The AI boom and its risks

The introduction of artificial intelligence has triggered an investment boom, particularly in the United States. The sheer scale of the resources being deployed increases the risk of a bubble. This could trigger a setback in the stock markets. We have assessed the risks and concluded that the boom is likely to continue for the time being.

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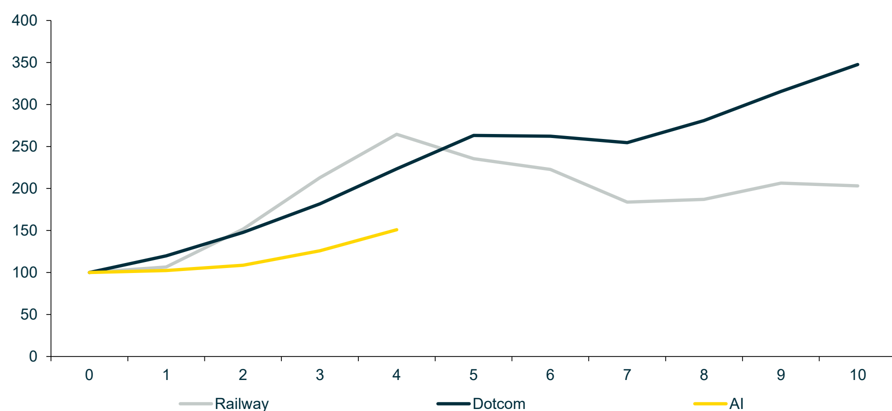
AI triggers an investment boom, ...

Major U.S. high-tech companies—and specifically data center operators ("hyperscalers")—are investing hundreds of billions of dollars in infrastructure for artificial intelligence (AI). More and more resources are being channeled into this sector, which many believe will trigger a surge in progress similar to the major foundational innovations of the past.

Such surges in innovation have typically been accompanied by investment booms in the past, which allows us to compare the current boom with past cycles. So far, AI has primarily fueled investment in IT. This year, real investment in IT equipment and software is expected to be about 50% higher than in 2022—the year that saw the launch of ChatGPT.

By contrast, in the fourth year of the "dot-com" euphoria in the 1990s, investment in IT equipment and software was already a good 120% above the 1995 baseline. Investment rose even more sharply during the British railroad boom of the 19th century (Chart 1). Thus, the current investment cycle does not yet appear excessive, assuming that AI is indeed one of the major foundational innovations in economic history.

Chart 1 - Investment booms: AI and its forerunners
Investment in the years after boom started, indexed at 100 in year 0. Railway boom: real invetsment in the UK (1843=0); Dotcom: real investment in IT equipment & software (1995=0); AI: real investment in IT equipment & software (2022=0), annual data

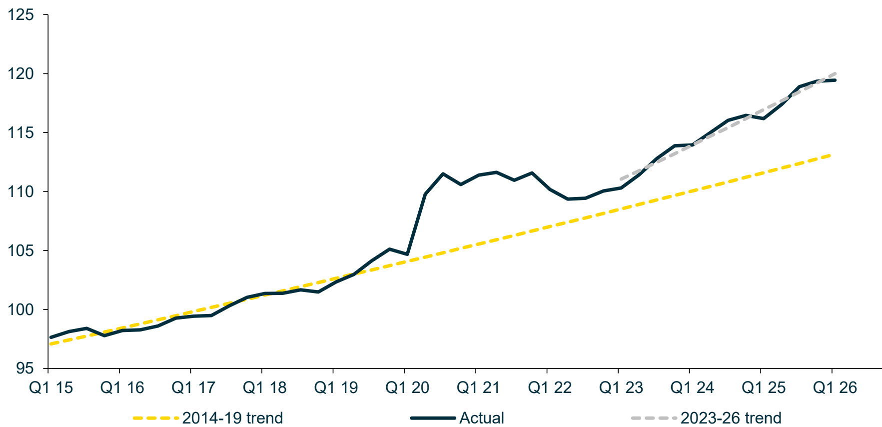


Source: BEA, BoE, BIS, Commerzbank Research

... early signs of rising productivity

The markets are banking on this investment boom to drive profits and growth. Only then can this use of resources be justified. Productivity trends will be the decisive factor here. Until the Covid crisis in 2020, productivity was growing by about 1.4% per year. During the pandemic, it rose sharply in the short term due to massive layoffs, though this proved to be a very short-lived phenomenon. In recent years, however, productivity has risen more rapidly. Since 2023, it has increased by 2.6% per year (Chart 2). This could mark the beginning of a steeper productivity trend, which might validate the views of AI enthusiasts. However, given the frequent revisions to productivity data in recent years, it is best to wait before drawing any conclusions.

