

Q2 2020 Performance Comments

The second quarter marked a decisive comeback from the depths of the COVID crisis bottom. It has been a challenging road fraught with geopolitical battles, cascading virus updates, unprecedented Central Bank intervention, negative oil prices, a social media advertising onslaught, and lots of disappointed investors on both sides of the Bull/Bear debate. Yet despite all of this, the MSCI All Country World Index was up 19% on the back of its -21% decline in Q1. The S&P 500 and NASDAQ 100 Indexes finished up 20% and 30%, respectively. As we think about performance so far this year, we believe it's instructive to think about three different chapters in the story—pre-crisis from Jan 1 to Feb 19, crisis from Feb 20 to Mar 23, and recovery from Mar 24 to Jun 30.

Key Points:

- Our key selection factors of Shareholder Yield, Momentum, and Value underperformed across all universes YTD.
- Lower market cap stocks outperformed during the recovery. This was a key tailwind for factor allocations relative to cap-weighted indexes.
- Poor quality stocks that do not meet our criteria for Value, Momentum, Earnings Quality, Earnings Growth, and Financial Strength are excluded from factor allocations and were a drag on returns.
- **Regardless of what the equity market holds in store, we will focus on adding value through tax management (where applicable), trade execution, and mitigating real world costs. For portfolios with factor exposures, we will attempt to position them with strong characteristic advantages versus their benchmark across our Quality, Value, Momentum, and Yield factor themes.**

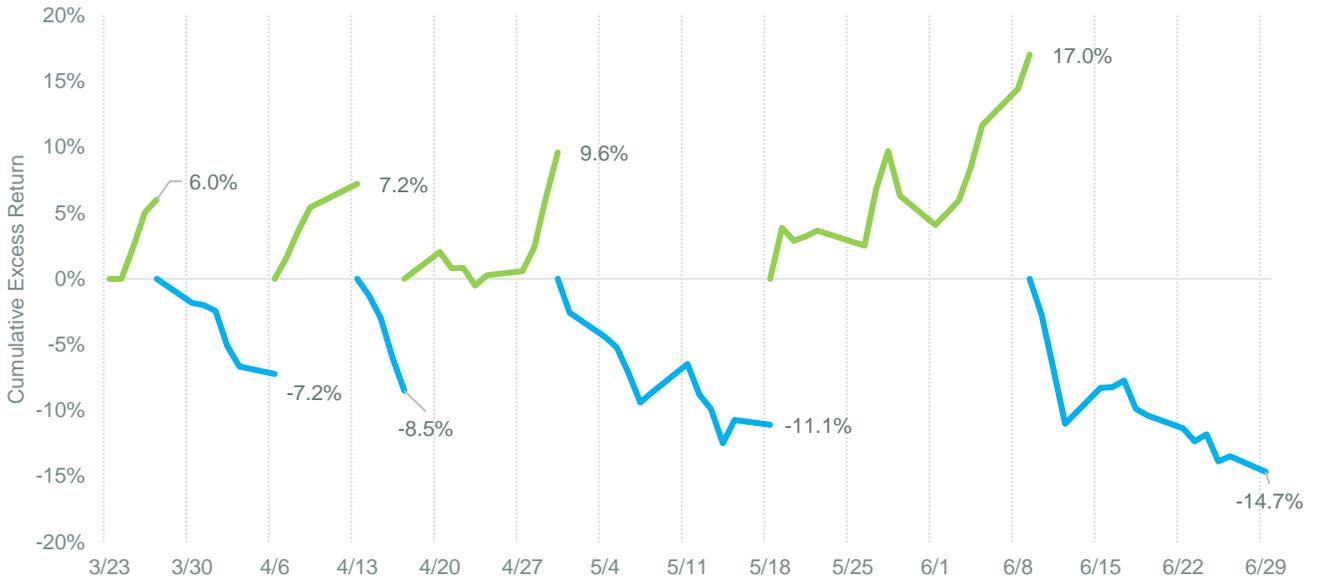
During the **pre-crisis** period, we saw a broad extension of the performance themes that developed in 2019. Mega cap growth was solidly in favor. Momentum outperformed. Value and Shareholder Yield continued to struggle, and quality was largely ignored, except for low volatility, which did well.

During the **crisis** period, Value and Shareholder Yield continued to be out of favor, while Momentum continued its win streak. Mega cap growth again reigned king as investors sought safety in the seemingly untouchable tech firms whose revenues seemed impervious to the lockdown environment. As could be expected, we saw quality rise in importance during the crisis period; over levered firms and those with declining earnings struggled.

