MORNING BRIEFING
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Energy, EVs & Crypto

Check out the accompanying chart collection.

Executive Summary: The price of oil has begun to come down. But countervailing forces are exerting both downward and upward pressure on oil prices. Among the former, production has ramped up greatly. Jackie examines the dynamics affecting oil industry pricing. … And: Electric vehicles are gaining traction in the marketplace. But they're costing more to make with commodity prices so high and costing more to buy with manufacturers passing their cost increases onto consumers. … Also: Many of the many cryptocurrency players are bound to succumb to hypothermia during the brutal industry contraction dubbed "crypto winter."

Energy: US Production Heading Up. In his testimony before Congress yesterday, Fed Chair Jerome Powell conceded that the Fed's recent moves to fight inflation could cause a recession. Higher interest rates have quickly taken a toll on both the stock market and the housing market, where mortgage rates have jumped past 6% and home sales activity is slowing sharply.

Wary investors also may have noticed the recent sharp increase in US oil production to 12.1 million barrels per day (mbd) from 11.3 mbd in mid-March (*Fig. 1*). As more oil rigs have returned to service, production has moved sharply off its mid-February 2021 low of 9.8 mbd and is heading north toward its previous peak of 13.1 mbd in late February 2020 (*Fig. 2*).

The jump in US production combined with fears of a recession—and the lower oil demand that usually results—have halted the recent runup in the price of oil, pushing the price of West Texas Intermediate (WTI) crude oil down from a recent peak of $122.11 on June 8 to $110.65 per barrel Tuesday (*Fig. 3*).

Before the bears declare victory, numerous bullish trends continue to support elevated oil prices. US travelers hitting the road and the skies this summer has pushed up demand. China's post-Covid reopening is sure to boost demand too. And a lack of US refining capacity may also keep prices elevated.

Let's take a look at some of the pricing action in the industry as well as the impact of trends in the refining industry:

(1) *Blame backwardation.* Despite today's high prices, the market is forecasting lower crude oil prices a year or two in the future. The one-year futures price for WTI is $92.13 per barrel, and the two-year futures price is $83.13 per barrel (*Fig. 4*). The market's backwardation doesn't encourage companies to fill up storage tanks. Why buy oil today if the market is saying it will be less expensive in the future? At 397.5 million barrels, US stocks of crude oil are lower than they've been in over six years even as demand for and production of crude have grown sharply over those years (*Fig. 5*).

(2) *Refiners going green and maxing out.* Adding to the pain of high crude oil prices are the high prices refiners are fetching to turn crude into usable products like fuel for planes or cars. The crack spread—or the difference between the price of a barrel of crude oil and the price of all the refined products produced from that barrel of crude oil—is up dramatically to $50-$60 a barrel from the $15-$25 range of recent years because there's limited capacity in the refining market and companies are running full tilt.

Some of the industry's largest refiners are operating at capacity utilization rates in the 90%s. Marathon Petroleum's capacity utilization was 91% in Q1, and the company forecasts it will be 95% in Q2. Valero Energy's capacity utilization was 89% in Q1, up from 77% in Q1-2021. "It's hard to see that refinery utilization can increase much," said an executive on Valero's Q1 earnings *conference call*. "Although we've been able to hit 93% utilization, generally, you can't sustain it for long periods of time. So, I don't think there's a lot of room on refinery utilization in terms of increasing supply. I think the markets will have to balance more on the demand side."

The US Energy Information Administration (EIA) reported refining capacity declined by 125,790 barrels per day (bpd) in 2021 and by 800,000 bpd in 2020, a June 21 Reuters *article* stated. Since peaking in 2019, refining capacity has fallen by 5.4%, or 1.0mbd, to 17.9mbd.

The industry has seen several plants close over the past few years. An Alliance, Louisiana refinery that had capacity of 255,600 bpd closed after damage from last year's Hurricane Ida. Additional capacity is expected to exit the market in December 2023 when LyondellBasell Industries plans to shutter or repurpose a 263,776 bpd refinery that it hasn't been able to sell because it needs substantial investment.

(3) *Refiners going green.* Instead of increasing capacity to produce traditional diesel, gasoline, and other products, some refiners have focused on increasing their capacity to produce green products. Renewable diesel is made from animal fats, food wastes, and

plant oil and is the chemical equivalent of petroleum-based diesel. Marathon Petroleum's 166,000 bpd refinery and Phillips 66's 120,200 bpd refinery, both in California, have converted to produce renewable diesel. Shell is considering converting its Convent, Louisiana refinery to produce renewable diesel.

