MORNING BRIEFING
January 6, 2022

All Things Tech

Check out the accompanying chart collection.

(1) Checking out CES, virtually. (2) Autos are the new tech. (3) Semis introduce new chips as global sales keep climbing. (4) Check out Gallium's new AR headset, an app for dog nose prints, and a digital frame for your NFTs. (5) Tech had a great 2021, but a rough start to 2022. (6) A look ahead at Tech industries' earnings estimates. (7) SenseTime—China's Google—is spreading around the world. (8) SenseTime's facial recognition and AI expedite purchasing, fight Covid-19, and make cars smarter. (9) China may also be using it to track the country's Muslim minority. (10) SenseTime's shares rally after Hong Kong IPO.

Technology I: A Smaller CES Kicks Off. Though a day shorter this year amid Omicron's rampage, *CES*—the Consumer Technology Association's annual trade show being held on January 5-7 in Las Vegas—is still full of product introductions large and small, silly and substantial. Here are a few that caught our attention:

(1) *Autos dominate.* One of the bigger surprises came from Sony, which introduced Sony Mobility, a company that it's starting to develop electric vehicles. Last year, Sony introduced the Vision-S, an electric sedan, and this year it revealed an electric SUV.

Mercedes Vision EQXX theoretically has won the mileage wars—so far. The concept car can travel 620 miles on a charge according to computer simulations. The car doesn't yet exist in the real world nor does it have a theoretical price tag. But if the simulations prove correct, the car's mileage would top that of Tesla Model S (402 miles on a charge) and the Lucid Air Dream (520 miles). But for right now, the Vision EQXX is only in our dreams.

John Deere doesn't make cars, but it did introduce an autonomous tractor at CES that's controlled by an app on a cell phone. The company has sold self-driving tractors in the past, but these new tractors are fully autonomous. They don't require a farmer to sit in the cab as the tractor tills the fields.

The productivity gains could be substantial. One farmer explained that Deere's autonomous tractor can operate all night long, allowing him to do more and get ahead of bad weather, a January 4 CNET *article* reported. Autonomous tractors also solve the labor shortage most

farms are facing.

(2) *Lots of semi news.* AMD CEO Dr. Lisa Su kicked off CES, which has seen a flood of new chip introductions. AMD launched Ryzen 6000 laptop processors, the first to include Microsoft's new Pluton security processor. The company also rolled out new chips for thin gaming laptops, competing with Nvidia chips.

The chip companies are elbowing into each other's territories, a January 4 *Los Angeles Times* article observed. Intel offered Arc graphics chips that also targeted AMD's and Nvidia's market. Qualcomm has developed chips for autos and PCs, expanding beyond its mobile phone domain. Nvidia introduced high-end gaming graphics chips for laptops.

CES once again highlighted the growing need for semiconductor chips as more everyday items get "smarter." Global semiconductor sales were $49.7 billion in November using the three-month moving average, up 23.5% y/y and up 1.5% m/m, the Semiconductor Industry Association *reported* on January 3 (*Fig. 1*). Sales growth slowed modestly from its peak of 30.4% growth in June.

Semiconductor chip sales were strong in November all around the world: Americas (28.7% y/y), Europe (26.3), Asia Pacific/All Other (22.2), China (21.4), and Japan (19.5). Month-to-month sales were strong as well: Americas (4.2% m/m), Europe (3.1), Japan (1.1), Asia Pacific/All Other (0.9), and China (-0.2).

Global semiconductor sales and S&P 500 Semiconductor industry earnings have risen in lockstep over the past two years (*Fig. 2*). Analysts are slightly more conservative in their 2022 forecasts, targeting a revenue increase of 11.1% but an earnings increase of only 7.4%, down from the projected 37.8% surge enjoyed in 2021 (*Fig. 3* and *Fig. 4*). With the industry's forward P/E higher than it has been over the last decade, at 24.5, semi stocks might be ready to take a breather over the coming year.

(3) *Peering into the metaverse.* If the metaverse stands a chance of going mainstream, someone needs to invent a better headset than the clunky ones currently available. Kura's Gallium AR headset may be the answer. Though pricey at $1,199, the Gallium looks more like glasses than a bulky head device. TechRadar called Gallium AR "the most promising AR headset yet," in a December 23 *article*.

