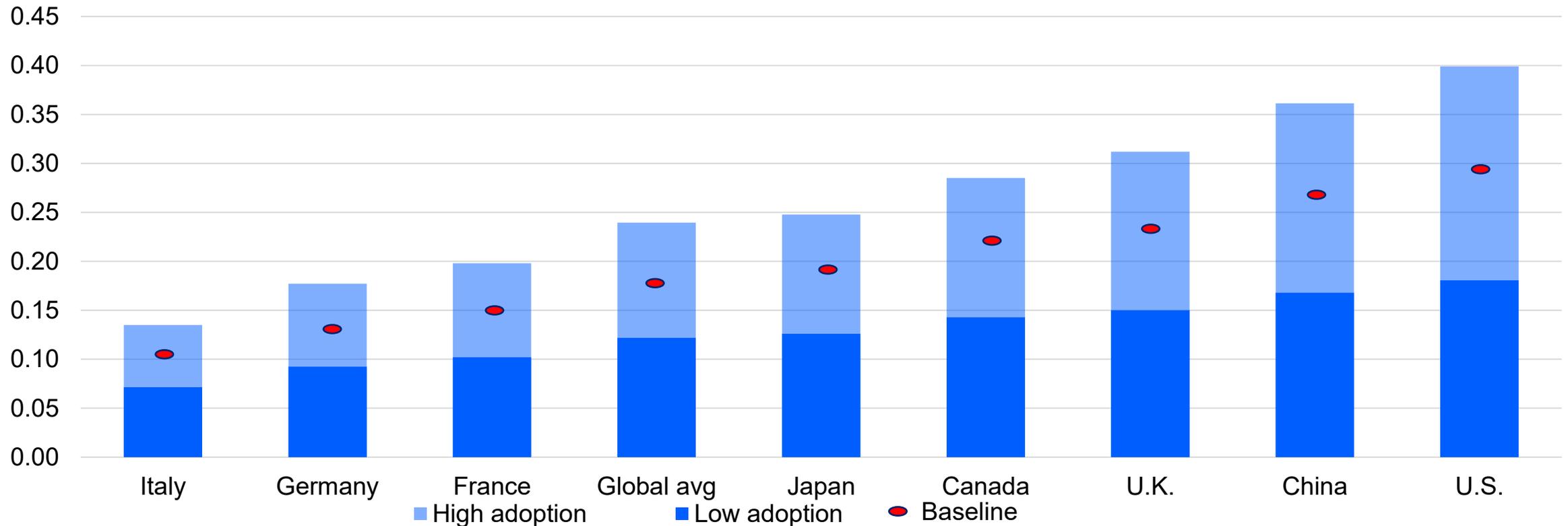
Share of firms using AI for any business function, by sector, as of Jan 25, 2026, %



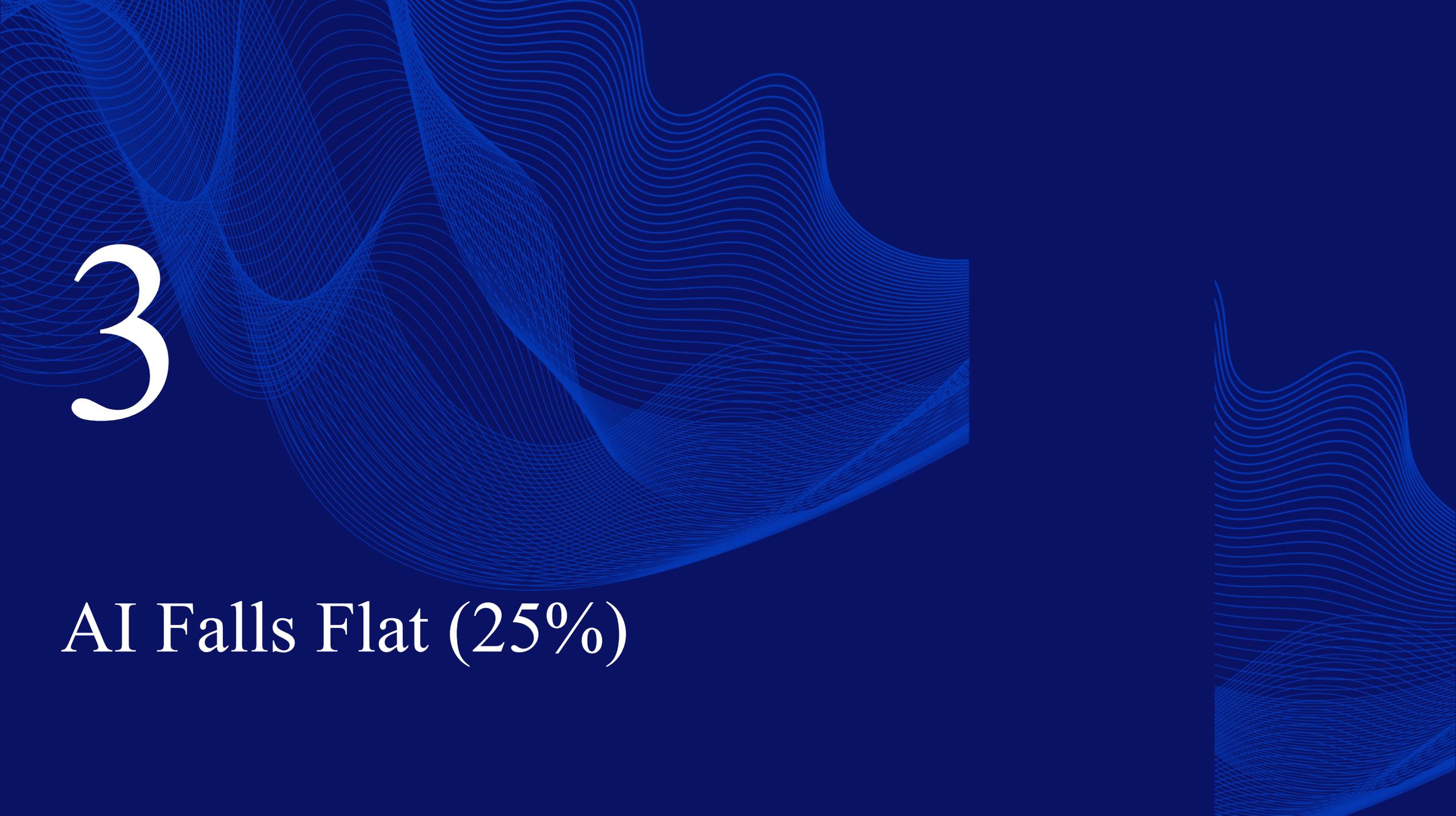
Sources: Census Bureau, Moody's Analytics

# Who Will Be the Long-Run AI Winners?

Estimates of annual contributions of AI to total factor productivity growth, ppt per yr, 2025-2034



Sources: OECD, IMF, Moody's Analytics

The background is a solid dark blue color. It features several layers of thin, light blue wavy lines that create a sense of depth and movement. A large, white, serif number '3' is positioned on the left side of the image.

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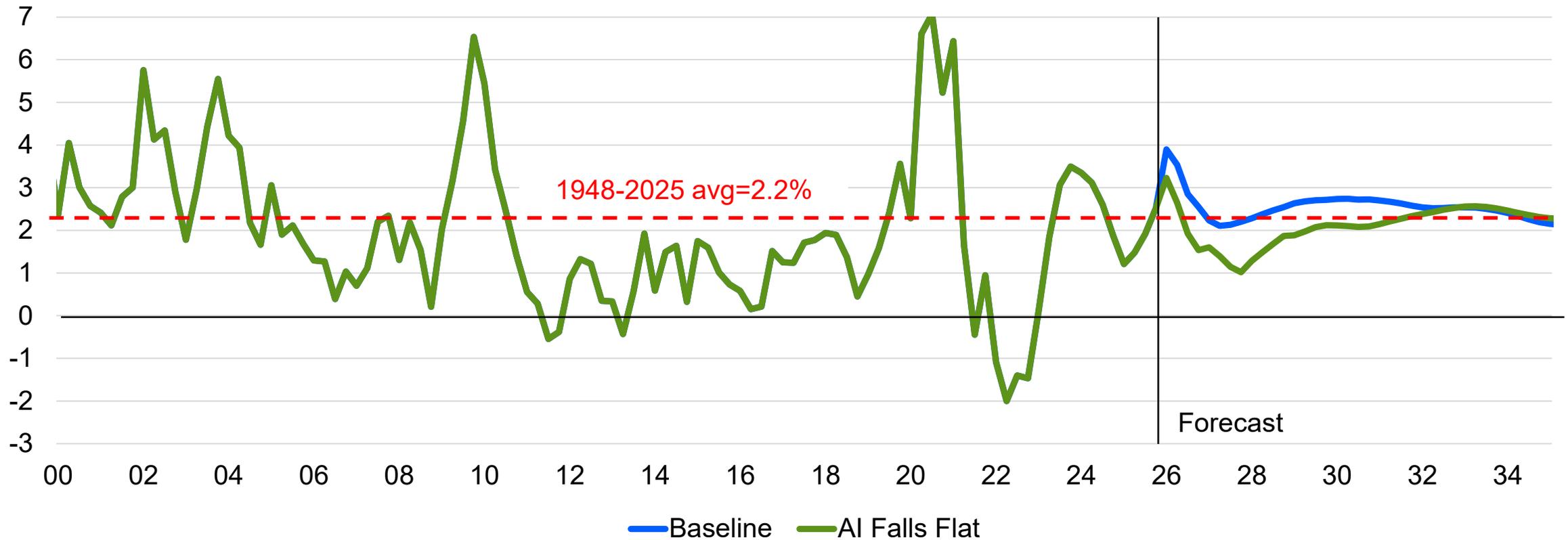
AI Falls Flat (25%)

