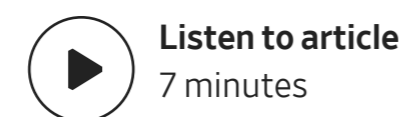


Opinion: The AI bubble is looking worse than the dot-com bubble. Here's why.

Published: Oct. 21, 2024 at 7:56 a.m. ET

By Jeffrey Funk and Gary Smith

Two different bubbles and two completely different revenue streams mean only one thing



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It's different this time. How many times have we heard that? It usually turns out to be wishful thinking. This time, the generative-AI bubble may really be different than the dot-com bubble — just not in a good way.

The number of generative AI users is [growing faster](#) than the number of internet users in the late 1990s — except the comparison is essentially meaningless.

Think about it. What did people have to do to become internet users in the late 1990s? They had to buy a computer and subscribe to an internet service provider, which were both expensive. The Compaq ProSignia Desktop 330 was [\\$2,699 in 1999](#) (\$5,101 in 2024 dollars) and that didn't include applications software such as Microsoft's [MSFT](#) Word, Excel and PowerPoint. [Bell Atlantic offered a digital subscriber line service](#) for \$59.95 a month in 1999, or \$113 in 2024 dollars.



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How much does it cost to use generative AI today? Nothing. You already own a computer and pay for internet access, and OpenAI and others offer limited-use services for free. The substantial cost of accessing the internet 30 years ago meant that users anticipated substantial payoffs. The minimal cost of accessing ChatGPT and other generative-AI systems today means that users don't need much of a payoff, if any, to give it a try.

Why are [economists at the Federal Reserve Bank of St. Louis](#) and elsewhere making this silly comparison? The use of essentially free services — like social media, email, messaging and other apps — doesn't mean they are particularly useful. If anything, they are addictive entertainment that we pay for with our time.

St. Louis Fed economists speculated about the possible effects of generative AI on labor productivity: "We examined how intensely respondents employed generative AI on days that they reported using it." Seriously? Is the intensive use of Facebook [META](#), Instagram, TikTok, Snapchat [SNAP](#) and other social-media platforms increasing labor productivity or reducing it? The number of people using social media and the hours they spend doing so are hardly a useful measure of the economic payoff. The same is true of generative AI.

The economic value added and labor productivity boosted by generative AI is not measured by how many people use it or how much it costs to create and sustain it. It is measured by economic value added and labor productivity gains — and there is scant evidence that generative AI has moved the needle.

The cost to society of AI chips, and the talent, electricity, water and more needed to manufacture them, currently dwarfs the payoff.

While access to generative AI is relatively cheap, the creation and supply of generative AI is incredibly expensive. Training [these models can cost upwards of \\$100 million](#) and require the newest and most expensive chips from Nvidia [NVDA](#) and competitors, including AMD [AMD](#) and Intel [INTC](#).



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Creating useful services from generative AI also isn't cheap. [Wall Street Journal technology columnist Joanna Stern](#) recently reported on her development of "Joannabot," powered by Google's [GOOGL](#) Gemini, to help readers "decide if the iPhone 16 is worth an upgrade." The bot was useful but, she wrote, it "Can go off the rails. Way off," and was expensive: "I won't get into the exact costs, but let's just say I could've taken all four of my iPhone 16 review units on a luxury vacation to Bora Bora for the price of Google's Vertex for this project."

If generative AI is going to pay off in labor productivity, it has to generate enough revenue to justify its cost. We are not the first to ask this question. Sequoia's [David Cahn](#) estimated that [\\$600 billion in annual generative AI revenue](#) is needed to justify the current investments in generative AI, a figure that is probably more than 100 times the current annual revenues for OpenAI's ChatGPT, Google's Gemini, Microsoft's Copilot and similar services.

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The New York Times [reported](#) that OpenAI anticipates \$5 billion in losses on \$3.7 billion in revenue this year. Nonetheless, OpenAI received [\\$6.6 billion in additional funding](#) to keep it afloat — and which valued the company at \$157 billion. That certainly echoes the dot-com bubble — but Goldman Sachs' [Jim Covello](#), Citadel's [Ken Griffen](#), and market strategist [Ed Yardeni](#) all warn that the AI bubble could be even worse.

Read: [OpenAI is now worth more than 87% of S&P 500 companies. It faces a tough test ahead.](#)

Also read: [Why Open AI's \\$100 billion 2029 revenue target seems like a tech fever dream](#)

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We can compare the generative-AI bubble with the internet bubble by looking at revenues in 2000, the peak of the dot-com bubble, and generative-AI revenues for 2024. One study estimates that [134 million PCs were sold in 2000](#), which at \$5,101 per computer at that time equated to about \$684 billion in revenue. The number of global internet users was about 361 million in 2000, which at \$113 a month equals about \$489 billion in revenue (\$850 billion in 2024 dollars).

E-commerce also generated a lot of revenue in 2000. A [March 2001 article](#) reports that the market for e-commerce in 2000 was \$286 billion (\$500 billion in 2024 dollars). E-commerce has been a growing revenue stream as we have become accustomed to buying online.

Put these numbers together and the internet generated more than \$1.5 trillion in revenue (in 2024 dollars) in 2000 — and the internet bubble still burst. Generative AI, on the other hand, is currently generating less than \$10 billion. If the bubble bursts, it will be a very large pop.

Jeffrey Funk is a retired professor and winner of the NTT DoCoMo mobile science award. His latest book is "Unicorns, Hype and Bubbles: A guide to spotting, avoiding, and exploiting investment bubbles in tech" (Harriman House, 2024).

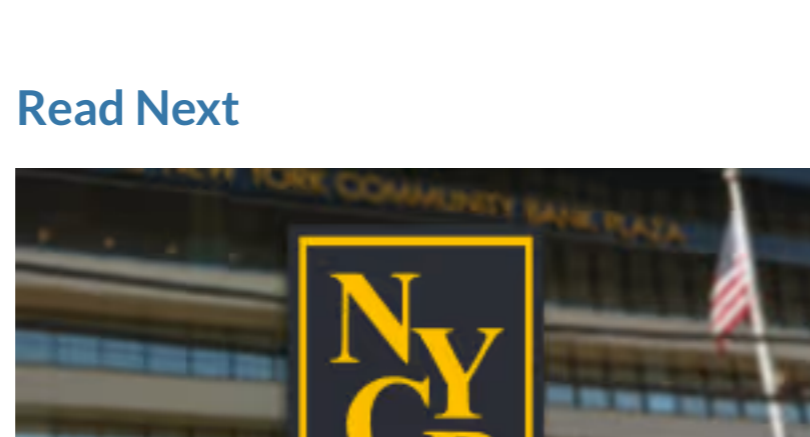
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