



**EXPECTATIONS SHATTERED:
WILL THE TRENDS OF 2020 PERSIST OR REVERT?
A 2021 THEMATIC OUTLOOK**

WELCOME TO THE THEMATIC '20s



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No one saw this coming. When *The Economist* released its “The World in 2020” issue in November 2019, there were twelve prominent themes, spanning the U.S. elections to the Tokyo Olympics. There was concern over the global economy, but no mention of a global pandemic, quarantines or economic lockdowns.

The pandemic changed everything. The year 2020 became defined by themes such as remote work, stay-at-home orders and hopes of a sustained economic reopening that proved a conspicuous part of both everyday life and the financial markets. Assets under management in thematic funds grew by \$72.5 billion in 2020, as investors looked for different approaches to position their portfolios in these unprecedented times. **We believe that the use of themes for navigating different market conditions could be an increasingly prominent strategy over the coming decade.**

- In 2020, dispersion within large cap U.S. equity returns reached 20-year highs, as leading companies greatly outperformed laggards in an economy shaped by pandemic-driven shutdowns. Much-needed monetary and fiscal stimulus pushed interest rates down and equity values in the broad indexes up, driven by higher multiples offsetting declines in earnings. Below the surface of the major indexes there was a different story, as some companies saw earnings go hyperbolic while others evaporated.
- Dominant themes of 2020, like cloud computing and e-commerce, decoupled from the S&P 500, with generous returns fueled by rapid earnings

growth rather than irrational exuberance for some companies.¹ Investors saw the most successful themes deliver market returns that outperformed the S&P 500 by double and even triple digits. However, we warn against characterizing many themes as bubbles and presuming what goes up must come down. Strong performance can persist for long periods of time, especially when there are strong underlying fundamentals.

- **There are three thematic trades that we think investors may wish to consider, which are characterized as rerating, reopening and reversion.** Rerating themes are typically characterized by exceptional earnings-driven returns that could be followed by multiple expansion next year, such as cloud computing and e-commerce. Reopening themes, such as industrial automation and infrastructure, may benefit from a vaccine and economic normalization.² Reversion trades often include some themes that might have gotten overextended as multiples expanded and earnings shrank, like fintech and the internet of things.³ There are risks, as with any asset class, but we do not believe that weakness is likely to be driven by a change in the secular growth of the themes.

¹ When performance or financial metrics are discussed, cloud computing is defined as the ISE Cloud Computing Index and e-commerce is defined as the ProShares Online Retail Index. See the disclosure for more information.

² When performance or financial metrics are discussed, infrastructure is defined as the Dow Jones Brookfield Global Infrastructure Composite Index and industrial automation is defined as the ROBO Global Robotics and Automation Index.

³ When performance or financial metrics are discussed, fintech is defined as the Indxx Global Fintech Thematic Index and the internet of things is defined as the Indxx Global Internet of Things index.

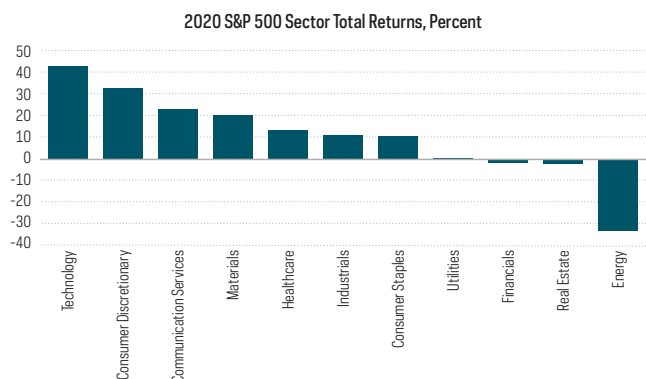
Instead, near-term weakness would likely be driven by behavioral or policy catalysts.

Multiple Expansion Amid Pandemic Dispersion

The difference between leaders and laggards was stark in both domestic and global markets during 2020. The pandemic hit cyclical, travel and traditional retail businesses particularly hard, while stay-at-home stocks became a potential defensive stronghold. The difference in returns across winners and losers, or dispersion, reached dramatic levels.