# Many Technologies Fail to Deliver—or Deliver Less Than Promised



# Productivity Growth Assumed to Be Weaker as AI's Impact Is Muted

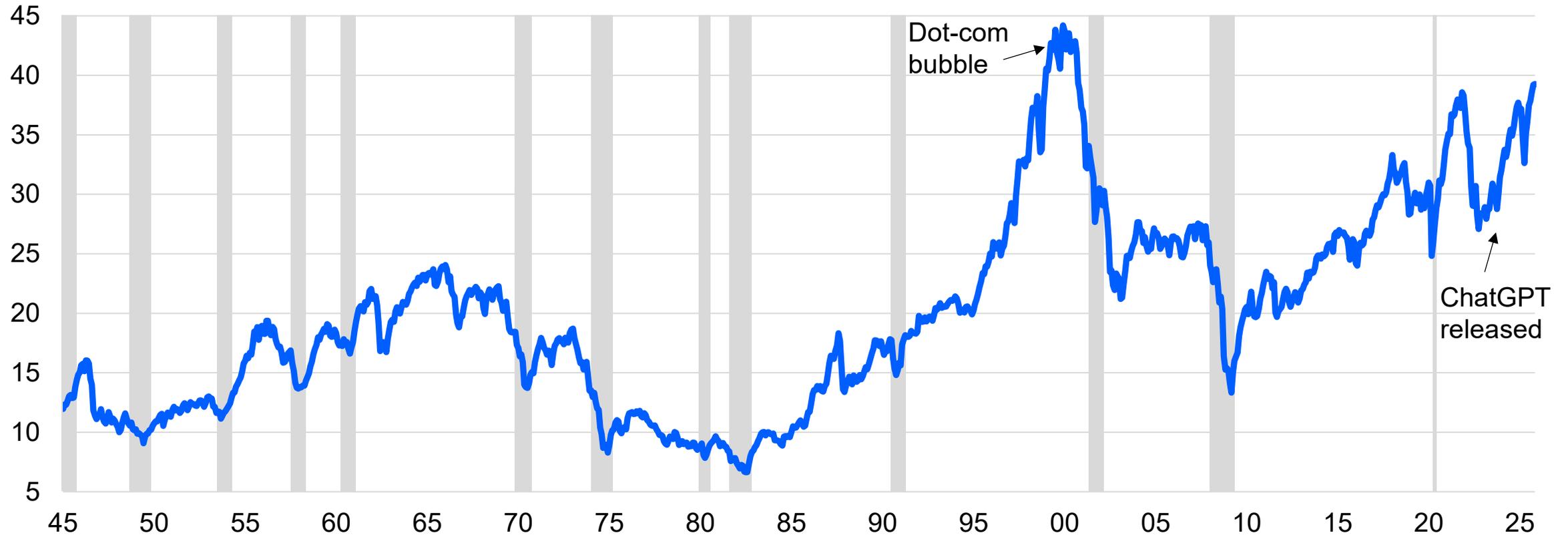
Nonfarm output per hr, % change yr ago



Sources: BLS, Moody's Analytics

# Stock Investors Have Extraordinarily High Expectations

Cyclically adjusted price-to-earnings (CAPE) stock market ratio

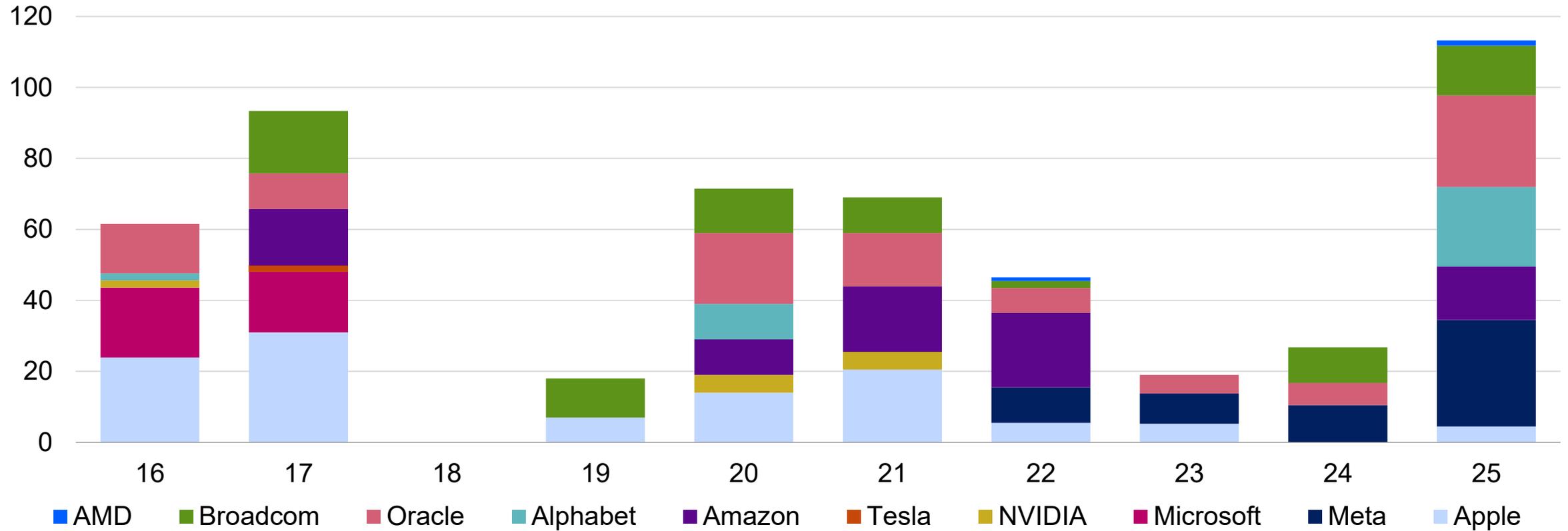


Sources: BLS, Yale Dept. of Economics, Moody's Analytics

Gray bars: NBER-dated U.S. economic recessions

# AI Companies Ramped Up Their Borrowing

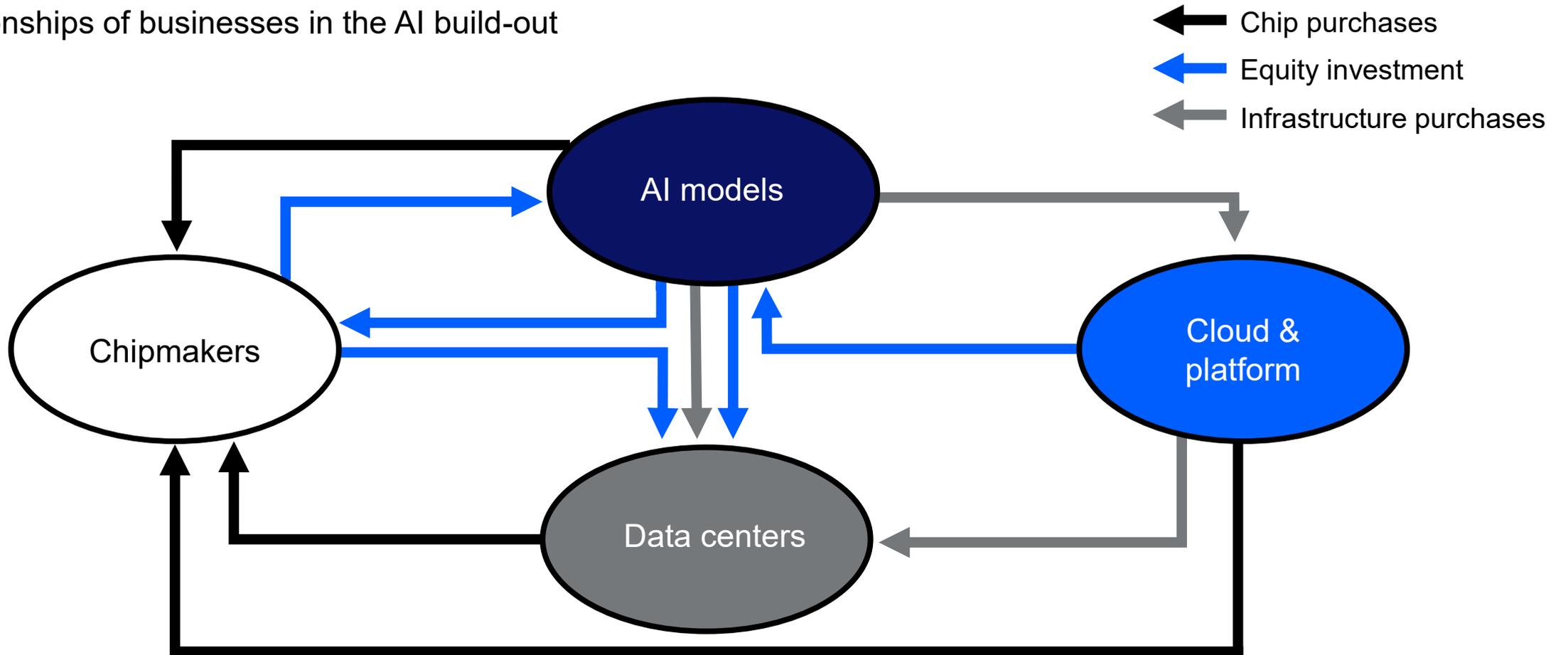
Bond issuance of top-10 technology companies, \$ bil



