

GLOBAL MARKETS ANALYST

## Where the AI Boom Stands Now—Markets Ahead of the Macro

- We compared the current AI boom to the 1990s tech bubble late last year. We argued that the investment boom remained on track; that the macro imbalances that signaled the end of the 1990s boom were not yet visible; but that market pricing had run further, building in a significant amount of potential value from AI up front. Those conclusions still hold, but the tension between favorable fundamentals and high valuations continues to grow.
- Of the four key macro developments that signaled potential bubble issues in the late 1990s, only one has changed meaningfully: the AI capex boom is neither as broad-based nor as long-lived as the 1990s tech boom, but it is now matching its scale. Other macro dynamics are not yet following the 1990s path. Profit margins have remained high; the corporate sector financial balance has remained quite stable on aggregate; and the current account deficit has narrowed.
- Market gains in AI-related areas have grown further. Plausible estimates of AI-related market gains now comfortably exceed our “baseline” estimates of the present discounted value of increased capital revenues from AI for the US economy. It is still possible to reconcile this market value with a macro estimate of future profit gains. But it requires more optimistic assumptions about adoption, capital shares, productivity or US companies’ ability to capture global revenues.
- We think the most credible upside stories rely on AI-related companies capturing a higher share of AI-related productivity gains than normal. This is the story so far and it may continue. But there is a risk that markets are extrapolating near-term trends—including profits fueled by the investment boom itself—too far into the future. Robust profits make it less obvious than in 1999–2000 that the gains implied by the market exceed what the economy can deliver. But the clearest ways to avoid that conclusion risk overestimating the persistence of unusually high earnings.
- While comparisons with the late 1990s look more reassuring than not, the macro backdrop to this boom—and the vulnerabilities it generates—may just be different. In the late 1990s, the Asia and EM crises helped to mask and extend a broad-based domestic boom. The AI boom may be masking a more fragile macro backdrop outside AI-supported areas. This makes the imbalances that precipitated the 2001 recession less likely but leaves the economy more vulnerable to shocks.

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- The investment boom is likely to extend, and near-term expectations of its scope may still need to rise. But with a lot of value already built in, markets are more vulnerable to news that challenges an optimistic view. Until the peak in the investment cycle draws closer, robust earnings may dominate macro concerns, so we want to find ways of staying invested while limiting downside. But we think equity volatility is likely to rise further and the risk that rates ultimately end up meaningfully lower beyond the peak of the investment boom is higher than normal.

## Where the AI Boom Stands Now—Markets Ahead of the Macro

AI-related optimism has helped drive markets to fresh highs in recent months. The sustainability and pricing of the AI boom is once again the central dynamic for many markets. We [compared](#) the current AI boom to the 1990s tech bubble in detail last November, arguing that the investment boom remained firmly on track and that macro imbalances that foreshadowed the end of the 1990s boom were not clearly visible yet. We also showed that [market pricing had run further ahead](#) than the macro cycle, building in a significant amount of potential value from AI up front.

Six months later, those conclusions still hold. Despite an acceleration in the investment boom, strong profit growth has mostly prevented 1990s-style imbalances from emerging. But the value that the market is assigning to AI gains has also grown even further. The path of the economy so far looks different to the late 1990s investment boom, and the vulnerabilities may also be different as a result.

### **Beyond the investment boom, few new imbalances**

We identified four key macro developments that signaled potential bubble issues in the late 1990s, most of which appeared from 1998 onward: sustained investment at unusually high levels; a decline in profit margins in the macro data; a sharp rise in corporate financing needs and leverage; and a widening current account deficit. As of late 2025, those dynamics were largely absent in the AI boom.

Since then, only the first of these has changed meaningfully. Over the last six months, the investment boom has accelerated. Tech investment as a percentage of GDP has breached the 1990 highs and has risen more sharply than it did then ([Exhibit 1](#)). Capex expectations from the hyperscalers for 2026 are now nearly 80% higher than they were 6 months ago ([Exhibit 2](#)). And AI-related investment is on track to approach the peak level of the 1990s tech investment boom within the next couple of years and could exceed it. The AI investment boom is neither as broad-based nor as long-lived as the 1990s tech boom yet ([Exhibit 3](#)), but it is matching its scale ([Exhibit 4](#)).

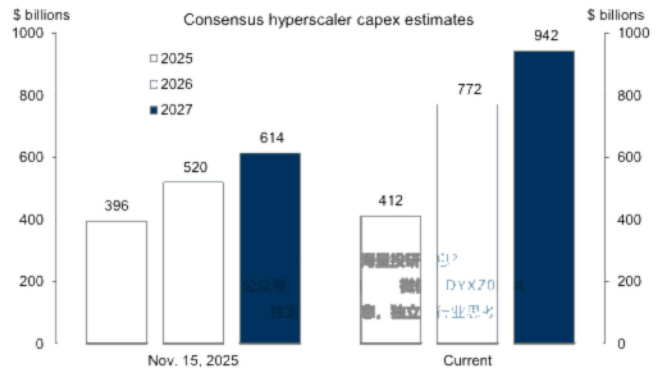
**Exhibit 1: Tech investment share is at a new high**



Shading indicates NBER recessions. Tech investment includes private nonresidential fixed investment in software and information processing equipment.

