

Is AI infrastructure spending sustainable?



Monthly Market Playbook

Key Insights

- The impact of artificial intelligence (AI) spending on earnings has been dramatic, with earnings growth expectations reflecting the huge demand for infrastructure required to support AI.
- Relatively contained valuations suggest investors recognize current earnings strength but remain uncertain about how long the current strong fundamentals can persist.
- Rising capital expenditure (capex) and input costs are increasingly testing hyperscalers' ability to sustain aggressive spending as free cash flow comes under pressure.



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Arificial intelligence infrastructure spending remains one of the most debated topics in equity markets today. On one hand, companies exposed to this massive wave of capex have been delivering exceptional earnings growth. On the other hand, investors continue to question whether this level of spending is sustainable—and whether it will ultimately translate into durable returns.

A surge in earnings growth

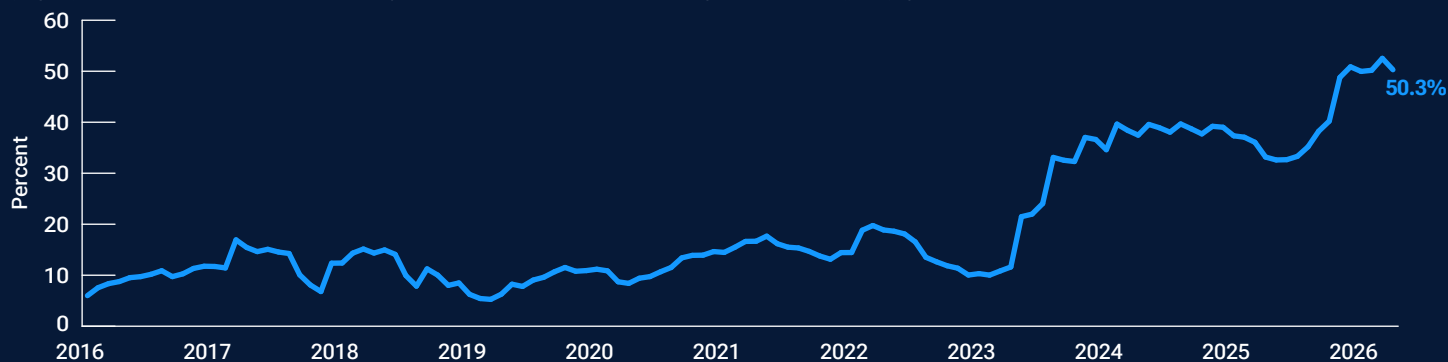
The impact of AI spending on earnings has been dramatic. Looking at a basket of U.S. companies that are significant beneficiaries of AI infrastructure

investment, the shift in earnings expectations is striking. For much of the past decade, forward earnings growth for this group moved between 5% and 20%—a healthy but relatively stable range.

That changed sharply over the past three years, after the public release of ChatGPT and the acceleration in AI adoption. Earnings growth expectations climbed rapidly and stood at more than 50% as of late April (see Fig. 1). This reflects the enormous demand for the infrastructure needed to support AI—everything from semiconductors and memory to data center equipment and networking capacity.

Exceptional earnings growth for AI infrastructure companies

(Fig. 1) AI infrastructure basket:¹ Projected next 12 months earnings per share (EPS) growth



10 Years ending April 28, 2026.

Past performance is not a guarantee or a reliable indicator of future results.

¹ Market-cap weighted index of Arista Networks, Astera Labs, Dell Technologies, Advanced Micro Devices, Marvell Technology, NVIDIA, Oracle, Super Micro Computer, Broadcom, and Everpure.

The specific securities identified and described are for informational purposes only and do not represent recommendations. Estimated EPS growth reflects consensus analyst estimates for earnings over the next 12 months. The AI basket was created by identifying representative stocks with clear exposure to infrastructure. Identification was based on K-means clustering methodology and ChatGPT verification of theme commonality.

Source: T. Rowe Price analysis using data from FactSet Research Systems Inc. All rights reserved. See Additional Disclosures.