Source: Moody's Analytics

# Circular Financing in the AI Ecosystem Could Quickly Unravel

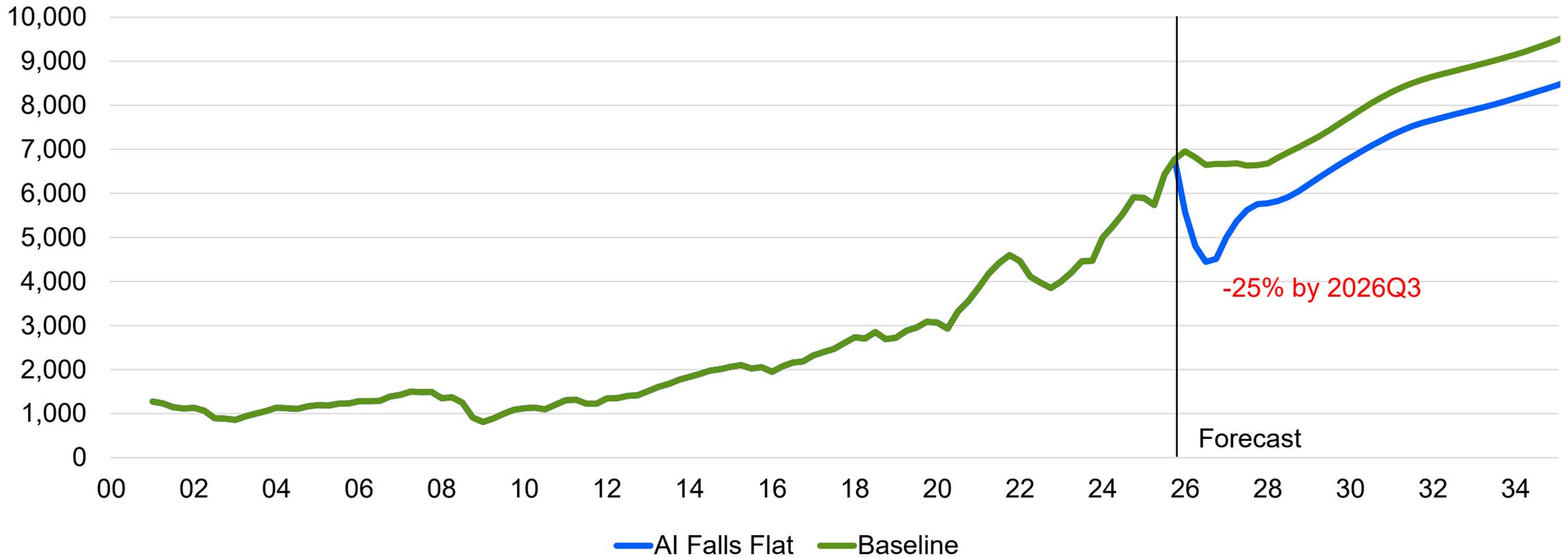
Relationships of businesses in the AI build-out



Source: Moody's Analytics

# Stock Market Declines 25% From Peak in AI Falls Flat Scenario

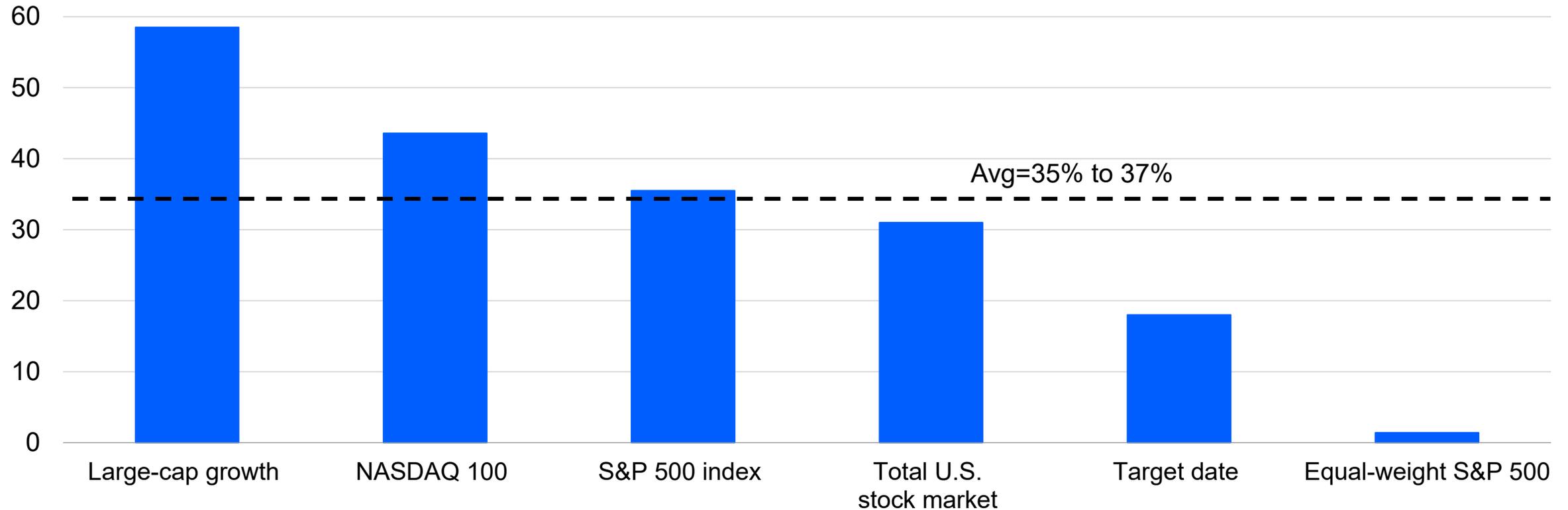
S&P 500 composite index avg



Sources: S&P, Moody's Analytics

# Even Passive Investors Are Highly Exposed to AI Stocks

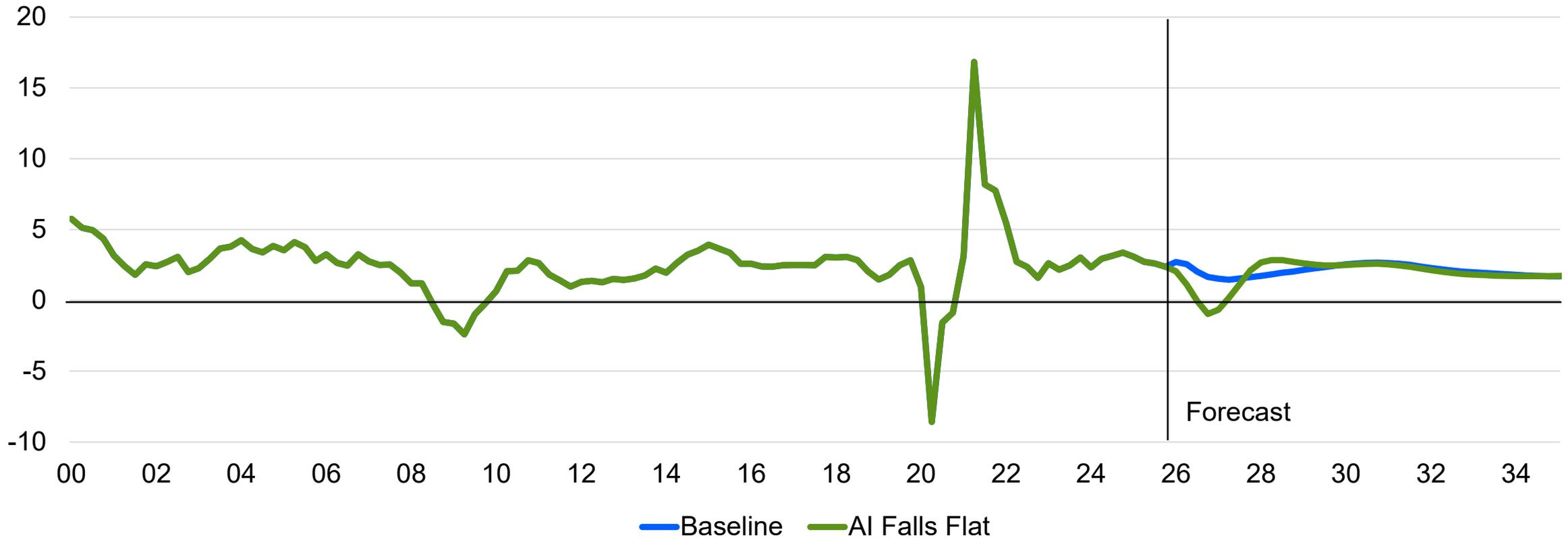
Weight of the Magnificent Seven in the most common 401(k) fund types, %



Sources: Alinvest, Morningstar, Motley Fool, MSCI, Vanguard, Visual Capitalist, Moody's Analytics

