MORNING BRIEFING
October 7, 2021

Facebook, Russian Gas & Green Shell

Check out the accompanying chart collection.

(1) Facebook took some hits. (2) Facebook's AI needs to catch up to the bad guys. (3) Understanding the influence of algorithms. (4) Zuckerberg defends his baby. (5) Energy prices take a breather. (6) Putin tells Europe not to worry—he's got plenty of natural gas. (7) Shell is turning green. (8) Shell is spending on wind, solar, biofuels, and CO2 disposal.

Technology: A Look at the 'F' in 'FAANGM.' As former President Richard Nixon learned, television is a powerful medium. Frances Haugen, a former Facebook employee, came across very authoritative both on *60 Minutes* and during her testimony before a Senate subcommittee. She appears to understand the complicated technology behind artificial intelligence (AI) and algorithms. She is articulate and explains the technology in concise, plain English. And she has the ear of Congress and damning research on Facebook.

On Tuesday, the day of Haugen's congressional testimony, Facebook shares rose $6.73, or 2.1%. Perhaps the shares rallied because many of Haugen's comments were already contained in a package of *stories* about Facebook that *WSJ* ran beginning on September 13. Facebook's shares are down 12.1% since the day before the series began through Tuesday's close versus the S&P 500's 2.5% drop.

But we wouldn't underestimate the power of what Haugen said to Congress. Our takeaways for investors:

(1) *AI isn't doing the job.* Haugen believes that Facebook has focused on scale over safety. The need for scale is part of the reason Facebook uses AI to police its platforms, she said.

The problem: Facebook's AI fails to catch all but 10%-20% of hate speech. AI has an even tougher time monitoring content in countries where the company doesn't "speak" the language or isn't familiar with a dialect. The implication is that far more humans are needed to monitor the commentary on Facebook. Employing them would be expensive.

A senator presented with Haugen three very inappropriate ads that were approved by Facebook for viewing by children. He asked how they could have been approved. Probably because no human saw them and AI didn't flag them as inappropriate, she replied.

(2) *Rein in the algos.* Facebook designs algorithms to maximize usage and profits and has disregarded some of the associated risks, Haugen claims. Its engagement-based rankings amplify preferences; in so doing, they can fan hate speech, ethnic violence, and harmful information such as images that encourage anorexia among teenage girls.

The algorithms can be tweaked to make the system safer. During last year's presidential election, Haugen explained, Facebook implemented safeguards to reduce its spread of misinformation. After the election, the safeguards were eliminated. The company's ostensible reason for eliminating them was to protect free speech. Haugen alleges that the underlying reason was to increase usage of the platform, and therefore profits.

Haugen suggests that Congress establish a regulatory agency and regulations that force Facebook to turn over data about its algorithms. She also recommends changing Section 230 of the Communications Decency Act, which currently shields Facebook and other Internet companies from lawsuits regarding the content on their platforms. She suggests the law be changed to hold the platforms responsible for decisions related to their algorithms. She would also raise the age required to join Facebook and Instagram to 16 or 18 years old up from 13 today. None of these measures would help Facebook's profitability.

(3) *Zuck responds.* After Haugen's congressional testimony, Facebook CEO Mark Zuckerberg took to Facebook to share his take on the day. "We care deeply about issues like safety, well-being and mental health. It's difficult to see coverage that misrepresents our work and our motives. At the most basic level, I think most of us just don't recognize the false picture of the company that is being painted," he wrote in the post.

The company doesn't ignore its own research, Zuckerberg said. It cares about and takes action to fight harmful content. And Facebook isn't causing polarization in other countries where its service is used just as heavily as it is in the US. It does not prioritize profit over safety and well-being. Facebook introduced Meaningful Social Interactions to the News Feed to show fewer viral videos and more content from friends and family even though they knew it would reduce the time people spent on Facebook.

Facebook is disincentivized to publish harmful or angry content because advertisers don't want their ads appearing next to harmful or angry content. And the company continually works on keeping children safe on its site.

Zuckerberg concluded by throwing the problems into Congress' lap. He wrote that he has asked Congress many times to update its Internet regulations on issues that include the proper age children should be allowed to use Internet services, how to verify ages, and how to balance teen privacy and parents' need to know.