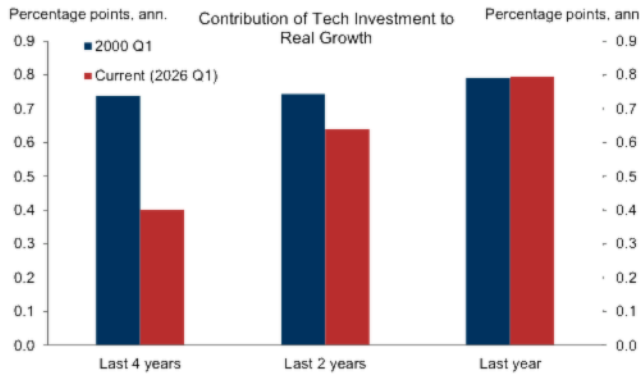
Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 2: Hyperscaler capex estimates have risen sharply since late 2025**



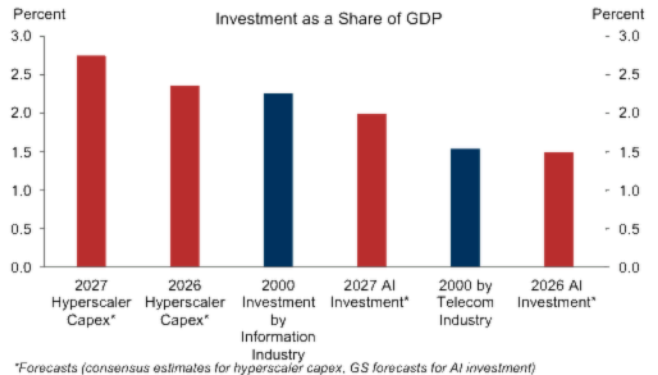
Source: FactSet, Goldman Sachs Global Investment Research

**Exhibit 3: Tech investment contributions to growth now match the 1990s, but have not been as sustained yet**



Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 4: AI investment now likely to be comparable to if not exceed the 1990s tech peak**



Source: Haver Analytics, Goldman Sachs Global Investment Research

But other dynamics are not yet following the 1990s path. Most importantly, profit margins—which peaked in late 1997 on macro measures—have risen to new highs (Exhibit 5). Helping this dynamic, strong productivity growth has not been eroded by the kind of wage acceleration that pushed unit labor costs higher from 1998-2000 (Exhibit 6). Nor are there signs of the growing imbalances that signaled growing macro vulnerability from 1997 onwards.

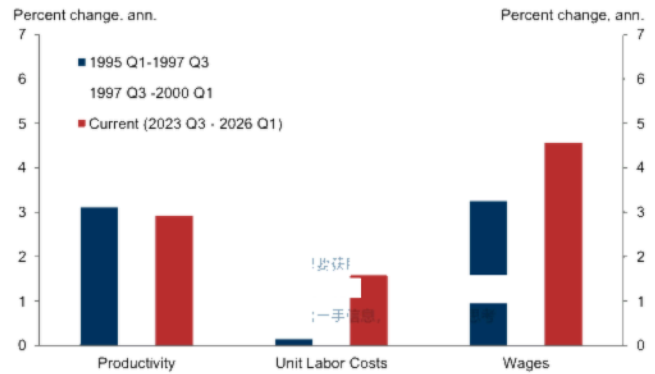
Corporate financing needs from the hyperscalers have risen and free cash flow across that group has fallen sharply (Exhibit 7). But the corporate sector financial balance as a whole—the difference between savings and investment—has not deteriorated meaningfully in recent months, as rising profits have largely matched rising investment rates. Alongside that, the current account deficit has been shrinking rather than growing, so international imbalances have not increased either (Exhibit 8).