# Consumption Falls Are Driven by Loss of Jobs and Reverse Wealth Effects

Consumption, inflation adjusted, % change yr ago



Sources: BEA, Moody's Analytics

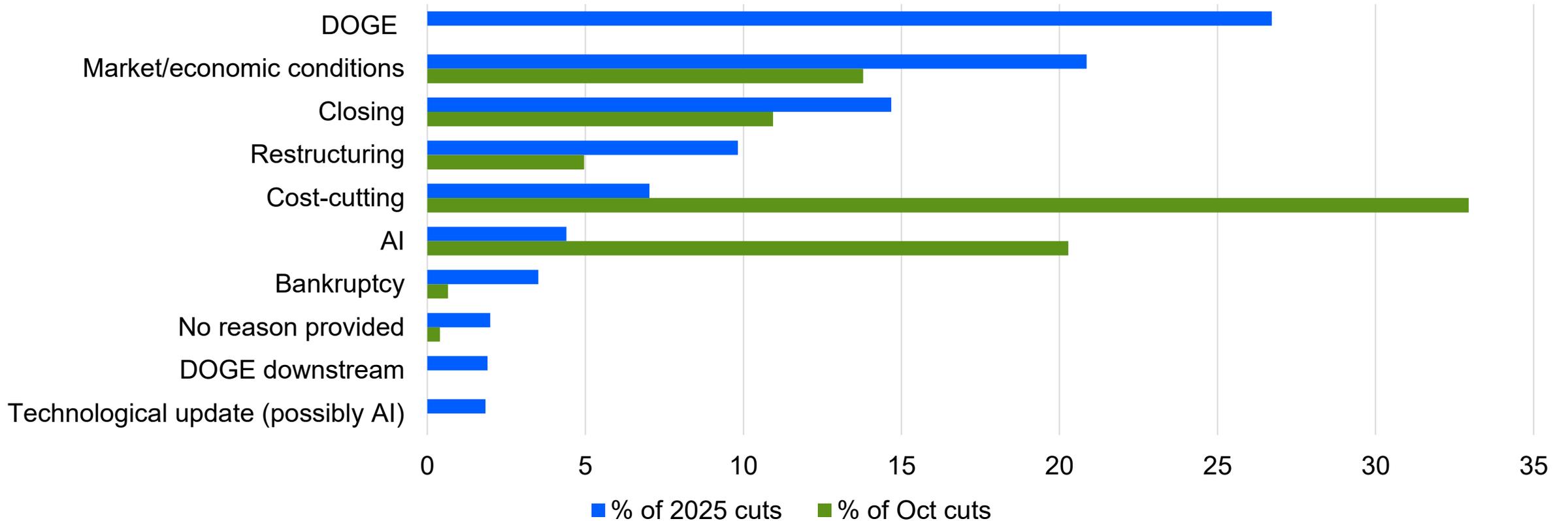
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Job Market Upheaval (15%)

# AI-Related Job Cuts Have Already Picked Up

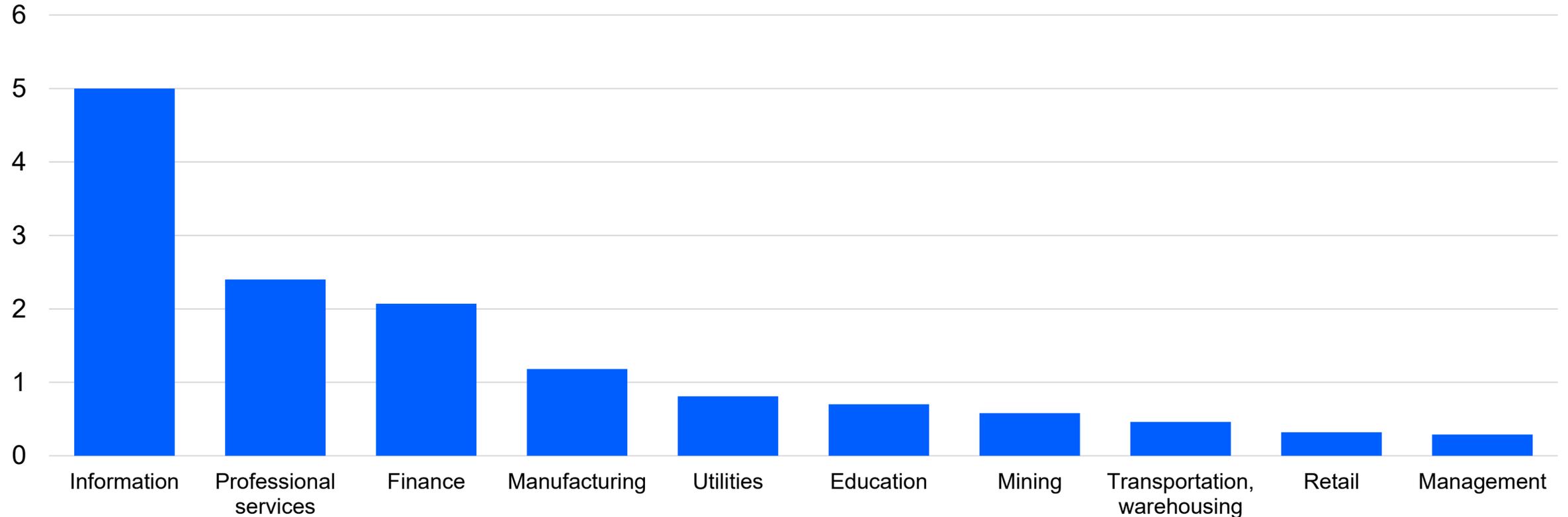
Announced job cuts in 2025 by reason cited



Sources: Challenger, Gray & Christmas; Moody's Analytics

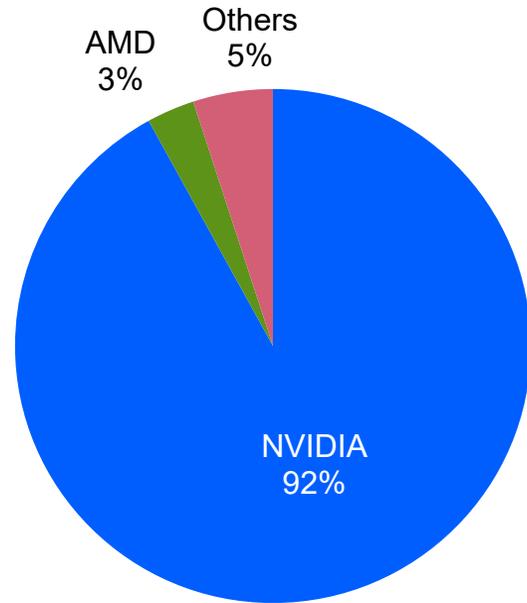
# Office-Using Industries Are in Greatest Demand of AI Skills

Share of AI-related job postings by industry, %

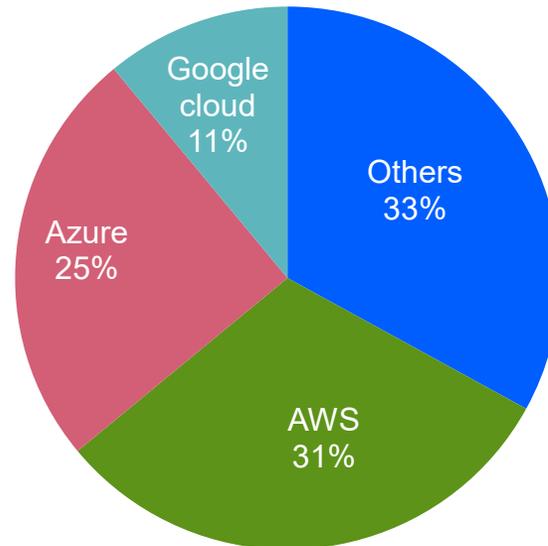


Sources: Univ. of Maryland, LinkUp, Moody's Analytics

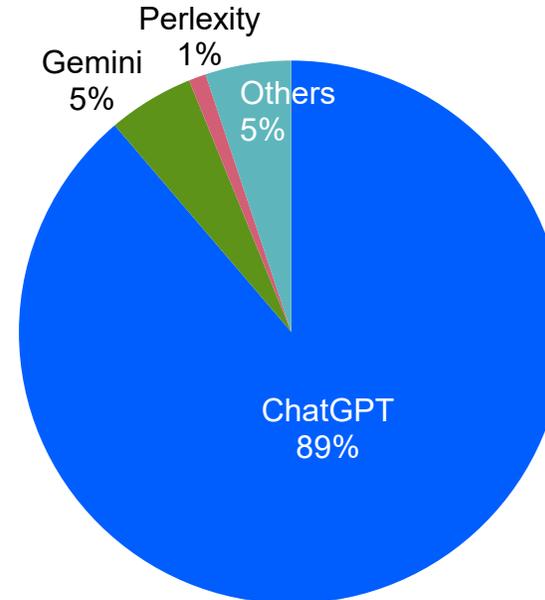
# AI Value Chain's Market Structure Is Highly Concentrated



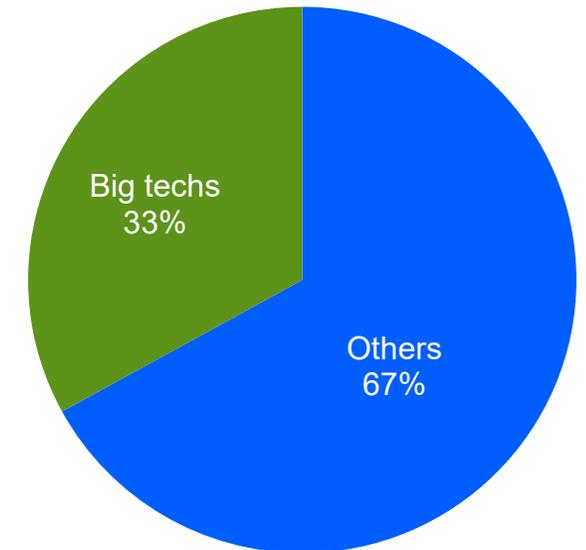
GPU revenues from data centers (2023)



Cloud computing (2024)



AI applications (2024)