Evidence of 2020's dispersion was visible across sectors, companies and themes. The 11 S&P 500 sectors were an area where dispersion reached almost record levels. The technology sector gained 43.9%, while energy lost 33.7% in 2020. The relative performance of the best and worst sectors was the highest in two decades, previously peaking at 98.1% when the dot-com bubble pushed tech stock valuations up in 1998 through 2000. There were wide dispersions across companies and even within sectors as well, with the best-performing technology stock delivering 155.9% outperformance relative to the worst.⁴ This held true for themes. Corporate productivity tools and stay-at-home leisure activities delivered strong performance throughout 2020.

FIGURE 1: DISPERSION OF 2020 SECTOR RETURNS



Source: Bloomberg, data as of 12/31/2020

⁴ Technology stock with the highest return was Nvidia and the lowest was Xerox.

Gains in broader market indexes were generally driven by multiple expansion, as 2020 earnings contracted and interest rates declined. The S&P 500 trailing P/E (price-to-earning) multiple expanded to 29.7x from 21.2x at the start of 2020. That said, looking at the headline indexes masks important differences, as some companies managed to generate strong revenue while others struggled. Secular growth was a winner.

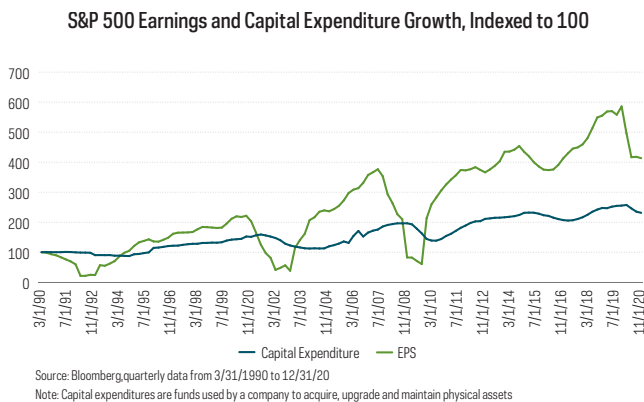
Technology, Efficiency and Growth's Gravitational Pull

Against the backdrop of cyclical economic deceleration, pandemic-fueled uncertainty, low interest rates and elevated earnings for the broad market, investors found a respite in themes tied to secular growth. While the U.S. economy has averaged 3.0% GDP growth over the past three years, the average sales growth during the same time period for the top decile of S&P 500 companies was 29.4%, compared to -3.4% for the lowest decile. The fastest-growing decile averaged 13.3% annual returns over three years, compared to just 0.6% for the slowest-growing cohort.

Technological innovation can be a critical element in investing in secular growth themes and often plays an important role in driving business efficiency. Operating margins for S&P 500 constituents expanded from 10.0% in 1990 to 13.5% at the close of 2019, and companies generated higher returns on invested capital over time. Net income growth has significantly outpaced that of capital expenditures (CapEx).

During the 1990s, S&P 500 companies earned an average of \$0.74 per \$1.00 of capital investment, and that almost doubled to \$1.40 of income per CapEx dollar by the 2010s. This can be an important characteristic of the asset-light economy, as access to productivity tools like cloud and automation technologies may deliver higher returns with less capital investment.

FIGURE 2: GETTING MORE FOR LESS: INCREASED EFFICIENCY AS EARNINGS OUTPACE CORPORATE INVESTMENT



Some companies with strong secular growth prospects have pulled away from the broader market, with those in areas like cloud computing, cybersecurity⁵ or e-commerce leading the pack even before 2020. The combination of scalable businesses with relatively modest, fixed-cost network effects has helped top-performing companies across certain industries to supercharge growth and maintain strong profitability.

Thematic Fundamental Breakaway

There were several prominent themes that dramatically outperformed the S&P 500 in 2020. Stay-at-home and remote work stocks garnered interest as defensive investments capable of generating revenue during unusual times.

FIGURE 3: THEMATIC INDEX RETURNS FOR 2020



⁵ When performance or financial metrics are discussed, cybersecurity is defined as the Nasdaq CTA Cybersecurity Index.

Themes tied to remote work also did well, with indexes tied to areas like cloud computing, AI/ machine learning, cybersecurity and digital payments all returning more than 40%.⁶ There were a number of story stocks among these categories, such as videoconferencing company Zoom and cybersecurity firm CrowdStrike. Large firms focused on productivity software, connectivity and cloud, like Microsoft and Google, delivered strong results. There was also a series of lesser-known companies, like cloud expense management company Coupa, secure communication tunnels firm Zscaler and document management firm DocuSign, that had breakout years.

