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Economy

A pulse on productivity

27 March 2025

Key takeaways

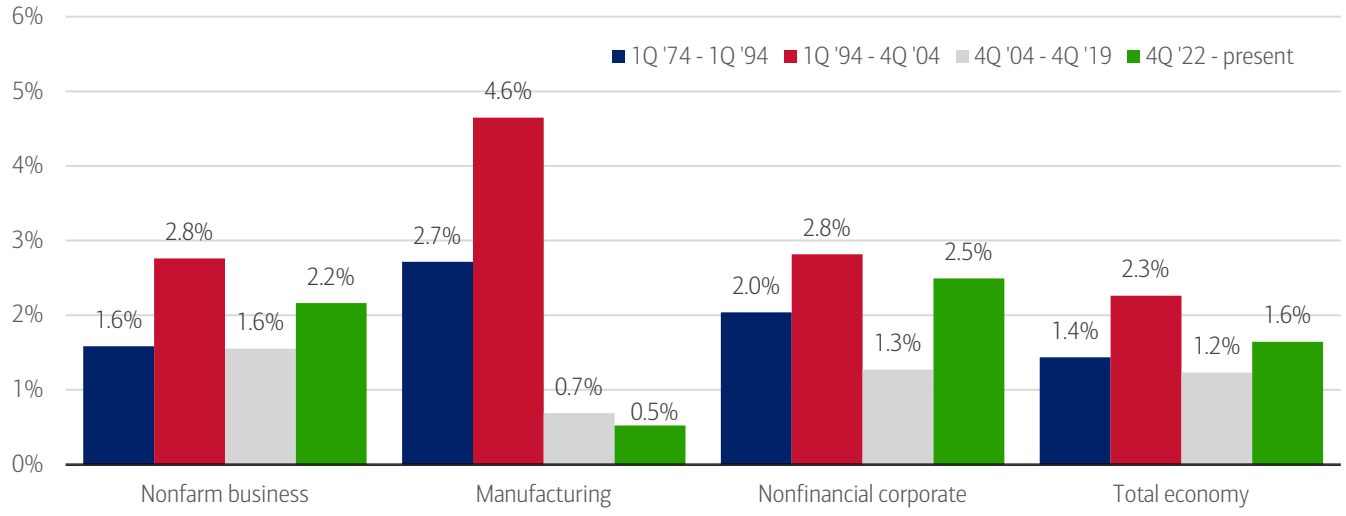
- Higher productivity supports long-term economic growth and better standards of living. Currently, annualized productivity growth is around 2.2% in the US per the Bureau of Labor Statistics. What's driving this? For one, new business formation - startups' contribution to aggregate job creation and productivity growth is disproportionately high.
- According to Bank of America internal data, we find small business productivity peaked for firms with less than <$500k in revenue in 2021, up more than 30% year-over-year (YoY). However, in February 2025, small business productivity growth was around 5% YoY across all revenue tiers.
- Despite this moderation, BofA Global Research expects enduring productivity growth due to increasing capex spending in software, structures, and equipment. Plus, AI adoption could supplement continued growth.

Setting the stage: What is productivity?

Productivity is a measure of how efficiently inputs (labor, capital, energy, etc.) are converted into output (goods and services) in an economy. Essentially, a ratio of the value of output to the inputs required to produce it. In the US, the Bureau of Labor Statistics (BLS) produces two measures of productivity: labor productivity and total factor productivity (TFP or multi-factor productivity).

Exhibit 1: Total nonfarm labor productivity grew at an annualized pace of 2.8% during the 1994-2004 tech boom, vs. 1.6% in the two decades before and after

Annualized productivity (%)



Source: Bureau of Labor Statistics, Haver Analytics; Note: Productivity for the total economy is estimated by dividing real value-added output by total hours worked. For the non-financial corporate sector only data up till 3Q24 is available.
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Labor productivity is usually defined as real output per hour worked, whereas total factor productivity measures real output relative to a combination of inputs (labor, capital, etc.) Economists, policymakers and investors track productivity for many reasons, which can be boiled down to two basic tenets:

1. Higher productivity = higher long-term living standards – by increasing the amount of output workers produce relative to how much work they put in, productivity growth means the economy can grow and allow people to spend and save more.

