MORNING BRIEFING
April 28, 2022

China, Tech & Electricity

Check out the accompanying chart collection.

Executive Summary: With nearly a quarter of China's people locked in their homes by strict Covid policies, China's economy is suffering, its policymakers are reacting, and ripple effects are spreading throughout the globe. Today, we examine some of these effects on US companies with business ties to China and on financial markets. … Also: Investors have sent tech stocks to the doghouse, their collective performance down nearly 20% ytd, and the MegaCap-8 hasn't been spared. Indeed, Netflix and Meta are down 67% and 46% ytd. … And a look at virtual power plants, making electricity demand as adjustable as solar/wind supply is intermittent.

China: The Ripples Have Arrived. Covid Whac-A-Mole continues in China, where the cases in Shanghai have started falling and officials in Beijing are racing to prevent cases from spiraling higher. Forty-six cities are on full or partial lockdowns, representing 24.3% of China's population and 35.1% of the country's GDP, according to research by Nomura cited in an April 27 Reuters *article*.

Beijing officials started mass testing the city's residents for Covid more rapidly than their counterparts in Shanghai, who waited a month or so after cases were first detected. Testing most of Beijing's 20 million residents began on Monday and has yielded only 12 cases so far, an April 27 *South China Morning Post* (*SCMP*) *article* stated. Daily case counts this week have been in the low double digits: 34 residents tested positive on Tuesday following 33 on Monday and 19 on Sunday. Beijing's total case count stands at 138, and there've been no related deaths.

Shanghai just logged its fourth consecutive day of declines, with cases dropping 20.1% to 13,562 on April 27, according to a *SCMP* *article*. There were only 48 deaths during this current Covid outbreak in Shanghai. Cases in Hong Kong have also been falling, hitting 347 on Tuesday, the lowest since February 6. The first of three phases of reopening Hong Kong began last week. Residents are allowed to visit restaurants, gyms, beauty parlors, movie theaters, theme parks, and places of worship. But bars, night clubs, swimming pools, and other areas remain closed, reported an April 26 *SCMP* *article*.

The spikes in China's cases have come even though 88% of Chinese residents has had two shots of the domestically produced vaccine; but it's thought to be less effective than the mRNA vaccines developed in the US.

The lengthy shutdown in Shanghai has been tough on residents. There are tales of people going hungry, of apartment buildings being fenced in so people can't leave, and workers living at their offices or factories to limit the chance of their catching Covid. Let's take a closer look at the impacts on China and on the US:

(1) *Damage control begins.* The lockdowns across China are expected to harm the country's economy. Hwabao Trust economist Nie Wen estimated a twin Beijing-Shanghai lockdown may trim 1ppt off China's Q2 economic output, an April 26 Reuters *article* reported. And last week, the International Monetary Fund cut its 2022 real GDP growth forecast for China to 4.4%, down from an earlier forecast of 4.8% and far below China's target of 5.5%. The country's Q1 GDP growth came in at 4.8%.

The Chinese leadership appears to recognize the country's perilous state and has stepped on the monetary and fiscal gas pedals.

The People's Bank of China (PBOC) said on Tuesday that it will step up prudent monetary policy to support the nation's economy. An April 26 *WSJ* *article* quoted one PBOC monetary policy committee member saying that China needs "more vigorous" macro policies to hedge pandemic impacts: "The authorities should 'make sure the economic growth rate in the second quarter can return to more than 5%, which is particularly important for laying the foundation for the country to achieve the expected target of 5.5%.'"

China will attempt to boost the economy by increasing spending on infrastructure that benefits industrial growth and national security, an April 26 Reuters *article* reported. The focus will be on transportation, energy, and water resources. The government will invest in green and low-carbon energy projects, oil and gas pipeline improvements, regional and cargo airports, and technology including super-computing, cloud computing, artificial intelligence platforms, and broadband.

In mid-April, the interest-rate self-disciplinary mechanism—a top regulatory body overseen by the PBOC—urged smaller lenders to lower deposit ceilings on time deposits by about 10 basis points, sources told Reuters April 24 *article*. This week, larger banks, like the Bank of China and Bank of Communications, announced cuts in deposit ceilings as well.