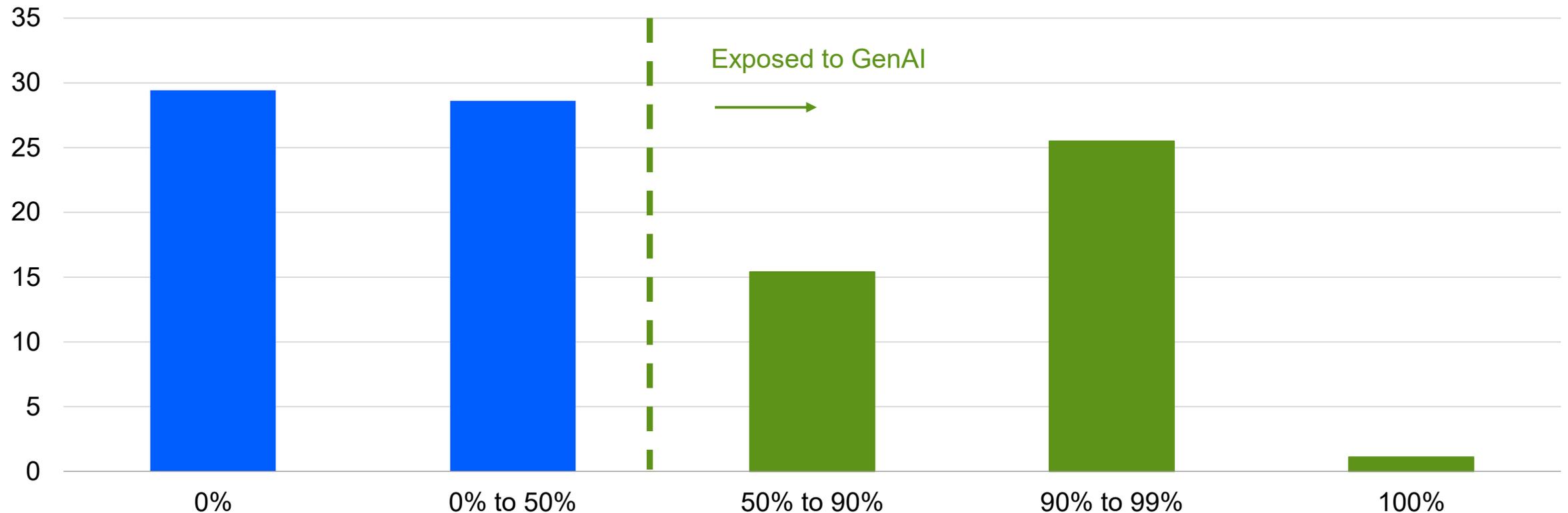


Capital raised by AI firms (2023)

Sources: Bank of Intl. Settlements, Center for Strategic and Intl. Studies, Moody's Analytics

# How AI-Exposed Is the Job Market

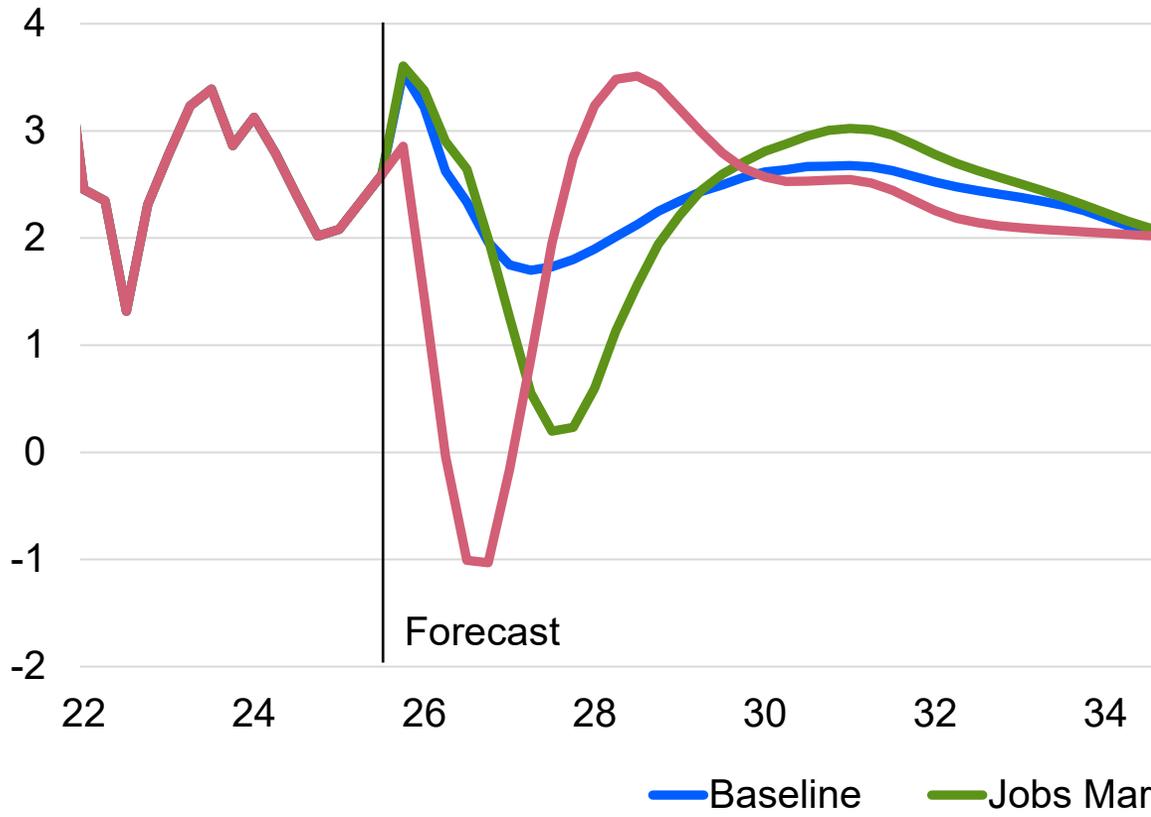
Share of tasks that can be performed by AI (x-axis) by share of U.S. employment in 2024 (y-axis)



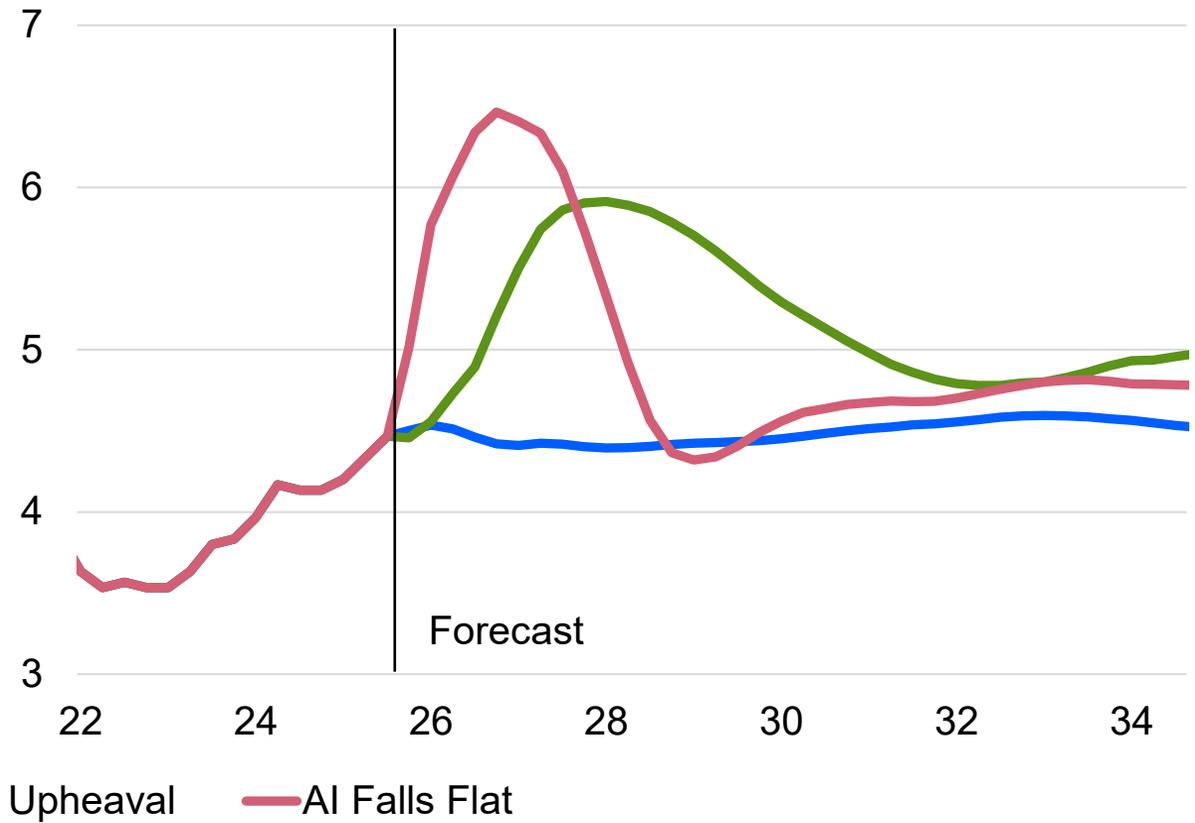
Sources: Penn Wharton Budget Model, BLS, Moody's Analytics

