Yardeni Research

MORNING BRIEFING
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Semis, Onshoring Boom & Hydrogen

Check out the accompanying chart collection.

Executive Summary: The semiconductor industry is breaking out into the light at the end of its tunnel. Its stocks are up, its CEOs are optimistic, and worldwide semiconductor sales are starting to improve. AMD's CEO sees big opportunity in the rapid pace of AI adoption. … Also: Jackie highlights some of the many new ventures manufacturers are planning to capitalize on trillions of dollars in government incentives. Their projects may be enough to stave off a recession. … And our Disruptive Technologies segment looks at the government-incentivized green hydrogen opportunity.

Semiconductors: Anticipating Recovery. The S&P 500 Semiconductors industry stock price index is the second-best performer of all 126 S&P 500 industries measured ytd through Tuesday's close, posting a 33.9% gain compared to the S&P 500's 7.3% (*Fig. 1*). The industry has had a tough year or so, with semiconductor shipments and sales falling sharply. But corporate executives seem optimistic about H2-2023; and for the first time in nearly a year, shipments in March rose on a month-over-month basis.

Here's a look at some industry data and the Q1 earnings report of one of the industry's leading competitors, Advanced Micro Devices (AMD):

(1) *Signs of life.* While worldwide sales of semiconductors continued to fall on a y/y basis during March, they edged higher on a m/m basis for the first time in almost a year, by 0.3% (based on the three-month moving average), according to a May 1 Semiconductor Industry Association *press release*. Here's how the m/m sales comparisons stacked up in each of the regions tracked: Europe (2.7%), Asia Pacific/all other (2.6), China (1.2), Japan (-1.1), and Americas (-3.5).

Worldwide sales fell 21.3% y/y during March, based on the three-month average. Semiconductor sales peaked at $51.7 billion in May 2022 and have fallen 23.0% since to $39.8 billion. Here's how y/y sales fared by region: China (-34.1%), Asia Pacific/all other (-22.2), Americas (-16.4), Japan (-1.4), and Europe (-0.6) (*Fig. 2*).

Analysts have grown more optimistic about the industry's earnings next year. Revenue is expected to fall 10.3% this year, and earnings are expected to plummet 24.2%. But a

recovery in 2024 is expected to boost the industry's revenue by 14.0% and its earnings by 35.5% (*Fig. 3* and *Fig. 4*). The projected earnings growth rate for 2024 has been climbing sharply for the past six months; so has the industry's forward P/E, which stands at 23.9, up from its low of 13.7 last year (*Fig. 5*).

(2) *AMD looks to H2.* Investors expected Q1 *earnings* to fall sharply, and they did. Revenue fell 9.1% to $5.4 billion, and adjusted earnings per share tumbled 46.9% to 60 cents. On the earnings *conference call*, CEO Lisa Su noted that AMD has been shipping fewer chips than are needed in order to reduce "downstream inventory" and may continue to do so in Q2. But by H2-2023, inventories should be in better shape and AMD's shipments should be closer to consumption.

AMD shares fell 9.2% Wednesday after the company's Q2 forecast disappointed investors. The company forecasted Q2 revenue of roughly $5.3 billion, but investors expected $5.5 billion of Q2 revenue, down from Q2-2022 sales of $6.6 billion, a May 3 *Investor's Business Daily* *article* reported. Su noted that Q2 sales would be relatively flat q/q and warned that Q2 chip demand for servers could remain mixed.

Su didn't provide full-year guidance but noted that data center demand could be up y/y by a double-digit percentage in 2023, which implies very strong growth in the back half of the year. The company is "well positioned to grow our cloud and enterprise footprint in the second half of the year" based upon customer response to some of the company's new offerings. Su also expects improvement in enterprise and China 2H.

(3) *AI is a hot topic.* Su noted that customer interest had "increased significantly" in the company's chips used for AI training and inference of large language models. AMD has brought together AI teams from across the company into a single unit to "accelerate" this part of its business.

