



MORNING BRIEFING

April 9, 2020

Tech Is Going More Viral

Check out the accompanying [chart collection](#).

(1) US death-count methodology could exaggerate COVID-19's lethality, leading to policy overkill. (2) Lockdowns are taking a toll on economy. (3) We are all germophobes—and tech addicts—now. (4) Stocks benefitting from pandemic-altered reality include names in the outperforming S&P 500 Tech and Communication Services sectors. (5) Cloud-computing and gaming industry companies are among the winners. (6) Here come the robots—and contactless financial transactions.

Virology 101: Less Bad News. The [IHME model](#) is now projecting US COVID-19 deaths leveling out around 60,000 by mid-May. That's down from the previous projection of around 90,000. Social distancing seems to be working, but the economic costs are mounting quickly.

There's a controversy over whether death counts should tally the number of people who died *from* the virus versus those who died from any cause *while they had* the virus. On Tuesday, Dr. Deborah Birx, the response coordinator for the White House coronavirus task force, said the federal government is continuing to count the suspected COVID-19 deaths—i.e., deaths from any cause by people with the virus—despite other nations doing the opposite. This suggests that in the US, when the totals are all tallied, there will be fewer deaths from heart disease, diabetes, etc.

This approach inflates the deaths directly attributable to COVID-19, which could contribute to policy overkill with major collateral damage to the economy and all the people who are suffering from job and business losses and enormous financial distress. On the other hand, the Fed's shock-and-awe policy response continues to benefit financial assets. We are expecting that the Trump administration will gradually open up the economy starting by mid-May.

Technology I: Bringing People Together. Anyone who wasn't a tech addict before the Great Virus Crisis (GVC) turned our lives upside down certainly is now. For many of us, working from home has only emphasized our need for fast wireless connections to the cloud. Cocktails and

conference calls via Zoom have helped us connect despite the separation. And Netflix and video-gaming systems have kept the whole family entertained. Technology has become a GVC staple, right up there with food and toilet paper.

The tech names helping us during this time of social distancing are scattered primarily throughout the S&P 500 Information Technology and Communication Services sectors. Both sectors are leaders in the performance derby among S&P 500 sectors ytd through Tuesday's close: Information Technology (-9.4%), Consumer Staples (-9.7), Health Care (-11.2), Utilities (-14.7), Communication Services (-14.9), Consumer Discretionary (-16.7), S&P 500 (-17.7), Real Estate (-18.8), Materials (-23.5), Industrials (-26.1), Financials (-30.9), and Energy (-46.1) ([Fig. 1](#)).

The stocks of tech-related companies involved in cloud computing and gaming have been particularly strong ytd. That's easier to see when they are grouped together in a hypothetical index that uses their market weightings. An index of Activision Blizzard, Akamai Technologies, Amazon, Electronic Arts, Microsoft, Netflix, Nvidia, and Take-Two Interactive would have returned 6.5% ytd through Tuesday's close, vastly outperforming the S&P 500's 17.7% decline, Joe calculates.

Let's take a look at these tech staples that are helping us all maintain some semblance of normalcy during this surreal time:

(1) *Not all tech is equal*. The tech sector is very diverse, and not all areas will go untouched by the pandemic. Global tech spending will grow 2% this year assuming that the US and other major global economies decline in the first half of 2020 and recover in the second half, Forrester Research estimated in a March 16 blog [post](#). If the recession is longer lasting, there's a 50% probability that US and global tech spending will decline by 2%.

Communication equipment spending may post declines of 5% to 10%; tech consulting and systems integration services spending could be flat to down 5%; and software spending growth could post 0% to 4% growth. Samsung underlined this risk when it warned that its Q1 profit would be up 3% y/y, near its lowest level in five years due to the global fallout from COVID-19, an April 6 *FT* [article](#) reported.

"Demand for mobile phones, automotive and consumer electronics is falling sharply, which could negatively affect chip demand in the second half [of the year] if the coronavirus outbreak

is not brought under control,” according to SK Securities analyst Kim Young-woo, the *FT* article reported.