# A Different Downside Scenario

Real GDP, % change yr ago



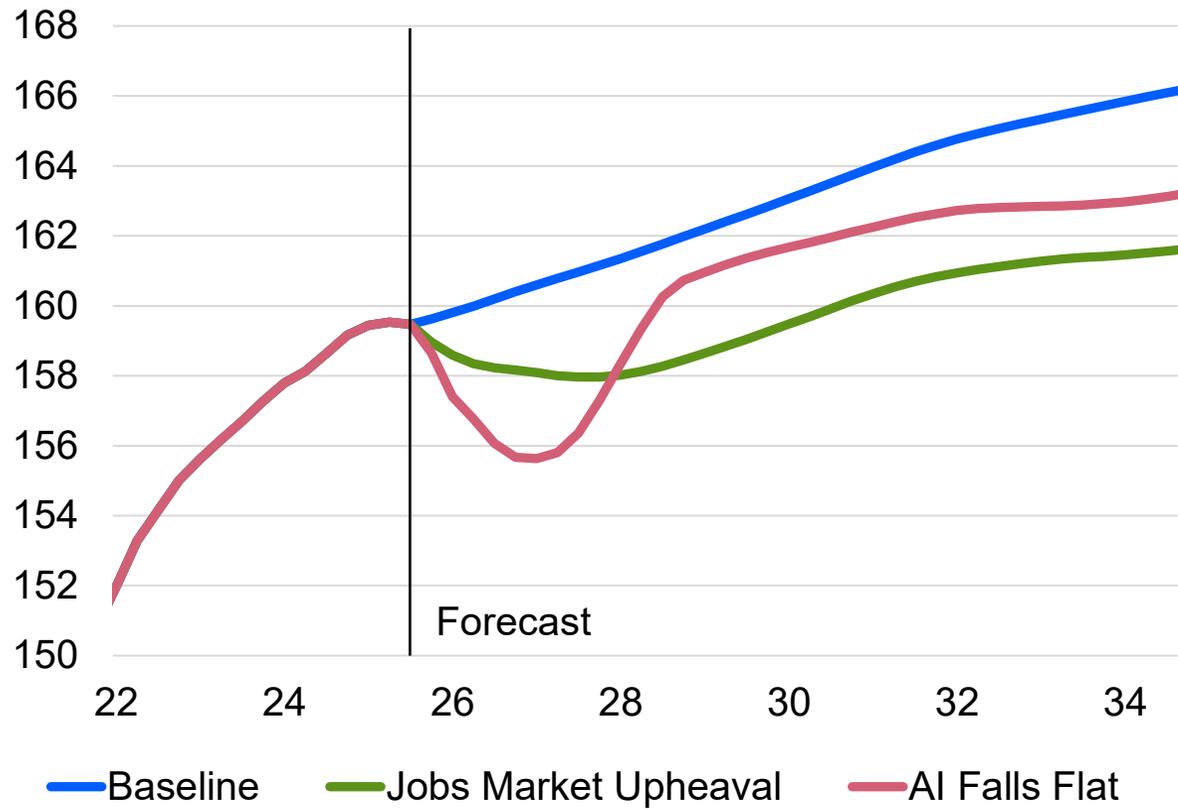
Unemployment rate, %



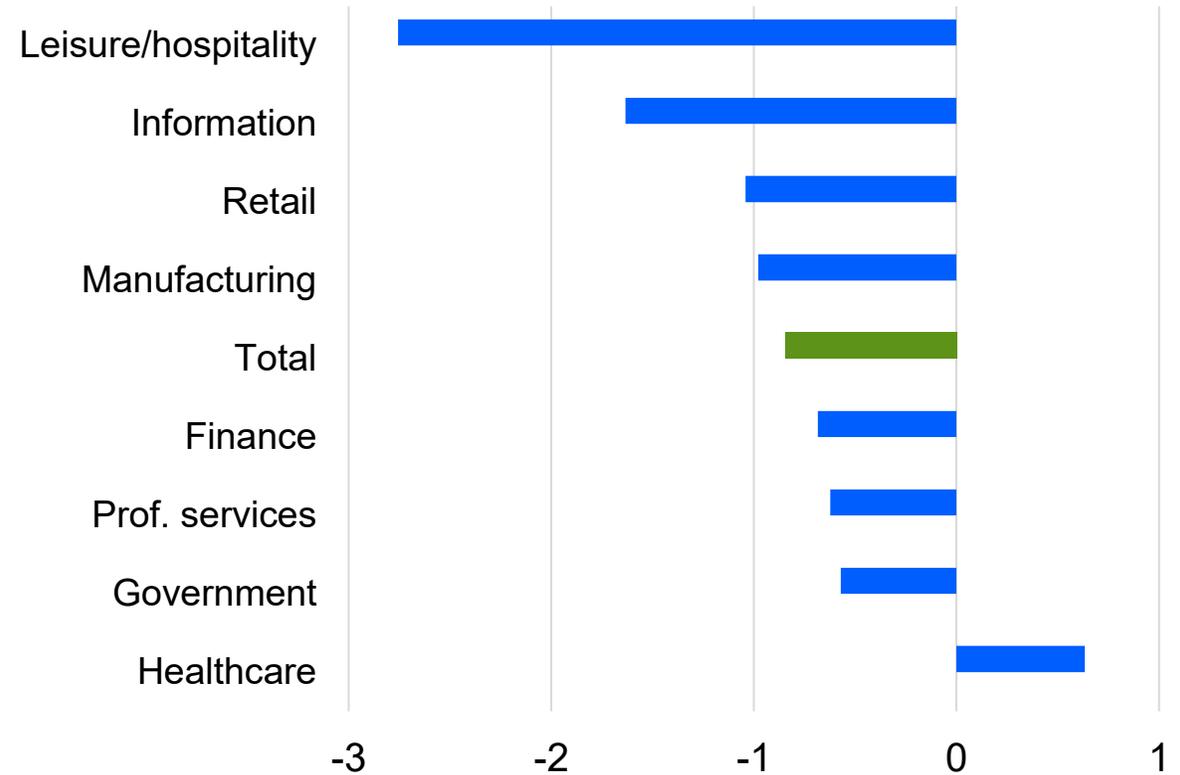
Sources: BLS, Moody's Analytics

# Composition of Job Losses

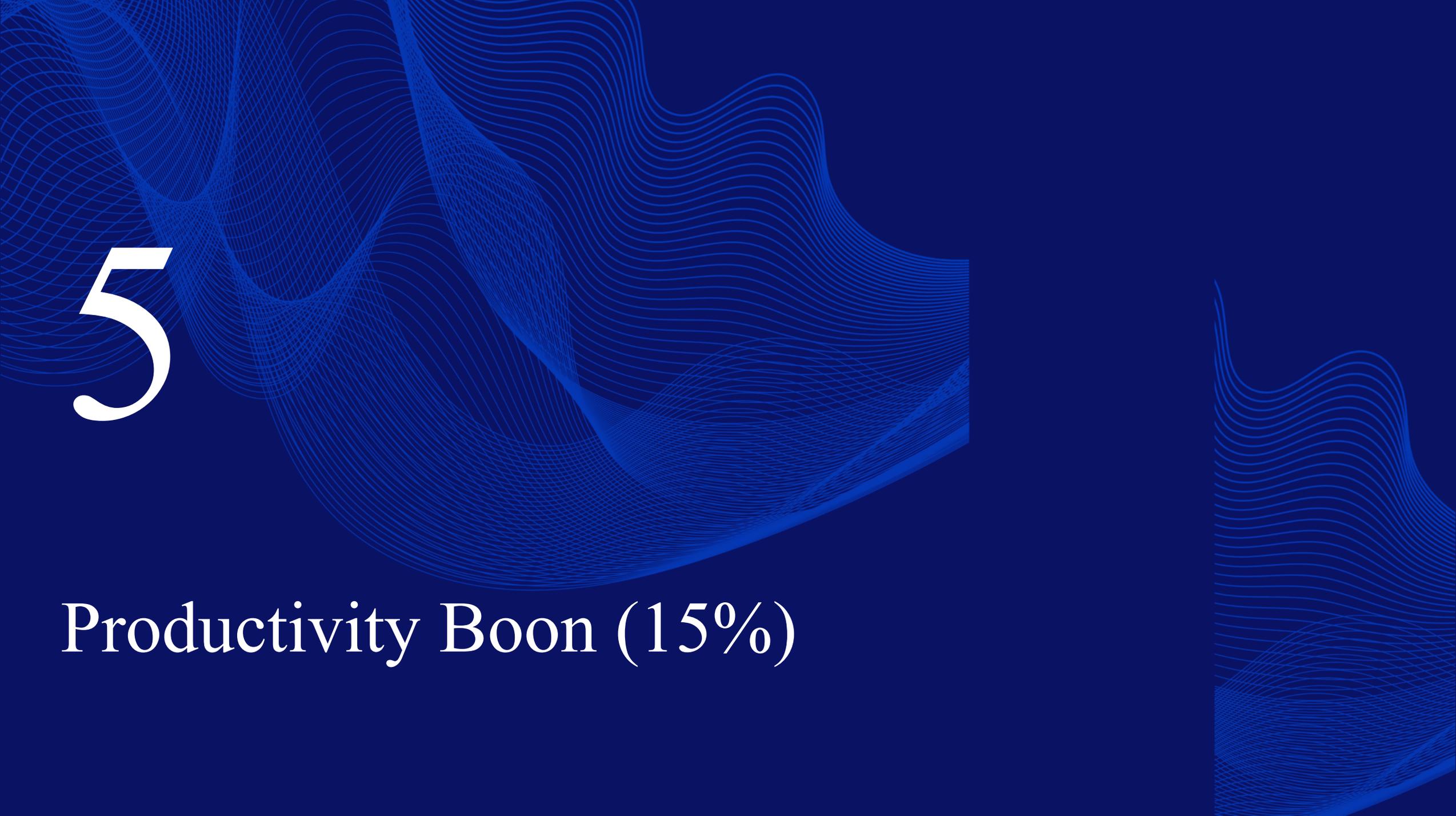