**Exhibit 5: Corporate profits have remained near record levels**



Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 6: Unit labor costs and wages are growing more slowly than in late 1990s**



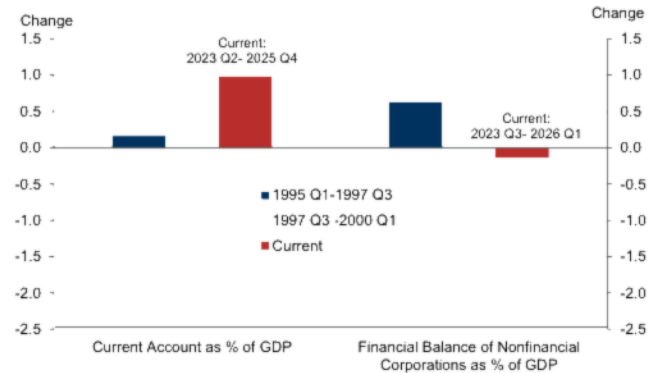
Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 7: Free cash flow for hyperscalers has dropped sharply, but not for the market as a whole**



Source: Compustat, FactSet, Goldman Sachs Global Investment Research

**Exhibit 8: No meaningful deterioration in corporate financial balance and current account has improved**



Source: Bureau of Economic Analysis, Federal Reserve, Haver Analytics, Goldman Sachs Global Investment Research

**A further sharp rise in AI-related value**

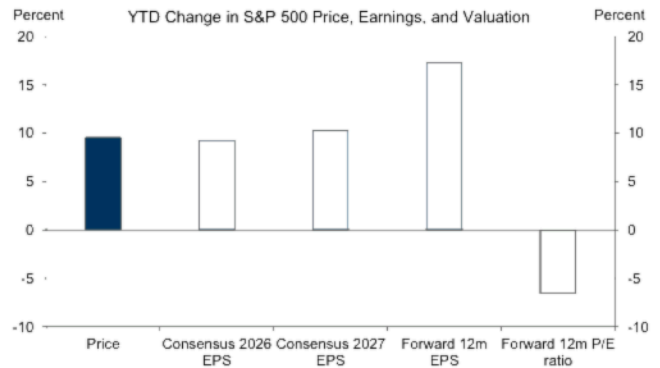
Market gains in AI-related areas have remained impressive, especially over the last 2-3 months. The key difference relative to the end of the 1990s boom is that earnings—and earnings expectations—have been rising rapidly too. Conventional valuations of the US equity market are still very high by historic standards and backward-looking measures like the Shiller P/E are at levels only exceeded in late 1999 and 2000 (Exhibit 9). But as our equity strategists have pointed out, with earnings expectations rising, forward-looking P/E measures have not risen this year even with the ongoing rally in stock prices (Exhibit 10). In short, the market gains have been more “earnings-driven” than “valuation-driven” lately.

**Exhibit 9: US valuations remain high, particularly on “backward-looking” measures**



Source: FactSet, Haver Analytics, Robert Shiller, Goldman Sachs Global Investment Research

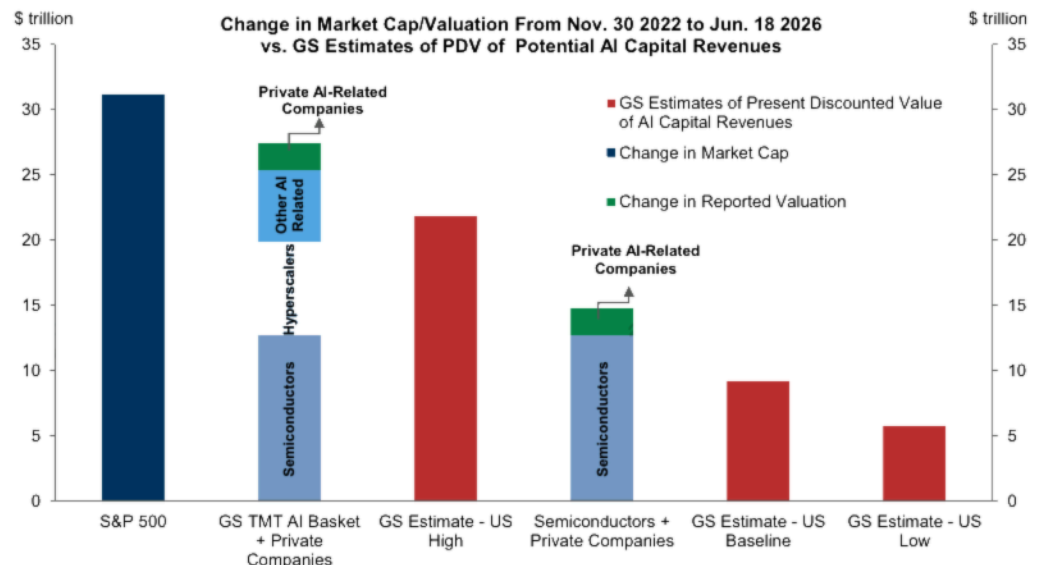
**Exhibit 10: Earnings revisions, not valuations have driven the rally this year**



Source: FactSet, Goldman Sachs Global Investment Research

We have used a simple macro approach as a cross-check on the valuation story, based on estimates of the Present Discounted Value (PDV) of the potential additional profits from AI productivity gains from our global economics team. Those estimates were initially developed to show that those potential gains could justify a sizable investment boom—and they still show that the current capex boom is on solid ground if those gains are coming. But we also illustrated that this PDV could be compared with the value that had been built into equity markets already in AI-related areas, as shown in Exhibit 11. This macro approach sets constraints on what is collectively possible for the economy to deliver. That can be helpful because what may look reasonable for each company may not be reasonable for all of them. We have highlighted that this “fallacy of aggregation”—where collective gains exceed what the economy can plausibly generate—has been a feature of some past booms.