(4) *Is FAANGM long in the tooth?* The total market capitalization of FAANGM (Facebook, Amazon, Apple, Netflix, Google/Alphabet, and Microsoft) has increased 19.0% this year and it isn't far from its most recent peak hit on September 3 (*Fig. 1*). The market capitalization of the FAANGM stocks as a percent of the S&P 500 has gone sideways for much of the past year. The market capitalization of FAANGM is 25.0% of the S&P 500, the same as it was in the second half of 2020 (*Fig. 2*).

One thing the FAANGM stocks have in their corner is amazing revenue and earnings growth prospects. Their forward revenue and forward earnings performances (i.e., based on the time-weighted average of consensus estimates for this year and next) far outpace those of the S&P 500 (*Fig. 3* and *Fig. 4*).

Flattish stock performance and continued earnings growth over the past year have helped deflate the forward P/E of the FAANGM stocks from 44.7 on August 28, 2020 to a recent 34.8 last Friday (*Fig. 5*). Without the FAANGM stocks, the S&P 500 forward P/E falls to 18.1 compared to 20.6 with them (*Fig. 6*). During that time period, the forward P/Es of Amazon and Netflix have deflated the most. Here are the forward P/Es of the FAANGM constituents today and back on August 28, 2020: Amazon (51.1, 85.1), Netflix (49.2, 66.1), Microsoft (31.3, 35.2), Google (25.9, 31.2), Apple (25.0, 31.3), and Facebook (21.8, 29.5) (*Fig. 7*). Facebook's forward P/E is higher than it was in 2019, but lower than it was in most other years (*Fig. 8*).

Energy: Gas Prices Take a Breather. Russian President Vladimir Putin gave us a reminder yesterday of just how much control he has over European energy prices. Just a hint from him that Russian-backed Gazprom might increase supplies sent natural gas prices tumbling on Wednesday from more than £4 per therm to £2.87, according to an October 6 *FT* *article*. Putin is wise enough to know that nothing kills a commodity market rally faster than high prices.

Putin said the current surge in the price of natural gas is a sign that Europeans are making a mistake by moving away from Russian natural gas. Actually, the opposite appears to be true: The EU erred by not incentivizing European producers of natural gas to keep producing and using any uptick in renewable energy production to decrease the amount of Russian natural gas it purchased.

In the US, the price of natural gas fell Wednesday by almost 10% to $5.71, though that's still more than double the lowest prices fetched earlier this year (*Fig. 9*). The price of West Texas intermediate crude oil is $76.94 per barrel, down by 2.5% Wednesday but still up 59.6% ytd (*Fig. 10*). And something to keep an eye on is the price of gasoline, which has jumped to $3.29 per gallon, up 41% ytd. Higher gasoline prices could dampen consumer spending just in time for the holidays (*Fig. 11*).

Disruptive Technologies: Oil Giant Going Green. There are many reasons why the world is seeing rising energy prices. For one, many large oil companies are going green and pledging to reduce carbon dioxide (CO_2) emissions. They're increasing their investments in renewable energy sources and often decreasing their spending on oil and gas development.

Royal Dutch Shell was moving in that direction when it got a shove to accelerate the change. The District Court in the Hague, Netherlands, ruled the company must dramatically reduce its CO_2 emissions: 45% by 2030, 72% by 2040, and 100% by 2050 compared with 2010 levels (see our June 3 *Morning Briefing*).

While Shell is appealing the Hague's decision, the company has announced a plan to reduce the carbon intensity of its products by 100% by 2050, and it sees its oil production declining by 1%-2% a year but continuing to help the company fund its transition.

Shell's capital spending is adjusting to reflect the company's green goals. Shell announced in October 2020 that it would increase its spending on low-carbon energy to 25% of its overall capital expenditures by 2025. That translates into more than $5 billion a year, up from $1.5-$2.0 billion now, a January 31 Reuters *article* reported.

I asked Jackie to look into the many green energy investments Shell has made in just the past few months. Here's her report:

(1) *Buying and selling.* Last month, Shell agreed to sell all of its operations in the US Permian Basin to ConocoPhillips for about $9.5 billion. The company said it decided selling was more attractive than acquiring additional assets to grow its Permian presence. "We found the cost of acquisitions in the last few years was above what we felt was going to be value-accretive for our shareholders," Wael Sawan, Shell's upstream director, said in a

September 20 *WSJ* *article*. About $7 billion will be returned to shareholders, and the remainder will be used to strengthen its balance sheet.