2. Higher productivity = structurally higher interest rates – higher productivity growth increases the returns on investment in capital, which implies the interest rate in an economy will also rise to encourage the savings to fund this capex.

Since 1970, there has been one major productivity cycle attributed to the advent of a new technology (the internet) which, based on economic data, lasted for a decade – from 1994 to 2004. During this period, total nonfarm labor productivity grew at an annualized pace of 2.8% (Exhibit 1). By contrast, in the two decades before and after the tech boom, annualized labor productivity growth was 1.6%.

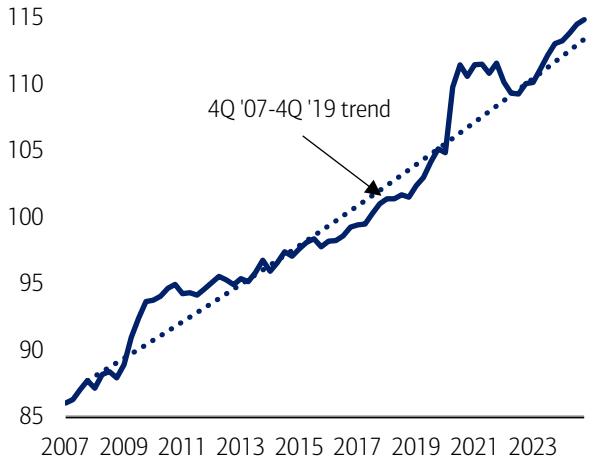
Is the US entering a new era of productivity?

Following the global financial crisis of 2008, a growing consensus was established around a "new normal" for the economy: low productivity, sluggish GDP growth and lower-for-longer rates, inflation, and returns. The Federal Open Market Committee's median estimate of longer run GDP growth settled at 1.8-1.9% since September 2016.

Potential growth was pegged to remain in that range for several years. Implicit to this view was the notion that labor productivity was stuck and was likely to continue to grow at an underwhelming pace, according to BofA Global Research.

While productivity spiked (and quickly subsided) after Covid, it re-accelerated sharply in 2023, approaching levels seen during the prior tech boom of the 90s (Exhibit 2). And BofA Global Research expects this productivity growth pickup to be enduring, having profound implications for the economy and markets. Plus, according to a recent survey, BofA Global Research found that 45% of respondents expect labor productivity growth and margins to be higher this year than last year (Exhibit 3).

Exhibit 2: Productivity has been running above its pre-Covid trend
Nonfarm business productivity (2017 = 100)



Source: Bureau of Labor Statistics, Haver Analytics
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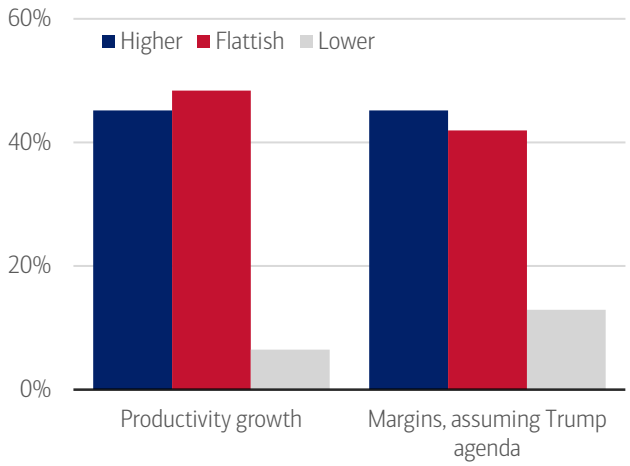
Exhibit 3: 45% of respondents expected labor productivity growth and margins to be higher this year than last year in November
Expectations for labor productivity growth and margins in 2025, vs. 2024



Source: BofA Global Research. Note: This survey was conducted in November 2024 amongst BofA Global Research fundamental analysts.