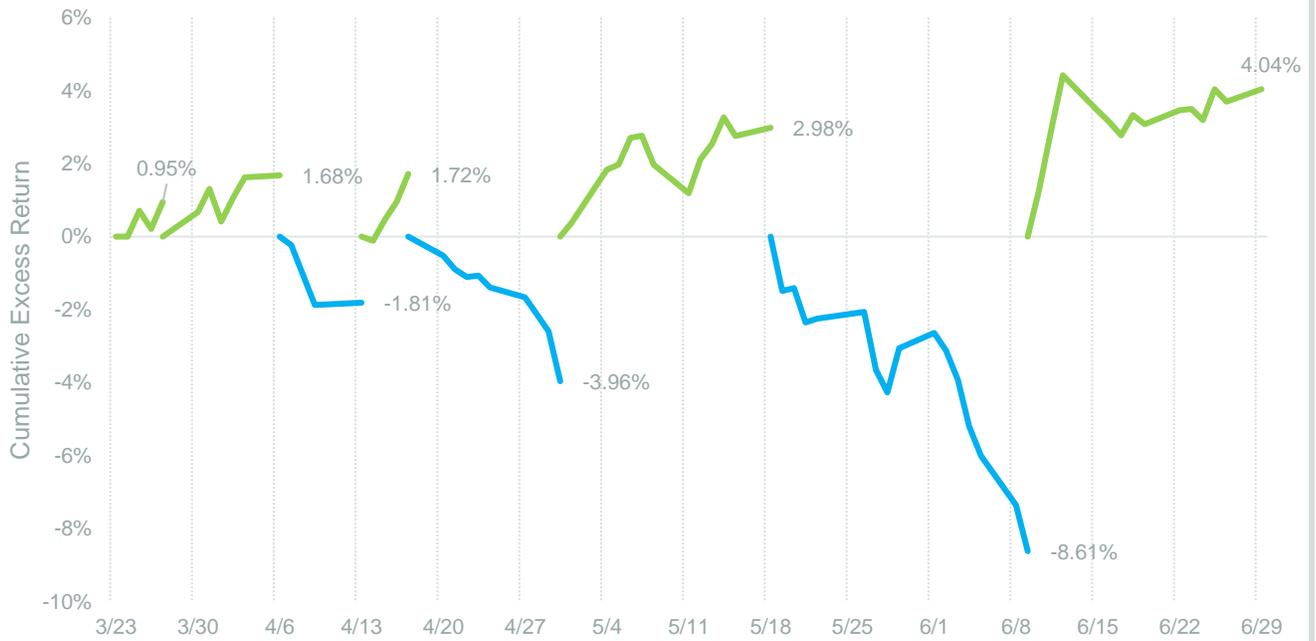
We detailed much of the pre-crisis and crisis performance in our Q1 commentary, so we will focus on the subsequent recovery. The **recovery** period can also be divided into a few sub periods - see below for value's multiple round trips - but can broadly be defined as a junk rally.

Interestingly, Momentum's performance during these periods is almost a perfect mirror image by direction, though Value's moves tended to be of greater magnitude. In the technical analysis world, these shapes are broadening patterns and tend to be indicative of indecision.

Cheap Value's Multiple Round Trips During the Recovery



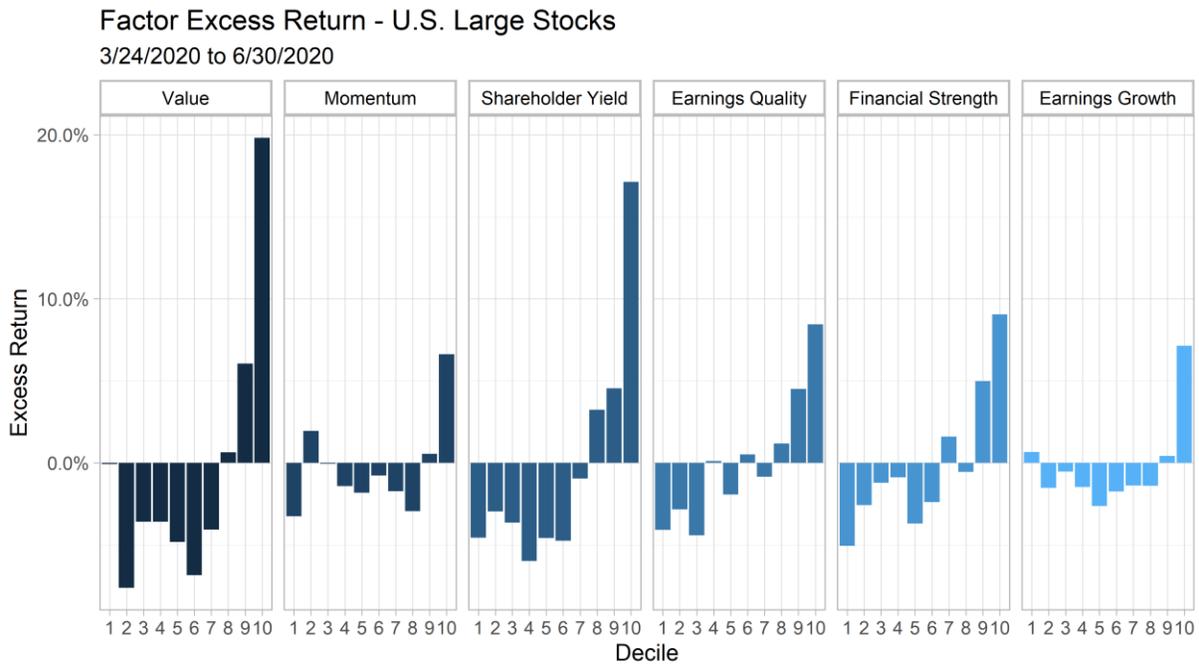
Strong Momentum's Multiple Round Trips During the Recovery



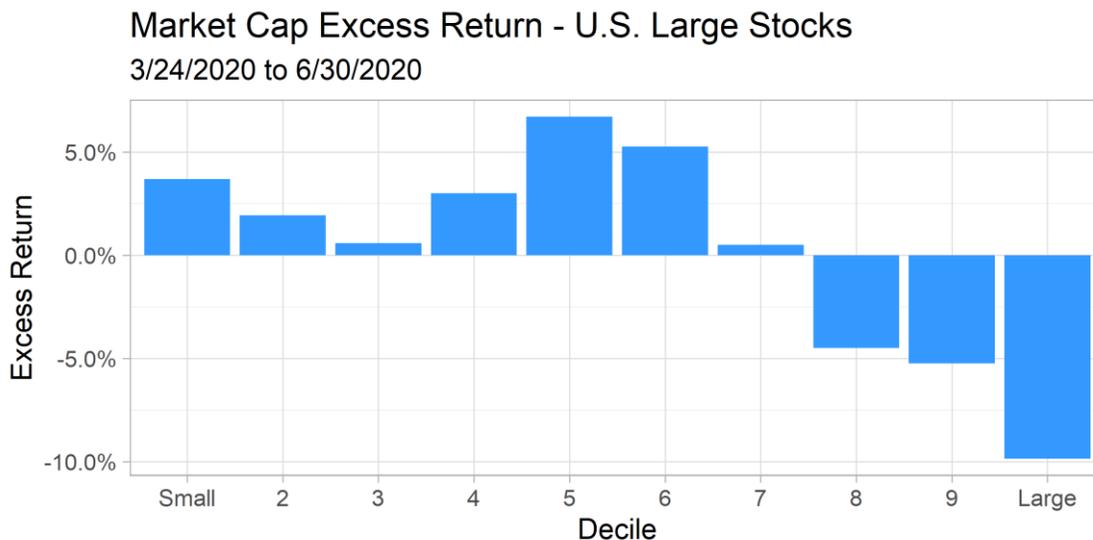
Past performance is no guarantee of future results.