"We are in the very early stages of the AI computing era, and the rate of adoption and growth is faster than any other technology in recent history. And as the recent interest in generative AI highlights, bringing the benefits of large language models and other AI capabilities to cloud, edge, and endpoints requires significant increases in computer performance," said Su. "This is our No. 1 strategic priority."

Industrials: The Carrot Worked. Manufacturers, large and small, domestic and foreign, are tapping into the trillions of dollars of incentives available in the CHIPS and Science Act, the Inflation Reduction Act (IRA), and the Infrastructure Investment and Jobs Act to build

factories in the US. They plan to make semiconductors, batteries, solar equipment, electric vehicles (EVs), and green hydrogen, among other things. So many manufacturers have locked down locations for new plants that it's now hard to find shovel-ready "megasites," an April 13 Reuters *article* reported.

If the US manages to skirt a recession, it will be due in good part to the massive capital spending and building related to these plants. As we've noted before, capital spending in real GDP rose to a record high of $3 trillion (saar) during Q1-2023, and manufacturing construction put in place jumped 62.3% y/y through March to its latest record high of $147.4 billion. Many of the proposed factories have yet to break ground and are not reflected in these numbers. Assuming that the projects go forward, building and then operating these facilities should provide an economic tailwind.

Below, we highlight just some of the new capacity planned for producing batteries, semiconductors, and solar energy:

(1) *Lots of batteries.* For EVs to gain ubiquity, car manufacturers are going to need a lot of batteries. Batteries are also used in home solar systems to store extra electricity, and utilities are exploring how batteries can be used to solve the intermittency problem that comes with solar and wind power.

"Since the landmark Inflation Reduction Act passed in August, auto makers and battery companies have announced $11 billion in new investments into the North American EV battery supply chain," a January 5 *article* in *PV Magazine* reported. Most of the plants are scheduled to begin production between 2025-30; collectively, they may increase North America's EV battery manufacturing capacity 19-fold, to 1,000 GWh/year by 2030 from 55 in 2021.

Ford Motor plans to build a $3.5 billion EV battery factory in Michigan using technology licensed from Contemporary Amperex Technology Limited, a Chinese company. Ford is also building two battery plants in Kentucky and a third in Tennessee with SK On. "Ford had looked at building the factory in Canada and Mexico but chose a U.S. site after the Inflation Reduction Act was signed into law last year by President Biden. The act provided tax incentives to companies that build battery factories in the United States. Car buyers are also eligible for tax credits for EVs made in North America that include batteries and raw materials from the region or another U.S. trade ally," a February 13 *NYT* *article* reported.

GM started battery production in September at an Ohio battery plant that it owns with LG

Energy Solution, and the partners plan two more plants in Tennessee and Michigan. The companies qualified for a $2.5 billion loan from the Department of Energy to help pay for the three plants.

Meanwhile, Stellantis NV is building a $2.5 billion battery plant in Kokomo, Indiana with Samsung SDI. Initially, it will have an annual capacity of 23 GWh, but that could expand to 33 GWh.

Some battery companies are building their plants without partnering with a car manufacturer. LG Energy Solution plans to build a $5.5 billion factory in Phoenix, Arizona to make batteries for EVs and energy storage systems. The company said its decision was driven in part by the IRA. Energy Inc. plans to spend $760 million to build a facility in West Virginia that makes long-duration storage batteries to store renewable energy. Freyr Battery is building a $1.7 billion plant in Georgia. KORE Power is building a two-million-square-foot manufacturing plant to produce 12 GWh of lithium-ion battery cells annually in Buckeye, Arizona. Form Energy aims to build iron-air battery systems in a Weirton, West Virginia plant that's expected to cost $760 million.

Suppliers are opening up shops near their customers' large new plants. Soulbrain MI is building a $75 million plant to make high-purity electrolyte for the batteries that will be built nearby in Stellantis' Kokomo plant, reported a March 22 *article* on the Inside Indiana Business website. Similarly, Redwood Materials, a battery recycling and components maker run by Tesla co-founder JB Straubel, plans to build a $3.5 billion plant in South Carolina.

