**MORNING BRIEFING**
**November 21, 2023**

## Oil, Stocks & 3-D Hand Printing

*Check out the accompanying chart collection.*

**Executive Summary:** In the spirit of the season, Jackie reflects on two sources of US investors' gratitude—lower fuel prices and the stock market rally. … A confluence of factors has driven down fuel prices as Americans set out on their Thanksgiving travels, including record-high US oil production and lower-than-expected demand from China. … Interest-rate-sensitive industries have outperformed in recent weeks' stock-market rally as investors lay bets that the Fed is done tightening. The rally has bumped three S&P 500 sectors to ytd gains above 30%. … And our Disruptive Technologies focus: hand-softening technology for robots, courtesy of 3-D printing.

**Energy: Thankful for the Low Price of Gas.** Many of us will be hitting the road—or the sky—this week to celebrate the Thanksgiving holiday with friends and family. We'll be joining the 49.1 million Americans planning to travel by car to their Thanksgiving celebrations this year and another 4.7 million planning to travel by plane, according to AAA estimates.

If those estimates are on target, travel by car will still be 1.6% lower than just before the pandemic during Thanksgiving 2019, while air travel will be 2.5% higher. Those traveling by car will benefit from the decline in the price of gasoline to a recent $3.47 per gallon, down from a 2023 high of $4.00 and a 2022 peak of $5.11 (*Fig. 1*).

Gasoline prices have fallen in step with the price of Brent crude oil futures, which at $80.61 per barrel have fallen from a high of $96.55 this year and $127.98 in 2022 (*Fig. 2*). Supplies never got as tight as expected earlier this year, in part because the Chinese economy never recovered as strongly as was once expected. Now the market is waiting to see if OPEC+ will announce additional production cuts at its meeting on Sunday, November 26.

Until then, let's take a look at some of the variables impacting the oil market:

(1) *US production at record levels.* The US fracking miracle continues. US production of crude oil hit record levels in October, extending into November, with 13.2 mbd produced, surpassing the 12.9 mbd produced at the pre-pandemic peak in 2019. The amazing thing about the surge of production is that it has occurred using far fewer drilling rigs: 500 as of

the November 17 week, compared to 877 in January 2019 (*Fig. 3*).

With production booming, US crude oil & petroleum product imports are flat and exports have grown to 10.9 mbd, up from 10.1 mbd at the 2019 peak (*Fig. 4*). In addition, the level of US crude oil and petroleum product inventories is running higher than it has in the past two years by 34.8 mbd (*Fig. 5*).

Putting a floor under the price of oil is the Biden administration's desire to refill the Strategic Petroleum Reserve. The administration aims to buy six million barrels of crude oil for delivery in December and January at prices of $79 per barrel or less, an increase from the $70 a barrel the agency previously was willing to pay, according to an October 19 Reuters *article* quoting the US Department of Energy.

(2) *China demand underwhelms.* The Chinese economic rebound from the pandemic hasn't been nearly as strong as expected. Economic growth continues to be limited by excess leverage and a real estate crisis that has left millions of unfinished apartments weighing on the market.

The country's demand for oil hasn't met bullish expectations. The International Energy Agency expected China's demand for oil would rise by 1.8mbd this year, but in the first 10 months of 2023 demand has only risen by 1.2mbd to 11.4mbd, a November 20 Reuters *article* reported. The latest bearish sign comes from Chinese refiners, which began building inventory by more than half a million barrels a day in October. The inventory build was a reversal from September's inventory drawdown.

(3) *Small surpluses forecast.* The amount of excess global supply of oil isn't very far above demand, according to the EIA data. Between now and the end of next year, global oil supply is expected to exceed demand by a total of 0.57mbd on world consumption that exceeds 101mbd.

Here's the EIA's forecast for the change in global oil stocks: Q3-2023 (-0.9mbd drawdown), Q4-2023 (0.20mbd build), Q1-2024 (-0.13mbd drawdown), Q2-2024 (0.16mbd build), Q3-2024 (0.16mbd build), and Q4-2024 (0.27mbd build).

(4) *All eyes on OPEC+.* Hopes that OPEC will cut production at its meeting later this month helped the price of Brent crude oil futures bounce off the low of $77.42 last Thursday to $82.35 on Monday. OPEC+ has already pledged to cut oil production by 3.66mbd, and Saudi Arabia and Russia have a voluntary agreement to cut an additional 1.5mbd of

production.