Please see important information titled "General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer" at the end of this presentation.

From a factor perspective, every major factor theme we track inverted, as can be seen below.



The broadening patterns and factor inversions all seem to point to short-term sentiment that is agnostic to current fundamentals. If you had a strategy that invested in expensive, weak momentum diluters, that are unprofitable, goose their books through accounting shenanigans, and take on excess debt, you probably did exceptionally well in Q2. Further, lower in market cap generally outperformed. All of this is consistent with bounces following drawdowns historically.



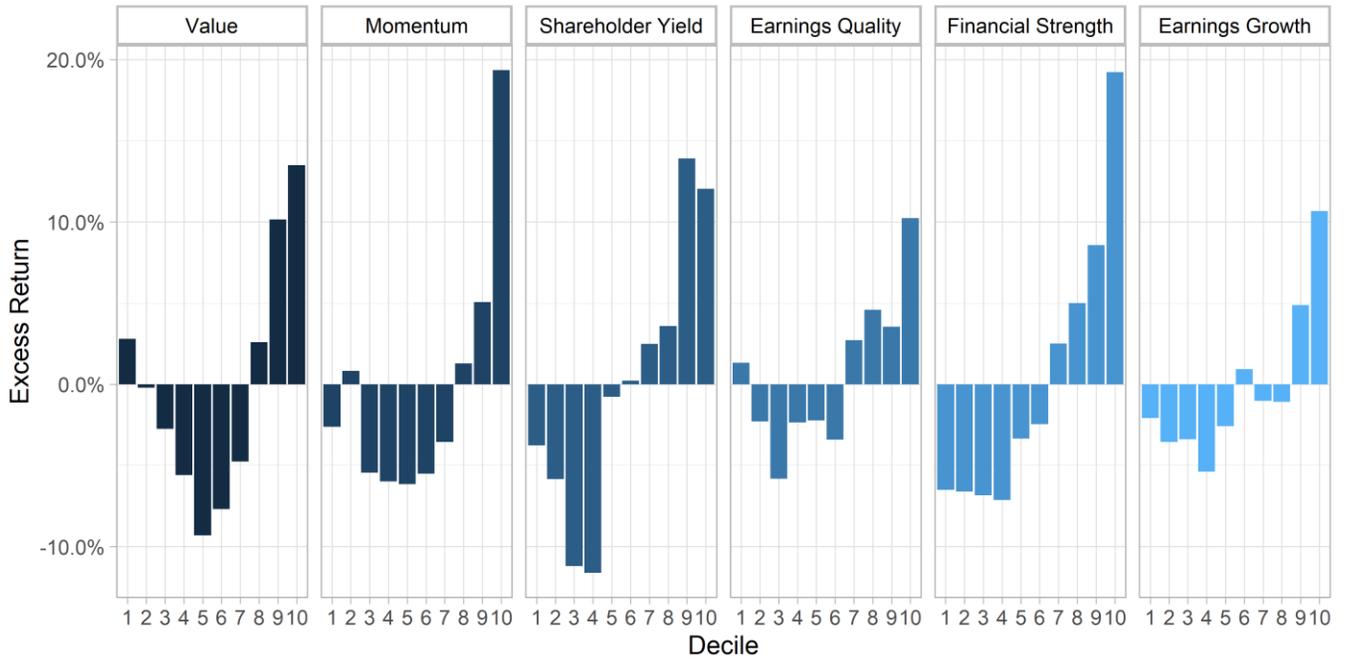
Past performance is no guarantee of future results.

Please see important information titled "General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer" at the end of this presentation.

We saw a similar phenomenon in Small-Mid cap and non-U.S. stocks, though the trend in non-U.S. was not quite as clean.

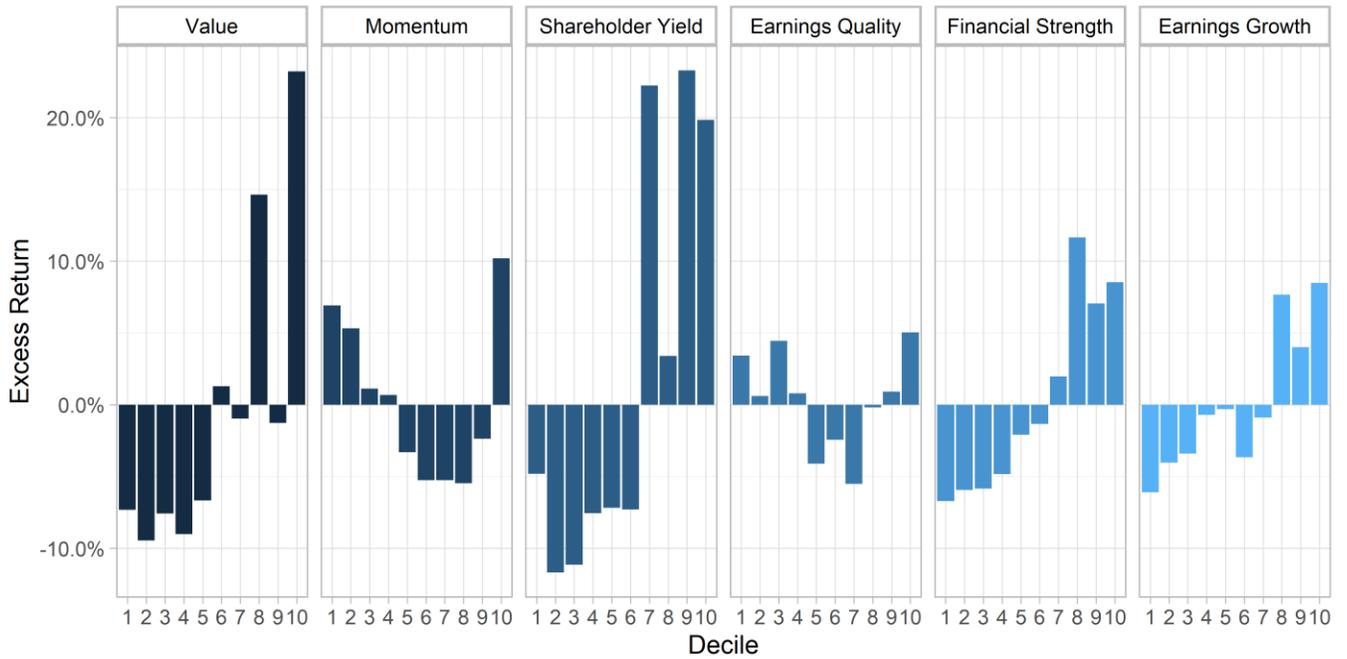
Factor Excess Return - U.S. Small-mid Stocks