Valuations reflect ongoing skepticism

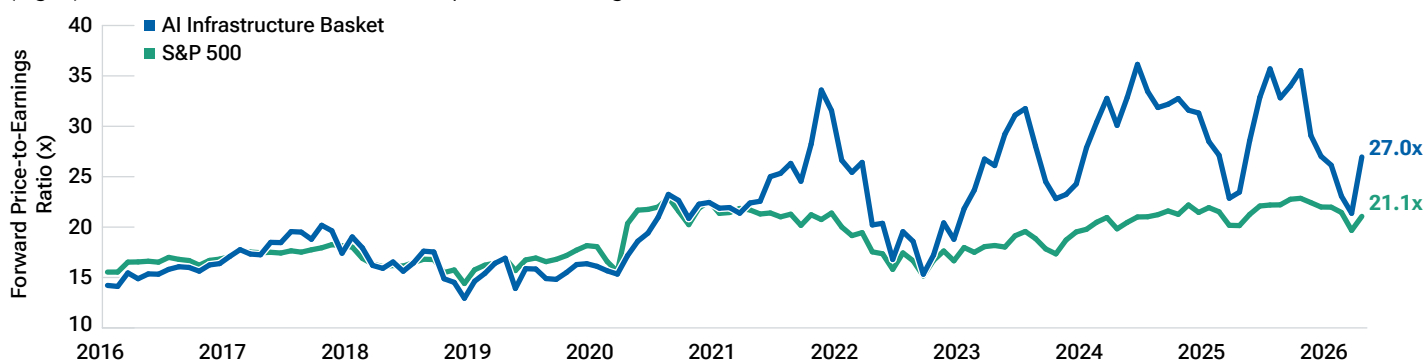
Despite this surge in earnings, valuations have not followed the same trajectory. The price to earnings multiple for this group has remained relatively contained, fluctuating between roughly 21 and 36 times earnings as investor sentiment has shifted. As of late April, the multiple stood

near 27 times—only modestly higher than the broader S&P 500.

That divergence highlights a key tension in the market. Investors clearly recognize the strength of current fundamentals, but they remain uncertain about how long those fundamentals can persist.

Valuations reflect skeptical views of capex sustainability

(Fig. 2) AI infrastructure basket:¹ Forward price-to-earnings ratio



10 Years Ending April 2026.

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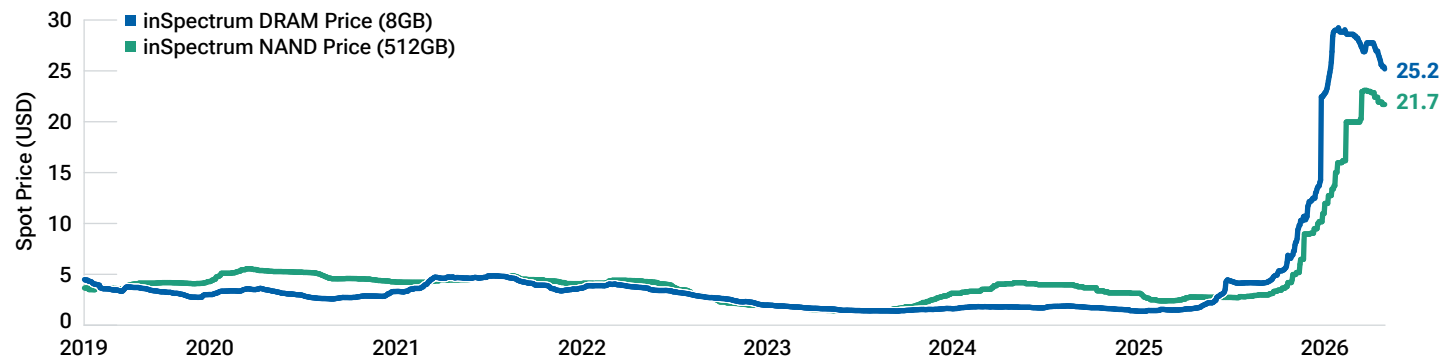
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Input costs have risen sharply

(Fig. 3) Memory chip prices



March 31, 2019 to April 28, 2026.

DRAM is a type of volatile memory used for fast, temporary data storage while a device is operating, and it commonly serves as main system memory in PCs, servers, laptops, smartphones, tablets, and graphics cards. NAND is a non volatile flash memory used for long term data storage, and it is found in solid state drives (SSDs), USB flash drives, memory cards, smartphones, tablets, cameras, and many embedded and automotive systems.

Source: Bloomberg Finance L.P.

Why the skepticism?

Importantly, this skepticism is not driven by concerns about the hyperscalers' willingness to invest. Management teams at the largest technology companies have been very clear: They are more concerned about falling behind in the AI race than they are about overspending. In other words, the incentive is to invest aggressively—even at the risk of near-term financial pressure.