Consumer stocks were among those that led thematic performance, with e-commerce, gaming and e-sports, and social media returning 112.6%, 92.0% and 79.3%, respectively.⁷ Returns remained persistent, showing relative resilience during the March sell-off followed by an extended period of outperformance.

E-commerce was buttressed by strong performance of juggernauts like Amazon and Alibaba, while smaller players like Overstock, Etsy and Wayfair delivered strong returns, too. Well-known gaming names like Take Two and Activision found new players looking for alternative ways to spend time, but lesser-known companies like Embracer and Kingsoft also delivered strong returns. Social media stocks like Pinterest, Snap and Twitter outperformed Facebook, but thematic constituents generally delivered for shareholders.

Government support attached to pandemic economic relief helped fuel medical research, and government policies aimed at accelerating clinical trials and approval proved significant. Biotech and genomics also performed well throughout the year, as the pandemic put large incumbent players like Pfizer and Johnson & Johnson in the COVID-19 treatment

⁶ Thematic returns are based on data from publicly available indexes. When performance or financial metrics are discussed, AI/machine learning is defined as the ROBO Global Artificial Intelligence Index, and digital payments is defined as Ecofin Global Digital Payments Infrastructure Index.

⁷ When performance or financial metrics are discussed, gaming and E-sports is defined as the Solactive Video Games & Esports Index and social media is defined as the Solactive Social Media Index.

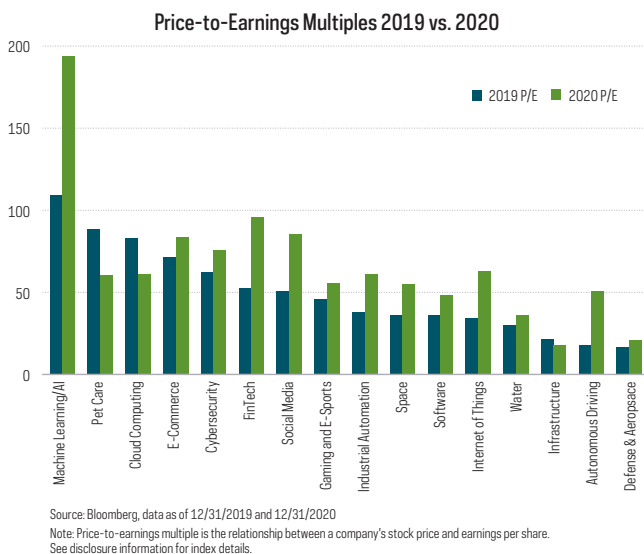
spotlight.⁸ Emerging technologies like genomic mRNA vaccines also brought attention to leaders and smaller players like Moderna and Novavax.

Alternative energy accelerated midway through 2020, assisted by green energy election policy platforms.⁹ Some companies across the energy complex, from electric charging to solar, advanced. PlugPower, a hydrogen cell energy technology linked to the deployment of electric vehicles, delivered strong returns. Investors gravitated to energy storage and solar companies like Enphase, FuelCell and Sunrun starting in mid-2020 as the election kicked into high gear and green policy became a central element of the Democratic platform.

Popping the Asset-Bubble Fallacy

While many themes significantly outperformed the broad markets, they may not be overvalued based on valuation metrics like price/earnings ratios. Some of the highest-flying companies and themes saw earnings accelerate so rapidly that P/E multiples remained relatively stable or increased modestly.