In addition, the PBOC announced that it would cut the weighted average reserve requirement ratio for all banks by 25 basis points to 8.1% starting April 25. This follows the last cut in December.

And perhaps most importantly, last month Liu He, vice premier and President Xi's closest economic advisor, announced the government would introduce policies that are "favorable to the market"—potentially ending Xi's streak of policies that upended some of the country's fastest-growing industries in technology, education, and real estate.

(2) *Ripple effects arrive on US shores.* China's shutdowns have started impacting the global business community.

GE said that its March-quarter revenue took a 6ppt hit owing to the Russian invasion of Ukraine, China lockdowns, and other supply-chain issues. The situation in China has improved over the past 10 days, as GE has brought workers back into its Shanghai facilities. Still, the company is building up inventory and alternative capacity to deal with any unforeseen circumstances, an April 26 Reuters *article* reported.

AP Moller-Maersk lowered its 2022 forecast for containers shipped but increased its forecast for prices because of the ongoing supply-chain problems. Container demand was expected to be anywhere from 1.0% growth to a 1.0% decline, which is down from its previous guidance of 2.0%-4.0% growth. The revisions led the company to increase its 2022 earnings forecast to $30 billion this year, up from an earlier target of $24 billion, an April 26 *FT* *article* reported.

China's Personal Information Protection Law, which went into effect in November, prevents the ports from sharing data, so it's impossible to know the number of ships waiting at sea to unload. Investors are turning to satellite images. However, imports at the US West Coast ports fell to 10.1 million containers in February from 10.4 million, based on the 12-month sum (*Fig. 1*).

(3) *Impact on US and Chinese markets.* As China's central bank lowers interest rates and the US Federal Reserve raises interest rates, investors are shifting out of the former country's bonds into the latter country's bonds. Foreign investors sold $18 billion of renminbi-denominated debt in March, by *FT*'s *calculations*. The 10-year government bond yields of the two countries are now equivalent, a reversal from much of the past decade when the Chinese 10-year bond yield was often 3ppts higher than its US counterpart. Foreign investors have also *sold* about $6 billion of Chinese shares in the first three months of this year, with the selling accelerating in March as Covid cases popped up.

The CSI 300 index has fallen 21.1% ytd through Tuesday's close, and the MSCI China index has lost 23.7% ytd (*Fig. 2* and *Fig. 3*). The tightly controlled Chinese yuan has fallen 3.7% against the dollar since March 2 (*Fig. 4*). Reflecting fears of an economic slowdown in China, the price of copper has fallen 9.9% from its March 4 peak (*Fig. 5*). Likewise, the price of palladium has dropped 27.3% from its peak in early March (*Fig. 6*).

Technology: MegaCap-8 Madness. Higher interest rates and a slowing global economy have taken a toll on technology shares in general and the shares of the MegaCap-8 (i.e., Alphabet, Amazon, Apple, Meta [formerly known as Facebook], Microsoft, Netflix, Nvidia, and Tesla) specifically. News of subscriber losses at Netflix and slowing ad sales at Google that came out in Q1 earnings reports this week haven't helped the situation.

The tech-related S&P 500 sectors have had the worst ytd performances through Tuesday's close: Energy (32.7%), Utilities (1.9), Consumer Staples (1.8), Health Care (-6.4), Real Estate (-6.8), Materials (-7.2), Industrials (-9.0), Financials (-9.7), S&P 500 (-12.4), Consumer Discretionary (-17.9) Information Technology (-19.8), and Communication Services (-24.1) (*Fig. 7*).

Within the Information Technology and Communication Services sectors, some of the worst performing industries include: Movies & Entertainment (-44.3%), Semiconductor Equipment (-30.2), Applications Software (-30.6), Interactive Media Services (-26.5), and Semiconductors (-26.4) (*Fig. 8* and *Fig. 9*).

Let's take a look at some MegaCap-8-specific data:

(1) *Earnings bite.* The earnings of MegaCap-8 stocks were in the spotlight this week. Netflix's subscriber losses weren't accompanied by a plan from management to fix the problem. Google's advertising sales slowed after spiking over the past two years when marketers wanted to reach everyone stuck at home whiling away hours on computers and devices. The results imply that the company is no longer growing so fast that it's impervious to economic cycles. Meanwhile, Microsoft's earnings beat expectations, propelled by the 46% jump in cloud computing revenue.

