BANK OF AMERICA INSTITUTE

BANK OF AMERICA

Economy

Economic shifts in the age of AI

22 October 2025

Key takeaways

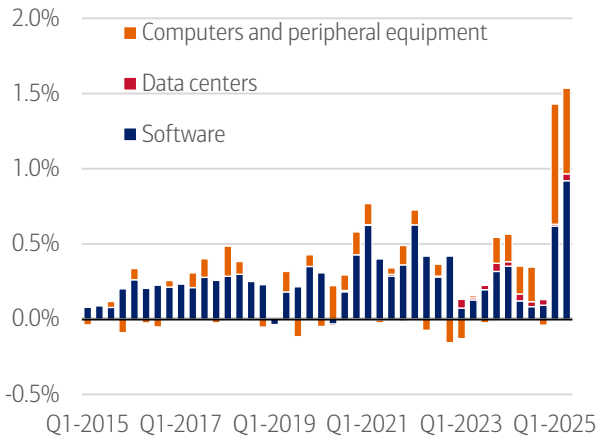
- What does AI mean for overall economic growth, productivity, and the labor market? AI-related capital expenditures, particularly in software and computing, have significantly boosted GDP growth in 2025, contributing up to 1.3 percentage points in Q2, according to BofA Global Research.
- In fact, payments to technology services by small businesses rose 6.9% year-over-year (YoY) in September, with the strongest growth in manufacturing and construction sectors, according to Bank of America small business account data. This suggests that AI adoption has broadened beyond large firms and has room to run.
- While AI usage shows a weak correlation with overall job growth according to BofA Global Research, white-collar sectors with higher AI adoption - such as finance and professional services - could see stronger productivity gains. Long-term projections from the Bureau of Labor Statistics show mixed outcomes for job impact, with some roles declining and others, like software developers, expected to grow nearly 18% by 2033.

AI: It's what everyone is talking about

Gross Domestic Product (GDP) growth in the first half of the year has been strong. After a slight decline in 1Q, GDP growth rebounded in 2Q with 3.8% for an annualized rate of 1.6% in 1H. One major reason for the resiliency in growth to date is the investment being poured into technology- and AI-related categories.

Overall, in the US, AI- and technology-related investment accounted for 1.4 percentage points (pp) of growth in 1Q and 1.5pp in 2Q (Exhibit 1). While this is certainly not all AI investment, BofA Global Research found that by comparing the contribution in these quarters to the average contribution from 2018-2019 for each category, new AI investment could have accounted for up to 1.2pp of growth in 1Q and 1.3pp in 2Q.

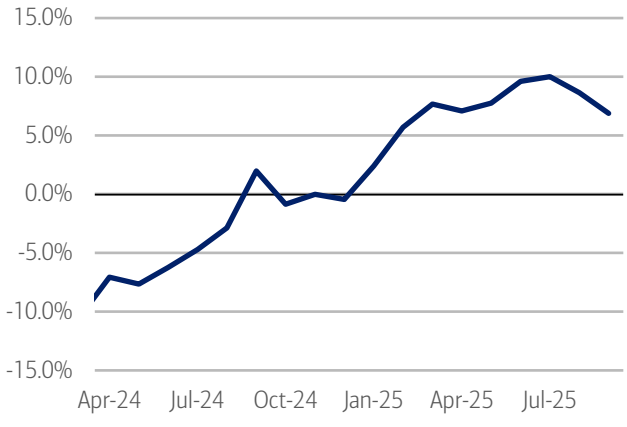
Exhibit 1: AI- and technology-related investment has been a key driver of growth this year
Contribution to GDP growth by category (percentage points, quarter-over-quarter (QoQ), seasonally adjusted annual rate (SAAR))



Source: Haver analytics
BofA Global Research

BANK OF AMERICA INSTITUTE

Exhibit 2: Small business payments to tech services was up 6.9% year-over-year (YoY) in September
Small business payments to technology services per client (monthly, 3-month moving average, YoY%)