3/24/2020 to 6/30/2020



Factor Excess Return - ADR All Stocks

3/24/2020 to 6/30/2020

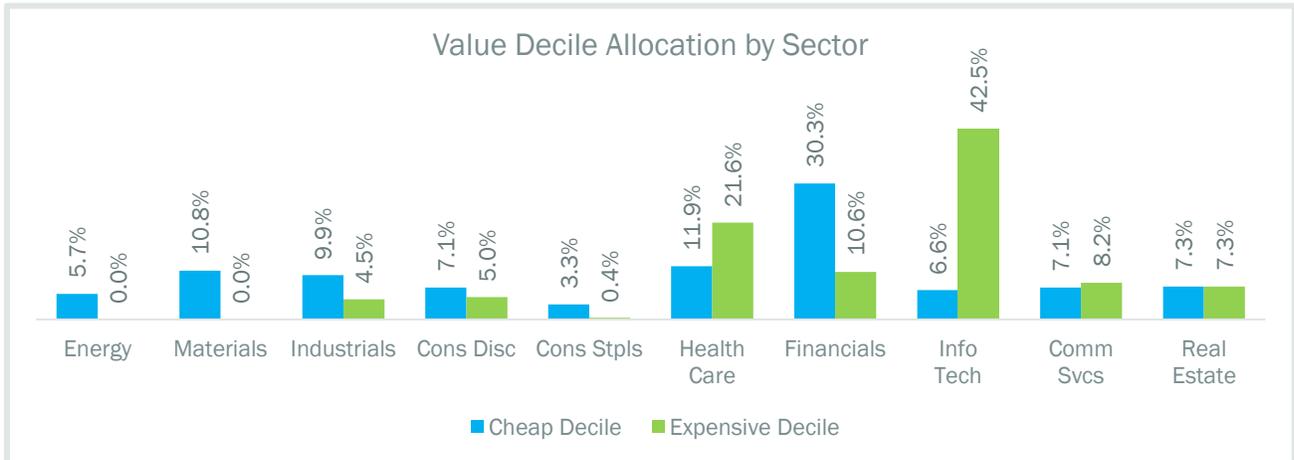


Past performance is no guarantee of future results.

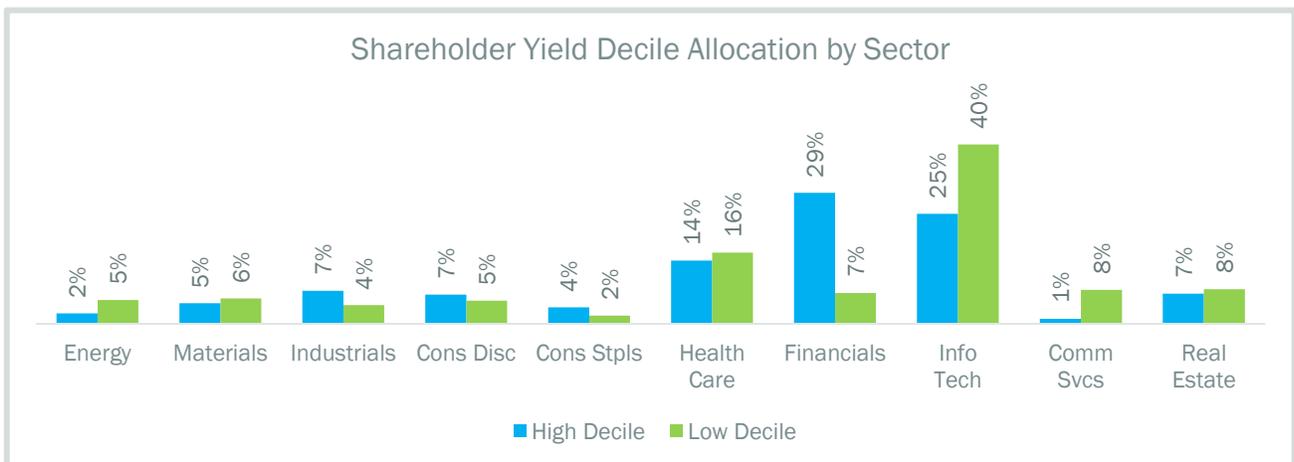
Please see important information titled "General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer" at the end of this presentation.

We saw four value impulses that have given value investors a breath of fresh air, if only for a short period. On June 8, we received the largest unexpected surprise of any economic statistic ever, a 10 million (!) job beat versus expectations for May Employment. This marked the peak of the recovery from an absolute perspective and for value's recovery. Soon thereafter growth came strongly back in favor as equity markets have struggled since then.

Value's woes are readily apparent when considering its sector makeup. The most expensive decile of Value, i.e. growth, is allocated 42.5% to Tech and 30.3% to Health Care. Meanwhile, the cheapest decile was overweight to Financials, Energy, Materials, and Industrials.



