Yardeni Research

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Morning Briefing

AI's Worker Displacement, Consumer Spending & Robots

Check out the accompanying chart collection.

Executive Summary: Tech companies are already putting AI to work to ramp up their efficiency and productivity and to pare down their workforces. Non-tech companies are sure to follow. Jackie takes a look at where this evolution stands today and where it's likely headed. … Also: Home Depot and Hovnanian are two bellwethers of consumer spending trends, and their executives are seeing more cautious home-improvement and home-buying customer behavior. … And in our Disruptive Technology segment: The humanoid robots are advancing.

Information Technology: Assessing AI's Threat to Jobs. Technology companies are quickly determining how to use artificial intelligence (AI) to cut jobs and increase productivity. Companies as large as Microsoft, Salesforce, Spotify, and Workday each recently have alluded to the role AI has played in decisions about layoffs or hiring freezes.

We have no doubt that as non-tech companies get more comfortable with AI, they'll start replacing labor with technology as well. Among the first: JPMorgan executives highlighted the bank's plans to use AI to reduce jobs and increase efficiency in back-office operations. The adoption of AI may get a nice shove from the current economic uncertainty, as AI's ability to offset tariff costs or higher interest rates by enhancing productivity will likely incent more executives to try it.

So far, the US unemployment rate remains low, at 4.2% in April (*Fig. 1*). But at the margins, some of the employment data may be starting to show the AI impact. The unemployment rate for individuals who have some college or an associate's degree under their belts has crept up from a low 2.8% in November 2023 to a recent 3.7%. Meanwhile, the unemployment rate for workers with a high-school degree barely budged, ticking down from 4.1% to 4.0% over the same period (*Fig. 2*).

Certainly, not all job losses are related to AI, as workers routinely lose jobs because companies go out of business or want to improve profits. But AI will be more likely to replace white-collar jobs requiring a college degree than blue-collar jobs involving manual labor—or at least that's true until AI-powered android robots hit the scene (a subject we discuss below).

An indication of what the future may hold may be found in the plateauing headcount in the computing infrastructure, data processing, web hosting, and related services industries. The number of folks employed in this Bureau of Labor Statistics category has held steady at around 485,000 for the past two years after climbing by roughly 40% over the preceding four years (more specifically, headcounts were 485,200 in April 2025,down slightly from 486,900 in April 2023, which was up sharply from 336,900 in April 2019) (*Fig. 3*).

Let's consider details surrounding some of the AI-related layoffs and job freezes announced so far this year:

(1) *AI can code.* Earlier this month, Microsoft became the latest tech company to announce layoffs, 6,000 jobs or about 3% of the company's total headcount. In Washington state, 40% of the roughly 2,000 positions cut were in software engineering, a May 14 Bloomberg *article* reported. The move makes sense given CEO Satya Nadella said that AI writes 20%-30% of some of Microsoft's projects' code, an April 29 TechCrunch *article* reported.

Microsoft isn't alone. Earlier this year, Salesforce was cutting more than 1,000 jobs, or less than 2% of its workforce, Bloomberg *reported*. The cuts were notable because the company was still hiring—workers to sell new AI products.

Workday announced it would eliminate about 8.5% of its workers, or 1,750 jobs, to "prioritize investments such as artificial intelligence, while also freeing up resources to expand the company's presence in different countries," a February 5 CNBC *article* stated.

Shopify didn't cut any jobs, but its CEO told employees that they will have to demonstrate that AI can't help them at work before asking for additional resources or staff. Everyone at the firm is expected to use AI in their jobs, and AI usage questions will be added to performance reviews and peer reviews, an April 7 BetaKit *article* reported.

The news organization more recently *reported* that another Canadian company, OpenText, is cutting 1,600 jobs and hiring 1,000 employees in "high-impact" functions. The shift is tied to the company's "AI-first approach" after an analysis of which roles could be done with AI. All new hires must have AI skills and experience, AI will become part of performance reviews, and employees must show why AI can't do the work before asking for more headcount or resources.

(2) *AI in JPM's back office.* There was talk of AI and headcount implications at JPMorgan's annual investor conference on Monday. JPMorgan's CEO of Consumer and Community Banking Marianne Lake predicted that AI would allow the bank to reduce the number of employees in operations and account services departments by 10%—though no timeline was offered, according to a Yahoo Finance *article* citing Business Insider.