**Exhibit 11: Substantial value added to AI-related areas of the market since late 2022**



"Semiconductors", "hyperscalers", and "other AI-related" are constituents of the GS TMT AI basket (developed by GS Global Banking & Markets)

Source: Bloomberg, FactSet, Goldman Sachs Global Investment Research

We showed in November that the additional market value built into AI-related areas

since the introduction of ChatGPT comfortably exceeded our baseline estimate of the present discounted value of additional capital revenues from the boost to the US economy from AI. Six months later, that conclusion is even clearer. Since the end of November 2022, the gain in value for AI-related companies is now around \$27trn, up from around \$19trn in November 2022.

### **More generous assumptions can close the gap**

The gap between the likely benefits from AI and the market value assigned to these gains is almost certainly narrower than a simple interpretation of [Exhibit 11](#) would suggest. On one side of the ledger, the broad totals of market gains are an overstatement of the valuation gains from AI alone for several reasons:

1. Non-AI companies have earned a return over that period too, and late 2022 was close to the Fed-induced low in US equities. Adjusting for either of those issues<sup>1</sup> reduces the total value that can plausibly be attributed to AI by a few trillion dollars.
2. The gains in these companies are not all attributable to AI. Many companies (the hyperscalers in particular) have substantial non-AI businesses which may have driven gains in their stocks over the same period. A very conservative approach would be to look at the change in value in a subset of companies whose gains have been much more obviously driven by the AI boom, which amounts to \$14trn. Attributing only 25% of the gains in the hyperscalers and other AI-related companies beyond that group to potential AI-related benefits, which we suspect is also conservative<sup>2</sup>, brings the total to \$17trn.
3. This approach may undercount the value that has been lost in non-AI areas. Several sectors—most prominently, software—came under pressure due to concerns about disruption to their businesses from AI.<sup>3</sup> We do not think adjusting for these losses reduces the total gains materially, particularly as the largest software companies are already included in our AI-related basket so any loss of value there is already being counted. But it might become a bigger issue going forward.

As [Exhibit 12](#) shows, these adjustments could materially lower the estimate of the value that is being assigned to AI gains from the “naïve” calculation. But even including all of them, any plausible estimate still comfortably exceeds the baseline estimate of \$9trn of increased capital value from AI productivity benefits for the US economy.

On the other side of the ledger, that baseline estimate relies on several assumptions: more optimistic versions of those assumptions would increase the estimated potential capital revenue gains. If companies capture a larger share of overall revenues; if

<sup>1</sup> We adjust for the first issue by assuming a “baseline return” in the GS TMT AI Basket (equal to the growth between dates in the S&P 500 market cap less the GS TMT AI basket market cap) and counting only the increase in GS TMT AI basket market cap in excess of that “baseline return”. We adjust for the second issue by using November 2023 as an alternate start date for counting market cap gain instead of November 2022.

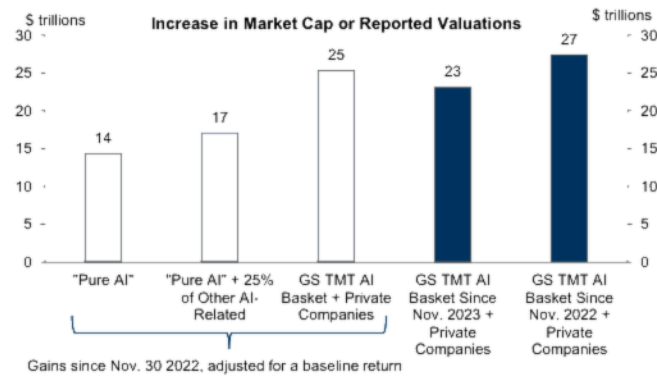
<sup>2</sup> The share of AI-related earnings in these companies may still be low, but what matters to this calculation is how much of the increase in value in the companies is attributable to growth (realized and prospective) in their AI-related businesses.

