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328.26 USD	
▼ -2.40%	
BROADCOM INC	
898.51 USD	
▼ -2.34%	
QUALCOMM INC	
130.20 USD	
▼ -1.42%	

AI Study Says Stocks Already Pricing a Job-Replacement Premium

- Finance among industries that AI can make more productive
- UCLA, USC economists enlisted ChatGPT in AI productivity study

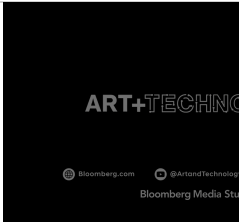
By [Carly Wanna](#)
August 2, 2023 at 6:00 AM EDT

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Trying to sort winners from losers as artificial-intelligence spreads though the economy? The stock market already is, and it goes way beyond [Nvidia Corp.](#) and [Microsoft Corp.](#)

A trio of researchers say companies with workforces ripest for AI streamlining are doing something interesting in the market: beating it. Their study, “[Generative AI and Firm Values](#),” by Andrea L. Eisfeldt and Gregor Schubert of the University of California Los Angeles and Miao Ben Zhang of the University of Southern California, is an attempt to quantify shock waves created by the release of the ChatGPT program.

While [the idea AI is driving equity returns](#) isn’t news to anyone who has watched the Nasdaq 100 surge 44% in 2023, the conclusions in



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has watched the Nasdaq 100 surge 11% in 2020, the conclusions in the paper go further. They depict a market that beneath its surface is already making broad judgments about how automation will impact things like cash flows and stock valuation as intelligent systems cement themselves as tools of production.

“Professional investors are making educated guesses about who will benefit from labor efficiencies as technology gets substituted for people,” said Lawrence Creatura, a fund manager at PRSPCTV Capital LLC, speaking generally and not about the study’s specifics. “This is simply a repeat of the industrial revolution. Machinery will be taking over tasks that humans were doing previously.”

Caveats to such an investigation are many, starting with the shortness of the period available for review – a mere eight months. Another may be the way the authors figured out which jobs are vulnerable to AI intercession: they asked an AI chatbot to tell them.

Given access to a database of 19,000 workplace tasks plus a raft of data pulled from LinkedIn and earnings calls, the robot oracle sent back a ranking of at-risk jobs clustered in the white-collar realm. Firms in finance, professional services and tech scored high when measuring “exposure of their labor force to being made more productive by tools like ChatGPT,” the authors say.

More notable to academics researching how AI might impact the economy was evidence this trait had already been sniffed out by investors. The team found that companies whose jobs are most squarely in AI’s sights have been outperforming the market by a statistically relevant margin.

“Our key finding is that the arrival of ChatGPT had a sizable positive effect on the value of firms whose labor forces are more exposed to Generative AI and related Large Language Models,” wrote the authors.

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Is it a stretch to posit that legions of investors, in just a few short months, would have moved en masse to the specific trade the study highlights: buying companies primed for AI automation? No, says Schubert in an interview – though the process need not have been a conscious one.

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“There are some traders who implicitly or explicitly have assessed that some companies are more likely to put these productivity benefits into practice than others,” he said, adding that while ChatGPT is new, the concept of AI-fomented automation is not.

“There were already lots of investors who were focused on which companies have more exposure to changes in AI technology and that ChatGPT represented a jump in the capability, but they already had preexisting research or insights into what companies would generally benefit,” he said.

In the two weeks following the release of ChatGPT in November, share prices of firms most exposed to AI gained 0.4% more on a daily basis than lower-exposure firms. Cumulative increases in the roughly four months following the release of ChatGPT came to over 9%.

The researchers observed roughly 2,500 publicly traded firms. Three of the top 10 companies most exposed to AI are chipmakers – [Broadcom Inc.](#), [Qualcomm Inc.](#), and [Nvidia](#). Another is Microsoft, which is [developing its own suite of corporate AI products](#).

But the impact of [AI-exposure on stock values](#) held across industries, suggesting that it’s more than just tech companies and chipmakers driving the observed effect. For example, insurance companies with higher exposure to generative AI still exhibited demonstrably higher share price gains than their rivals with lower exposures.

On the surface, the findings sound like more evidence of impending

On the surface, the findings sound like more evidence of impending job replacement – fodder for the idea that companies will fire workers and hire chatbots on the cheap instead. But Schubert – a UCLA economist and one of the study’s authors – suggested an alternate theory: If large language models performed some of the cognitive grunt work, the humans would have more time to complete tasks that the AI cannot. In this scenario, companies become more productive, people keep their jobs, and share prices of AI-savvy firms swell.

“From the firm perspective, all of that is a productivity increase,” Schubert said in an interview. “If the task gets done faster, the firm becomes more productive, and that creates value for them. If the worker sticks around for the task to be done is sort of irrelevant for that productivity gain.”

If AI Had a Day Job

ChatGPT can't lift heavy boxes too well, but it's ready for desk work

Occupation	AI Exposure (1 = most exposed)
Telemarketers	0.96
Proofreaders and copy markers	0.95
Bookkeeping, accounting, and auditing clerks	0.87
Mathematicians	0.86
Computer programmers	0.85
Word processors and typists	0.85
Bill and account collectors	0.83
Interpreters and translators	0.82
Statistical assistants	0.82
Web developers	0.81

Source: Eisfeldt, Schubert, Zhang

Ironically, researchers like Schubert perform some of the cognitive, repetitive work for which AI is primed to do, hence the decision to use it for the study. To sift through the some 19,000 tasks, the economists could have hired a research assistant or employed gig workers – both options that would have required substantial cash and ample time.

and ample time.

Or they could use ChatGPT, which completed the assigned task in less than two days for little to no cost.

“It actually just turned out to be the best tool for the job,” Schubert admits.

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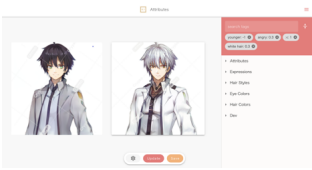
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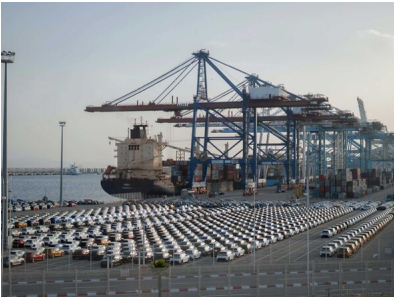
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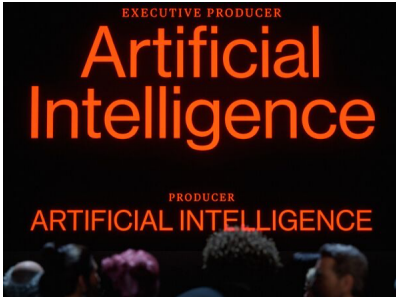


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