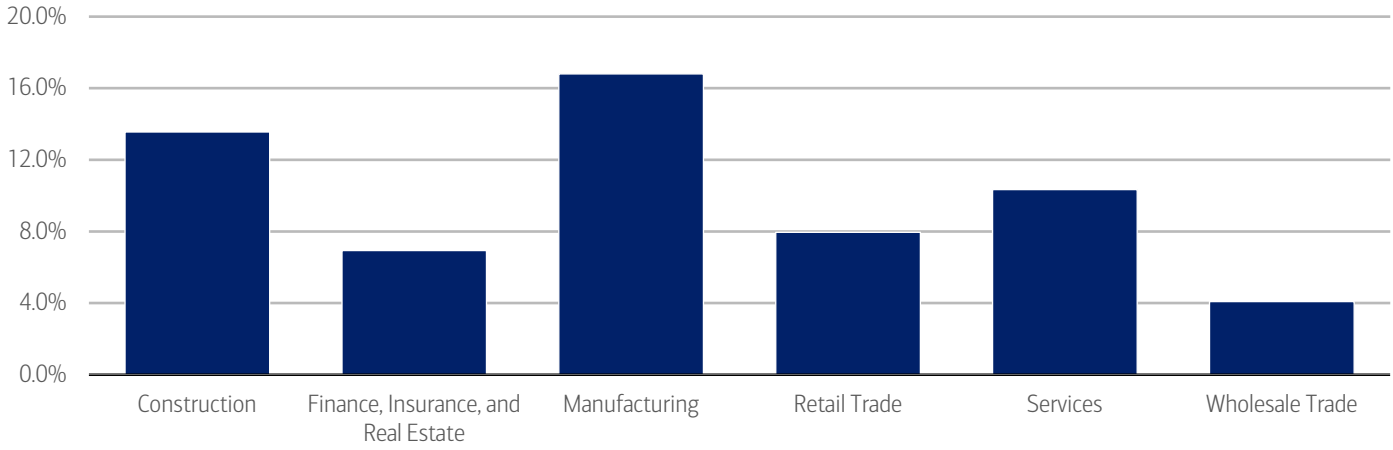


Source: Bank of America internal data
Note: Technology services includes software, information technology (IT), and technical services firms

BANK OF AMERICA INSTITUTE

In fact, looking at Bank of America small business account data, we find small firms have continued to prioritize tech spending amongst the overall uncertain economic backdrop (read more on this in September's Small Business Checkpoint). In September, payments to technology services from small businesses increased 6.9% YoY (Exhibit 2). And across different sectors, manufacturing and construction have had the highest levels of growth (Exhibit 3).

Exhibit 3: Small business payments growth to tech services was strongest in manufacturing and construction year-to-date
Small business payments to technology services per client by sector (average 2025 year-to-date, YoY%)



Source: Bank of America internal data
Note: Year-to-date is through September month-end. Technology services includes software, information technology (IT), and technical services firms.

BANK OF AMERICA INSTITUTE

AI investment has room to run

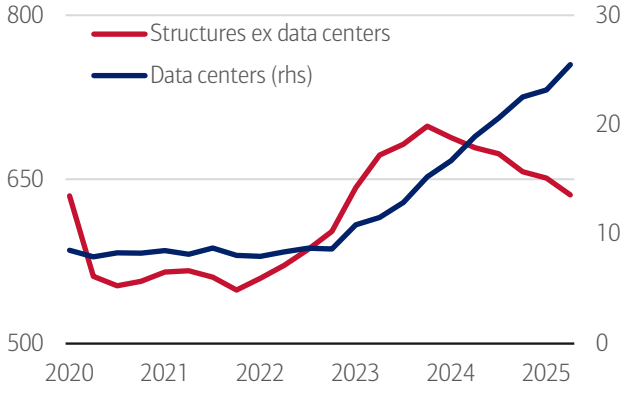
Even if import frontloading is overstating its short-term contribution to growth, the good news for the economy is that AI investment is a theme that could continue to be a positive driver of growth, per BofA Global Research. It is worth noting, however, that if investment is import-heavy, its overall contribution to GDP growth would be overstated.

Data centers are just one piece of the AI puzzle…

The strength of AI/tech investment can mostly be attributed to investment in software, computers and peripheral equipment (devices like computer printers or monitors). And although data centers are also a component to this growth, data center structures are just a small fraction of overall investment, according to BofA Global Research.

