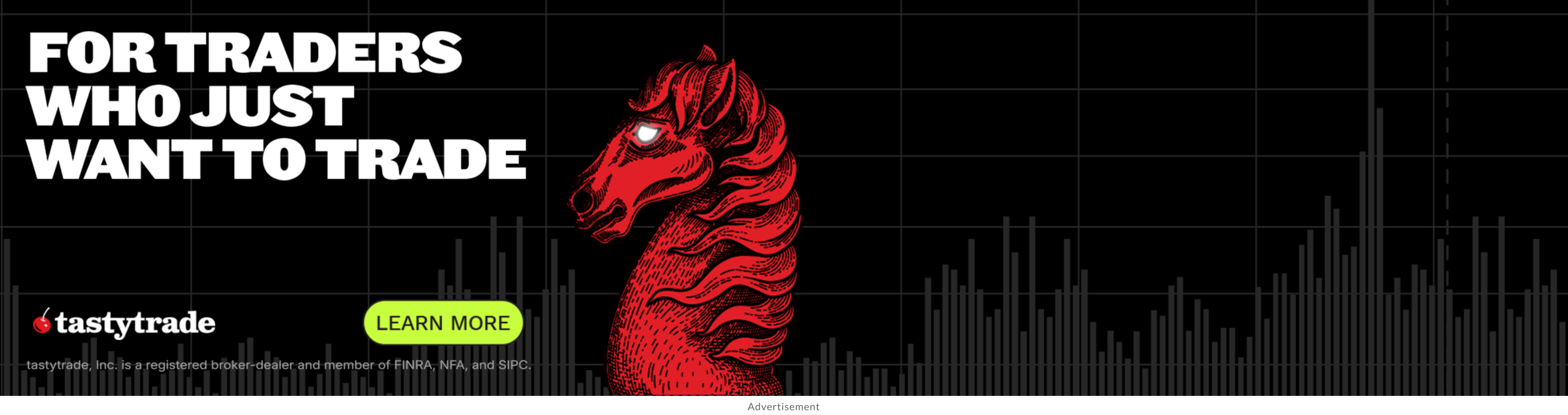


DJIA 42076.95 -0.15% S&P 500 5892.69 0.10% Nasdaq 19125.65 0.61% VIX 18.23 0.05% U.S. 10 Yr 4.527% Crude Oil 63.11 -0.88% Gold 3182.30 -2



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Opinion: What is AI really giving back to tech investors? Here's the hard truth.

AI boosters cling to fanciful forecasts — even if meaningful revenue and productivity has yet to materialize

By Jeffrey Funk and Gary Smith

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AI's dominance always seems to be five to 10 years away.

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Nobel Laureate Robert Solow once said that "you can see the computer age everywhere but in the productivity figures" — an observation now called the [Solow paradox](#). Likewise, today we see AI everywhere but in productivity.

Even worse, we don't see it in revenue, which should appear long before productivity improvements. Computer revenue rose steadily from the 1950s through the 1980s before a productivity bump [appeared in the early 1990s](#). Substantial revenue has yet to materialize from AI, and it may be decades before we see a productivity bump.

Nonetheless, AI hystersers cling to their fanciful forecasts. Microsoft [MSFT +0.64%](#) co-founder Bill Gates [recently predicted](#) that "within 10 years, AI will replace many doctors and teachers — humans won't be needed 'for most things.'" He was speaking to late-night comedian Jimmy Fallon, but he wasn't joking.

Others have made similar claims over the years. Remember IBM's [IBM -0.18%](#) Watson supercomputer? When the MD Anderson Cancer Center in Houston began using Watson in 2013, it [announced Watson's coming in a press release](#): "First he won on 'Jeopardy!,' now he's going to try to beat leukemia. The University of Texas MD Anderson Cancer Center announced Friday that it will deploy Watson, IBM's famed cognitive computing system, to help eradicate cancer."

Five years and \$60 million later, MD Anderson [fired Watson](#) after "multiple examples of unsafe and incorrect treatment recommendations."

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Predictions and reality

AI's dominance always seems to be five to 10 years away. Recall the esteemed computer scientist Geoffrey Hinton — known as "the godfather of AI" — [declaring in 2016](#): "If you work as a radiologist, you're like the coyote that's already over the edge of the cliff but hasn't yet looked down, so it doesn't realize that there is no ground underneath him. I think we should stop training radiologists now; it's just completely obvious that within five years, deep learning is going to do better than radiologists."

The number of radiologists practicing in the U.S. [has increased since then](#).

Also remember academics such as Erik Brynjolfsson and Andrew McAfee and the consulting giants McKinsey and Accenture — all of whom have been making AI job-killing warnings for at least the past decade.

Let's instead talk about what's really happening. Where are the profits? AI's large language models (LLMs) are useful for generating mostly correct answers to simple factual queries (that humans can fact-check), writing first drafts of simple messages and documents (that humans can also fact-check) and developing code for constrained problems (that humans can debug). These are all useful tasks but not tremendously profitable.

The fundamental bottleneck is that LLMs cannot be trusted to generate reliable answers and, for uses that might generate substantial profits (like medical advice and legal arguments), the costs of mistakes are large.