Here's the performance derby for the MegaCap-8 stocks ytd through Tuesday's close: Netflix (-67.1%), Meta (Facebook) (-46.2), Nvidia (-36.1), Microsoft (-19.7), Google (-17.4), Tesla (-17.1), Amazon (-16.4), and Apple (-11.7). The MegaCap-8 as a group has fallen 22.6% through Tuesday's close from its peak on December 27 (*Fig. 10*).

(2) *MegaCap-8 shrinking, but still big.* Despite the selloff, MegaCap-8 still represents a 23% share of the S&P 500's market capitalization, down from 27% at its peak (*Fig. 11*). And the individual stocks will continue to have an outsized impact on their sectors. Apple, Microsoft, and Nvidia make up 53.6% of the S&P 500 Information Technology sector's market capitalization; Alphabet, Meta, and Netflix represent 37.5% of the S&P 500 Communication Services sector's market cap; and Amazon and Tesla account for 50.0% of the S&P 500 Consumer Discretionary sector's market cap.

The MegaCap-8's forward P/E has fallen sharply from a peak of 38.5 in 2020, down to a 24-month low of 26.1 on Friday (*Fig. 12*). Its impact on the overall S&P 500's forward P/E also has diminished. The index's forward P/E is 18.8 but falls to 17.2 excluding MegaCap-8. One thing going for these tech stocks are the companies' active share-buyback programs, which have reduced their shares outstanding over the past 10 years.

Collective earnings for the Fab Eight is expected to grow 12.6% over the next 12 months. But forward earnings growth estimates for the individual constituents range wildly: Tesla (58.0%), Amazon (28.9), Nvidia (26.8), Microsoft (16.1), Alphabet (11.2), Apple (8.0), Netflix (4.4), and Meta (-2.8).

Disruptive Technologies: Distributed Electricity. Earth Day 2022 was marked last week by all manner of press releases touting the green good deeds done by corporate America. From Amazon came news that the company is investing in 37 new renewable energy projects around the world that will generate 3.5 gigawatts (GW) of energy. It's part of Amazon's goal to become net zero carbon across their businesses by 2040. To that end, the company plans to power all of its operations with renewable energy by 2025.

When completed, the company's new projects—which include 3 wind farms, 26 solar firms, and 8 solar rooftop installations in eight different countries—will bring Amazon's energy portfolio up to 310 projects. Collectively, they'll generate a total of 42,000 GW hours of renewable energy each year, enough to power 3.9 million US homes annually.

The new projects presumably will entail power purchase agreements (PPAs) whereby Amazon would agree to buy electricity from the power producer for 15 to 25 years at a specific price. The developer of the project can literally take that PPA to the bank and use it to get financing for the project at more advantageous terms, an excellent June 23, 2021 *WSJ* article explained. And the investor or the developer may benefit from tax credits.

Amazon is believed to be the largest PPA buyer, but it's not alone. Alphabet, Google, Facebook, TotalEnergies, and AT&T also are in the market buying and driving up prices. The growing demand for PPAs in addition to increased development costs have increased the price of wind and solar PPAs by nearly 30% y/y in North America and Europe during Q1, according to a *report* by LevelTen Energy, which provides software used in these transactions.

All of these new mini power producers presumably will make managing the nation's overall energy performance more complicated than it already is. Solar and wind power is notoriously intermittent, adding variability in energy production even when accompanied by battery storage. But now companies are trying to make demand more variable as well through the creation of virtual power plants (VPPs). Managers of a VPP manage both energy production from various distributed producers and demand from many users of electricity.