Chart 2 - Is productivity growth accelerating?
Real output per hour, US nonfarm business sector, 2007=100, quarterly data



Source: BLS, S&P Global, Commerzbank Research

But there are risks

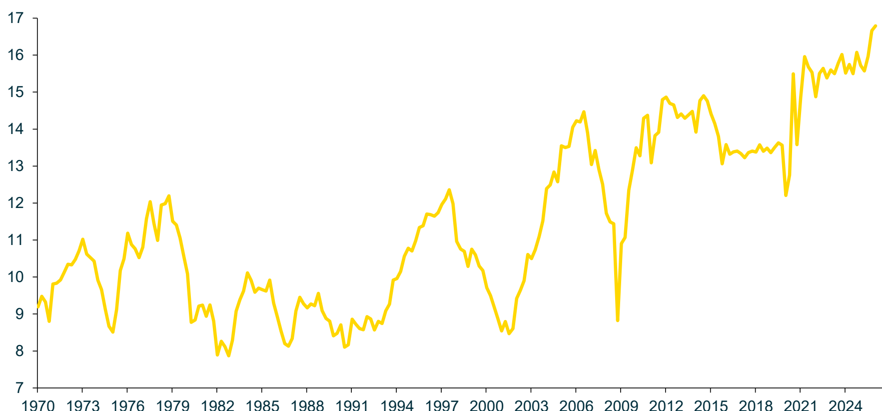
Pronounced investment cycles are often accompanied by a phase of sharply rising stock prices. Both are driven, at least in part, by euphoria—that is, the expectation of ever-higher profits. This expectation encourages further investment, with strong stock markets making financing easier. Often, however, this euphoria leads to complete overvaluation. Valuations then drift away from reasonable levels, and the risk of a painful correction rises as a more realistic perspective prevails. Are valuations already back in the danger zone?

In fact, stocks are currently highly valued. High valuations become particularly problematic when interest rates rise. However, no headwinds are expected from this front for the foreseeable future. We consider speculation about interest rate hikes by the Federal Reserve to be exaggerated. Certainly, U.S. inflation is too high, but it is already falling again, and the U.S. economy is far from overheating. Fed officials are therefore likely to bet that price pressures will ease even without tighter monetary policy. By mid-2027, inflation should have fallen enough for the Fed to cut interest rates.

Furthermore, while stocks are expensive, they are valued lower than they were at the peak of the dot-com bubble. The price-to-earnings ratio of stocks in the S&P 500 Index, based on expected earnings over the next twelve months, currently stands at 20, compared to 25 at the beginning of 2000. We therefore do not yet view the current valuation as a cause for alarm.

However, these valuations are underpinned by expectations of significant profit growth. Corporate profits are projected to rise by 24% in 2026 and by another 16% next year. Meanwhile, corporate profits as a share of national income already reached a peak in the first quarter (Chart 3). Whether further noticeable improvements are possible from this high is, at the very least, an open question. This is because, at the same time, the wage share—which was already low—would have to fall further. In many places, discontent is already brewing over developments perceived as unfair. For example, several "democratic socialists" recently enjoyed electoral success in the Democratic primaries, and there is even rumblings within parts of the traditionally business-friendly Republican Party. Further shifts in this direction could trigger a political backlash.

Chart 3 - US corporate profits already at record high as a share of national income
US corporate profits as a share of national income, in %

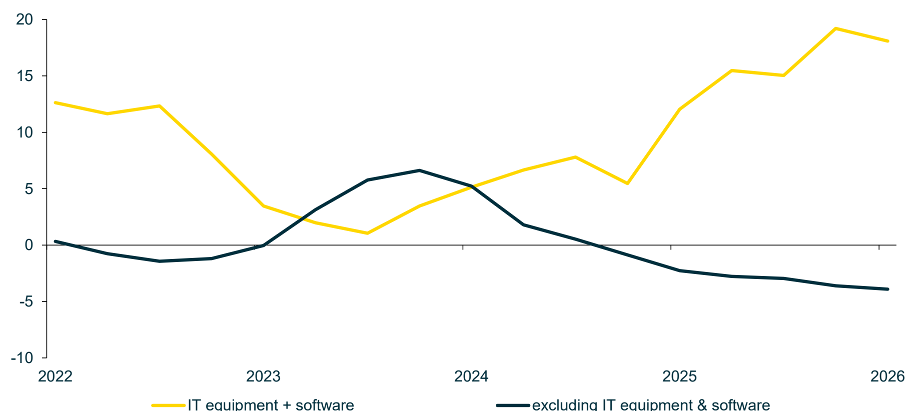


Source: BEA, S&P Global, Commerzbank Research

What happens when it all comes crashing down?