At the same event, the bank's CFO Jeremy Barnum said: "We're asking people to resist headcount growth where possible and increase their focus on efficiency." He added: "It's not just the amateurs who are helped by these [AI] tools. It's amazing stuff, and we have high hopes for the efficiency gain."

(3) *AI speaks French.* Duolingo is an app and a website that uses small lessons in a game-like environment to teach foreign languages. A few weeks ago, its CEO Luis von Ahn *declared* the company to be "AI first." Duolingo had already decided to replace slow, manual content creation with AI-created content. Now it also plans to stop using contractors when the work can be done by AI programs. It will look for AI skills when hiring, include employees' AI use during performance reviews, and hire only when the job cannot be automated. That sounds like a bandwagon many CEOs are about to hop on.

Consumer Discretionary: Interest Rates Weigh on Spending. Home Depot's executives said consumers are spending—as long as they don't have to borrow to do so. Tools and flowers are flying off the shelves as usual, but customers aren't springing for kitchen remodeling or other large-ticket items. Hovnanian Enterprises reported that it had to continue offering incentives to offset high mortgage rates to entice consumers to buy their homes.

Here's a quick look at what may be helping—and hindering—consumer spending:

(1) *Higher funding costs.* Interest rates have been rising due to Moody's downgrade of US government debt last week and the record-setting budget deficit, which will only grow under the proposed budget plan that Melissa discussed in yesterday's Morning Briefing. The 10-year Treasury yield surged to 4.60% yesterday, while the 30-year mortgage rate has bounced back up to 6.81% (*Fig. 4*).

Hovnanian is offsetting high mortgage rates by offering incentives that were 10.5% of the average sales price in fiscal Q2 (ending April 30), up 2.4ppts from a year ago and up 0.80ppt from last quarter. Three-quarters of its home buyers took advantage of incentives last quarter. Nonetheless, fiscal Q2 contracts for home sales fell 7% y/y, and company officials assume mortgage rate buydowns will continue at similar levels going forward, according to Hovnanian's conference call *transcript*. The homebuilder's revenue fell 3.1% y/y in the quarter, and adjusted net income tumbled to $29.2 million from $69.6 million a year earlier.

(2) *Lower prices at the pump.* Home Depot executives noted that consumer spending was supported by an employed consumer who begins the summer driving season with gas prices surprisingly low. Nationwide, the average retail price of gasoline was $3.30 per gallon during the week ending May 19. And with the nearby futures price of gasoline at $2.15 a gallon, pump prices look primed to fall (*Fig. 5*).

(3) *Student loan payments return.* What the executives didn't highlight was that President Trump restarted payment requirements on student loans, which also sent the delinquency rate on those loans jumping to a more normal rate of 7.7%, up from roughly 1% last year. Delinquencies on credit cards have also jumped sharply in the past two years, from an unusually low 7.6% in Q3-2022 up to a recent 12.3%, which is high given the lack of a recession (*Fig. 6*).

(4) *Home improvement retail data.* The S&P 500 Home Improvement Retail stock price index has fallen 13.3% from its peak late last year and has moved sideways for more than three years (*Fig. 7*). The collective forward revenue of companies in the industry has started to climb after flatlining for a few years, but the industry's forward operating earnings per share has edged lower (*Fig. 8* and *Fig. 9*). As a result, the forward profit margin has slid from a peak of 10.6% in June 2022 to a five-year low of 8.9% (*Fig. 10*).

But after the index's earnings drops in 2023 (-8.1%) and 2024 (-3.5%), things are looking up. The Home Improvement Retail industry is expected to grow earnings by 0.8% this year and 9.3% in 2026 (*Fig. 11*).

Disruptive Technologies: Humanoids Advancing. Seems like everyone wants to build a humanoid robot. This week, Elon Musk has been out touting the new tricks that Tesla's Optimus robot has learned. K-Scale Labs has introduced a humanoid that won't break the bank. Ameca by Engineered Arts is considered by some to be the smartest of the pack. And there are tons of Chinese competitors, enjoying oodles of state funding, that want to dominate the market as advancements in AI make robots smarter than ever.

Here's a look at some of the latest news and innovations:

(1) *Optimus learns new tricks.* Tesla's Elon Musk enthusiastically declares Optimus the "biggest product of all time." The humanoid robot has learned how to learn by watching videos. A video of Optimus executing everyday household tasks, including vacuuming and putting the trash in a bin, is included in an *article* published yesterday by Quartz. In an interview on Tuesday with CNBC, Musk said he plans to have Optimus robots working in Tesla's factory by the end of this year.