(4) *Harnessing the sun.* GAF Energy, a division of roofing materials company GAF, introduced Timberline Solar, solar panels that it says can be installed by any roofer with a

nail gun, a January 3 TechCruch *article* reported, dramatically reducing installation costs. From pictures, they appear to lie flush against the roof—an aesthetic improvement over older solar panels, which stick up above the roof shingles around them, but not as aesthetically pleasing as Tesla's solar panels, which actually are the roof shingles.

On a much smaller scale, Samsung introduced the Eco Remote, a remote that charges by harvesting "the RF signals from your router" or via solar energy from the sun or the end-table lamp.

(5) *Silly but useful. Petnow* has an app that identifies a dog by its nose print. Like human fingerprints, dogs' nose prints are unique to each individual. The app can be used to identify lost dogs, eliminating the need to implant a chip.

Sengled is offering a smart lightbulb that monitors a person's health by tracking sleep, heart rate, body temperature, and other vital signs using a radar sensor, a January 4 Tom's Guide *article* explains. It may even sense whether someone has fallen and can't get up.

Atomic Form is offering the Wave, which looks like a digital picture frame in which one's NFTs, or non-fungible tokens, can be displayed. The Wave displays NFTs in various ways that users control (e.g., multiple NFTs might rotate), and it connects to the Atomic Form Hub, where NFTs can be stored and organized.

Technology II: A Look at the Data. Since late last year, technology shares have underperformed the shares of more traditional companies. From the start of 2022 through Wednesday's close, the tech-heavy Nasdaq has fallen 3.5%, while the Dow Jones Industrial Average has gained 1.9% and the S&P 500 has eased 1.4%. Wednesday's selloff gained speed after the Federal Reserve's minutes from its December meeting indicated that the Fed is ready to raise interest rates and reduce its bond holdings this year. Treasury yields rose, and stock markets sold off on the news, with the Nasdaq falling the most.

Last year, the S&P 500 led for most of the year and the Nasdaq and the Dow duked it out for second place, trading positions a number of times during the year. By the time the New Year's Eve ball dropped, the S&P 500 was up 26.9% for 2021, the Nasdaq was in second place with a 21.4% gain, and the Dow came in last, up 18.7%.

The S&P 500 Technology sector index was near the top of the sector leader board last year, rising 33.4% (*Fig. 5*). It was the third best-performing S&P 500 sector, trailing only Energy (47.7%) and Real Estate (42.5%). The sector enjoyed a trifecta of revenue growth,

margin expansion, and earnings growth, while its forward P/E remained mostly unchanged on the year ("forward P/E" is the valuation multiple based on "forward earnings," or the time-weighted average of industry analysts' consensus estimates). Let's dive into the numbers:

(1) *A banner bottom line.* The S&P 500 Technology sector's revenue climbed a projected 18.0% in 2021, and analysts forecast another strong year in 2022, with 9.3% revenue growth (*Fig. 6*). The sector's margins—which Joe calculates from analysts' estimates for revenues and earnings—widened throughout much of last year, hitting an implied 24.9% at year-end, up from 22.4% at the start of January 2021 (*Fig. 7*). Margin improvement and revenue growth combined to deliver an estimated 37.1% earnings growth last year, and analysts are optimistic that earnings will improve again this year by 10.2% (*Fig. 8*).

As the Tech sector's earnings improved, however, its forward P/E barely budged, ending the year at 28.5, up modestly from 27.5 at the start of the year (*Fig. 9*).

(2) *Broad tech industry outperformance.* Of the 13 S&P 500 Technology industries we track, the stock market performance of seven beat the S&P 500 in 2021, five had returns north of 40%, and only one ended the year in negative territory.

Here's the performance derby for the S&P 500 Technology industries' 2021 stock price returns: Semiconductor Equipment (56.6%), Systems Software (49.2), Communications Equipment (47.7), Electronic Equipment & Instruments (47.5), Semiconductors (47.5), IT Consulting & Other Services (36.1), Technology Hardware, Storage & Peripherals (34.4), Electronic Manufacturing Services (23.8), Electronic Components (21.1), Application Software (19.8), Internet Services & Infrastructure (14.6), Technology Distributors (1.6), and Data Processing & Outsourced Services (-4.7).