The sector allocations above are not too dissimilar for Shareholder Yield. Shareholder Yield fared a bit better than pure value. Historically, it does tend to act like a value factor, but more left of center on the style box. Key for the factor was a greater exposure to Tech and more moderate exposures to cyclical sectors.



Current Positioning and Outlook

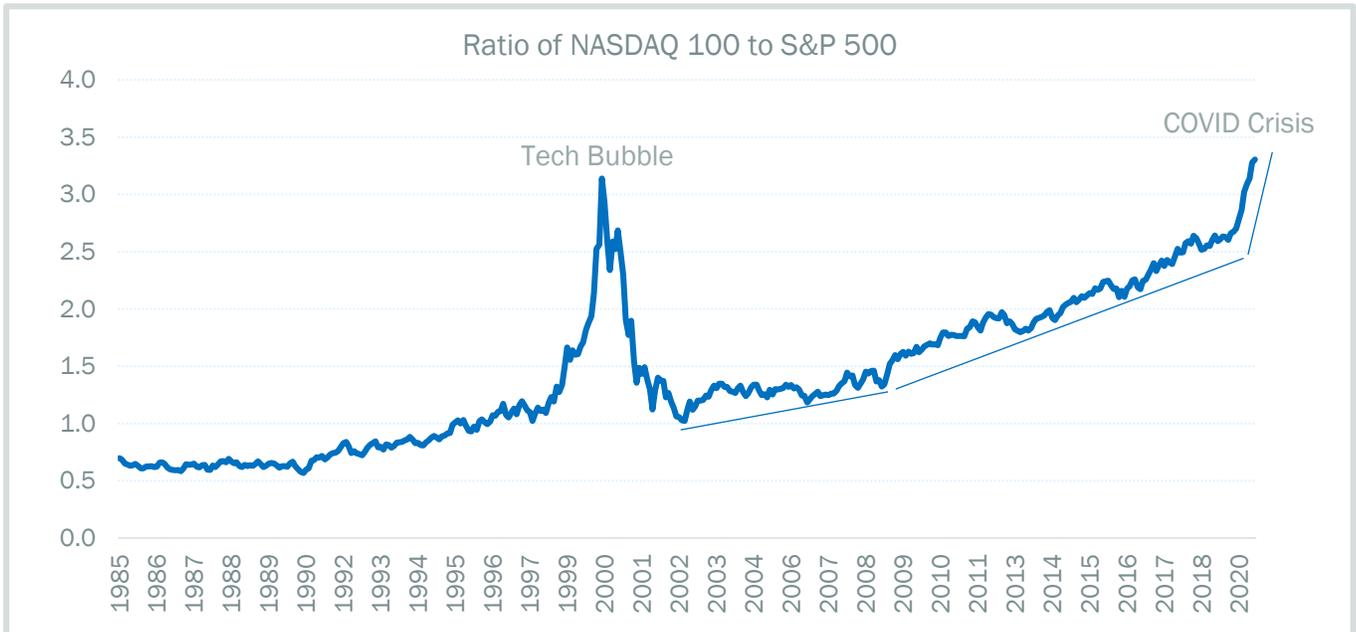
Stocks deliver returns to shareholders over time based on three drivers—their ability to grow their business, expansion of their price multiple, and prudent capital allocation practices that include returning capital to shareholders. Each of these drivers are fundamentally based. Whether due to fundamental uncertainty or the overarching impact of monetary liquidity and fiscal stimulus, the current environment is clearly not fundamentally based.

Past performance is no guarantee of future results.

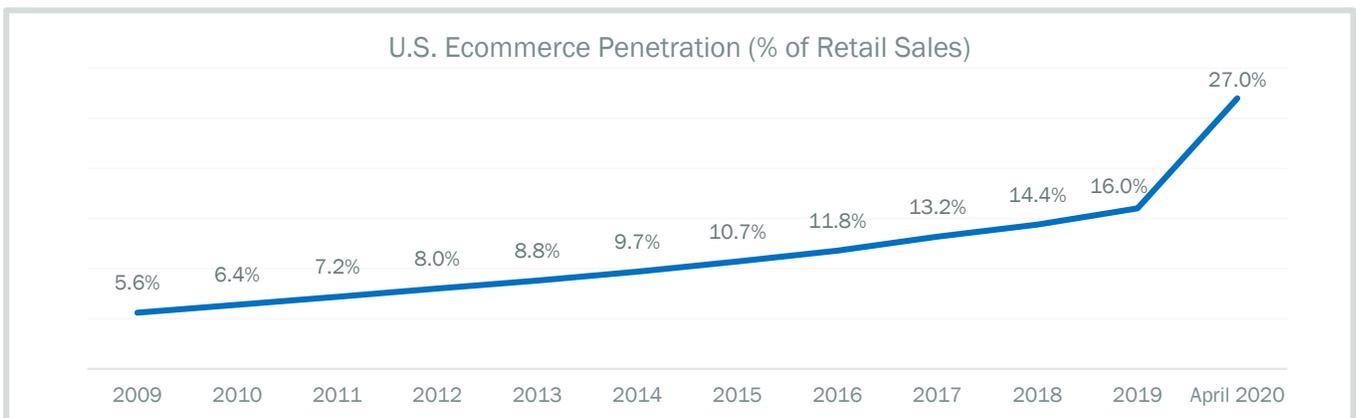
Please see important information titled "General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer" at the end of this presentation.

One really must wonder if the pace of mega cap growth leadership is primed to continue. Whether you look at price, valuation, or sentiment, support appears to be thinning.

Regarding price, we are at Tech Bubble levels in terms of relative pricing. The chart below shows the NASDAQ price level relative to the S&P 500 Index. Note that after the bubble burst in 2000, the two were at parity in 2002, a one to one relationship. The NASDAQ has outperformed 3.3-to-1 since then and since late 2019 has gone semi-parabolic. The challenge as we look at this comparison to the Tech Bubble is that we have not yet hit the true parabolic phase. The rise has been steady over the last 18 years, and certainly taking a turn up in 2019, but not at the velocity we saw in the latter stages of the Tech Bubble. If the analog were to play out, mega cap growth may have a couple more innings left.