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Even AI engineers, scientists and suppliers admit that LLMs are better at generating text than generating profits. IBM CEO Arvind Krishna [said recently](#) that AI won't replace programmers anytime soon; Microsoft researchers [concluded](#) that programmers spend most of their time debugging, a task that LLMs struggle with. Microsoft CEO Satya Nadella [admitted that](#), from a value standpoint, AI supply is far outpacing demand. In mid-April, Microsoft [announced](#) that it was "slowing or pausing" the construction of several data centers, including a \$1 billion Ohio project.

Moreover, a co-founder of Infosys [INFY +0.54%](#) [has said that](#) AI "hype is at unprecedented levels," while OpenAI [admitted that](#) its newest model still hallucinates more than a third of the time on standard benchmark tests. Scientists from many disciplines [say that](#) Google's AI scientist is dead on arrival, and evaluations of the latest reasoning models [concluded that](#) AI still falls short in complex analogy tasks. Among the findings from a [recent study](#) of the ability of eight prominent LLMs to retrieve and cite news content:

- "Chatbots were generally bad at declining to answer questions they couldn't answer accurately, offering incorrect or speculative answers instead.
- Premium chatbots provided more confidently incorrect answers than their free counterparts.
- Generative search tools fabricated links and cited syndicated and copied versions of articles.
- Content-licensing deals with news sources provided no guarantee of accurate citation in chatbot responses."

LLM enthusiasts cite the performance of AI on educational exams, while skeptics [argue](#) that LLMs often cheat by training on the exams. For example, hours after the International Math Olympiad was completed in April, a team of scientists gave the problems to the top large language models [before they could be updated](#). They reported: "The results were disappointing: None of the AIs scored higher than 5% overall."

How much money are companies spending on AI? That's a difficult question because most companies don't break out AI revenue data, which by itself should make investors suspicious.

The real question is how much money are customers spending on AI. To give you some idea, revenues for leading [AI startups including OpenAI and Anthropic](#) were less than \$5 billion in 2024.

Cloud formations

Meta Platforms, Amazon.com, Apple and Tesla don't release figures for their AI businesses — most likely because they don't have much.

What about the companies offering AI cloud services for training AI models, or the companies trying to implement AI? Microsoft provides the best information, but even its figures are unclear. Analysts have estimated its AI cloud revenues were [about \\$10 billion in 2024](#) and about [\\$13 billion annually based on fourth-quarter 2024 revenues](#).

Other tech companies don't release similar figures, but recently Google parent Alphabet [GOOGL +3.53%](#) [GOOG +3.46%](#) reported a 28% increase in cloud revenues over the past year, reaching \$12.3 billion for the first quarter of 2025. But Alphabet has offered a cloud service since 2008 and most of those services have nothing to do with AI. Analysts estimate that AI cloud services have [revenues on the order of billions each quarter](#), so the annualized total is probably about \$10 billion.

Meta Platforms [META +0.63%](#), Amazon.com [AMZN -0.53%](#), Apple [AAPL -0.71%](#) and Tesla [TSLA +3.95%](#) don't release figures for their AI businesses — most likely because they don't have much. Many analysts agree, with one noting that Amazon "has historically earned \$4 in incremental revenue for every \$1 spent [on infrastructure]. [With generative AI, the ratio is inverted: around 20 cents for every dollar](#)."

Amazon CEO Andy Jassy admits that AI's adoption will take time. "It won't all happen in a year or two," Jassy wrote in his most recent [shareholder letter](#), "but, it won't take 10 either." There's that magical, mystical, multiyear prediction again.

In total, AI revenues industrywide are probably in the range of \$30 to \$35 billion a year. Even if those revenues grow at a very optimistic 35% a year, they will only be \$210 billion in 2030. Is that enough to justify [\\$270 billion of capital spending on data centers this year?](#)

Another way to assess this question is by looking at what happened during the 2000 dot-com bubble when Microsoft, Cisco Systems [CSCO -0.83%](#), Intel [INTC -3.57%](#), Lucent, Nokia [NOK -1.06%](#), IBM and AT&T [T +0.13%](#) (sounds a lot like today's ["Magnificent Seven"](#) stocks, doesn't it?) were among the top 16 Nasdaq [COMP +0.61%](#) stocks by market value [when the Nasdaq peaked](#) in early 2000.

Will generative-AI revenues increase? Of course. The question is when and by how much. Alphabet, Microsoft, Amazon and Meta each have enough other revenue sources to survive an AI-industry meltdown. Smaller companies don't. When investors get tired of imaginative predictions of future profits, the bubble will deflate. That won't take 10 years to happen, either.

Jeffrey Funk is a retired professor and the author of six books, of which his most recent is "Unicorns, Hype and Bubbles: A Guide to Spotting, Avoiding and Exploiting Investment Bubbles in Tech."

Gary Smith is a professor of economics at Pomona College and the author of more than 100 academic papers and 17 books, most recently (co-authored with Margaret Smith): "The Power of Modern Value Investing: Beyond Indexing, Algos and Alpha" (Palgrave Macmillan, 2024).

Also read: ["Magnificent Seven" blows past a major threshold — but a few more marks must be crossed before tech is really back](#)

More: [30 AI stocks that could surge up to 73% — and are loved by a bullish tech analyst](#)

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