(3) *A look ahead at earnings.* The S&P 500 Technology sector's 2022 earnings growth is expected to slow from last year's results, but still grow faster than the S&P 500's. Here's the performance derby for the S&P 500 sectors' 2022 earnings forecasts: Industrials (36.2%), Consumer Discretionary (29.8), Energy (28.1), Information Technology (10.2), S&P 500 (8.7), Health Care (6.6), Communications Services (6.4), Consumer Staples (6.3), Materials (3.9), Utilities (3.1), Financials (-8.6), and Real Estate (-8.6).

Six S&P 500 Technology industries are expected to have faster earnings growth than the S&P 500 and only one industry—Technology Hardware, Storage and Peripherals (home to Apple)—is expected to lag by a significant amount. The Semiconductor Equipment industry's growth continues to be faster than most as semiconductor companies scramble to

add capacity. Earnings in the Semi Equipment industry grew 26.5% in 2020 and are forecast to climb 57.5% in 2021 and 25.5% this year.

Here's the performance derby for the S&P 500 Tech industries' 2022 earnings growth: Semiconductor Equipment (25.5%), Data Processing & Outsourced Services (18.0), Systems Software (14.0), Application Software (11.5), IT Consulting & Other Services (11.2), Electronic Equipment & Instruments (9.2), Electronic Manufacturing Services (8.7), S&P 500 (8.7), Communications Equipment (7.6), Internet Services & Infrastructure (8.1), Semiconductors (7.4), and Technology Hardware, and Storage & Peripherals (4.7).

Disruptive Technologies: AI in China. Last week, one of China's largest artificial intelligence (AI) companies, SenseTime, went public in Hong Kong. Its founder Tang Xiao'ou and his students at the Chinese University of Hong Kong developed an algorithm in 2014 that identified faces with 98.5% accuracy. It exceeded the accuracy of human eyes and all other facial recognition algorithms on the market at the time. The company along with competitors Megvii, Cloudwalk Technology, and Yitu Technology are called "the four dragons" of China's AI and computer vision industry.

SenseTime's road to a public listing wasn't straight. Prior to pricing the IPO, the US Department of Treasury placed SenseTime on a blacklist of Chinese companies that support China's military, which meant that US investors could not participate in the offering. The company was already on the US Commerce Department's Entity List, which prohibits it from doing business with American companies without a license.

The US alleged that SenseTime's facial recognition software was used to suppress the Uyghurs in western China. SenseTime disputed the claims, having sold its 51% stake in a "smart policing" joint venture in Xinjiang in 2019. After amending IPO documents, the $744 million offering went forward, with the shares pricing at HK$3.85 at the end of December. Since then, they've more than doubled to HK$7.74 as of Tuesday's close.

Given the importance of AI and the controversy, we decided to take a deeper look at the company that's sometimes called "the Google of China":

(1) *Harnessing AI for good.* SenseTime, like others in the AI arena, is harnessing its technology to make life easier. Its facial recognition technology is being connected to digital wallets to make purchases faster. SenseTime supplies autonomous driving technologies to Japan-based Honda Motor. It has expanded into virtual reality mobile apps. Its software has been used to screen for Covid by checking body temperature at restaurants, gyms, and

offices and for proper mask-wearing by scanning faces in several Chinese cities.

SenseTime also provides traffic-flow optimization, fire detection, and other technologies to 119 cities, mostly in China. "In one city, its systems are being used to detect people not wearing seat belts in cars, with a claimed precision rate of 94 per cent. It can also spot drivers who are using mobile phones with 86 to 96 per cent accuracy. In another top-tier city … SenseTime's traffic management system logged traffic violations by people on mopeds [which] dropped by more than half in just a couple of months. The number of drivers choosing to wear a helmet, meanwhile, rose from under half to 94 percent," a September 28 *FT* [article](#) reported.

(2) *Going global.* SenseTime's reach is expanding around the world. Wendy's restaurants in Japan are using SenseTime technology licensed by Japan Computer Vision (JCV), a wholly owned subsidiary of Softbank, a SenseTime investor. JCV owns an equity stake in US startup PopID, which runs PopPay, an online payment service. PopPay uses SenseTime technology to match a customer's face and a registered photo to complete payments at Wendy's touchscreen panels in Japan, a December 15 Nikkei Asia [article](#) reported. All customer information is stored in Japan and not shared with the Chinese government.