(2) *Swimming in semis.* The CHIPS and Science Act has provided financial incentives for semiconductor manufacturers to build their plants in the US of A. More than 50 new semiconductor ecosystem projects, involving $210 billion of private funding, have been announced since the legislation was enacted. That figure includes new fabs, expanding existing sites, and facilities used by suppliers to the industry. They're expected to create 44,000 new jobs, according to Semiconductor Industry Association *data*.

Taiwan Semiconductor Manufacturing Company is spending $40 billion to build two semiconductor fabs in Phoenix, Arizona, which are being billed as the largest foreign investments in the US. One is expected to begin production in 2024 and the other in 2026, a January 23 *article* on Manufacturing Drive's website reported.

Intel is spending $20 billion on two semi plants in Ohio that are slated to open in 2025 and another $20 billion on two plants in Arizona. Samsung is spending $17 billion to build a five-

million-square-meter site in Taylor, Texas, which plans to open next year. Micron Technology's $20 billion investment to build a new facility in Syracuse, New York could meaningfully bolster that community's development far beyond the 3,000 jobs the facility is expected to create. Texas Instruments is spending $30 billion on a plant in Sherman, Texas.

(3) *Solar & other green projects get a boost.* In addition to battery and EV plants, another 34 wind and solar manufacturing plants have been announced, according to a Climate Power *report*. The IRA contains a 30% tax credit for renewable energy facilities, and the credit can increase if the facilities use domestic materials, if the facilities are in disadvantaged communities, or if they adhere to certain labor standards, an April 24 Reuters *article* explained. Some manufacturers are looking for additional clarification on the tax credit rules before moving ahead with their projects.

CS Wind plans to expand the largest wind turbine factory in the world in Pueblo, Colorado. QCells is building a $2.5 billion solar panel factory in Georgia. GE has proposed two factories to build offshore wind turbine blades and another windmill component in New York. Kempower is building a $41 million EV charging station manufacturing facility in North Carolina. First Solar is investing $680 million to expand its solar plant, and Invenergy is investing $600 million in a new solar plant in Ohio.

Enel hopes to take advantage of IRA incentives to build its first plant for solar cells outside of Italy, in Oklahoma. CubicPV, which makes silicon wafers used in solar panels, has been looking for a site on which to build a manufacturing plant after the IRA passed last August. Silfab Solar plans to open its third US solar module production facility, which will also manufacture solar cells. The company hopes the new facility, which may be in South Carolina, will be operational in 2024 and produce 1 GW of cells and 1.2 GW of solar panels annually.

Disruptive Technologies: Hydrogen Gets a Boost Too. The IRA also encourages building facilities that will produce green hydrogen, which is hydrogen made using electricity produced from renewable sources like solar or wind power. The Hydrogen Production Tax Credit includes a "10-year federal tax credit of up to $3 per kilogram for clean hydrogen produced after 2022 from facilities that begin construction prior to 2033," a March 9 Reuters *article* reported. There's also $9.5 billion of federal funding available from the Infrastructure Investment and Jobs Act.

Critics say green hydrogen is inefficient because it takes too much energy to make it. Every

10kWh of wind or solar power used in an electrolyzer yields less than 4kWh of electricity. But proponents suggest using the excess solar and wind energy produced in the US Midwest and Southwest at peak hours of the day to solve that problem.

Auto parts maker Cummins has invested $10 million into its Fridley facility to produce hydrogen-based electrolyzers and will receive tax credits for renewable energy from the IRA. The company is also investing $1 billion across its US engine manufacturing network to make fuel-agnostic, low-carbon internal combustion engine platforms for heavy duty trucks, an April 3 company *press release* reported. They'll be able to run on natural gas, diesel, and eventually hydrogen.

CF Industries and NextEra Energy Resources entered a joint venture to develop a green hydrogen project in Oklahoma. The facility will include a 100 MW electrolysis plant powered by a renewable energy facility developed by NextEra. CF Industries will buy the hydrogen output and use it to produce up to 100,000 tons per year of zero-carbon green ammonia, an April 24 MarketWatch *article* reported. The proposed project has applied for funding under the Bipartisan Infrastructure Law, which earmarks $7 billion for the US Department of Energy to develop regional clean hydrogen hubs that demonstrate the production, processing, delivery, storage, and end use of clean hydrogen.

