MORNING BRIEFING
May 18, 2021

The Technology Imperative

Check out the accompanying chart collection.

(1) Technology rules the business world. (2) We are all in the cloud now. (3) Tech still accounts for a quarter of S&P 500's market cap and a fifth of its earnings. (4) Tech is more powerful, more useful, and cheaper than ever. (5) S&P 500 excluding Tech and excluding the Mag-5. (6) A few examples of low-tech companies using high-tech to boost profit margins. (7) The proof is in the profit margins and spending on tech. (8) A word of caution. (9) Value's turn to outperform for a while. (10) Cryptocurrencies: nothing to fear but government bans. (11) Tulips and dotcoms.

Strategy: Tech for All. Joe and I are coming to the conclusion that all of the S&P 500 companies should be considered to be tech companies. The information technology revolution that started in the early 1990s was clunky back then. PCs and even laptops were as big as suitcases. Cellphones were the size of a brick. Software upgrades had to be installed on each individual digital device, requiring lots of IT people for most companies.

In 2006, Amazon Web Services began offering cloud storage. Ever since then, more and more software companies have developed cloud-based programs that could be accessed by digital devices, the new versions of which were automatically available on those devices.

Needless to say, there have been a host of other innovations along the way that have made technology more powerful, more useful, and cheaper for just about any business. As a result, integrating these technologies into running almost every business has become an imperative. Companies that don't do so will be crushed by their competitors that do.

In other words, every company today is a tech company. I've often observed that Yardeni Research is a tech company. We've been on the Amazon cloud since 2011. We rent Microsoft Office in the cloud. We recently replaced a patchwork of software programs that we use for production, CRM, and distribution with a one-stop-shopping platform from HubSpot in the cloud. Our system automatically polls our data vendors' servers for new data, which immediately update the thousands of charts and hundreds of chart books on our website, which is in the cloud. We've been using Zoom since the start of 2020 to easily and quickly produce *video podcasts*. We have just one IT consultant, working remotely from Denver. We've all been working from our home offices since 2004.

The companies in the S&P 500's Tech sector tend to have higher valuation multiples than the other companies in the index. If these other companies essentially are tech companies as well, should their valuations be higher too? Consider the following:

(1) *Relative market-cap shares and valuations.* The S&P 500 Information Technology sector accounted for 26.2% of the S&P 500's market capitalization during the week of May 6 (*Fig. 1*). That's down from a recent peak of 28.9% during the September 3 week of 2020. However, that's well below the record high of 33.7% during March 2000. The big difference between now and then is that the earnings share of the sector is much higher, at 22.7%, today than its peak of only 18.2% in 2000.

As a result, the IT sector's forward P/E rose to a record high of 48.3 during March 2000. It is currently 24.8, which is well above the 20.4 forward P/E of the S&P 500 excluding the sector (*Fig. 2*).

Here are the current market-cap shares, earnings shares, and forward P/Es of the 11 sectors of the S&P 500: Consumer Discretionary (12.3%, 7.9%, 33.4%), Information Technology (26.2, 22.7, 24.8), Materials (2.8, 3.1, 19.6), Industrials (8.9, 7.7, 24.6), Communication Services (11.0, 10.9, 21.7), Energy (2.9, 3.2, 19.0), Health Care (13.0, 16.8, 16.6), Financials (11.7, 17.5, 14.3), Real Estate (2.5, 1.0, 51.6), Consumer Staples (6.0, 6.2, 20.7), and Utilities (2.6, 2.9, 19.1) (*Fig. 3* and *Fig. 4*).

(2) *Magnificent 5.* Relatively cheap sectors are Energy, Financials, and Health Care. Companies in these sectors are spending more on technology to boost their productivity and earnings. By the way, one of the greatest examples of technological innovations was just demonstrated in health care with the remarkably fast development and distribution of very effective Covid-19 vaccines!

The valuation multiples of Communication Services, Consumer Discretionary, and Information Technology are inflated by the lofty valuations and large market-cap shares of the Magnificent 5, i.e., the top five companies in the S&P 500 measured by market capitalization: Google and Facebook—with current forward P/Es of 25.1 and 22.6—together account for 62.7% of the Communication Sector's market cap. Amazon has a forward P/E of 51.5 and accounts for 38.1% of the Consumer Discretionary sector's market cap. Apple and Microsoft have forward P/Es of 24.1 and 29.9, and account for 43.5% of the IT sector's market cap (*Fig. 5*, *Fig. 6*, and *Fig. 7*). The forward P/E of the Mag-5 is currently 33.8.