But all things related to the cloud still appear to be growing, recession or no. “The only positive notes would be continued growth in demand for cloud infrastructure services and potential increases in spending on specialized software, communications equipment, and telecom services for remote work and education as firms encourage workers to work from home and schools move to online courses,” the Forrester post states.

(2) *Welcoming clouds*. In my 2018 book [Predicting the Markets](#), I wrote: “When the fax machine first came out, I remember telling my team that we one day would be working from the beach. I foresaw that with technology, we could be productive from anywhere. Since 2007, when I formed my own company, we have been virtual. We don’t have any offices. Everyone works from home or from wherever they like. We replaced a couple of servers we had at a ‘server farm’ with a virtual server on the Amazon cloud in 2012. We subscribe to Microsoft’s Office 365, which allows us to rent the software over the cloud. Our *Morning Briefing* is delivered to all our accounts by email and posted on the website. Its production is a collaboration among my colleagues and me, invariably entailing a daily flood of email messages among us to get the job done. All these technologies have enhanced our productivity and allowed us to compete in a very competitive market for what we do.”

I was wrong about the beach, but early on the cloud and on working from home at least. Now demand for cloud services are undoubtedly increasing significantly in these troubled times. Jackie joined our firm during 2015 from *Barron’s*. She reports that she has worked from home for many years. But now she’s joined by her husband, who’s working online and conducting meetings via the Internet, and her kids, who are learning online. Her daughter is taking guitar lessons online, in fact, and her son is glued to Xbox Live, the online gaming system. The whole crew keeps in touch with friends and family via video calls on Zoom and watches Netflix and Apple TV. That’s a lot of bandwidth! Our other team members report similar lifestyles, and so do all of our accounts during our Zoom conference calls.

Microsoft recently gave a small glimpse into the surge of usage its various business lines are experiencing in a March 28 [post](#). The number of Microsoft Teams’ daily active users has more than doubled to 44 million in March from 20 million in November, and Windows Virtual Desktop usage has grown more than threefold. Comcast’s peak Internet traffic has increased 32% since the start of March, an April 4 blog [post](#) by IEEE.org stated.

Cloud providers are scattered among three different S&P 500 industries. Microsoft is in the Tech sector's Systems Software industry (up 2.7% ytd), Amazon is in the Consumer Discretionary sector's Internet & Direct Marketing Retail industry (up 3.3% ytd), and Google is a member of the Communication Services sector's Interactive Media & Services industry (down 14.0% ytd) (*Fig. 2*, *Fig. 3*, and *Fig. 4*). The share prices of Google and Facebook both have fallen by more than 10% ytd because the advertising dollars on which they depend have dried up during this time of uncertainty.

(3) *Entertainment at home*. Much of our at-home entertainment is also delivered via the cloud and Internet connections. Xbox is part of the Microsoft family. Activision Blizzard, Electronic Arts, and Take-Two Interactive Software are members of the Communication Services sector's Interactive Home Entertainment industry (*Fig. 5*). It's down fractionally, -0.3%, ytd.

While Netflix shares are up 15.1% ytd, the industry to which it belongs, Movies & Entertainment, has fallen 14.9% ytd. Other members of the industry, which resides in the Communication Services sector, are suffering from the drop in advertising (Viacom and Fox) as well as the closure of amusement parks, hotels, and cruises (Disney) (*Fig. 6*).

(4) *The tech behind the services*. Companies making the hardware and services to make the cloud expand quickly and work seamlessly also have benefited from lifestyle changes during these pandemic times. Akamai Technologies provides web security and cloud services through 240,000 servers in 130 countries. It's a member of the S&P 500 Tech sector's Internet Services & Infrastructure industry, which has risen 3.7% ytd and is the third best-performing industry we track (*Fig. 7*).

At the core of these technologies are semiconductor companies. Their stocks are down ytd but are still outperforming the broader index. The S&P 500 Semiconductor industry has fallen 9.2% compared to the S&P 500's 17.7% decline (*Fig. 8*).