(2) *Humanoids get cheaper.* K-Scale Labs, a Palo Alto startup, is offering a five-foot tall, open-source android for only $8,999 that it reportedly developed in five months. It also boasts two smaller and cheaper models.

The robot's small frame allows it to coexist safely with humans, and its software allows it to learn and adapt based on new data. The robot is meant for the mass market and is affordable enough that it can be purchased by universities or robotics enthusiasts. Here's a YouTube *video* of the robot in action.

(3) *Is Ameca the smartest?* In Standard Bots' *article* about the most advanced robots in 2025, we came across one name we hadn't encountered before: "Ameca" by Engineered Arts. She has facial expressions and arms that move very smoothly like a human's, but she cannot walk—yet. While conversing with the public attending the CES convention, she seems to have a sense of humor and understand sarcasm. Here's a *video*. Engineered Arts is creating these robots to entertain crowds and provide customer service, according to its *website*.

(4) *China is in the mix.* Chinese companies are developing equally impressive robots, helped by a government that has made robotics a priority and provides billions in funding. For China, robots are about more than just improving productivity. Robots could help the country solve the potential future problem of worker shortages stemming from China's declining population and ensure that the country can compete with US developers.

Conveying the sector's importance, President Xi has visited AgiBot and Unitree, two leading robotics companies, and DeepSeek, an AI developer. The country has allocated more than $20 billion to the sector over the past year; Beijing has established a $137 million fund to support AI and robotics startups; and Shenzhen has created a $1.4 billion AI and robotics fund, a May 12 Reuters *article* reported.

This widespread support comes as many companies have rushed into the humanoid robotics arena, which could result in a glut similar to what occurred in the electric vehicle market. One analyst suggests that the price of a humanoid robot could tumble from $35,000 by the end of this year to $17,000 by 2030. Last year alone, there were 31 Chinese companies with 36 humanoid models, compared to only eight US companies. Unanswered is the question of what China will do with all of its displaced factory workers.

Calendars

US: Thurs: Initial Claims 227k; M-PMI & NM-PMI Flash Estimates 49.9 & 50.7; Existing Home Sales 4.15mu; Kansas City Fed Manufacturing Index; Chicago Fed National Activity Index; Williams. **Fri:** New Home Sales 690,000 units; Baker-Hughes Rig Count; Cook. (FXStreet estimates)

Global: Thurs: Germany Ifo Business Climate Index, Headline, Current Situation & Expectations 87.5, 87.7, 88.3; Eurozone PMI & NM-PMI Flash Estimates 49.3 & 50.6; UK M-PMI & NM-PMI Flash Estimates 46.2 & 50.0; UK Gfk Consumer Confidence -22; UK CBI Industrial Trend Orders -25; ECB Publishes Account of Monetary Policy Meeting; De Guindos; Elderson; Nagel; Pill; Breeden; Dhringa. **Fri:** Germany GDP 0.2%q/q, -0.2%y/y; France Consumer Confidence 93; UK Retail Sales Headline & Ex Fuel 0.3%m/m, 4.5%y/y & 0.3%m/m, 4.4%y/y; Lane; Schnabel. (FXStreet estimates)

Strategy Indicators

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): During the April 4 week, the S&P 500's forward revenues, earnings, and margins all peaked at record highs. In the six weeks since then through the May 15 week, the S&P 500's forward revenues rose w/w for just a second time, and the forward earnings and profit margin dropped w/w for a fifth time. Forward revenues and earnings are now 0.2% and 1.1% below their respective record highs. The forward profit margin of 13.5% was unchanged w/w after dropping the week before from a record-high 13.6%. It is now 3.2ppts above its seven-year low of 10.3% during April 2020. The consensus expectations for forward revenues growth rose 0.1ppt w/w to 5.3%, just 0.5ppt below its 23-month high of 5.8% during the August 1 week. It has gained 3.0ppts from its 33-month low of 2.3% during the February 23, 2023 week. That's down from a record high of 9.6% growth at the end of May 2021 and compares to 0.2%