(3) *Low-tech companies going high-tech.* There is no shortage of examples of low-tech companies using technology to boost their productivity, and even to overcome shortages of labor. In the S&P 500 Transportation sector, the Railroads and Trucking industries stand out. The forward profit margin of the former has soared from around 9% in 2004 to nearly 30% now (*Fig. 8*). The latter's profit margin is up fivefold from around 2% in 2009 to over 10% now (*Fig. 9*). We like to think of train engines and trucks as devices that are run by logistics apps residing in the cloud.

Even services companies are starting to use technology to increase their productivity and to compensate for the shortage of workers. For example, the owner of Island Grill in Ocean City, NJ, knew he was in trouble in March when only six applications came in to fill 60 summer jobs, *reported* Patch.dom, compared with a more typical 300 applications. He called his previous employees. Many said they were staying home to collect unemployment. So he leased a serving robot known as "Little Peanut."

(4) *Profit margins will tell the tale.* Joe and I believe that we can derive weekly updates on our tech-led productivity story by monitoring the forward profit margin of the S&P 500, which is a great coincident indicator of the index's actual quarterly profit margin (*Fig. 10*). It soared to a new record high of 12.7% during the May 6 week. How is that possible given that the costs of doing business are rising faster than selling prices? The answer in a word is "productivity," enabled by technological innovations.

(5) *IT capital spending and production.* We also monitor current-dollar capital spending on technology, which jumped 13% y/y during Q1 to a record $1,486 billion (saar) (*Fig. 11*). That's a record 50.4% of total current-dollar capital spending (*Fig. 12*).

(6) *A word of caution.* We recognize that coming up with explanations for why stocks aren't overvalued is almost always a sure sign of a market top. The S&P 500 excluding the Tech sector's forward P/E, at 20.4 currently, is lower than the Tech sector's valuation multiple, at 24.8. The S&P 500 excluding the Mag-5 is currently trading at a forward P/E of 19.1.

Any way we slice and dice the market, stocks aren't cheap. This suggests that the overall stock market will be driven by earnings, which should continue to grow at a solid pace, especially if productivity boosts profit margins. The stock market's overall valuation multiple should remain elevated, with rotation boosting the forward P/Es of relatively cheap stocks at the expense of relatively expensive ones. In other words, Value should continue to outperform Growth for a while.

Cryptocurrencies: Will They Be Banned? Fans of bitcoin and other cryptocurrencies beware:

More governments may soon decide to ban them. I have to believe that the US government must be considering doing the same after what just happened with Colonial Pipeline. On Thursday, May 13, Bloomberg *reported*:

"Colonial Pipeline Co. paid nearly $5 million to Eastern European hackers on Friday, May 7, contradicting reports earlier this week that the company had no intention of paying an extortion fee to help restore the country's largest fuel pipeline, according to two people familiar with the transaction. The company paid the hefty ransom in untraceable cryptocurrency within hours after the attack, underscoring the immense pressure faced by the Georgia-based operator to get gasoline and jet fuel flowing again to major cities along the Eastern Seaboard, those people said." Consider the following related developments:

(1) *Banning them.* Yahoo!Finance posted a *story* titled "These Countries Banned Cryptocurrencies, Here's Why" on April 22. It reports that the central bank of Turkey has enacted a ban on cryptocurrency payments. "Turkey's reason for this ban is the lack of regulation and a central authority for the coins. They consider this a risk to investors who can't recover any losses." In India, a draft bill proposing the ban on private cryptocurrencies will soon go before the parliament. "One of the reasons is because it believes cryptocurrencies fund illegal activities." Other countries that have moved in the same direction are Nigeria, Bolivia, Ecuador, Algeria, Nepal, South Korea, Qatar, Egypt, and Bangladesh. Nevertheless, the article concludes: "How each country will engage with the future of money is uncertain, but digital currencies in all forms are likely not going anywhere anytime soon."