Nvidia is a chip maker with products in cloud servers and in high-end gaming laptops. Its exposure to the market's hottest areas no doubt has helped its stock climb 10.1% ytd. At an analyst meeting in late March, Nvidia said "demand remains strong from 'hyperscal' cloud service providers that use Nvidia's chips in their data centers" and the company is enjoying a "surge in PC game play" as more workers and students are sent home," a March 24 *WSJ*

[article](#) reported. The company also has encouraged investors by maintaining its revenue forecast.

Technology II: Paying for Growth. Most of the industries that have cloud connections are expected to grow earnings this year. And because their stocks have held up well during the market's selloff, their forward P/Es remain well above the S&P 500's forward P/E of 15.2. Let's take a look at the numbers:

Here are analysts' earnings forecasts for 2020 and where those forecasts stood at the start of this year: Interactive Home Entertainment (5.5%, 8.0%), Interactive Media & Services (7.2, 22.1), Internet & Direct Marketing (3.1, 21.5), Internet Services & Infrastructure (4.0, 7.2), Movies & Entertainment (-17.6, 3.5), Semiconductors (-5.8, -2.0), and Systems Software (16.4, 12.9) ([Fig. 9](#), [Fig. 10](#), [Fig. 11](#), [Fig. 12](#), [Fig. 13](#), [Fig. 14](#), and [Fig. 15](#)).

Here are the industries' forward P/Es and where those P/Es stood at the start of this year: Interactive Home Entertainment (21.7, 23.4), Interactive Media & Services (19.8, 24.0), Internet & Direct Marketing (44.3, 45.5), Internet Services & Infrastructure (23.9, 24.8), Movies & Entertainment (28.5, 33.0), Semiconductors (14.2, 18.2), and Systems Software (23.4, 25.8).

Disruptive Technologies: Robots and FinTech Get a Boost. The use of robots and fintech has increased now that most of us are abiding by social-distancing guidelines. Robots can go where humans are not supposed to venture. Cash—and cash machines—are deemed germey during the GVC era. We are all germaphobes now! I asked Jackie to take a look at how the pandemic may push development of these technologies faster than we'd otherwise expect. Here is her report:

(1) *Robots don't catch colds.* During the pandemic, robots are getting out to take over jobs that have become too risky for humans or to replace humans staying home to socially distance. For example, the Cincinnati/Northern Kentucky International Airport is using Avidbots' Neo robots to disinfect floors, and UVD robots go into hospital rooms to disinfect the air and surfaces using UV light, an April 4 *WSJ* [article](#) stated. Others can detect humans with fevers and remind humans to put on their face masks.

Robots also are being used by a nursing home to connect its residents to their relatives and doctors using a video-chat app, an April 6 *WSJ* [article](#) stated. The robots can deliver packages, collect items from rooms, and tell jokes, easing residents' isolation. Meanwhile,

Takeoff Technologies has seen a double-digit increase in orders for its robotic micro-fulfillment centers for grocery stores since the outbreak of COVID-19.

(2) *Dirty money*. COVID-19 may be the push Americans need to adopt electronic payments more broadly as we all become germaphobes. The idea of waving a cell phone above a scanner to pay is much more appealing than passing cash between hands or touching a credit card terminal. Likewise, depositing checks via photo seems lower risk than handing checks to a bank teller or tapping an ATM screen.

However, the risk of catching COVID-19 from paper money supposedly is miniscule. “The head of the German public health institute notes that viral ‘transmission through banknotes has no particular significance’ as airborne droplets from infected individuals are the main infection risk,” noted an April 3 [report](#) from the Bank of International Settlements (BIS).

That said, the number of Internet searches and media inquiries on the subject have jumped this year, and The People’s Bank of China treated cash differently during the height of its COVID-19 outbreak. “The Guangzhou branch of China’s central bank says it will destroy all banknotes collected by hospitals, wet markets and buses to ensure the safety of cash transactions as the country battles a coronavirus outbreak,” a February 16 [article](#) in the *South China Morning Post* reported. It added: “The central bank said that in general it would use high temperatures or ultraviolet light to disinfect cash, and store the currency for more than 14 days before putting it back in circulation.”

Even the Fed confirmed, on March 6, that it was quarantining currency arriving from Asia prior to recirculation, the BIS report stated. It concludes: “Irrespective of whether concerns are justified or not, perceptions that cash could spread pathogens may change payment behavior by users and firms.” And the report suggests that central-bank-operated contactless payment systems and digital currencies “could become more prominent.”