FIGURE 4: PRICE-TO-EARNINGS MULTIPLE COMPARISON

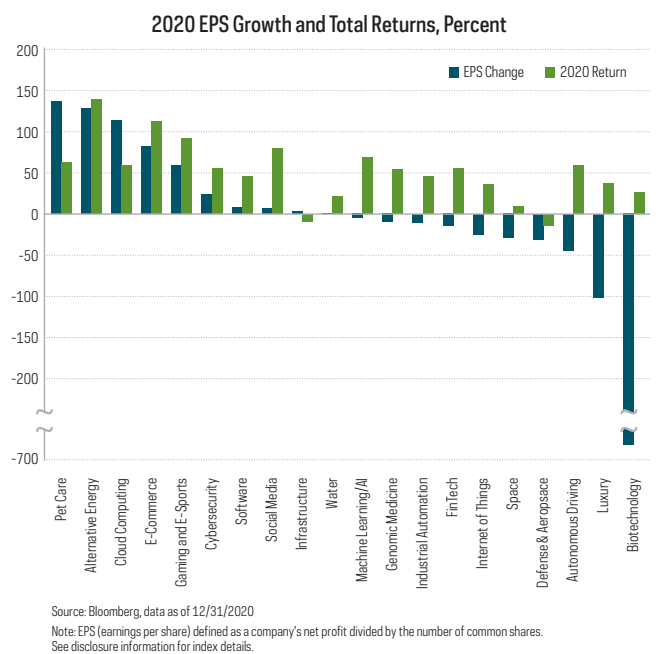


⁸ When performance or financial metrics are discussed, biotech is defined as Nasdaq Biotechnology Index and genomics is defined as the NYSE FactSet Global Genomics and Immuno Biopharma Index.

⁹ When performance or financial metrics are discussed, alternative energy is defined as the S&P Kensho Clean Power Index.

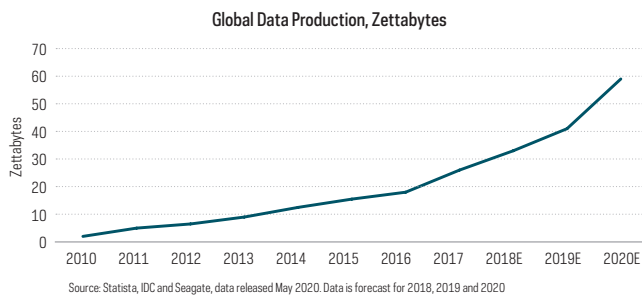
Strong performance often prompts a critical question, and 2020 is no exception: Is this a bubble? The term "asset bubble" describes instances throughout time when broad markets or specific assets reach price levels or valuations driven by sentiments that were irrational or dislocated from realistic expectations of future value. We challenge the notion that many of 2020's top themes reflect irrational exuberance.

FIGURE 5: STRONG THEMATIC EPS GROWTH RELATIVE TO RETURNS



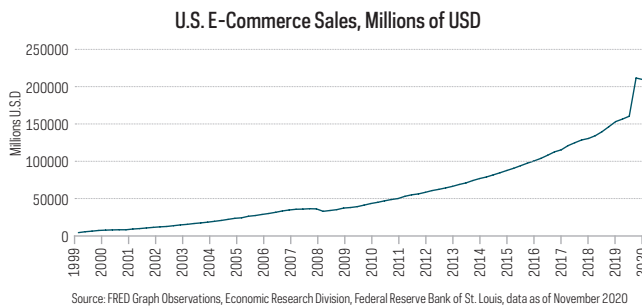
The trailing price/earnings multiple for cloud computing firms dropped precipitously to 61x from 83x, despite 58.8% returns in 2020. The performance for these stocks that benefited from the remote work environment was backed by earnings increases of 113%. With a valuation of 83x trailing earnings at the start of the year, investors were already paying up for superior growth. Cloud computing annual sales gained 15% from 2013 compared to the S&P 500 at 3%. As the world produces an exponentially increasing amount of new data every year, long-term cloud computing growth prospects have the potential to remain strong.

FIGURE 6: GLOBAL DATA PRODUCTION GOES EXPONENTIAL



Price/earnings multiples increased for broad market indexes like the S&P 500, but they held steady for some of the popular “high-flying themes” that delivered strong returns in 2020. E-commerce, as defined by the ProShares Online Retail Index, is one example, having returned 113% as earnings unexpectedly skyrocketed by 82%. As consumers ventured into new verticals like groceries, the wider e-commerce segment accounted for only a little over 14% of U.S. retail sales by Q3 2020.

FIGURE 7: U.S. E-COMMERCE SALES STEPS UP



Pet care and cybersecurity are two more themes where earnings explained a significant amount of the gains in 2020.¹⁰ Beyond strong demographics trends in pet ownership, the segment proved resilient to the pandemic’s economic slowdown. Earnings per share grew 136% in 2020, as quarantined people increased pet ownership and existing owners stocked up on food and medicine despite tough times. Cybersecurity companies’ bottom lines improved 24%

¹⁰ When performance or financial metrics are discussed, pet care is defined as FactSet Pet Care Index.

over the same time period, which explained much of the price appreciation. Many companies also invested money to improve security, as remote access became a business imperative.