(2) *Task force.* Last month, the Ransomware Task Force released an 81-page *report* titled "Combating Ransomware." The group has used the views of more than 60 experts from software companies, cybersecurity vendors, government agencies, non-profits, and academic institutions to develop a comprehensive framework for tackling the ransomware threat. The report noted that in 2020, nearly 2,400 US-based governments, healthcare facilities, and schools were victims of ransomware, costing an estimated total of $350 million, up 311% from the previous year.

The report's executive summary listed five "priority recommendations." The first four called for a coordinated international campaign led by the US to stop ransomware. The fifth recommendation was: "The cryptocurrency sector that enables ransomware crime should be more closely regulated. Governments should require cryptocurrency exchanges, crypto kiosks, and over-the-counter (OTC) trading 'desks' to comply with existing laws, including Know Your Customer (KYC), Anti-Money Laundering (AML), and Combatting Financing of Terrorism (CFT) laws."

If that sounds lame, the report acknowledged as much: "While we have strived to be comprehensive, we acknowledge there will be areas we have not addressed, or on which we could not come to consensus. Prohibition of payments is the most prominent example; the Task Force agreed that paying ransoms is detrimental in a number of ways, but also recognized the challenges inherent in barring payments." I have to believe that the group considered recommending banning cryptocurrencies altogether but couldn't agree to do something so radical. I will not be surprised if more governments do just that.

(3) *Yellen & Lagarde.* During her congressional nomination hearing on January 19, Treasury Secretary Janet Yellen suggested that lawmakers "curtail" the use of cryptocurrencies such as bitcoin. Her concern is that they are "mainly" used for illegal activities, including "terrorist financing" and "money laundering."

Yellen is very good friends with European Central Bank President Christine Lagarde, who said the same about bitcoin the week before on January 13. She *told Reuters* that bitcoin is not a currency but a "highly speculative asset which has conducted some funny business and some interesting and totally reprehensible money laundering activity." She stated that criminal investigations have proven this to be true. She called for coordinated global regulation of cryptocurrencies.

On May 7, Bank of England Governor Andrew Bailey *warned* that cryptocurrencies "have no intrinsic value." He added, "I'm going to say this very bluntly again: Buy them only if you're prepared to lose all your money." Bailey's comments echoed a similar *warning* from the UK's Financial Conduct Authority dated January 11, 2021:

"The FCA is aware that some firms are offering investments in cryptoassets, or lending or investments linked to cryptoassets, that promise high returns. Investing in cryptoassets, or investments and lending linked to them, generally involves taking very high risks with investors' money. If consumers invest in these types of product, they should be prepared to lose all their money."

(4) *Wise guys.* On Wednesday, May 13, Elon Musk tweeted that Tesla will stop accepting bitcoin as payment for its cars, after doing so since February. Apparently, he recently learned that bitcoin mining consumes an enormous amount of electricity. So it's bad for the environment, since electricity is still mostly produced by burning fossil fuels. "We are concerned about rapid increasing use of fossil fuels for Bitcoin mining and transactions, especially coal, which has the worst emissions of any fuel," Musk said on Twitter.

CBSNews recently *reported*: "A 2019 study by researchers at the Technical University of Munich and the Massachusetts Institute of Technology concluded that, in late 2018, the entire Bitcoin network was responsible for up to 22.9 million tons of CO_2 per year—similar to a large Western city or an entire developing country like Sri Lanka. Total global emissions of the greenhouse gas from the burning of fossil fuels were about 37 billion tons last year."

Musk's fortune reportedly plunged by $20 billion since he appeared on Saturday Night Live the weekend before last. While Musk has publicly promoted cryptocurrencies in the past, at one point on the show he called Dogecoin a "hustle." Cryptos took a hit following Musk's performance, with the value of Dogecoin falling more than 30% within 24 hours. He has recovered some of his loses since then and continues to promote cryptos.

Lots of other very successful *people* are gung-ho on cryptocurrencies. Twitter's CEO Jack Dorsey said in a tweet that "Bitcoin changes *everything*… for the better. And we will forever work to make bitcoin better." Self-styled bitcoin promoter Anthony Scaramucci declared, "This is happening. This is upon us right now—you either get it or you don't get it."