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Small businesses shed light on productivity growth

New businesses play a key role in productivity growth in the economy by enhancing competition and incentivizing innovation. Indeed, there was a cumulative drag on productivity of 3.1% since 1980 due to a "startup deficit" in the US.[1]

But the trend in new business applications and formation has turned up significantly since the pandemic. In fact, high-propensity business applications, which include all businesses that are more likely to become employers, were still 35% higher than the average level in 2019 (see more on this in our latest Small Business Checkpoint).

At their initial outset these startups and small businesses may struggle with productivity in comparison with large companies, as they begin to explore their processes and have staff numbers too small for much specialization of tasks. In fact, on average, their labor productivity is half that of their larger peers despite them playing a central role in economic growth.[2]

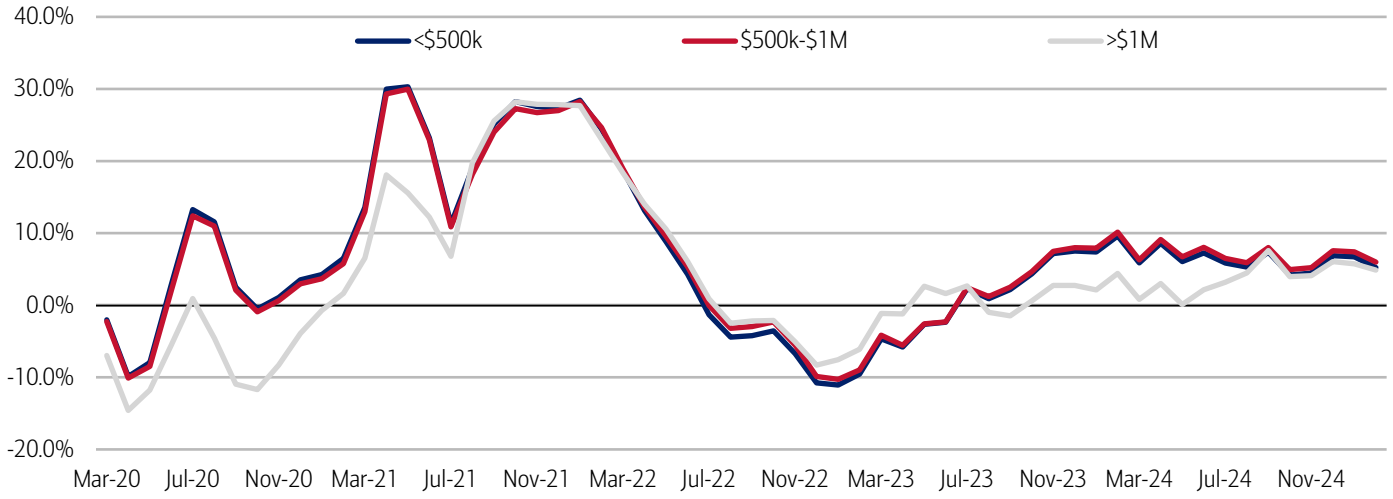
[1] National Bureau of Economic Research, Alon, et. al 2017
[2] "Why closing the small business productivity gap can create enormous value for economies," McKinsey, World Economic Forum

But looking at Bank of America internal data, we find that there are now encouraging signs of growth for small business productivity.

Here we define small business productivity by looking at deposits per payroll count to derive a measure of approximate revenues generated from the number of payroll transactions. Note that this is not a per employee headcount but should be directionally related to it.

Since the middle of 2023, we find that smaller firms (annual revenue <$1M) had higher productivity growth than those small firms with >$1M in annual revenue (Exhibit 4). Given small revenue firms will likely include new businesses, in our view this is supportive of the post-pandemic spike in new business formation contributing to total business productivity growth.

Exhibit 4: Smaller firms with annual revenues <$1M have higher productivity growth in February than those with annual revenues of >$1M
Small business productivity by revenue tier (monthly, 3-month moving average, YoY% growth)



Source: Bank of America internal data

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Risk: Overemphasis on the information sector and gig workers

However, there are some risks that the rise in productivity we are seeing may not prove enduring.

For one, the Richmond Fed has found that the pandemic surge in new business job creation was mostly concentrated in industries characterized by low or even negative productivity growth – with the exception of the information sector, which has experienced tremendous productivity growth.[3] However, this sector is relatively small and might not have had or been able to sustain a significant impact on the aggregate, per the Richmond Fed.