Some other trends to note:

- Gaming, e-sports and social media produced strong returns from a combination of higher earnings and multiples.
- Earnings declined for some remote work themes like AI/machine learning and fintech, but multiple expansion still produced gains.
- Several themes, like industrial automation and the internet of things, delivered reasonable returns on modest multiple expansion, with little year-over-year change in earnings.
- Many companies in the electric vehicles and autonomous driving theme were not able to deliver earnings growth, despite strong demand for private transport, but multiple expansion fueled returns as investors seemed to grow more excited about mobility.¹¹
- One could argue that the once-hot public company spaceflight and space investment bubble deflated a bit in 2020, as closer-to-home terrestrial considerations took primacy during the pandemic.¹²
- Both infrastructure and defense and aerospace struggled in 2020, as the combination of election-year policy uncertainty and reduced transit presented formidable headwinds.¹³

While returns for some themes were driven by multiple expansion, the best-performing themes posted strong earnings growth in 2020. We are always on the lookout for instances where valuations and expectations become unhinged—outside of a few

¹¹ When performance or financial metrics are discussed, autonomous and electric driving is defined as the NYSE FactSet Global Autonomous Driving and Electric Vehicle Index.

¹² When performance or financial metrics are discussed, space is defined as the S&P Kensho Final Frontiers Index.

¹³ When performance or financial metrics are discussed, and defense and aerospace is defined as the BI North America Defense Prime Index.

outliers, there is little evidence this is a systemic issue based on thematic performance in 2020.

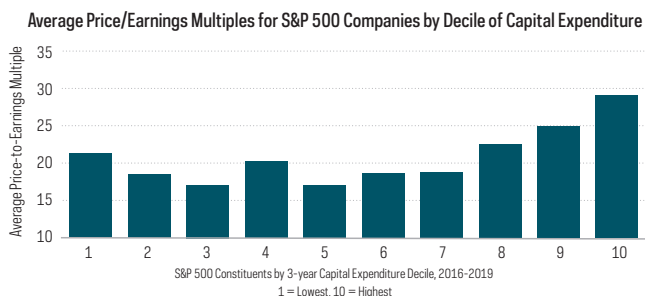
Thematic Persistence or Reversion?

Looking ahead is always a perilous exercise, and even more so than usual for 2021. The combination of uncertainties around the pandemic, the vaccine roll out, economic reopening, business investment, political transition and global affairs could have outsized influence on economies and markets.

The big question: Should equity investors position for reopenings that could lift cyclical sectors or remain entrenched in the secular growth trade that may provide a potential safe haven throughout the pandemic?

Thematic investors might be served by reframing the question: Will the thematic trends of 2020 persist or revert in 2021? At first glance, one might say this just recasts the challenge above, since reopening would spur reversion in 2021. We believe this is potentially a misnomer in the thematic space, and that simplifying to a reopening rotation might underestimate the sustained secular growth trends that could outperform in either set of economic conditions. S&P 500 companies that invest for the future, those among the top quartile for capital expenditure, have been rewarded with higher valuations in recent years.

FIGURE 8: HIGHER MULTIPLES FOR COMPANIES WITH HIGHER CAPEX



Source: Bloomberg, data as of 2/28/2020, prior to the COVID-19 outbreak

Investors should also be cautious of arguments that prior “high-flying” themes must revert to the mean. Evidence of persistence in financial markets is reasonably well documented. Assets can outperform and underperform for extended periods of time, and behavioral economists in particular warn about heuristics like reversion, where one assumes that what goes up must come down.

Three Thematic Trades

Given the big questions facing investors with the pandemic and current market conditions, as well as the persistence of trends in 2020, there are three strategic trades we believe worth considering: rerate, reopening and revision. The three in conjunction could provide balance as 2021 begins.

1. Rerate

Companies within the universe of thematic indexes analyzed here that delivered strong earnings growth with shrinking or static multiples could see their valuations rerate higher, as investors consider future growth off a higher earnings base. Rerate themes may include cloud computing, e-commerce, pet care and cybersecurity.

Cloud computing and e-commerce saw tremendous growth in 2020, but we believe those two themes are still early in their development. Some of their expected growth was pulled forward into 2020, but even a modest rerating toward 2019 levels may deliver strong returns.

Pet care returns were similarly driven by earnings increases, and there are good reasons to believe that the companies could rerate higher. The demographic story around pet ownership, the shift to subscription models and growth in pet healthcare all provide strong tailwinds.