Many retailers had already begun offering mobile payment systems, but that trend may well accelerate in the wake of COVID-19. Most recently, Publix, a grocery store operator, specifically cited the health of customers when announcing the rollout of contactless payment to all of its stores by April 4. Apple Pay, Google Pay, and Samsung Pay will be available. Previously, the company offered mobile payments but only through its own Publix mobile phone app.

“This is one more measure Publix is taking to protect the health and well-being of its customers and associates during the coronavirus pandemic,” the company’s April 2 [press release](#) stated.

More people have been using mobile payments as well. Since the pandemic started, Marqeta, a payment processor, has seen a tenfold increase in contactless payments and online payments, according to a April 8 [article](#) in FierceWireless. The article quotes Marqeta’s founder, Jason Gardner, telling Bloomberg Markets that he believes “because of the coronavirus, people are going to move more to contactless.” We do too—and plan to set up our mobile phone wallets this week.

CALENDARS

US: Thurs: Consumer Sentiment Index 75.0, Jobless Claims 5.0m, EIA Natural Gas Storage, Baker-Hughes Rig Count. **Fri:** Headline & Core CPI 1.6%/2.3% y/y, Monthly Budget -\$150.0b, Mester. (DailyFX estimates)

Global: Thurs: UK GDP 0.1%_{m/m}/0.1%_{3m/3m}, UK Headline & Manufacturing Industrial Production -3.0%/-4.0% y/y, Canada Employment Change & Unemployment Rate -500k/7.4%, Japan Consumer Confidence 35.0, China New Yuan Loans & Aggregate Financing ¥1800b/¥2800b, China CPI & PPI 4.9%/-1.1% y/y. **Fri:** None. (DailyFX estimates)

STRATEGY INDICATORS

Stock Market Sentiment Indicators ([link](#)): The Bull/Bear Ratio (BBR) rose again this week, though remained below 1.00 for the third week. The BBR climbed for the second straight week, to 0.92, after falling from 2.89 to 0.72 (the lowest since February 2016) the prior five weeks. Bullish sentiment rose for the second week, by 3.2ppts, to 33.3%, following a five-week plunge of 24.6ppts (30.1% from 54.7%)—to its lowest percentage since late December 2018. Meanwhile, bearish sentiment (to 36.2% from 36.3%) barely budged this week, after sinking 5.4ppts last week; it had soared 22.8ppts (to 41.7% from 18.9%) the prior five weeks. The correction count slipped to 30.5% this week after rising 4.1ppts last week, to 32.3%; it had plunged 12.7ppts (to 28.2% from 40.9%) the prior two weeks. The AAll Ratio climbed to 40.8% last week, after falling from 40.2% to 38.7% the prior week. Bullish sentiment rose from 32.9% to 34.2% last week, while bearish sentiment fell from 52.1% to 49.7%.

S&P 500 Earnings, Revenues, Valuation & Margins ([link](#)): Analysts are now reading the COVID-19 memo. Consensus S&P 500 forward revenues and earnings fell during the latest