Second, an increase in business applications for "non employer" firms coincides with an increase in gig workers (see our previous analysis on gig workers). This creates a risk that some productivity gains have been overestimated, to the extent that the output associated with gig work is properly measured but the hours are underestimated.

Capital investment comes in phases

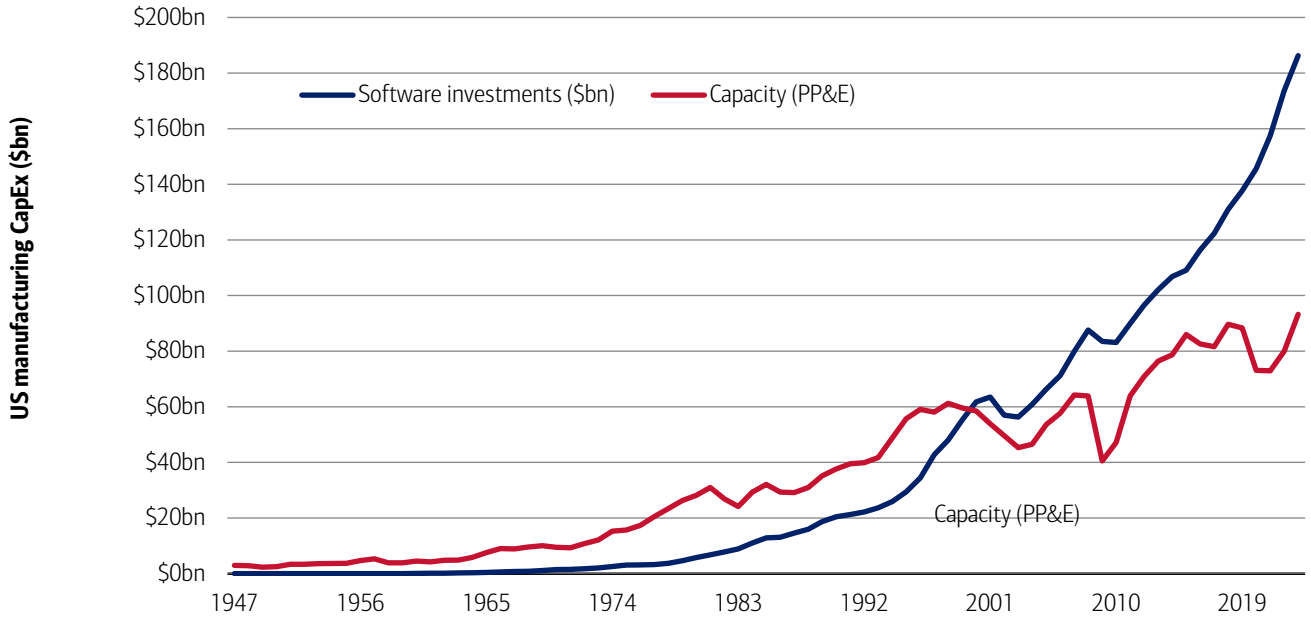
Another factor driving productivity growth is capital investment. The pace of investment slowed substantially after the Great Recession and remained well below prior trends for the subsequent decade, per BofA Global Research. But there has been an upturn in recent years, with growth coming in multiple phases:

Phase 1: Software Investment

This first phase was led by software investment in the intellectual property products sector. Software investment accelerated in the early stages of the pandemic (Exhibit 5). Between 2020 and 2022, software investment grew at an average annualized pace of about 13%. According to BofA Global Research, this was likely related to work-from-home arrangements during the lockdowns, among other factors.

[3] "Will the Pandemic Surge in Employer Business Formation Last?," Richmond Fed

Exhibit 5: Companies have spent on software, not "picks and shovels"
US Manufacturing Capex spending: software vs. "core" industrial equipment



Source: BofA Global Research, BEA. Software investments include both third-party purchased and custom software. Equipment investments include industrial and transportation equipment and exclude information processing equipment (e.g., computers, communication equipment, etc.)