A frequently cited Reuters article quoted a mixture of opinions about what will happen at the meeting from anonymous OPEC+ sources. “One OPEC+ source, who declined to be named, said the existing curbs might be not enough and the group will likely analyse if more could be implemented when it meets. Two other OPEC+ sources said deeper cuts could be discussed … [T]wo other OPEC+ sources said it was too early to say whether further cuts will be discussed, while another said he did not think it was likely with the caveat to ‘wait and see,’” the November 17 Reuters *article* reported.

(5) *Global uncertainties.* The price of crude is surprisingly subdued given all the geopolitical uncertainties that potentially threaten the market.

The US and EU are still trying to determine how to enforce the price cap placed on Russian oil after Russia invaded Ukraine. The US Treasury Department took a step in that direction by imposing sanctions on three Emirati shipping companies for transporting Russian oil sold at prices above the $60-per-barrel limit. Meanwhile, Russia has lifted its restrictions on the export of gasoline because it has excess supplies. The ban was initially put in place on September 21 to reduce high domestic prices and shortages.

The US government is considering tightening Iranian sanctions in response to Iran’s support of Hamas in its war with Israel. The US may target Iran’s oil industry with the goal of removing about 1mbd of Iranian oil exports. The Israel/Hamas war may also impact the outcome of the OPEC+ meeting. “An additional OPEC+ cut of up to 1mbd could be on the table, one informed person said, describing the cartel as ‘galvanized’ by the conflict,” a November 17 *FT* *article* reported.

**Strategy: Thankful for the Rebound.** The S&P 500 has bounced almost 10% from its October 27 low through Friday’s close, giving us something to be thankful for as the market approaches its highest levels of 2023. While technology-related names continue to outperform, interest-rate sensitive areas are also showing signs of life, reflecting growing hopes that the Federal Reserve is finished raising interest rates.

Here’s the performance derby for the S&P 500 and its 11 sectors, from the October 27 low through Friday’s close: Information Technology (13.8%), Consumer Discretionary (11.9), Communication Services (11.4), Financials (11.2), Real Estate (11.0), S&P 500 (9.6), Industrials (9.2), Materials (7.0), Utilities (5.5), Consumer Staples (4.1), Health Care (4.1), and Energy (-0.8) (*Fig. 6*).

Some of the themes that stand out from the performances of various S&P 500 industries' price indexes during the bounce and so far this year include:

(1) *Bets on lower rates pay off.* Two interest-rate sensitive sectors have been jolted to life since the market hit its October lows: Financials and Real Estate. Some of the S&P 500 Financials industries with the best performance since October 27 include: Regional Banks (17.2%), Asset Management & Custody Banks (15.7), Diversified Banks (15.1), and Investment Banking & Brokerage (14.6). In the Real Estate sector, outperformance came from Real Estate Services (17.6%), Single-Family Residential REITs (16.4), Telecom Tower REITs (15.1), Hotel & Resort REITs (14.1) Self Storage REITs (13.5), and Industrial REITs (13.1).

The improved interest-rate outlook undoubtedly helped the S&P 500 Homebuilding industry rise 22.7% since October 27, making it the top performing industry in the S&P 500 over that time period. The Home Building Products industry also performed well, rising 15.7%.

Conversely, the recent subdued readings on inflation hurt the S&P 500 Gold industry's stock price index, which has fallen 6.7% from the October low, making it the worst performing industry in the bunch. Other weak performances were turned in by oil-related industries, including Oil & Gas Equipment & Services (-4.5%), Oil & Gas Exploration & Production (-2.3), and Integrated Oil & Gas (-0.4).

(2) *2023 on verge of being a great year.* The gains over the past month have lifted the ytd performances of several sectors to truly impressive heights—north of 30%—as the year draws to a close. Here's where the S&P 500 and its sectors stand on a ytd basis with just a few more weeks left to go in the year: Information Technology (49.5%), Communication Services (48.9), Consumer Discretionary (31.7), S&P 500 (17.6), Industrials (7.2), Materials (3.1), Financials (2.0), Real Estate (-3.2), Energy (-4.3), Health Care (-5.9), Consumer Staples (-6.0), and Utilities (-12.2) (*Fig. 7*).