During peak demand, utilities have normally tapped "peaker plants," electric plants that run only when absolutely necessary, often because they are expensive to operate or use dirty fuel, like coal. Instead of increasing electric supply during peak demand, VPPs opt to reduce demand. A VPP might have contracts that allow it to turn up a home's thermostat during the summer so that it uses less air conditioning. Or a VPP might tap into the energy stored in a home's backup battery. In return for ceding control, a homeowner might receive a cash incentive. Here are some examples of VPPs we came across:

(1) *VPP in Vermont.* Green Mountain Power operates a VPP that taps into Tesla's Powerwall batteries in about 4,000 customers' homes. The system allowed Green Mountain to save $3 million in peak energy purchases in 2020 and keep its utility rates lower than they would otherwise be, a March 18 CNET *article* reported. Customers participating in the VPP get paid and agree to use the battery only as a backup if electricity is down.

(2) *VPP in Japan.* Japan's largest power company TEPCO's venture arm is using Centrica Business Solution's Flexpond Demand Side Response platform to help it manage electricity in the Kyushu region, which has both industrial customers and renewable energy projects connected to the grid, an April 1 *press release* stated. The platform allows utilities to build their own VPPs, with control over the production of and the demand for energy.

(3) *VPP in California.* Redondo Beach, CA will allow OhmConnect to pitch its VPP services to residents, an April 22 *Easy Reader & Peninsula* *article* reported. Consumers who sign up agree to have their electricity consumption lowered at times of heavy demand via free devices attached to their home electrical outlets. During peak hours, a refrigerator might

turn off for an hour or two, for instance; in exchange, the resident earns cash payments or prizes for the energy they saved. The town is hoping that peak demand can be reduced enough so that a peaker power plant can be retired.

Calendars

US: Thurs: Real GDP & GDP Price Index 1.1%/7.3%; Core PCED 5.4%; Kansas City Fed Manufacturing Index; Initial & Continuous Jobless Claims 180k/1.403m; Natural Gas Storage. **Fri:** Personal Income & Spending 0.4%/0.7%; Core PCED 0.3%m/m/5.3%y/y; Consumer Sentiment 65.7; Chicago PMI 62.0; Baker-Hughes Rig Count. (Bloomberg estimates)

Global: Thurs: Eurozone Business & Consumer Survey 108.0; Eurozone Consumer Confidence -16.9; Germany CPI 0.6%m/m/7.2%y/y; Italy Business & Consumer Confidence 110.0/100.4; Spain Unemployment Rate 14.2%; China Caixin M-PMI 50.0; Japan Housing Starts -0.5%; BOJ Press Conference; ECB Economic Bulletin; Guindos; McCaul. **Fri:** Eurozone Headline CPI Flash Estimate 1.8%m/m/7.5%y/y; Eurozone GDP Flash Estimate 0.3%q/q/5.0%y/y; Germany Import Prices 3.4%m/m/28.6%y/y; Italy CPI 6.3% y/y; Canada GDP 0.8%m/m; China M-PMI 49.9. (Bloomberg estimates)

Strategy Indicators

Stock Market Sentiment Indicators (*link*): The Bull/Bear Ratio (BBR) continues to bounce around 1.00, moving back above this week. The BBR climbed to 1.04 this week after falling the prior two weeks from 1.26 to 0.96; it was at 0.84 during the March 15 week—which was the lowest since March 2020. Bullish sentiment increased to 34.2% this week after falling 7.0ppts (to 32.1% from 39.1%) the prior two weeks, while bearish sentiment fell to 32.9% this week after rising 2.3ppts (33.3 from 31.0) the previous two weeks. This week's correction count matched bearish sentiment, slipping to 32.9% after rising 6.4ppts (34.6 from 28.2) the previous three weeks. The AAII Ratio increased to 30.1% last week after falling from 53.7% to 24.6% the prior two weeks. Bullish sentiment advanced to 18.9% after sliding the previous three weeks 32.8% to 15.8%, while bearish sentiment slipped to 43.9% after climbing from 27.5% to 48.4% the prior two weeks.