"There are at least 12 renewable diesel projects worth more than $9 billion under construction, with another nine proposed. The 12, along with existing plants, are expected to produce about 135,000 [bpd] of renewable diesel by 2025 according to EIA data, from around 80,000 bpd now," a June 21 Reuters *article* reported. That's not enough to offset the reduced production of traditional diesel, however.

LyondellBasell is considering using the refinery that it can't sell to recycle plastics. "Our exit of the refining business advances the company's decarbonization goals, and the site's prime location gives us more options for advancing our future strategic objectives, including circularity," said Ken Lane, Lyondell's interim CEO, according to an April 29 Reuters *article*. Circularity is the process of collecting used plastic containers and using them as the raw material needed by chemical plants.

(4) *Conversely, Europe's green fades.* Last week, Europe's fears that Russia would use its natural gas supplies as a weapon came to fruition when Russia cut capacity on its main gas export line to Germany by 60%. European nations looking for alternative sources to replace Russia's natural gas apparently have backburnered their good intentions to reduce CO2 emissions in favor of meeting more pressing needs.

The German government announced Sunday that it would pass emergency laws to reopen closed coal plants for electricity generation for up to two years, a June 19 FT *article* reported. Previously, the country had planned to phase out the use of coal completely by 2030. The country also plans to install four floating liquified natural gas terminals and has encouraged conservation.

Germany isn't alone. Austria also announced plans to reopen mothballed coal-fired electric plants, and the Netherlands is changing laws that limited coal plants to operating at a maximum of 35% capacity. Italy is expected to follow suit, and we expect more announcements to come.

(5) *Analysts not so sanguine.* Despite oil and gas prices that are through the roof, analysts seem to be taking their cue from the forward curve for oil prices and expect earnings for many of the S&P 500 Energy sector's industries to fall in 2023. Here are some of the

Energy industries we follow and analysts' consensus earnings forecasts for 2022 and 2023: Oil & Gas Exploration & Production (139.5%, -9.1%), Refining & Marketing (249.4, -26.1), Integrated Oil & Gas (111.5, -14.1) (*Fig. 6*, *Fig. 7*, and *Fig. 8*).

Exceptions to this trend: the S&P 500 Oil & Gas Equipment & Services industry, for which analysts are forecasting earnings growth of 60.7% this year and 43.2% in 2023, and Oil & Gas Storage & Transportation, with forecasts for earnings growth of 2.5% this year and 5.8% next year (*Fig. 9* and *Fig. 10*).

Materials: Higher Prices Hit EVs. Electric vehicles (EVs) have slowly but steadily been increasing their market share. In May, EVs represented 6.1% of new car sales, up from 2.7% a year ago. The roadblock to greater EV penetration may be rising commodity prices. The materials used to make batteries—nickel, cobalt, and lithium—are often difficult to mine, and some prices have jumped sharply. Here's a look at recent developments:

(1) *Most commodity prices rising.* The materials used in EV batteries are often hard to access and extract. And so far, supply has not risen in step with demand. The price of nickel has fallen 44% from its March 16 peak but is still up 60% from last year's bottom in early March. Meanwhile, the price of cobalt is up 59% y/y, and the price of lithium is up 437% y/y, both according to data from Trading Economics. EVs' average raw material cost has jumped to $8,255 per vehicle, up 144% from $3,381 in March 2020, a June 22 CNBC *article* reported. Some of those raw materials are also used in cars with internal combustion engines. Commodities used specifically in EVs have jumped in cost to $4,500 per vehicle from about $2,000.

(2) *Most EV prices rising too.* Most EV manufacturers have passed along their higher commodity costs to consumers. Tesla increased prices twice in March in addition to other times over the past year. The cheapest standard range Model 3 starts at $46,990 in the US, up 23% from $38,190 in February 2021, a May 21 CNBC *article* reported.

Tesla isn't alone. Rivian increased the price of the R1T 18% to $79,500 and the R1S 21% to $84,500 in March. Lucid and General Motors have also increased EV prices. The price tag on GM's Hummer rose $6,250 earlier this month.

So far, Ford has opted to eat the higher costs of commodities used in its EV trucks, but that has wiped out the profit Ford expected to make on the electric Mustang Mach-E.