Linde plans to use electrolyzers from Cummins in a proposed Niagara Falls, New York facility that will use hydropower to make green hydrogen by 2025. The company also plans to increase its green hydrogen production in California.

Air Products *plans* to invest $500 million to build, own, and operate a 35-metric-ton-per-day facility in Massena, New York that will produce and distribute green liquid hydrogen by 2026. The plant will use electricity generated by hydropower. The company is also working with AES to invest about $4 billion to build and operate a green hydrogen facility in Texas powered by wind and solar power. It aims to start operations in 2027 and targets the mobility and industrial markets, a December 8 *press release* stated.

NextEra, the parent of Florida Power & Light, announced a plan to eliminate all carbon emissions from its business by 2045. In addition to expanding the use of solar power, the company intends to replace almost all of the utility's natural-gas-fired power plants with electricity produced using green hydrogen, a June 14 company *press release* states.

NextEra also plans to deliver clean energy solutions to sectors outside of the power industry. And the company plans to build a facility at the Gulf Coast Clean Energy Center to

produce 140 tons a day of clean hydrogen and a facility in Arizona to produce 120 tons per day of clean hydrogen.

Calendars

US: Thurs: Nonfarm Productivity & Unit Labor Costs -1.8%/5.2%; Merchandise Trade Balance -$63.3b; Initial & Continuous Jobless Claims 240k/1.863m; Fed's Balance Sheet; Natural Gas Storage. **Fri:** Payroll Employment Total, Private, and Manufacturing 179k/160k/-5k; Average Hourly Earnings 0.3%m/m/4.2%y/y; Average Weekly Hours 34.4; Unemployment & Participation Rates 3.6%/62.5%; Consumer Credit $16.5b; Baker-Hughes Rig Count; Cook. (Bloomberg estimates)

Global: Thurs: Eurozone PPI -1.6%m/m/6.2%y/y; Eurozone, Germany, and France C-PMIs 54.4/53.9/53.8; Eurozone, Germany, France, Italy, and Spain NM-PMIs 56.6/55.7/56.3/56.7/59.5; ECB Interest Rate Decision & Deposit Facility Rate 3.75%-3.25%; Germany Trade Balance €16.1b; Spain Unemployment Change -23.1k; UK C-PMI & NM-PMI 53.9/54.9; China Caixin NM-PMI 57.3; RBA Monetary Policy Statement; Lagarde; Macklem. **Fri:** Eurozone Retail Sales -0.1%m/m/-3.1%y/y; Germany Factory Orders -2.2%; France Industrial Production -0.3%; France Nonfarm Payrolls 0.2%; Italy Retail Sales 0.0%m/m/4.4%y/y; Spain Industrial Production -0.1%; Elderson. (Bloomberg estimates)

Strategy Indicators

Stock Market Sentiment Indicators (*link*): The *Bull-Bear* Ratio was unchanged at 1.94 this week, after a four-week climb from 1.38 to 2.11—which was the highest reading since the January 4 week last year. *Bullish* sentiment took a step back for the second week to 45.8% this week, after increasing the prior four weeks from 39.7% to 50.7%—which was the highest since November 2021, when it peaked at 57.2%. Bulls outnumbered bears for the 24th consecutive week. *Bearish* sentiment edged down to 23.6%—which was the fewest bears since early January 2022—after edging up from 24.0% to 25.0% last week. The *correction count* moved up for the second week to 30.6% this week after moving down from 27.0% to 25.3% two weeks ago—remaining well below its late September 2022 peak of 40.3%. Turning to the *AAII Sentiment* Survey (as of April 27), pessimism was above average for the 10th consecutive week, while optimism and neutral sentiment both fell. The *percentage expecting stock prices to rise* over the next six months has been volatile

recently, falling to 24.1% during the current week after rising from 26.1% to 27.2% the prior week. Optimism has been unusually low in 49 of the past 69 weeks. The *percentage expecting stocks to fall* over the next six months climbed for the second week to 38.5% after dropping the prior three weeks by 14.4ppts, from 48.9% to an eight-week low of 34.5%. It is now approaching an unusually high level again after reverting closer to its historical average recently. Pessimism remained above its historical average of 31.0% for 70 of the past 75 weeks. The p*ercentage expecting stock prices will stay essentially unchanged* over the next six months edged down from 37.7% to 37.4% during the latest week—remaining above its historical average during 16 of the past 17 weeks.