That said, data centers are one of the lone bright spots of large and expensive structures investment, which has remained depressed since December 2023, following years of fiscal stimulus (Exhibit 4). Fading stimulus from the Inflation Reduction Act and elevated interest rates have contributed to a decline in overall structures investment since 1Q 2024.

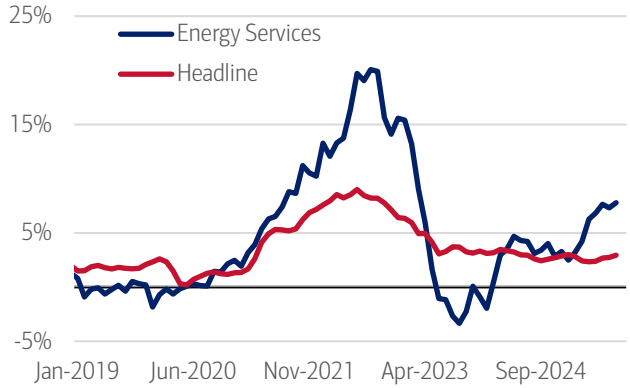
Exhibit 4: Data centers is one of the only positive structures investment categories, but note the tiny magnitude
Structures investment by type (chained to $2017bn, monthly, SAAR)



Source: Haver analytics
BofA Global Research

BANK OF AMERICA INSTITUTE

Exhibit 5: A surge in demand from AI-related sectors might explain energy services inflation outpacing headline consumer price index (CPI)
CPI Energy services and Headline CPI (% y/y, monthly)



Source: Haver analytics
BofA Global Research

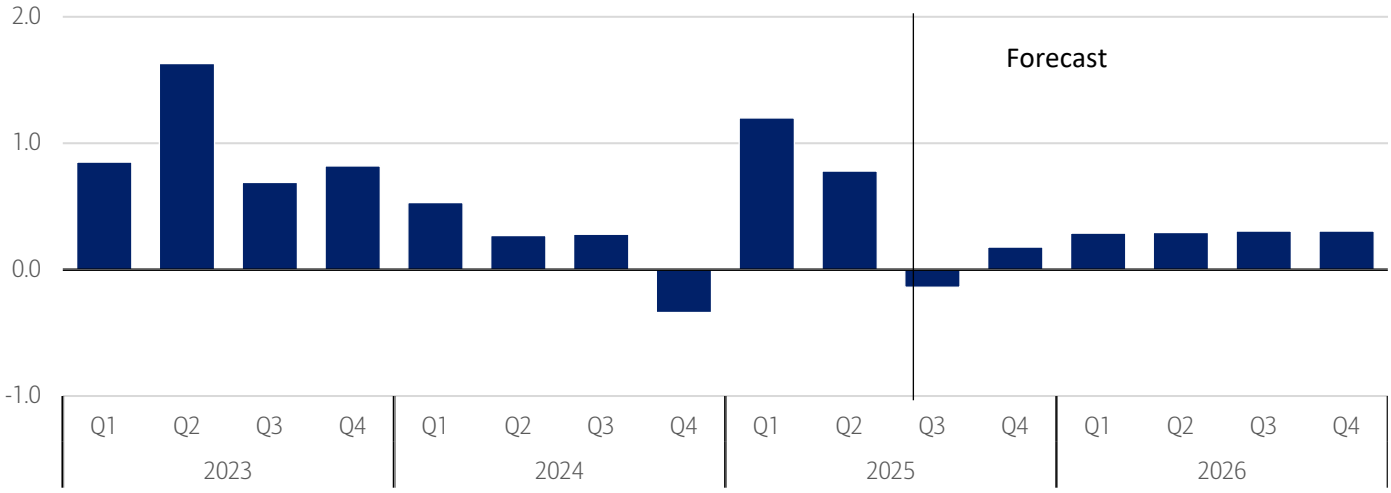
BANK OF AMERICA INSTITUTE

„but data centers demand increased power from utilities

The constraints from power may already be hitting some limits, or at the very least generating spillover costs due to data centers energy demand. Indeed, consumers have seen energy prices outpace overall prices this year (Exhibit 5). And there is some evidence that prices have increased more in areas with greater data center demand (read more on this in October's utilities publication).