(3) *Could it get worse?* Stellantis CEO Carlos Tavares expects shortages of EV batteries by

2024-25, followed by a lack of raw materials needed for EVs, which he believes will slow the availability and adoption of EVs by 2027-28, a May 24 CNBC *article* reported. He contends that regulators have pushed the transition from traditional vehicles to EVs too hard, and the supply chain hasn't had enough time to catch up to the change in demand. Despite his concerns, Stellantis is investing $35 billion in EVs and expects all of its European sales and 50% of its North American sales to be EVs by 2030.

(4) *Miners keep wallets shut.* Critics would counter that the suppliers have had plenty of time to adjust to the change in demand for EV materials. They just prefer to pay shareholders higher dividends and buy back increasing number of shares instead. "Project spending by 10 large mining companies including Rio Tinto PLC, BHP Group, and Glencore PLC, is expected to stay at roughly $40 billion this year and next year," a June 19 *WSJ* *article* stated, citing Bank of America data. That leaves spending far below the 2012 peak of $80 billion.

Disruptive Technologies: Anatomy of a Crypto Winter. It has been amazing to watch the hundreds of small, entrepreneurial companies hoping to break into the cryptocurrency space. Companies back the more than 19,000 cryptocurrencies in existence, and there are also dozens of blockchain platforms on which to trade, borrow, and lend, a June 3 CNBC *article* reported.

Let's assume that the "crypto winter"—i.e., an extended downturn in crypto prices and trading—is survived by industry leaders Bitcoin, Ethereum, FTC, Coinbase, and about half of the rest of the cryptocurrencies out there, or 9,500 of them to be more precise. What will happen to the other 9,500 cryptocurrencies and the companies supporting them? Here are some ideas:

(1) *Ad budgets getting slashed.* Crypto companies looking to make a splash have spent a lot on marketing and advertising. Much has been made of the companies that ponied up millions to advertise during this year's Super Bowl and hired the likes of Larry David (FTX), LeBron James (Crypto.com), and Matt Damon (Crypto.com). Since November, crypto brands' ad spending on digital platforms like Facebook, YouTube, and Hulu has fallen 90% or more, according to Sensor Tower data cited in a June 20 *WSJ* *article*.

Crypto companies also spent lavishly on sports marketing deals, including the $700 million that Crypto.com purportedly spent on the rights to rename the former Staples Center. Crypto brands spent more than $130 million on NBA sponsorships this season, up from less than $2 million last season, according to a consultant quoted in a June 17 CNN *article*.

(2) *Tech spending at risk.* Every little tech company had to buy technology equipment. They theoretically needed computers and servers—or at least server space in the cloud. Miners spent on computers and electricity. Ethereum miners alone spent $15 billion on GPUs over the past one and a half years—and that doesn't include spending on other equipment they likely needed including CPUs, PSUs, and chassis, a June 19 Techradar *article* reported. Ethereum miners may have purchased about 10% of the total GPU supply over the past two years, helping to push up GPU prices over that period.

(3) *Layoffs disbursed.* One positive thing about the crypto market is that its thousands of companies are spread around the world. Terra was a coin run by a South Korean company. Celsius's headquarters is in Hoboken, and Crypto.com's in Singapore. So unlike the 2008 housing collapse, with mainly US-based corporate casualties, crypto companies—the giants and the minnows alike—are spread out around the world. That may limit the impacts to any particular region if the crypto winter indeed has begun.

(4) *Digital tulips.* In the May 11, 2021 *Morning Briefing*, I wrote: "I had been thinking of cryptocurrencies as 'digital tulips,' reminiscent of the 17th century tulip mania in Amsterdam that drove up tulip prices beyond reason. The difference is that cryptocurrencies are traded 24-by-7 around the world. On second thought, they might be more like a financial virus that won't stop until enough speculators have been infected that herd immunity is achieved." Bitcoin rose to its record high of $67,625 on November 9, 2021. It was down to $19,870 yesterday (*Fig. 11*).

Calendars

US: Thurs: Initial & Continuous Jobless Claims 225k/1.351m; Kansas City Manufacturing Index; S&P Global M-PMI & NM-PMI Flash Estimates 56.4/53.6; Crude Oil Inventories; Natural Gas Storage; Fed Bank Stress Results; Powell. **Fri:** Consumer Sentiment Index 50.2; New Home Sales 588k; US Baker Hughes Rig Count; Bullard. (Bloomberg estimates)