Conversely, Shell purchased in July Next Kraftwerke, a virtual power plant operator that remotely connects and manages the wholesale electricity produced by more than 10,000 decentralized energy sources that include photovoltaics, bioenergy, and hydropower located in eight European countries. The deal helps Shell achieve its goal of selling about 560 terawatt hours of electricity a year by 2030, roughly twice as much as it sold at the start of 2021.

In February, Shell bought ubitricity, which installs electric vehicle (EV) chargers in lampposts and other structures. Shell aims to install 50,000 on-street EV chargers across the UK by the end of 2025, dramatically expanding the UK's existing network of 3,600 ubitricity chargers. The system is needed because more than 60% of households in English cities and urban areas do not have off-street parking. Globally, Shell aims to grow its EV network from 60,000 today to 500,000 by 2023.

Two years ago, Shell acquired Limejump, which manages a huge battery storage device in the UK. It buys electricity from 675 wind farms, solar installations, and other renewable generators across Britain and sells the electricity to businesses that want green energy.

(2) *Developing green energy.* Earlier this month, Shell *announced* plans to build two large solar projects in England able to generate a total of 800 megawatts of energy and store that energy in batteries.

The company is also developing wind farms. It *plans* to develop and operate a 1.4 gigawatt floating offshore wind farm in South Korea through a joint venture with CoensHexicon. The project is expected to generate up to 4.7 terawatt hours of electricity. Shell and ScottishPower are developing another floating offshore wind farm in the waters northeast of Scotland.

Shell has developed its first US biomethane facility, in Junction City, Oregon. It uses "locally sourced" cow manure and excess agricultural residues to produce "renewable" natural gas. The facility began production in September, a company *press release* states. Shell is developing two additional biomethane facilities within operating dairies in Kansas and in Idaho. The three facilities are expected to produce 1,636,000 MMBtu a year of natural gas.

Shell *announced* in September plans to transform one of its major refineries in Rotterdam, Netherlands into a 820,000-tonnes-a-year biofuels facility. The facility is expected to produce aviation fuel and diesel made from waste by 2024. The waste may include used cooking oil, animal fat, other industrial and agricultural residual products, and vegetable oils.

Shell is rolling out hydrogen refilling locations too. One being built at the Qbuzz bus depot in Peizerweg, Netherlands will be able to serve up to 20 hydrogen buses. Shell will provide the green "certified" hydrogen. After 10 minutes of refueling, a bus will be able to travel 400 kilometers on a full tank of 25 kilos of hydrogen.

Shell is also rolling out 51 hydrogen refueling stations in California at existing Shell stations. In Europe, Shell has committed to building hydrogen refueling stations in 2024 for Daimler Truck's customers. Daimler plans to deliver its hydrogen-burning heavy duty trucks in 2025. The stations will be in the Port of Rotterdam in the Netherlands and in Cologne and Hamburg, Germany.

(3) *Burying CO2.* Shell is working with TotalEnergies, Energie Beheer Nederland, and Gasunie to develop a project dubbed "Aramis." Industrial companies (e.g., in the steel, chemicals, cement, refinery, and incinerator industries) would ship their CO2 waste to the onshore collection hub. The CO2 will be transported via pipeline to offshore platforms, where it will be injected in depleted offshore gas fields 3-4 km below the seabed, the project's *website* explains. A final investment decision on the project is expected by 2023, and it should be operational by 2026.

Athos and Porthos are two other facilities under development by other companies that plan on capturing carbon and storing it the under the seabed.

Among Shell's other projects, it has *hired* Penguin International Ltd to design, build, and operate at least three electric ferries to shuttle Shell employees between the company's facilities on the islands of Bukom and Singapore. The 200-seat ferries will use lithium-ion batteries and replace in 2023 the diesel-powered ferries currently in use on the 5.5-kilometer trip.