There is a huge chasm between the ytd winners and the losers. The industry indexes with the best ytd performances through Friday's close are: Semiconductors (92.8%), Interactive Media & Services (79.5), Broadline Retail (68.5), Automobile Manufacturers (67.3), and Application Software (52.2). Each of those industries is very tech-related, including Automobile Manufacturers, which is dominated by Tesla, and Broadline Retail, which includes Amazon.

Meanwhile, the worst performing industries ytd are Personal Care Products (-49.8), Drug

Retail (-43.2), Independent Power Producers & Energy Traders (-40.9), Regional Banks (-35.4), and Leisure Products (-26.0). Fortunately, the tech-related industries—with member companies that include Amazon, Alphabet, Meta, Nvidia, and Tesla—have a much larger market cap and impact on the S&P 500 than the underperforming industries, which hold the much smaller stocks of Estee Lauder and Hasbro (*Fig. 8*).

**Disruptive Technologies: 3D Printing Gives Flexible Robotics a Hand.** A new method of 3-D printing can create flexible products, including for use in robotics. Human-like robotic hands and artificial organs can be built using this new method, according to researchers at ETH Zurich, a Swiss university; MIT; and Inkbit, a startup company spun out of MIT.

Traditional 3-D inkjet printing uses a material that dries quickly and is then scraped to eliminate any imperfections before the next layer of material is deposited. The end product is stiff, and that's not useful when it comes to developing something like a robotic hand.

Inkbit developed the new 3-D printing method, called "vision-controlled jetting" (VCJ) technology. Instead of scraping away imperfections, the printer includes "an AI-enabled 3D computer vision scanning system" that visually checks the item being produced for imperfections. When it notices an imperfection, the machine calculates how the next layer of material needs to be deposited to correct the imperfection. "This means that instead of smoothing out uneven layers, the new technology simply takes the unevenness into account when printing the next layer," a November 15 *article* on ETH Zurich's website.

The new printer doesn't need to use fast-drying materials when building an object because there's no scraping involved. VCJ can use slow-drying polymers that are more flexible, which dramatically increases the types of objects that can be 3-D printed. The new method also allows hard and soft elements to be printed in an object simultaneously. Researchers used the new printing method to create a 3-D printed robotic hand, with bones, ligaments, and tendons each made of different materials. The slow-drying materials used in the hand allow it to curl when grabbing an object and then uncurl, returning to its original shape. Here's a *video* explaining and demonstrating the technology.

The ability to print using different materials has made the assembly process less "hands on": No human needs to assemble the various pieces of the artificial hand. More details about the hand and other products built using VCJ—including a walking robot and a pump mimicking a heart—appear in a November 15 *study* in *Nature.*

## Calendars

**US: Tues:** Existing Home Sales 3.90mu; Chicago Fed National Activity Index; FOMC Meeting Minutes. **Wed:** University of Michigan Consumer Sentiment Index Total, Current Conditions & Expectations 60.4/65.7/56.9; University of Michigan One-Year & Five-Year Inflation Expectations 4.4%/3.2%; Durable Goods Orders Total & Nondefense Capital Goods Ex Aircraft -3.2%/0.1%; Initial Jobless Claims 225k; MBA Mortgage Applications; Baker-Hughes Rig Count; Crude Oil Inventories & Gasoline Production. **Thurs:** None. **Fri:** M-PMI & NM-PMI Flash Estimates 49.8/50.3. (FXStreet estimates)

**Global: Tues:** Labor Productivity; Canada CPI 0.1%m/3.2%y/y; Lagarde; Schnabel; McCaul; Mauderer; Pill. **Wed:** Eurozone Consumer Confidence -17.6; Germany Import Prices; BOE Financial Stability Report; UK Autumn Forecast Statement; Bllock; Elderson Nagel; Macklem. **Thurs:** Eurozone, Germany, and France C-PMI Flash Estimates 46.9/46.5/44.9; Eurozone, Germany, and France M-PMI Flash Estimates 43.4/41.2/43.0; Eurozone, Germany, and France NM-PMI Flash Estimates 48.1/48.5/45.6; UK C-PMI, M-PMI, and NM-PMI Flash Estimates 48.7/45.0/49.5; ECB Publishes Account of Monetary Policy Meeting; Schnable; Mauderer; Buch. **Fri:** Germany GDP -0.1%qq/-0.3%y/y; Germany Ifo Business Climate Index Total, Current Assessment, and Expectations 87.5/89.4/85.7; Canada Headline & Core Retail Sales 0.0%/-0.2%; Japan Leading Index 108.7; De Guindos; Buch; Balz, Mauderer; Nagel. (FXStreet estimates)