Global: Thurs: Eurozone, Germany & France C-PMI Flash Estimates 54.0/53.1/56.0; Eurozone, Germany & France M-PMI Flash Estimates 53.9/54.0/53.8; Eurozone, Germany, and France NM-PMI Flash Estimates 55.5/54.5/57.5; France Business Survey 105; UK C-PMI, M-PMI & NM-PMI Flash Estimates 51.8/54.6/51.8; UK Gfk Consumer Confidence -41; Japan CPI 5.5% y/y; ECB Economic Bulletin; EU Leaders Summit; Enria; Nagel. **Fri:** Germany Ifo Business Climate Index, Current Assessment, and Expectations

92.9/99.1/87.4; Spain GDP 0.3%q/q/6.4%y/y; Italy Consumer & Business Confidence 102.5/108.5; Italy Trade Balance; UK Headline & Core Retail Sales -0.7%m/m/-4.5%y/y & -1.0%m/m/-5.1%y/y; BOE Quarterly Bulletin; EU Leaders Summit; Fernandez-Bollo; McCaul; Lowe; Pill; Haskel; Amamiya. (Bloomberg estimates)

Strategy Indicators

Stock Market Sentiment Indicators (*link*): The Bull/Bear Ratio (BBR) was below 1.00 for the eighth consecutive week this week—slipping for the third week to 0.60 this week—the lowest since early March 2009, after climbing the prior two weeks from 0.65 to 0.93 over the period. The BBR has been bouncing around 1.00 since late February. Bullish sentiment sank for the second week to 26.5% this week (the lowest since early 2016) after climbing the prior four weeks by 8.1ppts (to 35.7% from 27.6%)—with most of that gain occurring during the May 31 week (35.2% from 28.2%). Bearish sentiment increased for the third week to 44.1% this week—the highest since early October 2011—after falling the prior two weeks from 43.0% to 38.0%. The correction count climbed for the second week to 29.4% this week after declining five of the prior seven weeks by 10.3ppts (to 24.3 from 34.6); it was as high as 40.0% in early February. The AAII Ratio slumped for the second week to 25.0% last week after jumping from 27.1% to 46.4% the prior week, with bullish sentiment falling from 32.0% to 19.4% over the two-week period and bearish sentiment rising from 37.1% to 58.3%.

S&P 500 Sectors Net Earnings Revisions (*link*): The S&P 500's NERI ticked down m/m again in June after rising in May for the first time in four months, and has declined m/m in nine of the last 11 months. It fell to a 23-month low of 1.5% in June from 2.5% in May, but was positive for a 23rd month following 13 straight negative readings. That exceeds the prior 18-month positive streak during the cycle that ended October 2018, when NERI reached a then tax-cut-induced record high of 22.1% in March 2018. June's reading compares to a record-high 23.1% in July 2021 and an 11-year low of -37.4% in May 2020. Seven of the 11 S&P 500 sectors had positive NERI in June, unchanged from a month earlier. Four sectors had NERI readings at post-pandemic two-year lows during the month, and only three had NERI improve m/m, down from six rising in May. Among the underperforming sectors, Communication Services was negative for an eighth month, Consumer Staples for a fourth, and Consumer Discretionary and Health Care for a third month. Here are the June NERIs for the S&P 500 and its sectors compared with their May readings: Energy (37.1% in June, down from 45.3% in May [record high]), Materials (9.8, 12.0 [8-month high]), Real Estate (9.3 [7-month high], 6.8), Financials (5.4, 7.8), Utilities (5.2 [17-month high], 3.9), Industrials (5.1 [8-month high], 5.1), S&P 500 (1.5 [23-month low], 2.5), Information Technology (1.4 [23-month low], 4.2), Health Care (-5.2 [23-month low], -4.7), Consumer Discretionary (-7.5 [23-month low], -7.4), Consumer Staples (-8.3 [24-month low], -8.1), and Communication Services (-15.1,-15.5 [23-month low]).