The challenge is that the scale of spending required to compete in AI is rising rapidly. Demand for computing power continues to grow at an extraordinary pace. Both model training and real-time inference require increasingly large amounts of processing capacity. The emergence of more advanced agentic AI systems has further increased workloads, while also accelerating adoption across a broader set of industries.

At the same time, supply constraints have begun to emerge. The rapid increase in demand for data center infrastructure has led to shortages in key components. Prices for some inputs have surged—highlighting the strain on global supply chains. For example, as of April 28, prices for dynamic random-access memory (DRAM) chips have increased by more than 1,700%

since the start of 2025. While this is a somewhat extreme example, it reflects a broader pattern across many critical inputs required to support AI expansion.

The pressure on free cash flow

As a result, hyperscaler capex budgets have risen sharply. In the early stages of the AI build-out, investors were largely unconcerned. These companies generated ample free cash flow and were well positioned to fund aggressive investment. In fact, markets initially rewarded them for leaning into what appeared to be a transformative opportunity.

However, that dynamic is beginning to shift. As capex continues to grow, it is placing increasing pressure on free cash flow. Based on current analyst estimates, rolling 12-month free cash flow for the hyperscalers could approach zero by early 2027 (see Fig. 4). If spending continues to exceed expectations, free cash flow could even turn negative.

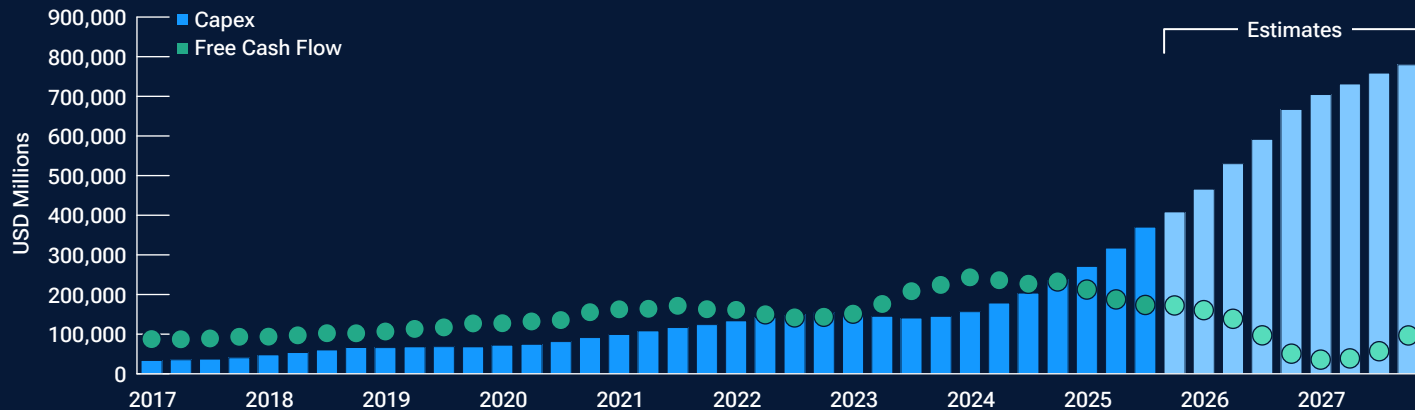
That said, the outcome remains highly uncertain. If these companies are able to monetize their AI investments more quickly and more effectively than expected, free cash flow could remain strong enough to support elevated spending levels.

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The challenge is that the scale of spending required to compete in AI is rising rapidly.

Hyperscalers' capacity for capex spending is being tested

(Fig. 4) Hyperscaler¹ capex and free cash flow, rolling 4-quarter total



Q1 2017 to Q4 2026 (Q4 2025 to Q4 2027 are estimates).

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¹Microsoft, Alphabet, Amazon, Meta, and Oracle.

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Conclusion

The bottom line is that AI infrastructure spending represents both a powerful opportunity and a growing source of uncertainty. Earnings growth among AI beneficiaries has been exceptional, reflecting the scale and speed of this investment cycle. But the sustainability of that cycle remains an open question—particularly as capital intensity rises and free cash flow comes under pressure.

For now, markets appear to be balancing these competing forces: Strong near-term fundamentals alongside longer-term uncertainty. As a result, we continue to monitor the evolution of AI spending closely, with a particular focus on whether earnings growth can justify the scale of capital being deployed.

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