<sup>3</sup> If some companies are losing value from AI, then those losses need to be subtracted from the gains to the AI-related winners, if we are to make an accurate comparison to the total net economic gains from AI. In practice, we think the impact so far has been relatively modest. And outside software, the market cap of subsectors that have suffered from these concerns has generally been small.

adoption rates are faster; or if productivity gains are larger than we assume, then the estimated value of the AI boom to companies will be higher. US companies might also capture an outsized share of non-US AI-related gains, which would boost the total value that could accrue to them. A lower discount rate on AI-related cash flows would raise predicted values too, though we are conscious that lowering discount rate expectations has historically been an easy way to justify excessive valuations. The wide range of estimates of potential value itself also illustrates that there is still a lot of uncertainty around the scope of potential gains.

Exhibit 13 shows the estimated capital revenue gains under a range of these assumptions: US companies capturing a larger share (50%) of international gains; a much higher capital share (60%, relative to an economy-wide share of 42%); faster overall productivity gains; and faster adoption. While these provide material boosts relative to our baseline, it is generally necessary to make more than one of these optimistic assumptions to match even the more conservative estimates of the market value that has been built into AI-related companies so far.

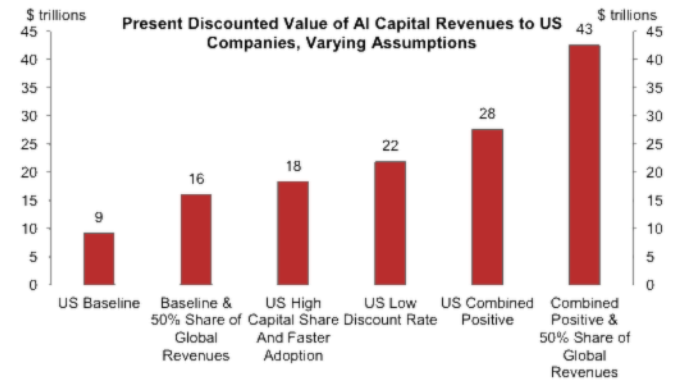
**Exhibit 12: Increased value attributable to AI is likely lower than the broader estimates, but still substantial**



"Pure AI" consists of semiconductor constituents of GS TMT AI Basket + private companies

Source: FactSet, Goldman Sachs Global Investment Research

**Exhibit 13: More optimistic assumptions would raise the Present Discounted Value of potential AI-related capital revenues**



See "The AI Spending Boom Is Not Too Big", Briggs, October 2025 for details. Estimates are from varying assumptions of the key parameters.

Source: Goldman Sachs Global Investment Research

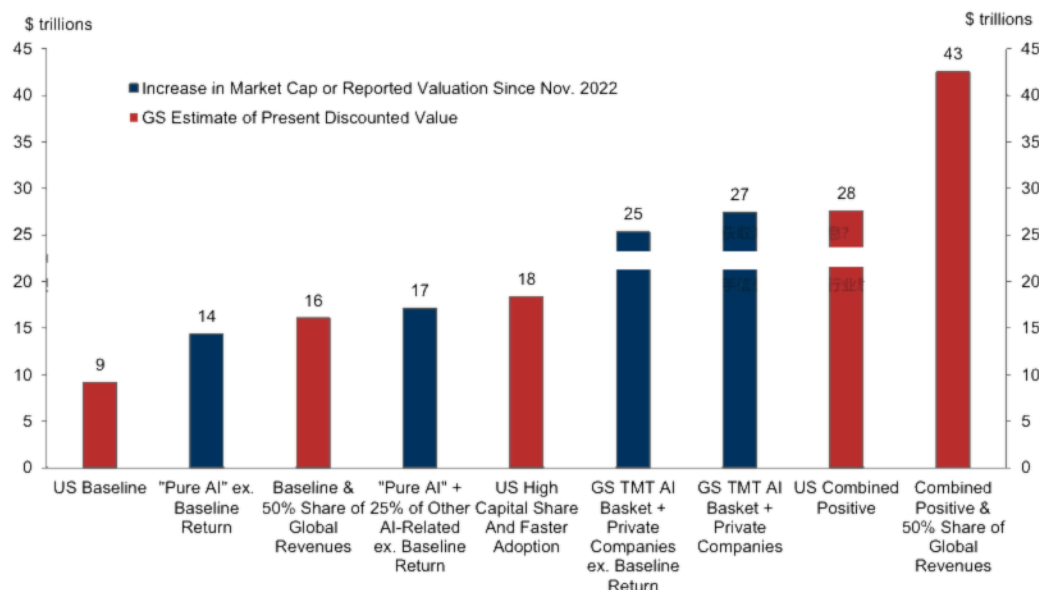
**From aggregation to extrapolation**

Combining key elements of Exhibit 12 and Exhibit 13 in Exhibit 14 below illustrates that we are still at a point where it is possible to reconcile the market value assigned to AI so far with a macro estimate of the future profit gains. That reconciliation, however, needs increasingly optimistic assumptions on both sides of the comparison: both that a smaller portion of the overall value that has accrued in the market is attributable to AI *and* that the gains in future capital revenues will be at the larger end of the plausible spectrum. That is particularly true because what we identify here are the gains only for AI-related companies. If non-AI companies ultimately capture some of the gains from AI—as you might expect—those would either need to be redistributed from current AI winners, or expectations of the aggregate total value from AI would need to rise even further.<sup>4</sup>

<sup>4</sup> Obviously, if aggregate gains are appropriate, but the gains need to be redistributed to other companies, the market-level impact would be more limited, though sizable rotations under the index would occur.