One consequence of the AI boom is that companies are increasingly focusing their investments on this sector. The AI boom thus masks the weakness in other areas of investment. Excluding IT, investment has in fact been shrinking for some time now (Chart 4). U.S. growth therefore currently appears somewhat one-sided and could thus be less stable than a broadly based investment boom. An end to the AI boom would likely not be offset by investment in other sectors.

Chart 4 - Only IT is strong
US corporate investment, real, year-on-year change in %



Source: BEA, S&P Global, Commerzbank Research

Even though we don't expect this to happen in 2026 or 2027, an investment boom usually ends in a crisis. What might that look like? Economic history offers a blueprint in the form of the dot-com bubble in the second half of the 1990s. Here, too, the introduction of the Internet and the expansion of mobile communications sparked an investment boom in the high-tech sector, which was accompanied by, in some cases, exaggerated profit expectations and sharp rises in stock prices. After the stock market peak in March 2000, the Nasdaq Index—which tracks high-tech stocks—fell by over 50% by the end of the year and by a total of nearly 80% by 2002.

A 2001-style recession…

Interestingly, real gross domestic product did not decline in the two years following the bursting of the stock market bubble, also because of the massive support from monetary policy. The recession in 2001 was the only one to date in which economic output did not decline. However, growth came to a screeching halt, dropping from 4–5% per year prior to the crisis to below 1% at its lowest point. The labor market suffered more, given continued high productivity growth—a consequence of investments in the Internet and IT. The unemployment rate rose from under 4% to over 6% (Chart 5). It was not until 2007—immediately before the next recession—that it returned to near full employment at 4.5%.

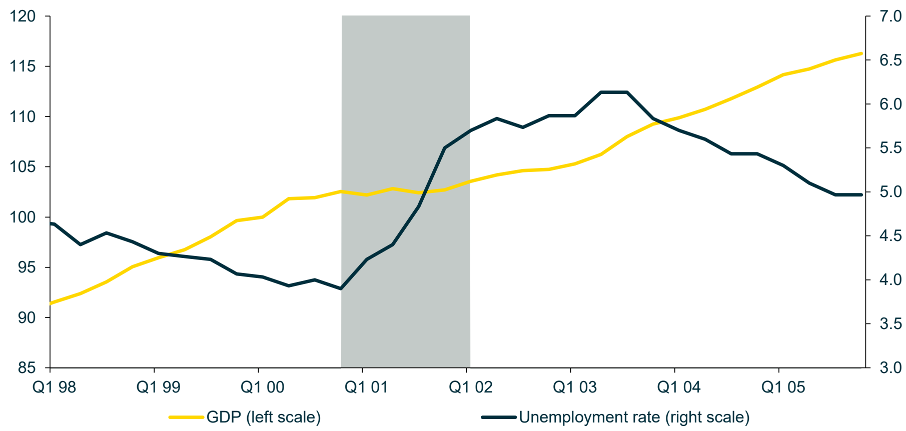
… but no financial crisis

As painful as the crisis was: Even worse outcomes were averted because the correction in the financial markets occurred primarily through stock prices. The bursting of the dot-com bubble did not trigger a debt crisis. This distinguishes the 2001 recession from the 2008–09 financial crisis, which in the U.S. was preceded by a housing bubble accompanied by a massive expansion of credit. At that time, a cascade of loan defaults brought the banking system to the brink of collapse, and the recession was much deeper than that of 2001.

To date, a large portion of these investments has been financed from cash flow; it is only recently that companies have increasingly turned to loans. Overall corporate debt has been declining relative to GDP for years. An end to the AI boom would therefore be unlikely to trigger a banking crisis; rather, as in 2001, it would primarily result in a slump in stock prices. The U.S. economy would then likely be spared a massive slump—as in 2001—even though it would, of course, suffer as a result.

Chart 5 - What a bursting equity bubble can do to the economy

Real US GDP (Q1.2000 = 100), unemployment rate in %, quarterly data. Grey-shaded area: recession as determined by the NBER



Source: BEA, BLS, NBER, Commerzbank Research

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