In 2019, the company [announced](#) a new EMEA R&D headquarters in Abu Dhabi that focuses on developing AI capabilities across seven industries, including healthcare, remote sensing, and education. Last year, the country announced 15 charter schools would use SenseTime facial recognition technology, crowd management monitoring, and augmented reality features to make the schools safer and healthier. The tech will call out bullying and track compliance with Covid-19 precautionary procedures. If the pilot program goes well, it could be deployed across all charter schools.

SenseTime and G3 Global have entered a partnership to bring and develop AI in Malaysia. The deal includes developing a $1 billion, 315-acre park where AI solutions in computer vision, speech recognition, and robotics will be developed. In addition, SenseTime's curriculum will be brought to Malaysia's schools to develop in students the skills needed for AI work.

(3) *Harnessing AI for evil.* The same facial recognition that's being used to pay at Wendy's can also be used by governments to target ethnic minorities. While the Chinese government and Chinese AI companies say they aren't doing so, the patents they've filed indicate otherwise.

A number of Chinese firms have filed patents to protect their "ethnicity-tracking biometrics," according to a January 12, 2021 *article* by IPVM, a self-described agency that provides information about and advocates for ethical practices in video surveillance. SenseTime filed a patent on July 2019 for a "method and device for retrieving images."

The SenseTime "method" can categorize people by ethnicity, determining whether they are Han, Uyghur, non-Han, non-Uyghur, and unknown, the patent states according to the article. The patent uses an Uyghur man as an example of a target image, allowing users to input several values—such as Uyghur, sunglasses, beard, and male—into the system to find a person with the same attributes.

SenseTime said: "This particular AI research includes facial recognition of all ethnicities without prejudice. The reference to Uyghurs is regrettable and is one of the examples within the application intended to illustrate the attributes the algorithm recognizes. It was neither designed nor intended in any way to discriminate, which is against our values."

SenseTime was not alone. Huawei and Chinese AI software startups Megvii, Intellifusion, and SensingTech each had patents on AI software or systems that referenced the ability to identify Uyghurs and/or other people's ethnicity. When asked for comment, Huawei said that it would take out the patent's reference to race and that identifying people by race was "never part of the research and development project." Megvii said the patent "is in no way an intention to develop ethnic identification solutions" and told the BBC it would withdraw the patent. Intellifusion and SensingTech didn't respond to the article's author's requests for comment.

(4) *Some numbers.* SenseTime reports that it's the largest AI software firm in Asia, with an 11% market share, but the company is still in the red. It spent $278 million on R&D during H1-2021, more than the $259 million of revenue it generated, a December 30 *WSJ article* reported. Revenue increased 13.9% y/y in 2020 to $534 million, but the company reported a loss. The company blamed Covid for slowing revenue growth from 63% y/y in 2019, an August 31 *article* in Protocol reported.

SenseTime's revenue is concentrated, particularly among Chinese governments. Its five biggest customers generated almost 59% of SenseTime's H1-2021 revenue, and mainland Chinese customers kicked in more than 85% of H1-2021 revenue, a December 30 *WSJ article* reported. Large early investors include SoftBank Group, Alibaba Group Holding, and Silver Lake.

Calendars

US: Thurs: Initial & Continuous Jobless Claims 200k/1.72m; ISM NM-PMI 71.0; Factory Orders 1.4%; Trade Balance -$74.8b; Natural Gas Storage. **Fri:** Payroll Employment Total, Private, and Manufacturing 400k/365k/35k; Unemployment Rate 4.1%; Average Hourly Earnings 0.4%m/m/4.2%y/y; Average Weekly Hours 34.8. Consumer Credit $19.5b; Baker-Hughes Rig Count. (Bloomberg estimates)

Global: Thurs: Germany Factory Orders 2.1%; Germany CPI 0.4%m/m/5.1%y/y; UK C-PMI & NM-PMI 53.2/53.2; Japan Household Spending -0.6%; Schnabel. **Fri:** Eurozone Retail Sales -0.5%m/m/5.6%y/y; Eurozone Headline & Core CPI Flash Estimate 4.7%/2.5% y/y; Eurozone Business & Consumer Survey 116.0; Germany Industrial Production 1.0%; Germany Trade Balance €12.8b; Canada Employment Change & Unemployment Rate 27.5k/6.0. (Bloomberg estimates)