**Exhibit 14: A mix of more optimistic assumptions is needed to exceed even more conservative estimates of market value comfortably**

See Exhibits 12 and 13 for details



Source: FactSet, Goldman Sachs Global Investment Research

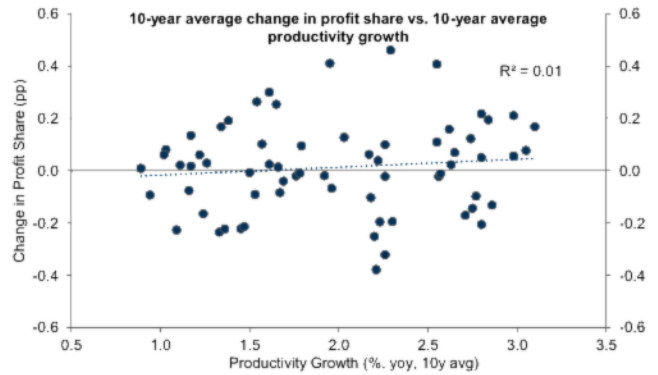
We think the most credible upside stories rely on the assumption that AI-related companies capture a higher share of profits than the economy-wide average share in our baseline. Earnings have been strong and margins are high for the semiconductors and the hyperscalers. The economy-wide profit share has trended higher for some time and has risen more sharply again recently. High profitability has been a key part of avoiding macro imbalances, limiting the rise in valuations and dampening concerns about credit quality.

The underlying assumption that the market is making is that this process will continue. By driving up prices in line with earnings (even without raising valuations), the market is implicitly assuming that these shifts in earnings shares are likely to be highly persistent; that companies—and specifically those involved in supplying the boom—will capture a large portion of the potential economic gains from AI; and that the economy-wide profit share will continue to move higher. There are some good reasons to think that the technological characteristics and market structure of AI could raise the profit share further. AI has some of the potential features of “capital-biased” technological change and market concentration amongst the key players is quite high. But there are risks in the other direction. Accelerating productivity growth often leads to increased economy-wide profit shares initially ([Exhibit 15](#)). But competition, investment and further innovation can erode those gains over time ([Exhibit 16](#)). And it remains to be seen how solid entry barriers will be in protecting incumbents from subsequent profit erosion.

**Exhibit 15: Higher productivity growth is correlated with increased profit shares in the short term...**



**Exhibit 16: ...but this relationship is much weaker over longer time periods**



Source: Haver Analytics, Goldman Sachs Global Investment Research

As importantly, the investment boom is itself fueling a substantial part of profit generation. The peak of the investment boom does not look close at hand, so the near-term path of investment and earnings revisions may still be higher. But over the longer term, those investment rates will fall. The risk here too is that the market is overestimating the persistence of those earnings streams beyond the next 2-3 years, particularly for those who are benefiting directly from supplying the capex boom. Earnings projections a couple of years forward may still look very robust, but it is harder to know what earnings profiles will look like beyond that point after the phase of rapid investment is over, so low multiples do not necessarily imply cheapness.<sup>5</sup> In the meantime, assumptions of strong profitability are vulnerable to any signs that the investment boom is slowing or hitting financing constraints; any path where the benefits materialize more slowly or costs limit adoption; and any innovation that reduces the need for this intensity of capital spending.

**Market dynamics**

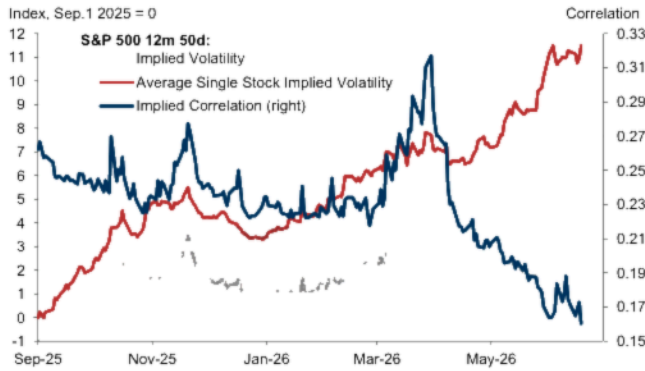
Beyond high valuations, we highlighted other market dynamics that, alongside the macro imbalances, marked a shift in the 1990s bubble. We showed that credit spreads and equity volatility began to move higher in 1998 alongside rising equity prices. Despite periodic concerns, and an increase in AI-related issuance, credit spreads have mostly stayed tight, helped by strong investor appetite and much lower leverage than in the late 1998-2000 period. Shifts in equity volatility have become more noticeable, however, in the last six months.