Experts have talked about the importance of cybersecurity given increased cyberattacks during the pandemic, but cybersecurity companies still trade at

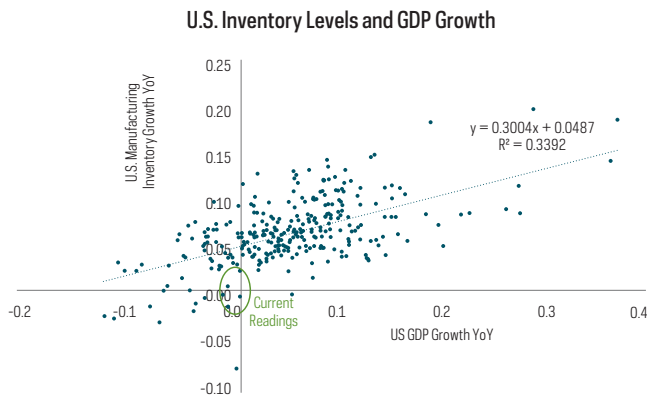
lower multiples than software-as-a-service firms with a similar business model.¹⁴ This, along with continued growth prospects, could push the multiples higher.

2. Reopening

Should the economy reopen, themes tied to cyclical businesses and impaired industries may deliver stronger earnings growth that provides support for strong returns. Reopening themes may include industrial automation, social media, infrastructure and biotech.

Returns of companies within an industrial automation index were driven by modest multiple expansion set against contracting earnings. Reopening could mean restocking depleted manufacturing inventories, increased business investment and an interest in building more resilient supply chains that could drive performance.

FIGURE 9: INVENTORIES WILL NEED TO BE RESTOCKED



Source: Bloomberg, quarterly data from 12/31/1947 to 09/30/2020

Reopening could provide two important tailwinds for social media. First, the pandemic hit the critically important travel sector hard, particularly airlines

¹⁴ When performance or financial metrics are discussed, software-as-a-service is defined as the Bloomberg Americas Software Index.

and hotels. The return of advertising dollars would probably help fundamentals. Second, going back out into the world would mean fresh content, beyond pictures of food or the latest home improvement project, which drives viewership.

Infrastructure has been hard-hit by the falloff in travel, as well as activities like commuting (whether through roads or airports), and this is positioned to improve. A stimulus package could also be an important part of getting the economy back on track, and it can be one policy area that Democrats and Republicans can often agree upon.

Biotech seems like an unusual reopening trade given the focus on antivirals and vaccines throughout the year, but earnings declined as an NIH journal reported that many people put off medical procedures. Further, the research efforts in 2020 may bear the most fruit if a vaccine and other treatments allow for reopening this coming year.

3. Reversion

Some themes that saw strong performance on the back of either earnings growth or multiple expansion could prove unsustainable over the next 12 months. Those that could be candidates for reversion include fintech, the internet of things and clean energy.

Before discussing some themes that might stall, there is one caveat to consider. We believe in the long-term viability of each theme; however, there could be a mix of headwinds in the current environment.

Fintech was one of the themes that received a lift from business continuity during lockdown, but unlike other areas, earnings contracted. While we believe that the shift toward new platforms and peer-to-peer will continue, innovations may be slow to gain traction next year as financial firms address issues related to the economic slowdown.

The number of connected devices will likely continue to rise precipitously, but the internet-of-things theme could stall if people repurpose resources and focus on experiences outdoors over conveniences at home. The internet of things was another theme where earnings declined, despite what should have been a strong environment for connected devices and sensors.

Clean and alternative energy themes have struggled in recent years, but fundamental and market performance turned in 2020. We believe in the importance of energy innovation and the long-term prospects, but the clean and alternative energy theme may have some short run impediments to overcome. First, some of the excitement tied to election policy platforms could fade. Delivering policies to support geopolitical hype can be difficult. Second, conventional energy prices remain low, which could be a headwind for continued earnings growth.

Combining reset and reopening themes could be appealing given the uncertainty around the pandemic. The reset themes provide exposure to the secular growth that has performed well, and reopening adds a cyclical element that may benefit from economic recovery.

Risks to Watch

We always try to be cognizant of risks, but the biggest ones facing thematic investors will likely be detached from fundamentals and growth. The long-term prospects across a range of themes tied to technology, demographics and behavior are likely to remain strong. The past twelve months served as validation for many businesses investing

in transformational change. After the decoupling of many themes with the broader market in 2020, setbacks would most likely come from behavioral or policy catalysts in 2021.