Calendars

US: Thurs: Initial & Continuous Jobless Claims 348k/2.78m, Consumer Credit $17.5b, Natural Gas Storage, Williams. **Fri:** Nonfarm Payroll Employment Total, Private, and

Manufacturing 473k/450k/25k, Average Hourly Earnings 0.4%m/m/4.6%y/y, Average Weekly Hours 34.7, Unemployment Rate 5.1%, Wholesale Trade Sales 1.0%, US Baker-Hughes Rig Count. (Bloomberg estimates)

Global: **Thurs:** Germany Industrial Production -0.4%, Japan Household Spending -2.0%m/m/-1.5%y/y, Japan Leading & Coincident Indicators, China Caixin NM-PMI, ECB Publishes Account of Monetary Policy Meeting, RBA Financial Stability Review, Schnabel, Lane, Elderson, Mauderer, Buch, Macklem. **Fri:** Canada Employment Change 65k, BOE Quarterly Bulletin, BOE FPC Meeting Minutes, Panetta. (Bloomberg estimates)

Strategy Indicators

Stock Market Sentiment Indicators (*link*): The Bull/Bear Ratio (BBR) fell for the fourth week this week to 1.80, the lowest since early May 2020; it was as high as 4.00 12 weeks ago, which was the highest since late January 2018. Bullish sentiment fell for the fourth week by 12.2ppts (to 40.4% from 52.6%), the lowest since early April 2020, while the corrections account rose by 10.8-ppts (37.1 from 26.3), the highest since early March 2020. The former is down from its recent peak of 61.2% in mid-July, while the latter is up from its recent low of 23.5%. Bearish sentiment is little changed the past three weeks at 22.5%, though is up 7.2ppts from its mid-July low of 15.3%. The AAII Ratio fell to 40.9% last week after rising from 36.4% to 43.3% the prior week, as bullish sentiment fell from 29.9% to 28.1% and bearish sentiment rose from 39.2% to 40.7%.

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): The S&P 500's forward profit margin ticked down 0.1ppt to 13.1% from a record high of 13.2%. Since the end of April, it has exceeded its prior record high of 12.4% in September 2018. It's now up 2.8ppts from 10.3% during April 2020, which was the lowest level since August 2013. Forward revenues and earnings per share both rose w/w. They've both been making new record highs since the beginning of March and for the first time since February 2020. Since the Q2-2020 earnings season came in way better than expected, analysts have been playing catch-up with their lowball estimates from the Covid-19 shutdown. Consensus S&P 500 forecasts had been falling at rates paralleling the declines during the 2008-09 financial crisis. Forward revenues growth remained steady w/w at 8.6%. That's down from a record high of 9.6% at the end of May and should continue to move lower due to base effects. Still, that's up from 0.2% during April 2020, which was the lowest reading since June 2009. Forward earnings growth of 15.0% was down 0.1ppt w/w, 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 had been 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, analysts have been raising their forecasts this year for 2021 and 2022 revenues and earnings growth and the profit margin. They expect revenues to rise 15.0% in 2021 (steady w/w) and 7.0% (up 0.2 ppt w/w) in 2022 compared to the 2.1% decline reported in 2020. They expect earnings gains of 46.2% in 2021 (down 0.1ppt w/w) and 9.2% in 2022 (unchanged w/w) compared to a 13.4% decline in 2020. Analysts expect the profit margin to rise 2.8ppts y/y in 2021 to 12.9% (unchanged w/w) from 10.1% in 2020 and to improve 0.4ppt y/y to 13.2% in 2022 (unchanged w/w). The S&P 500’s weekly reading of its forward P/E dropped 0.1pt w/w to an 11-month low of 20.6. That 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 0.02pt w/w to a four-month low of 2.70. That compares to a record high of 2.81 at the beginning of September 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 and earnings rise for five of 11 S&P 500 sectors. Seven sectors are at or near record highs in their forward revenues, earnings, and profit margin: Communication Services, Consumer Discretionary, Consumer Staples, Health Care, Industrials, Information Technology, and Materials. Energy still has all measures below record highs. 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. Four sectors are expected to see margins decline y/y in 2022: 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. Currently, seven sectors are at record highs. Here’s how they rank based on their current forward profit margin forecasts versus their highs during 2018: Information Technology (24.7%, down from its 24.9% record high two weeks earlier), Financials (19.1, down from its 19.8 record high in early August), Communication Services (16.7, record high), Real Estate (16.4, down from 17.0), Utilities (14.5, down from its 14.8 record high in early May), Materials (13.3, record high), S&P 500 (13.1, down from its 13.2 record high a week earlier), Health Care (11.1, down from its record high of 11.2 in April 2018), Industrials (10.1, down from its record high of 10.5% in mid-December), Consumer Staples (7.6, 7.7), Consumer Discretionary (7.9, down from 8.3), and Energy (7.7, down from 8.0).