We highlighted that equity volatility could climb as the market focused more on both the distribution and size of the potential gains from AI. So far it is the distributional axis that has dominated. We have seen a very clear pickup in single-stock volatility in the last few months. Skew in US single-stock options has also shifted sharply lower as appetite for calls relative to puts has risen. Implied correlation has fallen—in some cases to record lows—but even with that dampening effect, longer-dated index volatility has risen too. The late 1990s suggests that there may still be plenty of room for equity prices to rise further. But the behavior of options markets suggests that the bull market has already entered a new phase.

<sup>5</sup> This is a common problem in valuing cyclical and commodity companies as booms extend

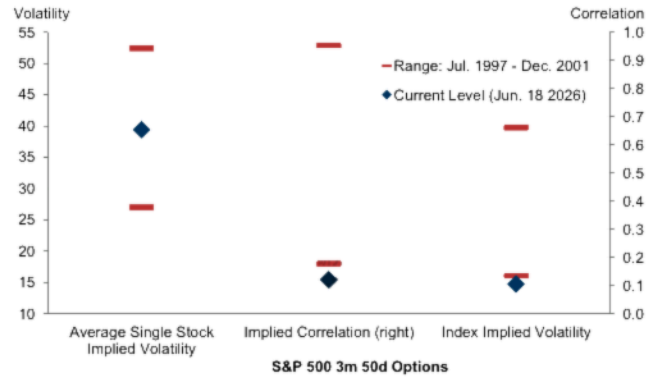


**Exhibit 17: Rise in equity volatility has so far mostly been at single stock level, with correlations falling to record lows**



Source: Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

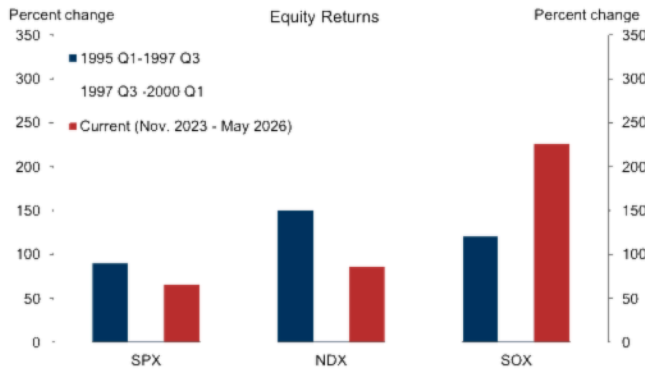
**Exhibit 18: Late 1990s saw higher volatility at both single stock and index levels**



Source: Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

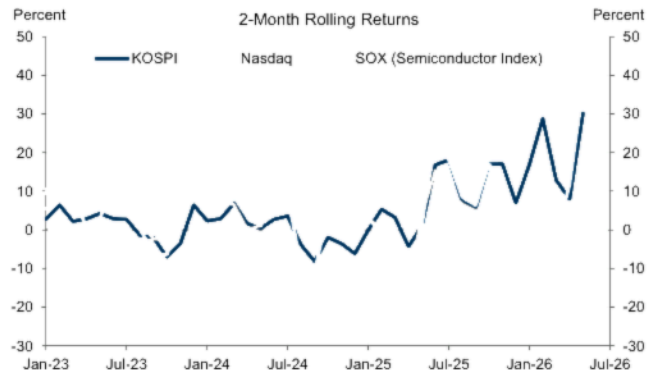
The pace of equity gains has also picked up, another feature of the last 1990s experience. While broad US index returns still look more contained, the gains in semiconductor indices like SOX over the last couple of years now look comparable to the Nasdaq returns of the late 1990s. And the gains in April and May across a wide range of AI-linked indices—Nasdaq, Korea, Taiwan, SOX and baskets of non-profitable tech companies—were the highest back-to-back monthly gains for several years.