Of course, increased demand for power should also lead to more investment by utility companies, which could be another tailwind for capex (Exhibit 6). Fading uncertainty and favorable tax treatment on capex from the One Big Beautiful Bill Act could also lead to a broadening out of investment next year to be more than just an AI story. However, if these investments do not materialize, that may mean consumers will continue to bear part of the cost of powering data centers, according to BofA Global Research.

Exhibit 6: AI investment is an upside risk to BofA Global Research's investment forecast
Nonresidential fixed investment (contribution to % QoQ seasonally adjusted annualized rate (SAAR) GDP)



Source: Bureau of Economic Analysis, BofA Global Research estimates

BANK OF AMERICA INSTITUTE

AI is more of a capex driver than a job destroyer (at least so far)

While data shows AI and technology to be a major driver of the capex cycle, the impact on the labor market is less clear. Some have pointed to the increase in unemployment for those aged 20-24 with a bachelor's degree or higher as a sign that AI is replacing entry-level positions (read our August labor market piece for more). While this may be true, there may be other reasons, including increased economic uncertainty, that have led to less hiring overall.

To try to directly address whether AI is destroying jobs, BofA Global Research looked at the relationship between AI usage and employment growth. The Census, prior to the shutdown, had been conducting a bi-weekly survey of businesses – the Business Trends and Outlook Survey. One of the questions in the survey is whether the respondent had used AI in the last two weeks. When comparing AI usage levels to year-to-date employment changes in major industries, there is a slightly negative correlation between higher AI usage and employment growth (Exhibit 7). But the relationship is insignificant, meaning the correlation with weaker employment growth could have happened by random chance and higher AI usage is possibly unrelated for now.

AI may play out as a higher productivity story for white-collar professions

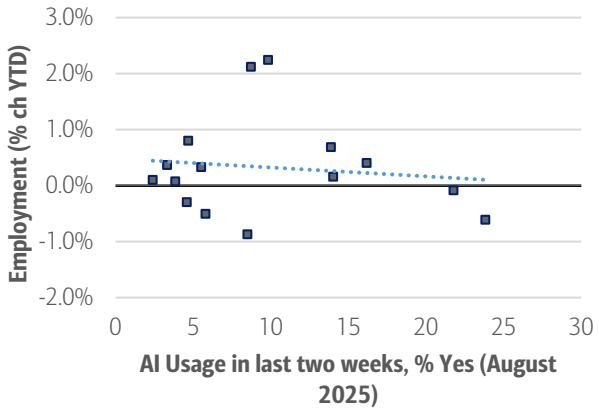
However, this finding might be skewed by the fact that certain sectors are less at risk of losing jobs due to AI. Indeed, AI is expected to affect white collar workers more than blue collar. Conversely though, when zooming in on white collar industries—information, professional and business services, finance and insurance, and real estate—and looking at year-to-date change in AI usage vs. employment, BofA Global Research finds a relatively strong positive relationship between the two, at least for now (Exhibit 8).

These findings suggest that AI is playing out mostly as a productivity story for white-collar workers. While higher productivity from AI could also help partly offset the negative labor supply shock due to tighter immigration policies, many of those workers are more likely to be in non-white collar occupations, according to BofA Global Research.

Of course, there are caveats to the findings, noted by BofA Global Research. First, firms may adopt a different strategy if an economic downturn were to happen, with AI allowing for larger layoffs as opposed to job gains amid resilient growth. Second, the survey may not be the best way to measure AI usage. Third, the sample is relatively small. Lastly, employment data does not

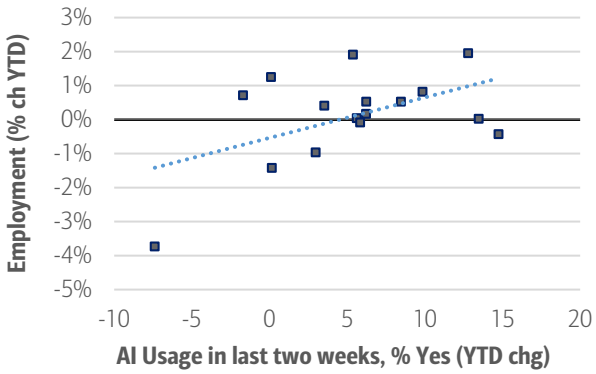
currently factor in the downward revisions implied by the preliminary QCEW (Quarterly Census of Employment and Wages Benchmark). In other words, these sectors could have been planning to increase hiring regardless of AI use.