Nonfarm payrolls, mil



% change in payrolls, 2025 to 2027



Sources: BLS, Moody's Analytics

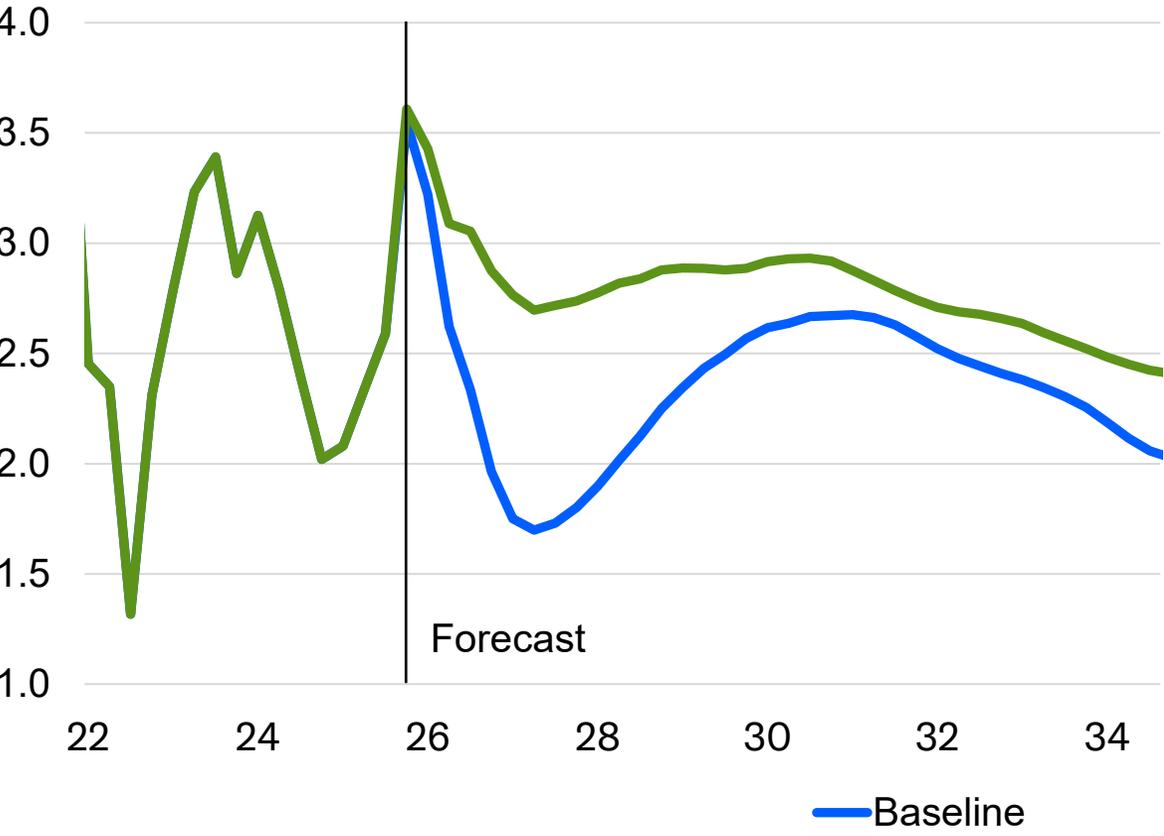
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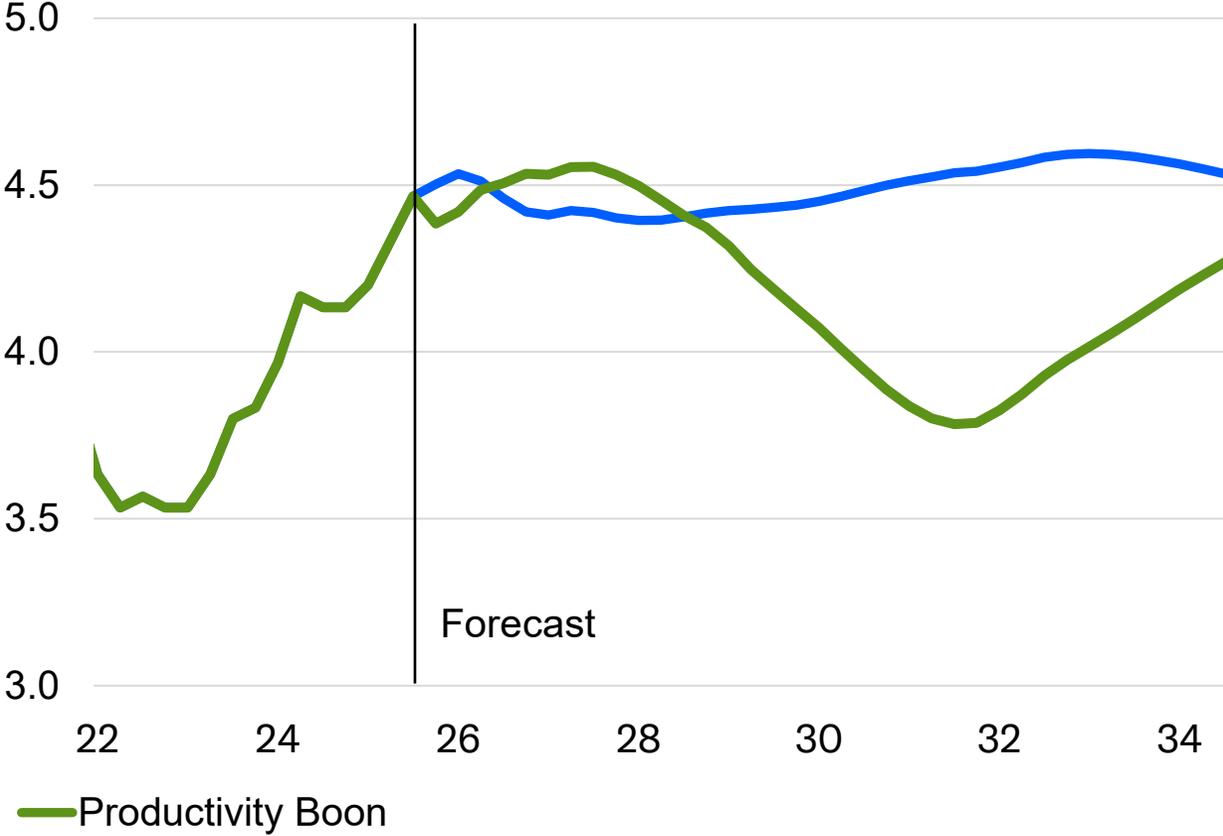
Productivity Boon (15%)