**Exhibit 19: Returns in broad indices more moderate, but narrower indices now matching late 1990s returns**



Source: Bloomberg, Goldman Sachs Global Investment Research

**Exhibit 20: April-May 2026 saw an acceleration in returns in key indices**



Source: Goldman Sachs FICC and Equities, Goldman Sachs Global Investment Research

**From the macro masking the boom, to the boom masking the macro**

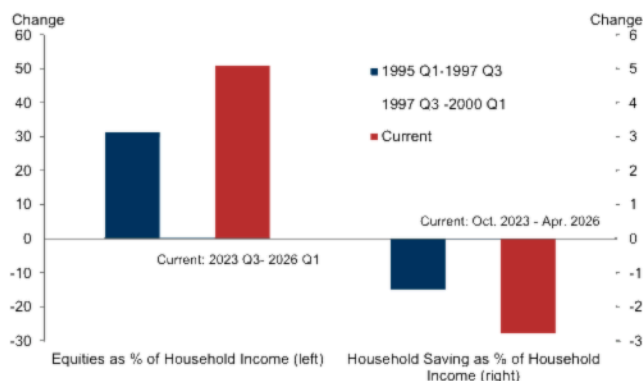
While comparisons with the late 1990s still look more reassuring than not, we think it is important not to press that point too hard. Analogues can only take us so far. We may simply be discovering that the macro backdrop to this investment boom—and the vulnerabilities that it may generate—is different.

The 1990s saw a very broad-based domestic demand boom. Real domestic demand growth was nearly 6% on an annualized basis for the last two years of that cycle; consumer spending, residential and non-tech investment all grew at comparable rates; and the federal budget briefly moved into surplus. The [Asia and EM crises of 1997-98](#), which generated significant capital inflows to the US, a sharp rise in the US dollar, and a

disinflationary impulse to global goods prices, masked the potential inflationary effects of that boom. This helped it to extend further than it might otherwise have done but also contributed to the mix of a widening current account, real wage acceleration, profit erosion and easy monetary policy that ultimately undermined the expansion.

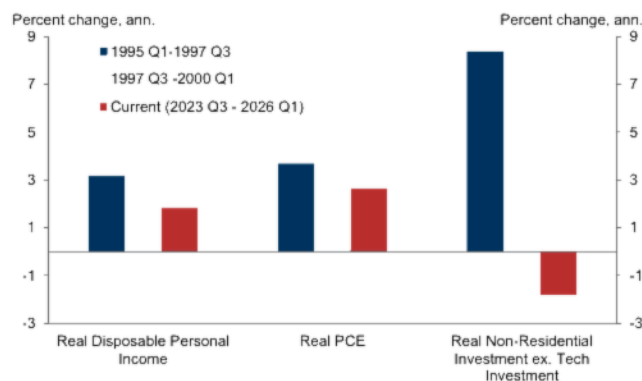
The situation looks different now. Outside the AI-related areas, the broader economy looks much less robust than in the 1990s. Non-tech investment has mostly been weak. Consumer spending growth has been much less impressive than in the late 1990s despite a gain in household wealth and a decline in the savings rate that are larger than they were then. And real disposable income has grown at an annualized rate of around 1% over the last 2 years, compared to a 5-6% rate at the end of the 1990s boom.

**Exhibit 21: We have seen a large rise in US household wealth and a sharp fall in the savings rate**



Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 22: US spending and income growth outside tech investment much more muted than in late 1990s**



Source: Haver Analytics, Goldman Sachs Global Investment Research

Where the 1990s macro picture masked an inflationary domestic boom, the AI boom currently may be offsetting a more fragile macro backdrop outside those areas buoyed by AI investment or equity wealth effects. This more subdued picture may make the kind of extreme bubble that we saw in 1999 and 2000 less likely. It also means that the kind of overheating and imbalances that created the basis for the 2001 recession are not yet visible. But it potentially increases a different kind of vulnerability—an economy that may be more vulnerable to macro shocks (including from the supply side) and to any challenges to the optimistic AI macro story.

Because the path of profits and earnings looks different, it is less obvious than it was in late 1999 and early 2000 that the collective gains implied by the market exceed what the economy can plausibly deliver. But the clearest routes to avoiding that conclusion raise the chance that investors overestimate the persistence of above-average earnings, particularly for those benefiting directly from AI infrastructure spending. Put simply, the risk of a pure “valuation bubble” seems lower than in the late 1990s, but the risk of an “earnings bubble” may be growing.

In the process, the tension between a favorable fundamental backdrop and high valuations that we have highlighted for some time continues to sharpen. The macro story around AI still looks quite secure, especially compared to the late 1990s. The investment boom still appears to have room to grow, in the absence of unexpected shocks, so the outlook for beneficiaries of that boom still looks supportive. But the market has continued to boost the value it is assigning to those future gains, making it more vulnerable to any news that challenges that optimistic assessment.

Until the peak in that investment cycle looks more imminent, we think robust earnings may continue to dominate valuation concerns. So we want to find ways of staying invested while limiting the downside, difficult though that can be. We think equity volatility is likely to rise further as the boom extends, adding to the appeal of put protection or call replacement as a route to that goal. With a more fragile macro picture outside AI-related areas, we think the risks that rates ultimately end up meaningfully lower beyond the peak of this investment boom is higher than normal—despite a market that has been focused more recently on the upside risks to inflation and yields.

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