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## Strategy Indicators

**S&P 500/400/600 Forward Earnings** (*link*): Forward earnings fell for two of these three indexes during the November 17 week. LargeCap's forward earnings rose less than 0.1% w/w to a new record high after first hitting that mark during the September 15 week for the first time in 15 months, dating back to the June 24 week of 2022. MidCap's was down for a fifth week as it weakened 0.1% w/w to 5.4% below its record high in early June 2022, and SmallCap's fell for a fourth week as its 1.0% w/w decline took it to 10.9% below its mid-June 2022 record. Through the week ending November 17, LargeCap's forward earnings has risen 7.2% from its 54-week low during the week of February 10; MidCap's is 3.0% above its 55-week low during the week of March 10; and SmallCap's is 3.1% above its 72-week low during the March 17 week. These three indexes' forward earnings downtrends since mid-2022 have been relatively modest compared to their deep double-digit percentage declines during the Great Virus Crisis and the Great Financial Crisis. Forward earnings momentum remains near two-year lows but is steadily ticking higher now. The yearly rate of change in LargeCap's forward earnings has improved to 5.3% y/y from a 29-month low of -3.2% y/y during the June 23 week. Those levels compare to a record-high 42.2% at the end of July 2021 and, on the downside, to -19.3% in May 2020, which was the lowest since October 2009. MidCap's rate of 0.4% y/y is up from a 31-month low of -5.9% in early June, which compares to a record high of 78.8% in May 2021 and a record low of -32.7% in May 2020. SmallCap's -4.6% y/y rate is up from a 32-month low of -12.9% in mid-June and down from a record high of 124.2% in June 2021; it compares to a record low of -41.5% in June 2020. Analysts' consensus earnings forecasts for 2023 and 2024 had been heading steadily lower since June of last year, but the 2023 estimate for the S&P 500 ticked higher during the Q1 and Q2 reporting seasons as analysts incorporated the strong earnings beats into their forecasts. During the Q3 season so far, they've kept the 2023 estimate little changed. Here are the latest consensus earnings growth rates for 2023 and 2024: LargeCap (1.1% and 11.2%), MidCap (-13.3, 11.6), and SmallCap (-8.9, 8.2).

**S&P 500/400/600 Valuation** (*link*): Valuations rose for these three indexes during the November 17 week. LargeCap's forward P/E was up 0.4pt w/w to an 11-week high of 18.6 and is up from a seven-month low of 17.0 during the October 27 week. That's down from its 18-month high of 19.6 during the July 28 week. It's still up 3.5pts from its 30-month low of 15.1 at the end of September 2022, which compares to an 11-year low of 11.1 during March 2020. MidCap's forward P/E rose 0.5pt w/w to a nine-week high of 13.4 and is up from a 12-month low of 12.1 at the end of October. It's now 1.3pts below its 10-month high of 14.7 in early February and up 2.3pts from its 30-month low of 11.1 at the end of September 2022, which compares to a record high of 22.9 in June 2020 and an 11-year low of 10.7 in March 2020. SmallCap's forward P/E rose 0.7pt w/w to a nine-week high of 12.8 and is up from a 12-month low of 11.3 at the end of October. It's now 1.5pt below its recent 12-month high of 14.3 in early February. It's up 2.2pts from its 14-year low of 10.6 in September 2022 and compares to a record low of 10.2 in November 2009 during the Great Financial Crisis. That also compares to its record high of 26.7 in early June 2020 when forward earnings was depressed. The forward P/Es for the SMidCaps have been mostly below LargeCap's since August 2018. MidCap's 28% discount to LargeCap's P/E remains near its 24-year-low 30% discount during the June 23 week. It had been at a 21% discount during the March 17 week, which was near its best reading since November 2021. SmallCap's 31% discount is up from a 23-year-low 34% discount a week earlier, which compares to a 22% discount during the March 10 week; that one was near its lowest discount since August 2021. SmallCap's P/E had been mostly above LargeCap's since 2003. Looking at SmallCap's P/E relative to MidCap's, it was at a discount for a 127th straight week; the current 4% discount is an improvement from its 20-year-low 9% discount in December 2021.