Strategy Indicators

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): The S&P 500's forward profit margin remained steady last week at 13.2%, down from a record high of 13.3% in mid-December. Since the end of April, it has exceeded its prior record high of 12.4% in September 2018. It's now up 2.9ppts from 10.3% during April 2020, which was the lowest level since August 2013. Forward revenues edged down for the first time in 13 weeks from a record high, but forward earnings per share was at a new record high. They've both been making new record highs since the beginning of March and for the first time since February 2020. Since the Q2-2021 earnings season came in way better than expected, analysts have been playing catch-up with their lowball estimates from the Covid-19 shutdown period. Prior to this catch-up period, consensus S&P 500 forecasts had been falling at rates paralleling the declines during the 2008-09 financial crisis. Forward revenues growth was steady w/w at 7.4%, up from a 12-month low of 7.1% in early December. That's down from a record high of 9.6% growth at the end of May and should continue to move lower as base effects subside. Still, that's up from 0.2% forward revenues growth during April 2020, which was the lowest reading since June 2009. Forward earnings growth was steady at 8.7%, up from a 16-month low of 8.2% in early December, and should also continue to move lower due to base effects. That's down from its 23.9% reading at the end of April, which was its highest

since June 2010, and up substantially from its record low of -5.6% at the end of April 2020. On a positive note, this year analysts have been raising their consensus forecasts for 2021 and 2022 revenues and earnings growth; the imputed profit margin estimate that we calculate from those forecasts has been rising too. They expect revenues to rise 16.1% in 2021 (unchanged w/w) and 7.5% (unchanged w/w) in 2022 compared to the 2.1% decline reported in 2020. They expect earnings gains of 50.0% in 2021 (up 0.1ppt w/w) and 8.7% in 2022 (unchanged w/w) compared to a 13.4% decline in 2020. Analysts expect the profit margin to rise 3.0ppts y/y in 2021 to 13.1% (unchanged w/w) from 10.1% in 2020 and to improve 0.1ppt y/y to 13.2% in 2022 (unchanged w/w). The S&P 500's weekly reading of its forward P/E rose 0.4pt to an eight-month high of 21.7. That's up from a 17-month low of 20.4 in mid-October. That also compares to 23.1 in early September 2020, which was the highest level since July 2000 and up from a 77-month low of 14.0 in March 2020. The S&P 500 weekly price-to-sales ratio rose 0.06pt w/w to a record high of 2.88. That's up from its four-month low of 2.69 in mid-October and compares to its prior record high of 2.86 at the end of November and a 49-month low of 1.65 in March 2020.

S&P 500 Sectors Earnings, Revenues, Valuation & Margins (*link*): Last week saw consensus forward revenues rise for three of the 11 S&P 500 sectors and forward earnings rise for six sectors. Nearly all sectors are at or near record highs in their forward revenues, earnings, and profit margin. Energy still has forward revenues and earnings well below record highs, but its profit margin is the highest since August 2008. Financials, Real Estate, and Utilities have forward earnings at or near record highs, but their forward revenues and margins are lagging. Only three sectors posted a higher profit margin y/y in 2020: Consumer Staples, Tech, and Utilities. For 2021, a y/y improvement is expected for all but Utilities. Five sectors are expected to see margins decline or remain flat y/y in 2022: Communication Services, Financials, Health Care, Materials, and Real Estate. The forward profit margin was at record highs during 2018 for 8/11 sectors, all but Energy, Health Care, and Real Estate. Here's how they rank based on their current forward profit margin forecasts along with their record highs: Information Technology (24.9%, down from its 25.0% record high in mid-December), Communication Services (16.7, down from its 17.0 record high in early October), Real Estate (16.3, down from its 19.2 record high in mid-2016), Utilities (14.6, down from its 14.8 record high in early May), Materials (13.3, down from its 13.4 record high in mid-December, S&P 500 (13.2, down from its 13.3 record high in mid-December), Health Care (11.3, a new record high this week), Industrials (10.2, down from its record high of 10.5% in mid-December), Consumer Staples (7.6, down from its 7.7 record high in early June), Consumer Discretionary (8.0, down from its 8.3 record high in mid-2018), and Energy (9.1 [near a 13-year high], down from a record-high 11.2 in mid-2007).