(5) *Digital tulips and dotcoms.* In the May 11 *Morning Briefing*, I wrote: "I had been thinking of cryptocurrencies as 'digital tulips,' reminiscent of the 17th century tulip mania in Amsterdam that drove up tulip prices beyond reason. The difference is that cryptocurrencies are traded 24-by-7 around the world. On second thought, they might be more like a financial virus that won't stop until enough speculators have been infected that herd immunity is achieved. The price charts of cryptocurrencies certainly look like the exponential ones of the spread of Covid-19 in the US last year and in India this year."

Or perhaps cryptocurrencies are the dotcoms of the Roaring 2020s—but won't be for long if more governments ban them.

Calendars

US: **Tues:** Housing Starts & Building Permits, API Crude Oil Inventories. **Wed:** MBA Mortgage Applications, EIA Crude Oil Inventories, FOMC Minutes. (DailyFX estimates)

Global: **Tues:** Eurozone GDP -0.6%q/q/-1.8%y/y, Eurozone Balance of Trade, UK Employment, Westpac Consumer Confidence. **Wed:** Eurozone Headline & Core CPI 1.7%/0.8% y/y, EU Car Registrations, UK CPI, Canada CPI, Japan Industrial Production, Japan Machinery Orders, Australia Employment Report. (DailyFX estimates)

Strategy Indicators

S&P 500/400/600 Forward Earnings (*link*): Forward earnings soared for all three of these indexes last week and were at record highs simultaneously for a tenth week and the first time since October 2018. LargeCap's rose at one of its fastest rates since 1994 and was at a record high for an 11th straight week; MidCap's was at a record for a 14th week; and SmallCap's for the 14th time in 15 weeks. In what has shaped up to be an extraordinary V-shaped recovery, LargeCap's forward earnings has risen during 51 of the past 52 weeks, with the one down week in late December due to Tesla's addition to the index. MidCap's is up in 48 of the past 50 weeks, and SmallCap's posted 48 gains in the past 51 weeks. LargeCap's forward earnings is now up 39.5% from its lowest level since August 2017; MidCap's has risen 77.0% from its lowest level since May 2015; and SmallCap's is up 108.2% from its lowest point since August 2013. These indexes had been on a forward-earnings uptrend from November 2019 until mid-February, before tumbling due to the Covid-19 economic shutdown. The yearly change in forward earnings soared to cyclical highs during 2018 due to the boost from the Tax Cuts and Jobs Act (TCJA) but began to tumble in October 2018 as y/y comparisons became more difficult. In the latest week, the yearly rate of change in LargeCap's forward earnings improved to a record high of 39.6% y/y from 37.7%. That's up from -19.3% in May 2020, which was the lowest since October 2009. The yearly rate of change in MidCap's forward earnings rose w/w to a record high of 73.7% y/y from 64.6% y/y and is up from a record low of -32.7% in May 2020. SmallCap's rate turned higher too, rising to a record high of 98.4% y/y from 95.2% y/y; it is up from a record low of -41.5% in June 2020. Companies have been easily beating consensus estimates since the Q2-2020 earnings season, causing analysts' y/y earnings growth forecasts for 2021 to improve instead of decline as is typical. Here are the latest consensus earnings growth rates for 2021 and 2022: LargeCap (35.0%, 12.1%), MidCap (57.0, 10.3), and SmallCap (77.4, 18.5).

S&P 500/400/600 Valuation (*link*): Valuations were down for these three indexes last week. LargeCap's forward P/E dropped 0.5pt to a 28-week low of 21.2. That's down from a 19-year high of 22.7 from early January and is up from 13.3 in March 2020, which was the lowest since March 2013. MidCap's dropped 0.6pt to a 27-week low of 18.6, and is down from a seven-month high of 20.5 in early March. Its current level is 4.3pts below its record high of 22.9 in early June. SmallCap's ticked down 0.4pts w/w to a 19-week low of 19.3. It's now down 7.4pts from its record high of 26.7 in early June. That compares to MidCap's 10.7 and SmallCap's 11.1 in March 2020, which were their lowest readings since March 2009. LargeCap's forward P/E in February 2020—before Covid-19 decimated forward earnings—was 18.9, the highest level since June 2002. Of course, that high was still well below the tech-bubble record high of 25.7 in July 1999. Last week's level compares to the post-Lehman-meltdown P/E of 9.3 in October 2008. MidCap's P/E was below LargeCap's P/E yet again last week, as it has been for most of the time since August 2018. In contrast, it was last solidly above LargeCap's from April 2009 to August 2017. SmallCap's P/E was below LargeCap's for a 36th week. That's the longest stretch at a discount since last May and during 2002-03. SmallCap's P/E had been mostly below from May 2019 to May 2020 after being solidly above since 2003. SmallCap's P/E was at a premium to MidCap's for an 18th week after 11 weeks at a discount. At the beginning of the year, it had been at the steepest discount to that index since January 2006.