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 18.5% and 51.7%, respectively, since then to new record highs. The forward profit margin has risen 3.0ppts to 13.1%, exceeding its prior record high of 12.4% in late 2018. During the latest week, seven of the 11 sectors posted gains or remained steady at new highs in either their forward revenues, earnings, or profit margin. Here's how the 11 sectors rank by their changes in forward revenues and forward earnings since May 28, 2020: Energy (forward revenues up 28.7%, forward earnings up 1,618.8%), Materials (28.2, 93.3), Information Technology (25.4, 42.3), Communication Services (24.2, 55.1), Industrials (23.0, 69.2), S&P 500 (18.5, 51.7), Financials (17.5, 66.2), Health Care (14.1, 26.1), Consumer Discretionary (13.5, 91.8), Consumer Staples (11.4, 18.7), Real Estate (9.6, 26.2), and Utilities (0.2, 4.8).

US Economic Indicators

ADP Employment (*link*): "The labor market recovery continues to make progress despite a marked slowdown from the 748,000 job pace in the second quarter," said Nela Richardson, chief economist, ADP. "Leisure and hospitality remains one of the biggest beneficiaries to the recovery, yet hiring is still heavily impacted by the trajectory of the pandemic, especially for small firms. Current bottlenecks in hiring should fade as the health conditions tied to the COVID-19 variant continue to improve, setting the stage for solid job gains in the coming months." Private payroll employment rose 568,000 in September, up from August's downwardly revised 340,000 (from 374,000) gain. Service providers remain the engine of employment growth, adding 466,000 jobs in September, accelerating from August's 297,000 and the fastest since June. Goods-producing companies added a 12-month high of 102,000 jobs—more than double the average monthly gain of 47,000 the first eight months of this year. Year to date, total payrolls are up 4.37 million, with service-providing and goods-producing advancing 3.89 million and 478,000, respectively, over the comparable period. Here's a tally of industry performances from strongest to weakest year to date, since bottoming last April, and where they stand relative to last February's levels: leisure & hospitality (+1.8 million, +5.5 million, -2.2 million), trade transportation & utilities (+546,000, +2.2 million, -935,000), health care & social assistance (+513,000, +1.7 million, -361,000), other services (+256,000,+985,000, -290,000),administrative & support services (+253,000, +859,000, -689,000), professional & technical services (+217,000, +444,000, -89,000), manufacturing (+216,000, +932,000, -370,000), construction (+215,000, +947,000 & -6,000), education (+149,000, +341,000, -108,000), financial activities (+93,000, +200,000, -65,000), natural resources & mining (+48,000, 30,000, -22,000), management of companies

& enterprises (+12,000, -9,000, -91,000), and information services (+11,000, -22,000, -285,000). Here's the same exercise by company size: medium (+1.5 million, +3.9 million, -1.0 million), large (+1.7 million, +5.5 million, -3.8 million), and small (+1.2 million, +4.7 million, -697,000).

Global Economic Indicators

Eurozone Retail Sales (*link*): Eurozone retail sales rose for the third time in four months in August, up 0.3% m/m and 3.7% over the period, and is only 2.3% below June's record high. August's reading is 3.1% above pre-pandemic levels. Of the three main components, non-food products excluding autos was the only one in the plus column, rising for the third time in four months, by 1.8% in August and 9.8% over the period, while sales of automotive fuels ticked down 0.1% following a three-month jump of 11.1%. Meanwhile, sales of food, drinks, and tobacco continued their slump, falling for the fifth successive month, by 1.7% m/m and 5.5% over the period. August data are available for three of the top four Eurozone economies and show sales in Germany climbed for the third time in four months by a total of 5.9%, not far from March's record high. Sales in France contracted for a second month, by a total of 3.4%, since reaching record high in June, while Spain retail sales edged lower for the second month, by a total of 0.5%, though is up 5.5% since plunging at the start of this year.

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