The key driver of this levitation are the FANMAG stocks, which represent about 40% of the NASDAQ 100. Within the broader Russell 1000 Index, these stocks represent 17.5% of the index. Year-to-date, they have appreciated 26.0% while the rest of the Russell 1000 has declined -8.9% on a weighted average basis. Reliance on the group is heavy with each component, except Google, at all-time highs. Amazon is up roughly 65% on the year. Any sort of underperformance for FANMAG would at the least signify a change in leadership, and at worst a challenge to the equity market's recovery.



Past performance is no guarantee of future results.

Please see important information titled "General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer" at the end of this presentation.

The valuation spreads, which we interpret as expectations for future growth, are staggering. As of 6/30, the FANMAG stocks have a weighted average PE ratio of 38x on a trailing 12-month basis. Compare that to the remainder of the Russell 1000 Index, which is priced at 20.8x.¹ Still not cheap, but 45% cheaper nonetheless. Valuation is (unfortunately) a poor timing metric, so it's unclear when this disparity will be resolved. One reason is the crisis we find ourselves in. The COVID crisis has done more to spur the proliferation of technology throughout the economy than any event in the last decade. The chart above shows the massive increase in E-commerce penetration YTD. As a percentage of Retail sales, more was converted to e-commerce in eight weeks than the prior eight years. It may very well be the case that the FANMAG's deserve their lofty valuations, but that is probabilistically low over the long term.

Regardless of where you look, as long as you look at financial market metrics as opposed to Main Street, sentiment is ostensibly strong. The VIX index is down. NYSE put/call ratios are euphoric. USD has weakened from its crisis highs—a positive for developed and emerging non-U.S. stocks. The Fed is trying to prove without a shadow of doubt that its foot is firmly on the gas pedal. Congress is negotiating the next stimulus package and COVID treatments seem to be more effective now than even a week ago. The Milken Institute is tracking 261 treatments and 179 vaccines in development.²

Ultimately, fundamentals matter; we just don't know whether sentiment or fundamentals will take the lead. Many market participants are "looking through" the recovery to 2021 earnings. This look through seems to be how a company like Facebook can publicly lose a not so small cadre of its corporate advertising customers and march on to near all-time highs.

In an ironic twist, CEO's are bearish as can be.³ And it is that bearishness that has driven them to raise record amounts of cash via debt and equity offerings during the crisis.⁴ That cash may very well be the fuel that allows them to 1) weather a downturn if lockdowns return, or 2) invest in growth initiatives, like M&A, inventory restocking, or CapEx should a vaccine be discovered tomorrow.

¹ For companies with positive earnings.

² <https://covid-19tracker.milkeninstitute.org/>

³ Business Roundtable CEO Survey, Outlook Index

⁴ \$675 billion from March 17 to May 19, S&P Global; \$113 billion raise in 2Q20 across 400 offerings, Bloomberg.

OSAM CONTACT INFORMATION:

O'Shaughnessy Asset Management, LLC ■ Six Suburban Avenue ■ Stamford, CT 06901 ■ 203.975.3333 Tel ■ 203.975.3310 Fax

GENERAL LEGAL DISCLOSURES & HYPOTHETICAL AND/OR BACKTESTED RESULTS DISCLAIMER

The material contained herein is intended as a general market commentary. Opinions expressed herein are solely those of O'Shaughnessy Asset Management, LLC and may differ from those of your broker or investment firm.

Please remember that past performance may not be indicative of future results. Different types of investments involve varying degrees of risk, and there can be no assurance that the future performance of any specific investment, investment strategy, or product (including the investments and/or investment strategies recommended or undertaken by O'Shaughnessy Asset Management, LLC), or any non-investment related content, made reference to directly or indirectly in this piece will be profitable, equal any corresponding indicated historical performance level(s), be suitable for your portfolio or individual situation, or prove successful. Due to various factors, including changing market conditions and/or applicable laws, the content may no longer be reflective of current opinions or positions. Moreover, you should not assume that any discussion or information contained in this piece serves as the receipt of, or as a substitute for, personalized investment advice from O'Shaughnessy Asset Management, LLC. Any individual account performance information reflects the reinvestment of dividends (to the extent applicable), and is net of applicable transaction fees, O'Shaughnessy Asset Management, LLC's investment management fee (if debited directly from the account), and any other related account expenses. Account information has been compiled solely by O'Shaughnessy Asset Management, LLC, has not been independently verified, and does not reflect the impact of taxes on non-qualified accounts. In preparing this report, O'Shaughnessy Asset Management, LLC has relied upon information provided by the account custodian. Please defer to formal tax documents received from the account custodian for cost basis and tax reporting purposes. Please remember to contact O'Shaughnessy Asset Management, LLC, in writing, if there are any changes in your personal/financial situation or investment objectives for the purpose of reviewing/evaluating/revising our previous recommendations and/or services, or if you want to impose, add, or modify any reasonable restrictions to our investment advisory services. Please Note: Unless you advise, in writing, to the contrary, we will assume that there are no restrictions on our services, other than to manage the account in accordance with your designated investment objective. Please Also Note: Please compare this statement with account statements received from the account custodian. The account custodian does not verify the accuracy of the advisory fee calculation. Please advise us if you have not been receiving monthly statements from the account custodian. Historical performance results for investment indices and/or categories have been provided for general comparison purposes only, and generally do not reflect the deduction of transaction and/or custodial charges, the deduction of an investment management fee, nor the impact of taxes, the incurrence of which would have the effect of decreasing historical performance results. It should not be assumed that your account holdings correspond directly to any comparative indices. To the extent that a reader has any questions regarding the applicability of any specific issue discussed above to his/her individual situation, he/she is encouraged to consult with the professional advisor of his/her choosing. O'Shaughnessy Asset Management, LLC is neither a law firm nor a certified public accounting firm and no portion of the newsletter content should be construed as legal or accounting advice. A copy of the O'Shaughnessy Asset Management, LLC's current written disclosure statement discussing our advisory services and fees is available upon request.