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): The S&P 500's forward profit margin ticked back up last week to match its 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 were both back at record highs after ticking down briefly in early February. They have both 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 8.1%. That's down from a record high of 9.6% growth at the end of May 2021, but compares to 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 0.2ppt w/w to 9.8%. 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 10.1% (up 0.3ppt w/w) in 2022 and 5.3% in 2023 (down 0.1ppt w/w) compared to the 16.4% gain reported in 2021. They expect earnings gains of 10.1% in 2022 (up 0.4ppt w/w) and 9.9% in 2023 (down 0.2ppt w/w) compared to an earnings gain of 51.0% in 2021. Analysts expect the profit margin to remain steady in 2022 at 13.1% (unchanged w/w) compared to 13.1% in 2021 and to improve 0.6ppt y/y to 13.7% in 2023 (unchanged w/w). Just before the selloff that began last Friday, the S&P 500's weekly reading of its forward P/E fell 0.4pt w/w to 18.8, but remained above its 23-month low of 18.6 in late February. 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 was down 0.03pt w/w to 2.52, but was still above its 15-month low of 2.48 at the end of February. 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 and earnings rise for 10 of the 11 S&P 500 sectors and the forward profit margin rise for five 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, but its profit margin of 10.7% is at its highest reading since February 2008. Financials 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, all but the Utilities sector posted a y/y improvement. Four sectors are expected to see margins decline or remain flat y/y in 2022: Communication Services, Consumer Staples, Financials, and Real Estate. Here's how they rank based on their current forward profit margin forecasts along with their record highs: Information Technology (25.3%, down from its 25.4% record high in late February), Financials (18.7, down from its 19.8 record high in August 2021), Real Estate (16.6, down from its 19.2 record high in 2016), Communication Services (16.1, down from its 17.0 record high in October), Utilities (14.1, down from its 14.8 record high in April 2021), Materials (13.2, down from its 13.4 record high in December), S&P 500 (13.4, back up to its prior record high several weeks earlier), Health Care (11.2, down from its 11.5 record high in early March), Industrials (10.2, down from its 10.5 record high in December 2019), Energy (10.7 [14-year high], down from a record-high 11.2 in 2007), Consumer Discretionary (8.1, down from its 8.3 record high in 2018), and Consumer Staples (7.5, down from its 7.7 record high in June).

S&P 500 Q1 Earnings Season Monitor (*link*): With over 35% of S&P 500 companies finished reporting revenues and earnings for Q1-2021, revenues are beating the consensus forecast by 2.0%, and earnings have exceeded estimates by 6.9%. We expect these figures to change markedly going forward because early reporters in Energy are boosting the revenue surprise by 0.8% and companies in the Financials sector are dragging down y/y earnings growth. At the same point during the Q4 season, revenues were 2.9% above forecast and earnings beat by 4.4%. For the 176 companies that have reported Q1 earnings through mid-day Wednesday, the aggregate y/y revenue and earnings growth rates have slowed considerably from their double-digit percentage readings from Q2-2021 to Q4-2021. The current sample of Q1 reporters so far collectively has a y/y revenue gain of 11.5% and an earnings gain of just 3.7%. While just 73% of the Q1 reporters so far has reported a positive revenue surprise, 79% has beaten earnings forecasts. However, fewer companies have reported positive y/y earnings growth in Q1 (64%) than positive y/y revenue growth (82%). We expect to see revenue and earnings surprises moderate q/q due to missed deliveries, higher costs, and increased company guidance ahead of the earnings season.

US Economic Indicators

Pending Home Sales (*link*): "The falling contract signings are implying that multiple offers will soon dissipate and be replaced by much calmer and normalized market conditions," said Lawrence Yun, NAR's chief economist. "As it stands, the sudden large gains in mortgage rates have reduced the pool of eligible homebuyers, and that has consequently lowered buying activity." The Pending Home Sales Index (which tracks sales when a contract is signed but the transaction has not yet closed) contracted in March for the fifth month, by 1.2% m/m and 15.3% over the period to 103.7—to its lowest since May 2020; these sales were 8.2% below last March's level. Sales fell in three of the four regions in March, with all down year over year. Here's a regional look at pending home sales in March: Northeast (+4.0% m/m & -9.2% y/y), West (-0.2 & -8.4), South (-0.9 & -9.5), and Midwest (-6.1 & -4.8). Yun noted that existing home sales this year will likely be down 9% from 2021's heated pace. He added that home prices are in no danger of decline nationwide, though gains will likely decelerate, with the median home price in 2022 likely to be up 8% from last year.

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