S&P 500 Sectors Forward Revenues and Earnings Recovery from Covid-19 Trough
(*link*): The S&P 500's forward revenues and earnings as well as its implied forward profit margin bottomed at cyclical lows on May 28, 2020 after 14 weeks of Covid-19-related declines. Forward revenues and earnings have risen 22.2% and 57.8%, respectively, since then to new record highs. The forward profit margin had risen 3.2ppts to a record high of 13.3% in mid-December, but is down 0.1ppt since then to 13.2%. Still, that exceeds its prior pre-Covid record of 12.4% in late 2018. During the latest week, eight of the 11 sectors posted gains in either their forward revenues, earnings, or profit margin. Here's how the S&P 500 and its 11 sectors rank by their changes in forward revenues and forward earnings since May 28, 2020: Energy (forward revenues up 42.5%, forward earnings up 6,990.5%), Materials (33.8, 102.7), Information Technology (28.9, 48.1), Industrials (27.4, 77.9), Communication Services (25.0, 55.9), S&P 500 (22.2, 57.8), Financials (20.1, 66.0), Health Care (20.3, 33.7), Consumer Discretionary (18.5, 98.4), Real Estate (14.3, 48.2), Consumer Staples (14.0, 20.5), and Utilities (2.5, 6.4).

US Economic Indicators

ADP Employment (*link*): "December's job market strengthened as the fallout from the Delta variant faded and Omicron's impact had yet to be seen," said Nela Richardson, chief economist, ADP. "Job gains were broad-based, as goods producers added the strongest reading of the year, while service providers dominated growth. December's job growth brought the fourth quarter average to 625,000, surpassing the 514,000 average for the year." Private payroll employment jumped 807,000 in December—the second strongest reading this year, up 15.9 million since the recovery began though still 3.7 million short of pre-Covid 19 levels. Services providers added 669,000 jobs in December—nearly double the 373,800 average gain the prior five months. Goods-producing companies added over 100,000 to payrolls for the third month, up 138,000 in December and 352,000 during all of Q4. As for December's ytd changes, total payrolls were up 6.17 million, with service-providing and goods-producing climbing 5.36 million and 815,000, respectively, over the comparable period. Here's a tally of industry performances ytd from strongest to weakest since bottoming last April and relative to last February's levels: leisure & hospitality (+2.3 million, +6.0 million, -1.7 million), trade transportation & utilities (+861,000, +2.5 million, -620,000), health care & social assistance (+667,000, +1.9 million, -207,000), administrative & support services (+407,000, +1.0 million, -535,000), manufacturing (+384,000, +1.1 million, -202,000), professional & technical services (+373,000, +600,000, +67,000), construction (+371,000, +1.1 million & +150,000), other services (+324,000, +1.1 million, -

222,000), education (+165,000, +357,000, -92,000), financial activities (+140,000, +247,000, -18,000), natural resources & mining (+60,000, +42,000, -10,000), information services (+50,000, +17,000, -246,000), and management of companies & enterprises (+28,000, +7,000, -75,000). Here's the same exercise by company size: large (+2.6 million, +6.4 million, -2.9 million), medium (+1.9 million, +4.3 million, -574,000), and small (+1.7 million, +5.1 million, -275,000).

JOLTS (*link*): Job openings continued to bounce around record highs in November, while the number of quits jumped to a new record high. Job openings slipped 529,000 in November to 10.562 million after climbing 489,000 in October to 11.091 million, virtually matching July's record high of 11.098 million. There were 6.9 million unemployed in November, so there were 1.5 million available jobs for each unemployed person—the most on record going back two decades. November's decline in job openings was led by accommodation & food services (-261,000), construction (-110,000), health care & social assistance (-67,000), and nondurable goods manufacturing (-66,000). Meanwhile, the largest increases in job openings were posted by finance & insurance (83,000), the federal government (25,000), and state & local governments (19,000). Turning to quits, this measure is generally voluntary separations initiated by the employee and therefore can be viewed as the workers' willingness and ability to leave jobs. The number of quits increased for the fifth time in six months in November, up 370,000 m/m and 897,000 over the period to a record-high 4.5 million. Before the pandemic, quits hovered around 3.5 million. Many employers are raising wages and incentives amid a severe labor shortage, which gives workers confidence that they can get better pay elsewhere. Meanwhile, hirings have remained in a relative flat trend around 6.6 million the past six months through November, up from 5.4 million at the end of 2020.

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