# Productivity Boon: When Everything Goes Right

Real GDP, % change yr ago



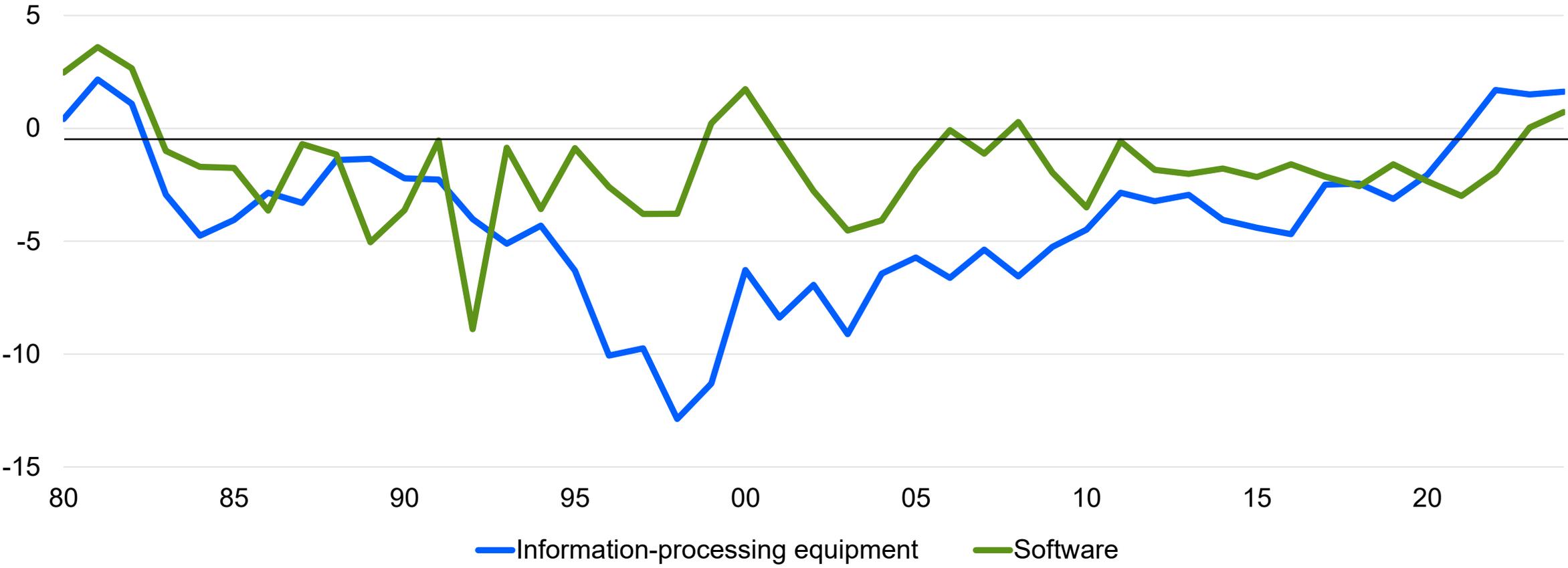
Unemployment rate, %



Sources: BLS, Moody's Analytics

# Are We Underestimating Productivity Gains?

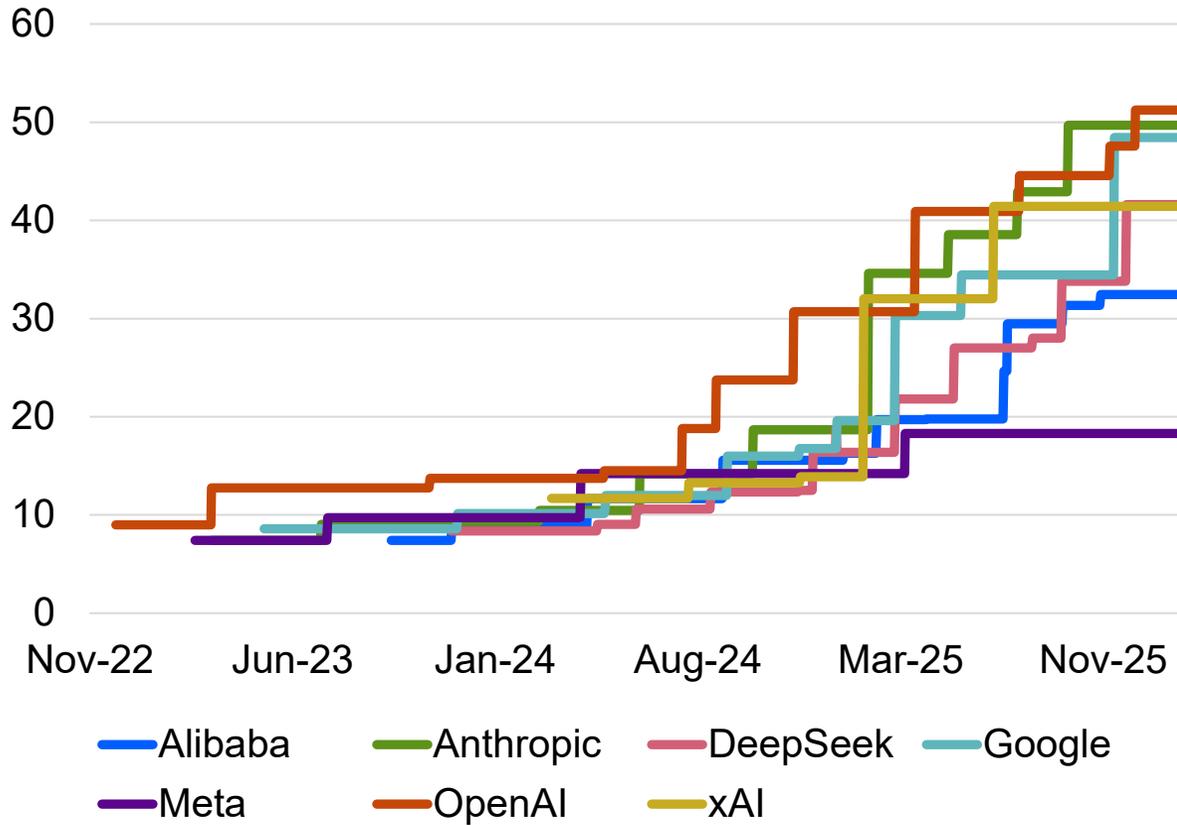
Investment price deflators, % change yr ago



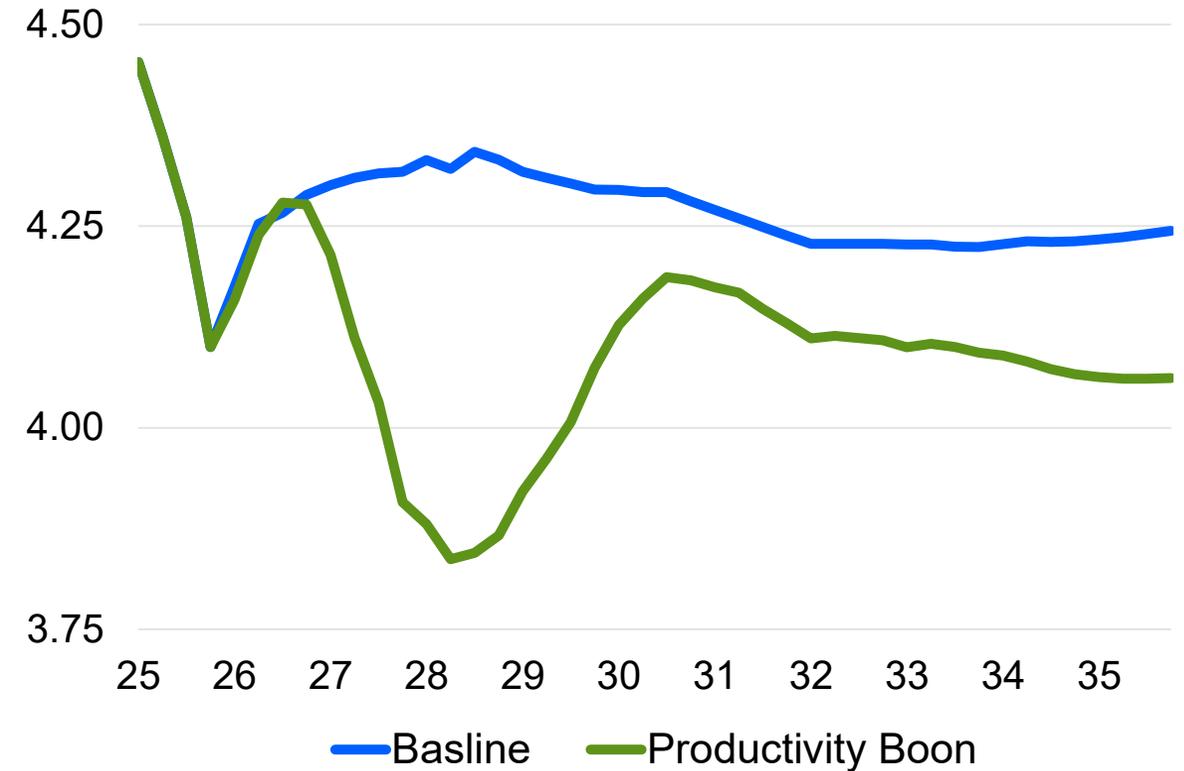
Sources: BEA, Moody's Analytics

# AI Race for Power... Weighs on Inflation and Interest Rates

Frontier language model intelligence index



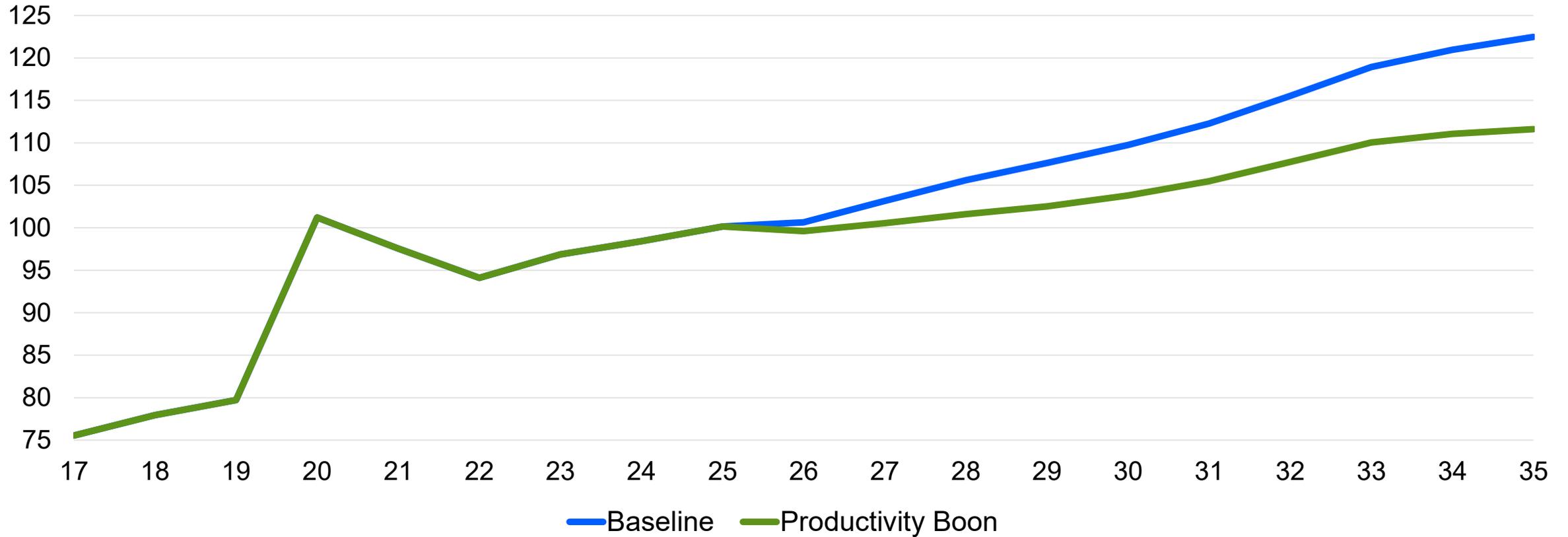
10-yr Treasury yield, %



Sources: Artificial Analysis, Moody's Analytics

# The Nation's Fiscal Situation Is Better, but Still Not Good

Federal debt-to-GDP ratio, %



Sources: BEA, Moody's Analytics

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