forward revenues growth during April 2020, which was the lowest reading since June 2009. The forward earnings growth forecast fell 0.2ppt w/w to a 15-month low of 10.9%. From a longer-term perspective, that's just 0.5ppt below its 20-year average of 11.4% and slowing from a 38-month high of 14.3% during the December 12 week. That's down from its 23.9% reading at the end of April 2021, which was boosted by the recovery from the pandemic to its highest reading since June 2010 and up substantially from its record low of -5.6% at the end of April 2020. Analysts expect revenues to rise 4.5% in 2025 (down 0.1ppt w/w) and 5.9% in 2026 (down 0.1ppt w/w), compared to a 4.9% rise in 2024. They expect an earnings gain of 9.2% in 2025 (down 0.5ppt w/w) and a 13.4% rise in 2025 (down 0.2ppt w/w) compared to 2024's earnings gain of 11.3%. Analysts expect the profit margin to rise 0.6ppt y/y to 13.1% in 2025 (unchanged w/w) and 0.9ppt y/y in 2026 to 14.0% (down 0.1ppt w/w), compared to 2024's 12.5%. Looking at valuation data as of May 15, the S&P 500's weekly forward P/E soared 1.0pt w/w to an 11-week high of 21.4, up 2.2pts from a 16-month low of 19.2 during the April 17 week and just 1.0pt below its four-year high of 22.4 during the February 20 week. It's now 6.1pts above its 30-month low of 15.3 in October of 2022. It also compares to 23.1 in early September 2020, which was the highest level since July 2000, and to a 77-month low of 14.0 in March 2020. The S&P 500 weekly price-to-sales ratio rose 0.13pt w/w to an 11-week high of 2.89, up 0.30pt from a 12-month low of 2.59 during the April 17 week and 0.14pt below its record-high 3.03 during the February 20 week. That's up from a six-month low of 2.22 during the October 26, 2023 week and compares to a 49-month low of 1.65 in March 2020.

S&P 500 Sectors Revenues, Earnings, & Margins (*link*): During the May 15 week, forward revenues rose for six of the 11 S&P 500 sectors, but forward earnings rose for only three. The forward profit margin rose for three sectors w/w. These four sectors had record-high forward revenues this week: Financials, Health Care, Real Estate, and Utilities. These three are less than 0.4% from their recent record highs: Communication Services, Consumer Staples, and Information Technology. Among the remaining four sectors, Consumer Discretionary has dropped 2.1% from its mid-March record-high forward revenues, Industrials' is 2.7% below its early September record, and both Materials and Energy are the biggest laggards at 7.6% and 17.6% below, respectively. None of the 11 sectors had record-high forward earnings this week. These four sectors are less than 0.5% from their record highs: Communication Services, Financials, Information Technology, and Utilities. These five sectors are a bit further from their highs: Consumer Discretionary (5.3% below its March 6 record), Consumer Staples (2.0% below its January 2 record), Health Care (1.3% below its April 3 record), Industrials (1.8% below its April 3 record), and Real Estate (4.3% below its August 2022 record). Forward earnings remains depressed for the last two sectors, Energy and Materials, which are 41.8% and 27.4% below their respective highs during 2022. Looking at the forward profit margin, Communication Services was the only sector in the record-high club. During late 2024 and early 2025, these four sectors were also in that club, and they remain close: Consumer Discretionary, Financials, Industrials, and Information Technology. These four sectors are struggling, with their forward profit margins at or barely above cyclical or record lows: Consumer Staples, Energy, Health Care, and Materials. Here's how the S&P 500 and its 11 sectors rank based on their current forward profit margin forecasts along with their record highs: Information Technology (27.1%), down from its 27.6% record high in September, prior to low-margin Dell's addition to the index, which lowered the margin 1.3ppts then to 26.3%, Financials (20.1, down 0.2ppt w/w from its 20.3 record high), Communication Services (19.2, a record high this week), Real Estate (16.4, up 0.1ppt w/w and down from its 19.2 record high in 2016), Utilities (14.6, down from its 14.8 record high in April 2021), S&P 500 (13.5, down from its 13.6 record highs in early April), Materials (10.6, up 0.2ppt from 51-month low in late February and down from a 20-month high of 11.6 in July 2023 and a 13.6 record high in June 2022), Energy (8.5, down 0.2ppt w/w to a 55-month low 8.6 and down from its 12.8 record high in November 2022), Industrials (11.0, down from its 11.3 record high in early January), Consumer Discretionary (9.1, down from a record high 9.4 in early April), Health Care (8.4, down 0.2ppt w/w to a record low and down from its 11.5 record high in February 2022), and Consumer Staples (6.7, a 21-month low and down from its 7.7 record high in June 2020).

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