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): The S&P 500's forward profit margin was unchanged w/w at a 24-month low of 12.3% during the April 27 week. That's down 1.1ppts from its record high of 13.4% achieved intermittently in 2022 from March to June. It's now 2.0pts above its seven-year low of 10.3% during April 2020. Forward revenues rose 0.1% w/w to a new record high. Forward earnings rose 0.2% w/w to 5.2% below its record high during the June 16, 2022 week. Both had been steadily making new highs from the beginning of March 2021 to mid-June; prior to that, they peaked just before Covid-19 in February 2020. The consensus expectations for forward revenues growth was steady w/w at 2.8%, which is 0.5pt above its 33-month low of 2.3% during the February 23 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. Forward earnings growth rose 0.1pt w/w to 4.8% and is now 1.3pts above its 31-month low of 3.5% in mid-February. That's down from its 23.9% reading at the end of April 2021, which was its highest since June 2010 and up substantially from its record low of -5.6% at the end of April 2020. Analysts expect revenues to rise 1.6% in 2023 (unchanged w/w) and 4.8% in 2024 (unchanged w/w) compared to a revenues gain of 12.3% in 2022. They expect an earnings decline of 0.2% in 2023 (up 0.4pt w/w) and an 11.6% rise in 2024 (down 0.3pt w/w) compared to an earnings gain of 7.2% in 2022. Analysts expect the profit margin to drop 0.2ppt y/y to 12.0% in 2023 (unchanged w/w), compared to 12.2% in 2022, and to rise 0.8ppt y/y to 12.8% in 2024 (unchanged w/w). The S&P 500's weekly reading of its forward P/E fell 0.4pt w/w to 17.8, which is 0.7pt below its 43-week high of 18.5 during the February 16 week. That's up from a 30-month low of 15.3 in mid-October. It 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 dropped 0.05pt w/w to 2.21, and is now down 0.08pts from a 24-week high of 2.29 during the February 16 week. That's up from a 31-month low of 1.98 in mid-October and down from a four-month high of 2.38 in mid-August; it also compares to a record high of 2.88 at the end of 2021 and a 49-month low of 1.65 in March 2020.

S&P 500 Sectors Earnings, Revenues, Valuation & Margins (*link*): Looking at the 11 S&P 500 sectors, the April 27 week saw consensus forward revenues rise for nine sectors and forward earnings rise for five. The forward profit margin rose w/w for five sectors and fell for six. Consumer Staples and Health Care are the only sectors to have forward revenues at a record high this week. Among the remaining nine sectors, just two have forward revenues more than 5.0% below their post-pandemic highs: Energy and Financials. Consumer Staples is the only sector with forward earnings at a record high. Among the remaining 10 sectors, just four have forward earnings down more than 10.0% from their post-pandemic highs: Consumer Discretionary, Energy, Financials, and Materials. Since mid-August, all sectors have seen forward profit margins retreat from their record highs, but half of them are showing early signs of recovering from their lows. Those of Consumer Discretionary, Financials, Industrials, Real Estate, and Tech remain closest to their post-pandemic highs. Energy and Industrials were the only two sectors to have their profit margins improve y/y for full-year 2022, and these five sectors are expected to see them improve y/y in 2023: Communication Services, Consumer Discretionary, Financials, Industrials, and Utilities. Here's how the sectors rank based on their current forward profit margin forecasts along with their record highs: Information Technology (23.5%, down from its 25.4% record high in June 2022), Financials (18.2, down from its 19.8 record high in August 2021), Real Estate (16.8, down from its 19.2 record high in 2016), Communication Services (14.9, down from its 17.0 record high in October 2021), Utilities (13.0, down from its 14.8 record high in April 2021), S&P 500 (12.3, down from its record high of 13.4 achieved intermittently in 2022 from March to June 2022), Energy (11.5, down from its 12.8 record high in November), Materials (11.1, down from its 13.6 record high in June), Industrials (10.3, down from its 10.5 record high in December 2019), Health Care (9.6, down from its 11.5 record high in March 2022), Consumer Discretionary (7.3, down from its 8.3 record high in 2018), and Consumer Staples (6.7, down from its 7.7 record high in June 2020).