Several themes are vulnerable to shifts in investor sentiment and behavioral biases. Positive developments in vaccine development starting in November revived hopes of economic reopenings and an accompanying rotation to early-stage cyclical and value stocks. The reopening narrative may not adversely impact the long-term expectations of many prominent secular growth themes, but investors may temporarily shift assets to companies that were hard-hit by the pandemic and primed for rapid earnings rebound. Such a sentiment-based move could be a short-lived recovery trade followed by a potential return to companies with strong topline growth.

There is a series of policy risks that could weigh on thematic investments. Regulation of big tech remains a risk following several inquiries and investigations. That will likely persist throughout, but timing and implications of any action are unknown. There is also a set of regulatory activities that could arise across emerging technologies such as AI and big data, autonomous vehicles and genomics. We will continue to track these carefully and advise investors to do the same. The final policy concern is particularly acute for clean energy and infrastructure—important initiatives for the new administration. Favorable policy can sometimes provide a tailwind, but enacted policies may fall short of lofty expectations after political negotiations. Risk of disappointment for these themes is elevated.

Conclusions

No one saw the events of 2020 transpiring as they did 12 months ago during the last round of financial outlooks and prognostications. Investors should keep in mind not only that unforeseen events frequently weigh on the behavior of financial markets, but also that these unexpected twists offer an opportune time to revisit assumptions and allocations.

While headline economic growth and asset prices can recover from economic shocks rapidly, certain segments may lag or be structurally different going forward. Understanding the full implications of contraction and rebuilding, however, may take longer

than investors expect. Some areas, like travel, may be slow to recover, and it may take years to truly see the impact of the pandemic. This proved important in the aftermath of 2008, when there was a delayed response to the recession and the housing market took years to recover.

Given the uncertainty surrounding COVID-19, vaccines and economic reopenings, investors may want to consider allocations to defensive secular growth trends while also adding exposure to themes positioned to potentially benefit when the pandemic recedes.

Sources: ProShares, Morningstar, Bloomberg, FRED Graph Observations, Economic Research Division, Federal Reserve Bank of St. Louis, Statista, IDC, Seagate, May 2020; National Center for Biotechnology Information, "The Consequences of Delaying Elective Surgery: Surgical Perspective," April 2020. U.S. Department of Commerce, November 2020.

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Investing is currently subject to additional risks and uncertainties related to COVID-19, including economic, market and business conditions; changes in laws or regulations or other actions made by governmental authorities or regulatory bodies; and world economic and political developments.

For discussion of thematic fundamental and market performance: Cloud Computing is defined as companies in the ISE Cloud Computing Index; Software is defined as companies in the Bloomberg Americas Software Index; Internet of Things is defined as companies in the Indxx Global Internet of Things Index; Machine Learning/AI is defined as companies in the ROBO Global Artificial Intelligence Index; Industrial Automation is defined as companies in the ROBO Global Robotics and Automation Index; Cybersecurity is defined as companies in the Nasdaq CTA Cybersecurity Index; Remote Interaction Software is defined as companies in the Solactive Remote Work Index; Digital Payments is defined as companies in the Ecofin Global Digital Payments Infrastructure Index; Biotechnology is defined as companies in the Nasdaq Biotechnology Index; Genomic Medicine is defined as companies in the NYSE FactSet Global Genomics and Immuno Biopharma Index; E-commerce is defined as companies in the ProShares Online Retail Index; Gaming and E-sports is defined as companies in the Solactive Video Games & Esports Index; Social Media is defined as companies in the Solactive Social Media Index; Sustainable Food is defined as companies in the Foxberry Tematica Research Sustainable Future of Food Index; Pet Care is defined as companies in the FactSet Pet Care Index; Autonomous Driving is defined as companies in the NYSE FactSet Global Autonomous Driving and Electric Vehicle Index; Alternative Energy is defined as companies in the S&P Kensho Clean Power Index; 3-D Printing is defined as companies in the Total 3D-Printing Index; Defense & Aerospace is defined as companies in the BI North America Defense Prime Index; Infrastructure is defined as companies in the Dow Jones Brookfield Global Infrastructure Composite Index; FinTech is defined as companies in the Indxx Global Fintech Thematic Index; Water is defined as companies in the NASDAQ OMX US Water Index; Space is defined as companies in the S&P Kensho Final Frontiers Index; and Luxury is defined as companies in the S&P Global Luxury Index.

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