Exhibit 7: Higher AI usage is not strongly associated with softer job growth
AI usage in the last two week vs. employment growth



Source: Census Bureau, Bureau of Labor Statistics, BofA Global Research
BANK OF AMERICA INSTITUTE

Exhibit 8: Increased AI usage in white-collar industries is positively correlated with employment growth
Year-to-date change in AI usage vs. employment levels

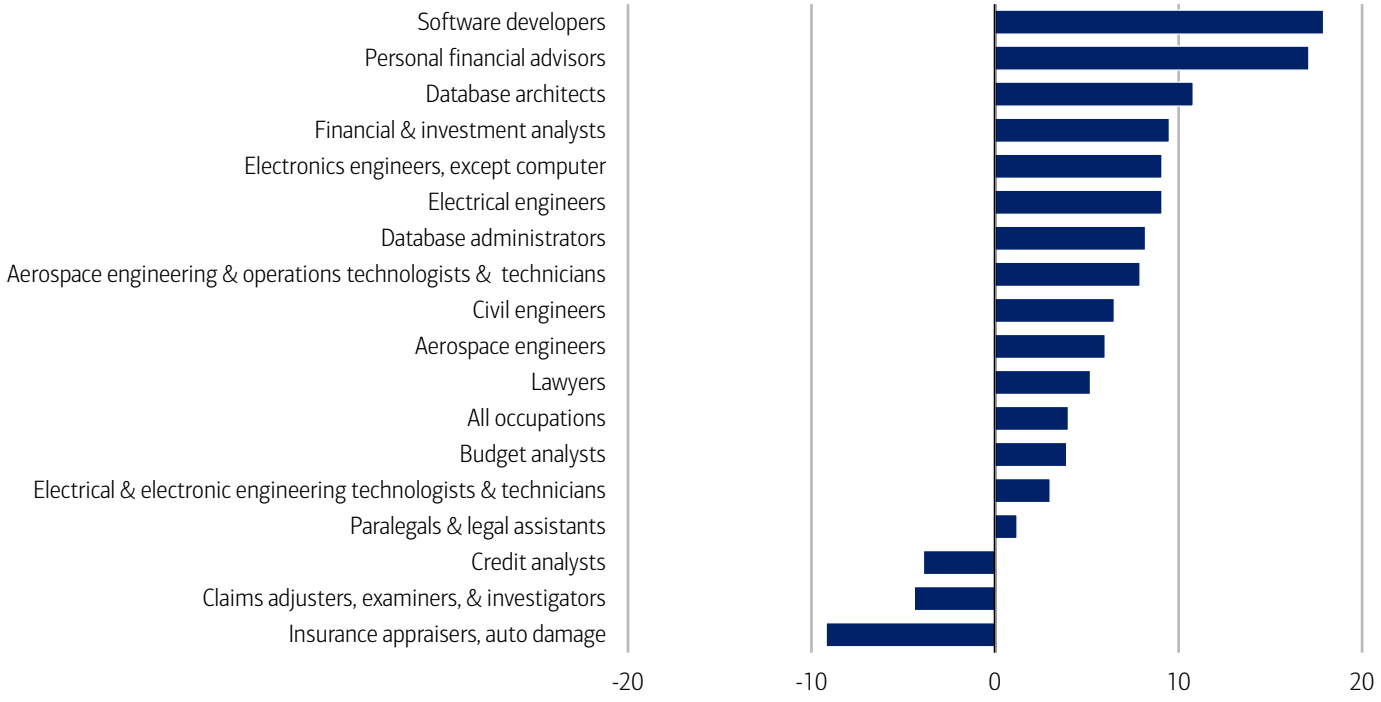


Source: Census Bureau, Bureau of Labor Statistics, BofA Global Research
BANK OF AMERICA INSTITUTE

Still, technology is impacting the job outlook for many occupations, and, according to the Bureau of Labor Statistics (BLS), over the 2023–33 employment projections period, AI is expected to primarily affect occupations whose core tasks can be most easily replicated by generative AI in its current form (for more, explore our AI Dictionary series).