Hypothetical performance results shown on the preceding pages are backtested and do not represent the performance of any account managed by OSAM, but were achieved by means of the retroactive application of each of the previously referenced models, certain aspects of which may have been designed with the benefit of hindsight.

The hypothetical backtested performance does not represent the results of actual trading using client assets nor decision-making during the period and does not and is not intended to indicate the past performance or future performance of any account or investment strategy managed by OSAM. If actual accounts had been managed throughout the period, ongoing research might have resulted in changes to the strategy which might have altered returns. The performance of any account or investment strategy managed by OSAM will differ from the hypothetical backtested performance results for each factor shown herein for a number of reasons, including without limitation the following:

- Although OSAM may consider from time to time one or more of the factors noted herein in managing any account, it may not consider all or any of such factors. OSAM may (and will) from time to time consider factors in addition to those noted herein in managing any account.
- OSAM may rebalance an account more frequently or less frequently than annually and at times other than presented herein.
- OSAM may from time to time manage an account by using non-quantitative, subjective investment management methodologies in conjunction with the application of factors.
- The hypothetical backtested performance results assume full investment, whereas an account managed by OSAM may have a positive cash position upon rebalance. Had the hypothetical backtested performance results included a positive cash position, the results would have been different and generally would have been lower.
- The hypothetical backtested performance results for each factor do not reflect any transaction costs of buying and selling securities, investment management fees (including without limitation management fees and performance fees), custody and other costs, or taxes – all of which would be incurred by an investor in any account managed by OSAM. If such costs and fees were reflected, the hypothetical backtested performance results would be lower.
- The hypothetical performance does not reflect the reinvestment of dividends and distributions therefrom, interest, capital gains and withholding taxes.
- Accounts managed by OSAM are subject to additions and redemptions of assets under management, which may positively or negatively affect performance depending generally upon the timing of such events in relation to the market's direction.
- Simulated returns may be dependent on the market and economic conditions that existed during the period. Future market or economic conditions can adversely affect the returns.
- **Composite Performance Summary**

7/13/20

Past performance is no guarantee of future results.

Please see important information titled "General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer" at the end of this presentation.

For the full composite performance summary of this strategy, please follow this link: <http://www.osam.com>

O'SHAUGHNESSY ASSET MANAGEMENT, L.L.C.

CANVAS™ INVESTMENT PORTFOLIO MANAGEMENT

CANVAS™ is an interactive web-based investment platform developed by O'Shaughnessy Asset Management, L.L.C. ("OSAM") that permits an investment professional (generally a registered investment adviser) to devise a desired investment strategy ("Strategy," including any combination of such Strategies) for the professional's client. At all times, the investment professional, and not OSAM, is responsible maintaining the initial and ongoing relationship with the underlying client and rendering individualized investment advice to the client. In addition, the investment professional and not OSAM, is responsible for (1) determining the initial and ongoing suitability of the Strategy for the client; (2) devising or determining the specific initial and ongoing desired Strategy; (3) monitoring performance of the Strategy; and (4) modifying and/or terminating the management of the client's account using the Strategy. The client may not look to OSAM for, and OSAM shall not have any responsibility for: (1) providing individualized investment advice or making any determination as to the initial or ongoing suitability of any Strategy for any specific investor, including the professional's client; (2) monitoring the Strategy; or (3) the performance of the Strategy. The use of the CANVAS platform does not serve as the receipt of, or as a substitute for, personalized investment advice from the client's investment professional, for which the client must look solely to his or her investment professional. No guaranty of performance or suitability is made or may be inferred from materials at the CANVAS web site or the use of the CANVAS platform.

Past performance may not be indicative of future results. Different types of investments involve varying degrees of risk. It should not be assumed that future performance of any specific investment or investment strategy, including the investments and/or Strategy devised and/or managed by OSAM, and any investment or investment Strategy resulting from the use of CANVAS, will be profitable, equal any historical performance level(s), be suitable for any specific investor or individual situation, or prove successful. Historical performance results for investment indices, benchmarks, and/or categories have been provided for general informational/comparison purposes only, and generally do not reflect the deduction of transaction and/or custodial charges, the deduction of an investment management fee, nor the impact of taxes, the incurrence of any or which would have the effect of decreasing historical performance results. When the securities to be purchased and held using the CANVAS platform include exchange-traded funds, including fixed-income funds, the investor will be subject to additional expenses imposed at the fund level; the CANVAS platform seeks to estimate these expenses but may not do so precisely. An investor's account holdings will generally not correspond directly to any comparative indices or categories.

The CANVAS platform reports historical performance information for Strategies compiled by OSAM. These performance figures reflect hypothetical, back-tested results; thus, they represent the retroactive performance of simulated portfolios. As such, the corresponding results have inherent limitations, including that: (a) the results do not reflect actual trading using investor assets, but were achieved by means of the theoretical retroactive application of the devised Strategy, certain aspects of which may have been designed with the benefit of hindsight; (b) back-tested performance may not reflect the impact that any material market or economic factors might have had on the investment professional's use of the hypothetical portfolio if the portfolio had been used during the period to manage actual investor assets; and (c) the back-tested performance of any Strategy does not reflect trading costs, investment management fees or taxes (although, as noted above, the expenses of exchange-traded funds included in any Strategy are sought to be taken into account). Such simulated theoretical returns are provided for informational purposes only to indicate historical performance had the Strategy's portfolios been available over the relevant time period. OSAM did not offer the CANVAS platform until April 2019. Prior to 2007, OSAM did not manage client assets.

A copy of OSAM's current written disclosure brochure is directly accessible via link at www.osam.com/brochure.

CANVAS is intended for use only by investment professionals and by certain other investors with appropriate knowledge and experience who are able to bear the risks of loss associated with the use of the CANVAS platform.