S&P 500 Sectors Net Revenue Revisions (*link*): The S&P 500's NRRI dropped for a third straight month in June and has weakened m/m in seven of the past 10 months. Its June reading of 5.0% was at a 23-month low, but was positive for a 23rd month following 21 straight negative readings. That exceeds the prior 19-month positive streak during the cycle that ended October 2018, when NRRI reached a then tax-cut-induced record high of 14.7% in March 2018. June's reading compares to a record-high 25.9% in August 2021 and an 11-year low of -35.8% in May 2020. Eight of the 11 S&P 500 sectors had positive NRRI in June, unchanged from a month earlier and down from all 11 during July-October 2021. Five sectors had NRRI readings at post-pandemic lows during the month. Consumer Staples was the only sector to have NRRI improve m/m, down sharply from six rising in May. Communication Services was negative for an eighth straight month, followed by Health Care at three months and Consumer Discretionary at two. Here are the June NRRIs for the S&P 500 and its sectors compared with their May readings: Energy (39.7% in June, down from 40.4% in May [9-month low]), Real Estate (24.9, 30.2[8-month high]), Materials (24.6, 30.5 [10-month high]), Utilities (18.1, 22.2 [record-high]), Consumer Staples (15.4 [6-month high], 14.5), Industrials (9.6, 11.1 [7-month high]), S&P 500 (5.0 [23-month low], 7.8), Financials (2.2 [22-month low], 5.8), Information Technology (0.8 [23-month low], 6.3), Health Care (-4.4 [23-month low], -4.0), Consumer Discretionary (-4.7 [23-month low], -3.1), and Communication Services (-16.7 [23-month low], -14.5).

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): The S&P 500's forward profit margin remained steady w/w at a record high of 13.4%. Since the end of April 2020, it has exceeded its prior record high of 12.4% in September 2018. It's now up 3.1ppts from 10.3% during April 2020, which was the lowest level since August 2013. Forward revenues and earnings both were back at record highs after ticking down briefly in early February. Both have been making new highs since the beginning of March 2021 after peaking just before Covid-19 in 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 rose 0.1ppt w/w to 7.6%. That's down from a record high of 9.6% growth at the end of May 2021, and is near its recent 12-month low of 7.1% from early December. Still, that's up from 0.2% forward revenues growth during April 2020, which was the lowest reading since June 2009. Forward earnings growth rose 0.1ppt w/w to 9.9%. It remains above its 16-month low of 8.2% in early December. 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. So far this year, analysts' revisions to their forecasts for 2022 revenues have outpaced their revisions for 2022 earnings, so the imputed 2022 profit margin estimate that we calculate from those forecasts has ticked down 0.1ppt to 13.1%. They expect revenues to rise 11.6% (up 0.3ppt w/w) in 2022 and 4.8% in 2023 (down 0.1ppt w/w) compared to the 16.4% gain reported in 2021. They expect earnings gains of 11.0% in 2022 (up 0.1ppt w/w) and 9.5% in 2023 (unchanged w/w) compared to an earnings gain of 51.0% in 2021. Analysts expect the profit margin to drop 0.1ppt to 13.0% in 2022 (down 0.1ppt w/w) compared to 13.1% in 2021 and to improve 0.6ppt y/y to 13.6% in 2023 (unchanged w/w). The S&P 500's weekly reading of its forward P/E tumbled 1.4pts w/w to a 26-month low of 15.9 from 17.3. That's down from an eight-month high of 21.7 at the end of 2021 and 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 plummeted 0.19pts w/w to a 25-month low of 2.13 from 2.32. That 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*): Last week saw consensus forward revenues rise for seven of the 11 S&P 500 sectors, forward earnings gain for four sectors, and the forward profit margin move higher for three sectors. Nearly all sectors are at or near record highs in their forward revenues, earnings, and profit margins. Energy still has forward revenues and earnings well below record highs, and its profit margin fell 0.2ppt w/w to 11.6% from a record high of 11.8%. That record high had exceeded its prior 11.2% record from August 2007. Utilities has forward earnings at a record high, but its forward revenues and margin are lagging. Only three sectors posted a higher profit margin y/y in 2020: Consumer Staples, Tech, and Utilities. During 2021, all but the Utilities sector posted a y/y improvement. Six sectors are now expected to see margins decline or remain flat y/y in 2022: Communication Services, Consumer Discretionary, Consumer Staples, Financials, Health Care, and Real Estate. Here's how the S&P 500 and its sectors rank based on their current forward profit margin forecasts along with their record highs: Information Technology (25.4%, matches its prior record high from late February), Financials (19.0, down from its 19.8 record high in August 2021), Real Estate (17.9, down from its 19.2 record high in 2016), Communication Services (16.1, down from its 17.0 record high in October), Utilities (13.8, down from its 14.8 record high in April 2021), Materials (13.6, record high), S&P 500 (13.4, matches its record high achieved intermittently since

March), Health Care (11.0, down from its 11.5 record high in early March), Industrials (10.4, down from its 10.5 record high in December 2019), Energy (11.6, down from its 11.8 record high a week earlier), Consumer Discretionary (7.7, down from its 8.3 record high in 2018), and Consumer Staples (7.3, down from its 7.7 record high in June 2020).

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