S&P 500 Sectors Quarterly Earnings Outlook (*link*): Since the Q2-2020 earnings season—which came in substantially better than greatly reduced forecasts—analysts as a whole have been raising their consensus forecasts for all future quarters instead of lowering them as is the norm. In the latest week, the S&P 500's Q1-2021 estimate showed another upside hook as it rose by 76 cents to $48.34. That $48.34 estimate for Q1-2021 represents a gain of 45.9% y/y on a frozen actual basis and a 50.6% y/y gain on a pro forma basis. That marks the first quarter of double-digit percentage growth since Q4-2018 and compares to a pro forma 3.8% gain in Q4-2020. Ten of the 11 sectors are now expected to post positive y/y earnings growth in Q1-2021. Here are the S&P 500 sectors' latest expected blended earnings growth rates for Q1-2021 versus their final Q4-2020 growth rates: Consumer Discretionary (191.3% in Q1-2021 versus -5.0% in Q4-2020), Financials (137.5, 20.4), Materials (62.3, 22.7), Communication Services (53.4, 10.1), S&P 500 (50.6, 3.8), Information Technology (43.5, 20.4), Health Care (26.5, 10.6), Energy (25.4, -105.0), Consumer Staples (7.3, 5.4), Real Estate (5.7, -10.7), Industrials (1.0, -37.7), and Utilities (-0.9, -2.6).

S&P 500 Q1 Earnings Season Monitor (*link*): With over 91% of S&P 500 companies finished reporting revenues and earnings for Q1-2021, revenues are beating the consensus forecast by a well-above-trend 3.7%, and earnings have crushed estimates by 23.5% due to loan loss reversals at the banks and stellar results from the Mag-5 stocks. Both of these surprise figures are on pace to match or exceed their prior record highs. At the same point during the Q4 season, revenues were 2.9% above forecast and earnings beat by 17.3%. The S&P 500's Q1 earnings surprise excluding Financials drops to 19.9% from 23.2%. For the 456 companies that have reported through mid-day Monday, aggregate y/y revenue and earnings growth and the percentage of companies reporting a positive revenue and earnings surprise have improved from their Q4 measures. The Q1 reporters so far have a y/y revenue gain of 9.7% and an earnings gain of 49.8%, which remains at 9.7% and drops to 33.2%, respectively, when Financials are excluded. A record-high 87% of the Q1 reporters so far has reported a positive earnings surprise, and a record-high 77% has beaten revenues forecasts. Slightly more companies have reported positive y/y earnings growth in Q1 (77%) than positive y/y revenue growth (76%). These figures won't change markedly as the retailers' Q1-2021 results are reported in the coming weeks.

US Economic Indicators

Regional M-PMI (*link*): The New York Fed gives the first glimpse of manufacturing activity in May and shows growth in the region continued to expand at a robust pace while prices accelerated at a record rate. The prices-paid and -received measures jumped to record highs of 83.5 and 37.1, respectively, this month. The composite index was little changed at 24.3 this month, holding near April's 26.3—which was the best pace since October 2017. May's reading is up sharply from the 3.5 rate at the start of this year. Growth in both the new orders (to 28.9 from 26.9) and shipments (29.7 from 25.0) measures continued to accelerate, reaching their best rates since March 2006 and August 2007, respectively. The unfilled orders (to 21.4 from 21.2) gauge was the second-highest reading on record behind September 2001's 36.5. Meanwhile, employment (to 13.6 from 13.9) continued to expand at a steady pace this month, while hours worked (18.7 from 12.7) rose at the fastest rate since May 2011. The delivery times (to 23.6 from 28.1) measure held near April's record high—pointing to significantly longer delivery times. Inventories (to 7.1 from11.6) moved somewhat higher this month.

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, 570-228-9102