Please remember that past performance may not be indicative of future results. Different types of investments involve varying degrees of risk, and there can be no assurance that the future performance of any specific investment, investment strategy, or product (including the investments and/or investment strategies recommended or undertaken by O'Shaughnessy Asset Management, LLC), or any non-investment related content, made reference to directly or indirectly in this piece will be profitable, equal any corresponding indicated historical performance level(s), be suitable for your portfolio or individual situation, or prove successful. Due to various factors, including changing market conditions and/or applicable laws, the content may no longer be reflective of current opinions or positions. Moreover, you should not assume that any discussion or information contained in this piece serves as the receipt of, or as a substitute for, personalized investment advice from O'Shaughnessy Asset Management, LLC. Any individual account performance information reflects the reinvestment of dividends (to the extent applicable), and is net of applicable transaction fees, O'Shaughnessy Asset Management, LLC's investment management fee (if debited directly from the account), and any other related account expenses. Account information has been compiled solely by O'Shaughnessy Asset Management, LLC, has not been independently verified, and does not reflect the impact of taxes on non-qualified accounts. In preparing this report, O'Shaughnessy Asset Management, LLC has relied upon information provided by the account custodian. Please defer to formal tax documents received from the account custodian for cost basis and tax reporting purposes. Please remember to contact O'Shaughnessy Asset Management, LLC, in writing, if there are any changes in your personal/financial situation or investment objectives for the purpose of reviewing/evaluating/revising our previous recommendations and/or services, or if you want to impose, add, or modify any reasonable restrictions to our investment advisory services. Please Note: Unless you advise, in writing, to the contrary, we will assume that there are no restrictions on our services, other than to manage the account in accordance with your designated investment objective. Please Also Note: Please compare this statement with account statements received from the account custodian. The account custodian does not verify the accuracy of the advisory fee calculation. Please advise us if you have not been receiving monthly statements from the account custodian. Historical performance results for investment indices and/or categories have been provided for general comparison purposes only, and generally do not reflect the deduction of transaction and/or custodial charges, the deduction of an investment management fee, nor the impact of taxes, the incurrence of which would have the effect of decreasing historical performance results. It should not be assumed that your account holdings correspond directly to any comparative indices. To the extent that a reader has any questions regarding the applicability of any specific issue discussed above to his/her individual situation, he/she is encouraged to consult with the professional advisor of his/her choosing. O'Shaughnessy Asset Management, LLC is neither a law firm nor a certified public accounting firm and no portion of the newsletter content should be construed as legal or accounting advice. A copy of the O'Shaughnessy Asset Management, LLC's current written disclosure statement discussing our advisory services and fees is available upon request.

The risk-free rate used in the calculation of Sortino, Sharpe, and Treynor ratios is 5%, consistently applied across time.

The universe of All Stocks consists of all securities in the Chicago Research in Security Prices (CRSP) dataset or S&P Compustat Database (or other, as noted) with inflation-adjusted market capitalization greater than \$200 million as of most recent year-end. The universe of Large Stocks consists of all securities in the Chicago Research in Security Prices (CRSP) dataset or S&P Compustat Database (or other, as noted) with inflation-adjusted market capitalization greater than the universe average as of most recent year-end. The stocks are equally weighted and generally rebalanced annually.

Hypothetical performance results shown on the preceding pages are backtested and do not represent the performance of any account managed by OSAM, but were achieved by means of the retroactive application of each of the previously referenced models, certain aspects of which may have been designed with the benefit of hindsight.

The hypothetical backtested performance does not represent the results of actual trading using client assets nor decision-making during the period and does not and is not intended to indicate the past performance or future performance of any account or investment strategy managed by OSAM. If actual accounts had been managed throughout the period, ongoing research might have resulted in changes to the strategy which might have altered returns. The performance of any account or investment strategy managed by OSAM will differ from the hypothetical backtested performance results for each factor shown herein for a number of reasons, including without limitation the following:

- Although OSAM may consider from time to time one or more of the factors noted herein in managing any account, it may not consider all or any of such factors. OSAM may (and will) from time to time consider factors in addition to those noted herein in managing any account.
- OSAM may rebalance an account more frequently or less frequently than annually and at times other than presented herein.
- OSAM may from time to time manage an account by using non-quantitative, subjective investment management methodologies in conjunction with the application of factors.
- The hypothetical backtested performance results assume full investment, whereas an account managed by OSAM may have a positive cash position upon rebalance. Had the hypothetical backtested performance results included a positive cash position, the results would have been different and generally would have been lower.
- The hypothetical backtested performance results for each factor do not reflect any transaction costs of buying and selling securities, investment management fees (including without limitation management fees and performance fees), custody and other costs, or taxes – all of which would be incurred by an investor in any account managed by OSAM. If such costs and fees were reflected, the hypothetical backtested performance results would be lower. Therefore it should be noted that on the previous pages of this presentation, any back-tested results may be reflected gross of fees. Had OSAM managed the back-tested Portfolio during the corresponding time period, the deduction of an OSAM fee would have decreased the reflected results. For example, the deduction of a 1.00% fee over a 10-year period would have reduced a 10% gross of fees gain to an 8.9% net of fees gain.
- The hypothetical performance does not reflect the reinvestment of dividends and distributions therefrom, interest, capital gains and withholding taxes.
- Accounts managed by OSAM are subject to additions and redemptions of assets under management, which may positively or negatively affect performance depending generally upon the timing of such events in relation to the market's direction.
- Simulated returns may be dependent on the market and economic conditions that existed during the period. Future market or economic conditions can adversely affect the returns.

CONFIDENTIAL - FOR USE BY THE INVESTMENT PROFESSIONAL ONLY. NOT TO BE SHARED WITH AN UNDERLYING CLIENT UNLESS IN CONJUNCTION WITH A MEETING BETWEEN THE INVESTMENT PROFESSIONAL AND ITS CLIENT IN A ONE-ON-ONE SETTING.

Past performance is no guarantee of future results.

Please see important information titled "General Legal Disclosures & Hypothetical and/or Backtested Results Disclaimer" at the end of this presentation.