S&P 500 Sectors & Industries Forward Profit Margin Since Peak (*link*): Since the S&P 500's forward profit margin peaked at a record-high 13.4% during the June 9, 2022 week, it has fallen 8.4% to 12.3% through the April 27, 2023 week. All sectors' margins are down since the peak, but the S&P 500's drop has been paced by just two of the 11 sectors. Here's the sector performance since the June 9, 2022 forward profit margin peak: Industrials (down 0.4% to 10.3%), Energy (down 3.7% to 11.5%), Financials (down 4.3% to 18.2%), Consumer Discretionary (down 5.6% to 7.3%), Utilities (down 5.7% to 13.0%), Real Estate (down 6.3% to 16.8%), Communication Services (down 7.4% to 14.9%), Information Technology (down 7.5% to 23.5%), Consumer Staples (down 8.1% to 6.7%), S&P 500

(down 8.4% to 12.3%), Health Care (down 12.7% to 9.6%), and Materials (down 18.6% to 11.1%). These are the best performing industries since the June 9, 2022 peak: Human Resource & Employment Services (up 102.4% to 18.6%), Casinos & Gaming (up 95.0% to 4.4%), Wireless Telecommunication Services (up 76.4% to 11.9%), Oil & Gas Refining & Marketing (up 61.2% to 5.5%), Passenger Airlines (up 39.1% to 5.6%), Reinsurance (up 21.2% to 14.2%), and Oil & Gas Equipment & Services (up 18.2% to 10.9%). The worst performing industries since the June 9, 2022 peak: Commodity Chemicals (down 40.1% to 6.1%), Home Furnishings (down 38.1% to 5.5%), Copper (down 36.1% to 12.3%), Housewares & Specialties (down 34.3% to 5.5%), Broadcasting (down 31.7% to 3.8%), Publishing (down 31.6% to 2.5%), and Computer & Electronics Retail (down 28.1% to 3.2%).

S&P 500 Q1 Earnings Season Monitor (*link*): With the Q1-2023 earnings season just over two-thirds complete, indications are that this season is a big improvement from Q4-2022's relatively weak showing. Then, the earnings surprise was the lowest since Q4-2008, and the revenue surprise the smallest since Q1-2020. Furthermore, the earnings surprise failed to outpace the revenue surprise in Q4-2022 for the first time since we began tracking that data in Q1-2009. With 342 of the S&P 500 companies finished reporting for Q1-2023, revenues are ahead of the consensus forecast by 2.4%, and earnings have exceeded estimates by 7.9%. At the same point during the Q4 season, revenues were 1.2% above forecast and earnings had beaten estimates by 1.7%. Just 75% of the 342 Q1 reporters that have reported so far through mid-day Wednesday has reported a positive revenues surprise, while 78% has reported an earnings beat. Those are big improvements from their Q4-2022 readings, when they probably bottomed. However, their aggregate y/y revenue and earnings growth rates are little changed from their Q4-2022 readings. The collective y/y revenue gain for the 342 reporters so far has dropped to 3.8% from 5.4% at the same point in Q4-2022, and earnings are down 0.1% y/y from a 1.1% y/y decline in Q4-2022. During the past 56 quarterly reporting seasons over the last 14 years, y/y earnings growth has trailed revenue growth in only 14 of the quarters, and it's likely to do so again in Q1-2023. Significantly fewer companies are reporting positive y/y earnings growth in Q1 (56%) than positive y/y revenue growth (68%). These figures will continue to change as more Q1-2023 results are reported in the coming weeks. While we expect y/y revenue growth rates to remain positive in Q1, earnings are likely to decline for a second straight quarter.