**S&P 500 Sectors Quarterly Earnings Outlook** (*link*): Following the Q3-2020 earnings season, when the US economy emerged from the Covid shutdown, analysts began raising their consensus forecasts for future quarters instead of lowering them as is the historical norm. That six-quarter streak of positive revisions throughout the quarter ended during Q1-2022, and the estimate declines accelerated considerably for the three quarters through Q1-2023 before easing for Q2-2023. Looking at Q3-2023, the revisions pendulum turned slightly negative w/w in the usual performance right before the start of the earnings season ahead of the typical earnings surprise hook. They're forecasting that the S&P 500's earnings rose 3.9% y/y in Q3-2023. That's up from a 5.8% decline in Q2-2023, which likely marked the cyclical bottom for earnings growth. On a pro forma basis, they expect a y/y earnings gain of 6.6% in Q3, up from a 2.8% decline in Q2-2023. S&P 500 ex-Energy earnings are forecasted to be up 12.0% y/y in Q3-2023, an improvement from the 3.6% gain in Q2-2023, the 1.6% decline in Q1-2023, and the 7.4% drop in Q4-2022. Seven sectors are expected to record positive y/y percentage earnings growth in Q3-2023, unchanged from Q2-2023's count. However, that's up from five sectors that did so in Q1-2023 and up from only two in Q4-2022. Here are the S&P 500 sectors' expected blended earnings growth rates for Q3-2023 versus their final earnings growth rates for Q2-2023: Communication Services (46.4% in Q3-2023 versus 15.7% in Q2-2023), Consumer Discretionary (42.2, 57.0), Financials (23.5, 9.3), Information Technology (12.4, 5.0), Industrials (11.3, 15.7), S&P 500 ex-Energy (12.0, 3.6), Utilities (10.3, 0.6), S&P 500 (6.6, -2.8), Consumer Staples (6.6, 8.5), Real Estate (-5.4, -2.1), Health Care (-17.4, -26.7), Materials (-18.1, -26.4), and Energy (-33.0, -47.5).

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## US Economic Indicators

**Leading Indicators** (*link*): Leading indicators continued to plunge in October. The *Leading Economic Indicators* (LEI) fell in October for the 19th straight month, sinking a larger-than-expected 0.8% m/m (vs -0.7% expected) and 11.7% over the period, to the lowest level since May 2020. Over the six months through October, the LEI dropped 3.3%, smaller than the 4.5% drop over the previous six-month period through April. The 12-month growth rate was -7.6%. The LEI components bias the index toward the goods economy. In October, six of the 10 components contributed negatively, two positively, and two—the average workweek and real core capital goods orders—were unchanged. The *biggest negative contributors* to Octobers' LEI were consumer expectations (-0.22ppts), the new orders diffusion index (-0.22), and the S&P 500 (-0.14), followed by the interest rate spread (-0.07), leading credit index (-0.03), and jobless claims (-0.01). *Positive contributions* were recorded by building permits (+0.03) and real consumer goods orders (+0.01).

**Coincident Indicators** (***link***): The Coincident Economic Indicators (CEI) index has posted only one decline so far this year, though there have been a couple of flat readings, with October's index unchanged at September's record high. The CEI posted six positive readings during first 10 months of this year, climbing 1.4% ytd. It exceeds its previous record high, just before the pandemic, by 3.4%. Three of the four CEI components rose in October: 1) *Real personal income less transfer payments (+0.07ppt)* hasn't posted a decline this year, climbing 0.2% in October and 2.3% ytd to a new record high; it's up 14.2% from its April 2020 bottom. 2) *Payroll employment (+0.03)* in October was a surprise on the downside, and there were downward revisions to the prior two months' readings. Payroll employment rose 150,000 (vs 180,000 expected), and there were downward revisions to September (to 297,000 from 336,000) and August payrolls (165,000 from 227,000), for a net loss of 101,000. October's payroll gain was considerably below Q3's average monthly gain of 232,700, though was impacted by the United Auto Workers (UAW) strike, with motor vehicles & parts jobs cut by 33,200. 3) *Real manufacturing & trade sales (+0.04)* rose for the fifth time in six months, by 0.2% in October and 2.4% over the period to a new record high. 4) *Industrial production (-0.12ppts)* was impacted by the UAW strike, which pulled industrial production lower in October, though it remains at a high level. *Headline production* fell a larger-than-expected 0.6% (vs -0.4% expected) in October, as motor vehicle output plunged 10.0%—reflecting the UAW strike against the Big Three auto producers. Despite the decline, overall industrial production remains within 0.8% of last September's cyclical high and 1.3% of August 2018's record high.

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