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Phase 2: Structures Investments

The growth in the second phase was on the back of a surge in structures investment (Exhibit 6). Fiscal policy measures like the CHIPS (Creating Helpful Incentives to Produce Semiconductors) and Science Act and the IRA (Inflation Reduction Act) led to crowding in of private investment in the manufacturing sector in 2023 (see our previous analysis on reshoring). Within manufacturing, the computer/electronic sector saw the biggest increase in construction spending.

Phase 3: Equipment Investment

Structures investment growth cooled in 2024 as fiscal tailwinds tapered. But in the third phase, the baton was passed to equipment spending. Factories built in 2022-23 are now being "tooled up," and, according to BofA Global Research, equipment investment growth should remain robust.

AI adoption is icing on the cake

Could there be a fourth phase in productivity growth from the widespread adoption of Artificial Intelligence (AI)?

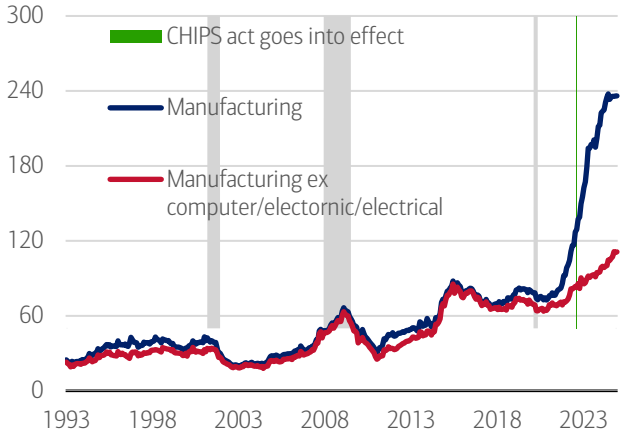
Certainly the construction of data centers is laying the groundwork for broad adoption of AI (Exhibit 7), according to BofA Global Research. Fiscal support has helped, but even without incentives, demand for data centers – and the associated spending on materials, labor and power – should remain strong. This means that capital stock and thereby economic productive capacity should expand further.

It's important to note that data center-related investment is just the prep work for AI implementation. Any additional pickup in productivity due to the actual adoption of AI would be icing on the cake: it could further increase productivity and potential growth.

Furthermore, there are wide ranging views in academia on the extent and timing of an AI productivity boom. Currently, evidence of AI monetization is scant, and may not become evident in macro data any time soon, per BofA Global Research. For now, AI implementation as such represents an upside risk to productivity and any potential benefits from AI in the future could further boost productivity.

Exhibit 6: Fiscal policy likely spurred investment in non-residential construction spending on the back of the computer/electronic sector

Nonresidential construction spending ($billion (bn), seasonally adjusted annualized rate (saar))



Source: Census Bureau, Haver Analytics
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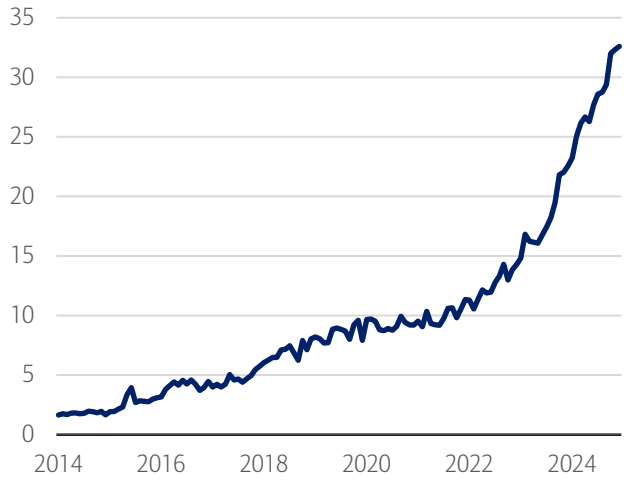
Exhibit 7: There has been a surge in the construction of data centers to lay the groundwork for broad adoption of AI

Data centers construction-related spending ($million (mn), saar)



Source: Census Bureau, Haver Analytics
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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 or Paycheck Protection Program 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.

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