US Economic Indicators

ADP Employment (*link*): "The slowdown in pay growth gives the clearest signal of what's

going on in the labor market right now," noted Nela Richardson, chief economist, ADP. "Employers are hiring aggressively while holding pay gains in check as workers come off the sidelines. Our data also shows fewer people are switching jobs." *Private payrolls* in April blew past forecasts, climbing 296,000 (vs 143,000 expected), the strongest monthly gain since last July. Total payrolls continued to reach new record highs in April, as employment in service-providing and goods-producing industries rose 229,000 and 67,000, respectively, both to new record highs, with the pace accelerating in service-providing industries from March's gain of 76,000; goods producing nearly matched March's 66,000 increase. Within *service-providing* industries, leisure & hospitality (+154,000) once again posted the largest gain, followed by trade, education & health services (+69,000), transportations & utilities (+32,000), and other services (+16,000). Financial activities' jobs declined for the fifth consecutive month, by 28,000 during April and 112,000 over the period, while jobs in professional & business services were cut for the third month, by 16,000 last month and 122,000 over the period. That was the first declines in the latter since July 2020. Within *goods-producing industries*, construction jobs advanced for the third month, by 53,000 in April and 156,000 over the period, while jobs in natural resources & mining posted gains the first four months of this year, by 52,000 in April and 153,000 ytd. Meanwhile, manufacturing cut payrolls for the second month, by a total of 70,000, after a three-month gain of 55,000, though remains in record territory—within 109,000 of January 2019's record high. Turning to ADP's median *annual pay* measures, the yearly rate for *job-stayers* slowed to a 15-month low of 6.7% in April, down from last September's 7.8% peak, while the rate for *job-changers* eased to 13.2%, 3.2ppts below last June's 16.4% peak.

Auto Sales (*link*): Total sales in April rebounded 1.2mu to 16.2mu (saar)—the highest since May 2021—after falling from 16.1mu at the start of the year to 15.0mu in March. *Domestic light-truck* sales rebounded back up to January's recent high of 10.0mu (saar)—which was the highest since April 2021—after slumping to 9.4mu in March. *Domestic car sales* continues to fluctuate in a volatile flat trend between 2.0mu to 2.5mu the past nine months—though moved to the top of the range in April; it's averaged 2.2mu the past nine months. Sales of *imports* remains in a volatile uptrend, climbing from a recent low of 3.0mu last May to 3.7mu (saar) this April.

US Non-Manufacturing PMIs (*link*): The US service sector in April continued to expand at a steady pace, though slowed from the first two months of the year. According to the report, the uptick in April's measure reflected an increase in orders as well as ongoing improvements in both capacity and supply logistics. The ISM NM-PMI ticked up to 51.9 in April after slowing to 51.2 in March from 55.1 and 55.2 the prior two months. It had dipped to 49.2 in December, which was the lowest since May 2020. The service sector is being

supported by consumers shifting spending from goods to services. Meanwhile, inflationary pressures were little changed at March's three-year low. Of the four components of the NM-PMI, the forward-looking *new orders* gauge accelerated to 56.1 in April after slowing to 52.2 in March from February's 15-month high of 62.6—boosted by stronger export orders (to 60.9 from 43.7) last month. It had slipped below 50.0 in December (45.2) for the first time since the pandemic. Meanwhile, the *business activity* measure slowed for the third month, from 60.4 in January to 52.0 by April. The *supplier deliveries* component moved up a bit in April, to 48.6, from March's 45.8—which was the fastest delivery performance since April 2009! The service sector's *employment* (50.8 from 51.3) gauge slowed for the second month since reaching a 14-month high of 54.0 in February. On the *inflation* front, the price index (59.6) barely budged from March's 32-month low of 59.5 last month; it was at a record-high 84.5 at the end of 2021. The service sector's report comes on the heels of the ISM's manufacturing report, which showed the M-PMI (47.1) in April was in contractionary territory for the fifth consecutive month, holding near March's 34-month low of 46.3.

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