But not all of the impact results in job loss. BLS projects employment of software developers to increase 17.9% between 2023 and 2033, much faster than the average for all occupations (Exhibit 9). BLS also projects a 17.1% increase in personal financial advisors – since although AI technology can compete with personal financial advisors at their core tasks, demand for human advisors is still expected to remain very strong.

Exhibit 9: Engineering and computer professions are most likely to experience stronger AI impacts
Employment projections for selected occupations susceptible to potential artificial intelligence impacts (percent change, 2023–33)



Source: BLS
BANK OF AMERICA INSTITUTE

Methodology

Selected Bank of America transaction data is used to inform the macroeconomic views expressed in this report and should be considered in the context of other economic indicators and publicly available information. In certain instances, the data may provide directional and/or predictive value. The data used is not comprehensive; it is based on **aggregated and anonymized** selections of Bank of America data and may reflect a degree of selection bias and limitations on the data available.

Any **Small Business** payments data represents aggregate spend from Small Business clients with a deposit account or a Small Business credit card. Payroll payments data include channels such as ACH (automated clearing house), bill pay, checks and wire. Bank of America per Small Business client data represents activity spending from active Small Business clients with a deposit account or a Small Business credit card and at least one transaction in each month. Small businesses in this report include business clients within Bank of America and are generally defined as under $5mm in annual sales revenue.

Unless otherwise stated, data is not adjusted for seasonality, processing days or portfolio changes, and may be subject to periodic revisions.

Revenue tiers are determined by the combination of following factors: 1) stated revenue on small businesses credit applications, 2) actual account inflow into Bank of America Deposit Accounts, and 3) third party revenue estimation.

Data regarding merchants who receive payments are identified and classified by the Merchant Categorization Code (MCC) defined by financial services companies. The data are mapped using proprietary methods from the MCCs to the North American Industry Classification System (NAICS), which is also used by the Census Bureau, in order to classify spending data by subsector. Spending data may also be classified by other proprietary methods not using MCCs.

Additional information about the methodology used to aggregate the data is available upon request.

Contributors

Taylor Bowley

Economist, Bank of America Institute

Sources

Stephen Juneau

US Economist, BofA Global Research

Antonio Gabriel

Global Economist, BofA Global Research

Disclosures

These materials have been prepared by Bank of America Institute and are provided to you for general information purposes only. To the extent these materials reference Bank of America data, such materials are not intended to be reflective or indicative of, and should not be relied upon as, the results of operations, financial conditions or performance of Bank of America. Bank of America Institute is a think tank dedicated to uncovering powerful insights that move business and society forward. Drawing on data and resources from across the bank and the world, the Institute delivers important, original perspectives on the economy, sustainability and global transformation. Unless otherwise specifically stated, any views or opinions expressed herein are solely those of Bank of America Institute and any individual authors listed, and are not the product of the BofA Global Research department or any other department of Bank of America Corporation or its affiliates and/or subsidiaries (collectively Bank of America). The views in these materials may differ from the views and opinions expressed by the BofA Global Research department or other departments or divisions of Bank of America. Information has been obtained from sources believed to be reliable, but Bank of America does not warrant its completeness or accuracy. These materials do not make any claim regarding the sustainability of any product or service. Any discussion of sustainability is limited as set out herein. Views and estimates constitute our judgment as of the date of these materials and are subject to change without notice. The views expressed herein should not be construed as individual investment advice for any particular person and are not intended as recommendations of particular securities, financial instruments, strategies or banking services for a particular person. This material does not constitute an offer or an invitation by or on behalf of Bank of America to any person to buy or sell any security or financial instrument or engage in any banking service. Nothing in these materials constitutes investment, legal, accounting or tax advice.