week at rates not seen since 2009. Forecasts for 2021 revenues and earnings are tumbling too and helped the forward estimates to decline. Forward revenues dropped 0.7% w/w to its lowest level since June 2019 and is now 3.2% below its record high in mid-February. Forward earnings tumbled 2.6% w/w to its lowest level since April 2018 and is now 8.6% below its record high in early March. Forward growth forecasts are tumbling too. Analysts expect forward revenues growth of 2.6% and forward earnings growth of 2.6%. The revenues growth measure was down 0.2ppt w/w and earnings growth dropped 1.0ppt. Forward revenues growth is now the lowest since July 2015 and 3.7ppts below its seven-year high of 6.3% in February 2018. Forward earnings growth is down 14.2ppts from a six-year high of 16.9% in February 2018 and at the lowest level since April 2009. Prior to the passage of the Tax Cuts and Jobs Act (TCJA), forward revenues growth was 5.5% and forward earnings growth was 11.1%. Annual growth expectations for 2020 continue to deteriorate rapidly. Analysts expect revenues growth of 0.6% in 2020 compared to the 4.2% reported in 2019. That's down 1.1ppts w/w and 4.3ppts since the start of the year. They're calling for earnings to decline 4.5% y/y in 2020 from a 1.4% rise in 2019. The 2020 growth rate tumbled 4.0ppts w/w and is down 13.4ppts since the beginning of the year. The forward profit margin dropped 0.2ppt to a 27-month low of 11.3% and is down 1.1ppt from a record high of 12.4% in September 2018. That compares to 11.1% prior to the passage of the TCJA in December 2017 and a 24-month low of 10.4% in March 2016. Analysts now expect the profit margin to fall 0.6ppt y/y in 2020 to 10.9% from 11.5% in 2019, and improve 1.0ppt y/y to 11.9% in 2021. Valuations have been extremely volatile on both a daily and weekly basis. For those following the weekly snapshot, the S&P 500's forward P/E rose 0.3ppt w/w to 15.2. That's up from a 77-month low of 14.0 in mid-March, and is down from 19.1 in mid-February, which was the highest since May 2002. It's back above the 14.3 bottom during the December 2018 selloff, which was the lowest reading since October 2013, and down 23% then from the 16-year high of 18.6 at the market's valuation peak in January 2018. The S&P 500 price-to-sales ratio rose 0.01ppt w/w to 1.73. That's up from the 49-month low of 1.65 in mid-March, which compares to mid-February's record high of 2.29. It's still below the 1.75 trough during the December 2018 selloff, when it was the lowest since November 2016, and down 19% from its then-record high of 2.16 in January 2018.

S&P 500 Sectors Earnings, Revenues, Valuation & Margins ([link](#)): Consensus forward revenues fell w/w for eight of the 11 sectors, and forward earnings was down for all but Utilities. Consumer Discretionary and Materials posted notable declines w/w, but Energy and Industrials had both measures get crushed w/w. Forward revenues and earnings remain

closest to record highs for 2/11 sectors: Health Care and Tech. Forward P/S and P/E ratios are down sharply for all sectors, and from recent record or cyclical highs for Communication Services, Consumer Discretionary, Information Technology, Real Estate, and Utilities. Due to the TCJA, the profit margin for 2018 was higher y/y for all sectors but Real Estate. Just three sectors (Consumer Staples, Tech, and Utilities) are expected to record higher margins y/y in 2020, down from eight expected to do so in early March. During 2019, just two sectors improved y/y: Financials and Utilities. The forward profit margin rose to record highs during 2018 for 8/11 sectors, all but Energy, Health Care, and Real Estate. Since then, it has moved lower for nearly all the sectors including eight in the latest week alone. Utilities is the only sector with its forward profit margin at a record high. Here's how the sectors rank based on their current forward profit margin forecasts versus their highs during 2018: Information Technology (22.0%, down from 23.0%), Financials (16.4, down from 19.2), Real Estate (15.0, down from 17.0), Communication Services (14.2, down from 15.4), Utilities (13.8, record high), S&P 500 (11.3, down from 12.4), Health Care (10.4, down from 11.2), Materials (9.4, down from 11.6), Industrials (9.1, down from its record high of 10.5% in mid-December), Consumer Staples (7.4, down from 7.7), Consumer Discretionary (6.5, down from 8.3), and Energy (2.8, down from 8.0).

Contact us by [email](#) or call 480-664-1333.

Ed Yardeni, President & Chief Investment Strategist, 516-972-7683
Debbie Johnson, Chief Economist, 480-664-1333
Joe Abbott, Chief Quantitative Strategist, 732-497-5306
Melissa Tagg, Director of Research Projects & Operations, 516-782-9967
Mali Quintana, Senior Economist, 480-664-1333
Jackie Doherty, Contributing Editor, 917-328-6848
Valerie de la Rue, Director of Institutional Sales, 516-277-2432
Mary Fanslau, Manager of Client Services, 480-664-1333
Sandy Cohan, Senior Editor, 570-775-6823

Copyright (c) Yardeni Research, Inc. Please read complete [copyright and hedge clause](#).