

US Equity Markets

2021 Outlook

Equities are facing one of the best backdrops for sustained gains next year. After a prolonged period of elevated risks (global trade war, COVID-19 pandemic, US election uncertainty, etc.), the outlook is clearing with the business cycle expanding and risks diminishing. We expect a “market nirvana” scenario for equities with the melt-up continuing into 1H21, driven by earnings recovery and multiple expansion. We expect next year to be front-loaded with most of the market upside realized in the first six months of the year, driven by:

- Expectations of continued exceptionally easy monetary policy (US M2 money supply +24% y/y, largest increase since 1940s) and another round of fiscal stimulus (\$700-900b) in the near future;
- COVID-19 vaccine distribution and easing of mobility restrictions fueling further earnings, labor market, and business cycle recovery (e.g. US QMI, our leading business cycle indicator, has entered early expansion phase);
- Election outcome with an expected balance of power and likely legislative gridlock is a goldilocks scenario for equities in our view (although Georgia senate race remains a key short-term risk). This expected election outcome significantly reduces risk of higher taxes and regulatory tightening, and increases the likelihood of global trade tensions easing and some tariff rollbacks (we estimate existing tariffs ~\$6 headwind to S&P 500 EPS through first order impact alone);
- Steady decline in USD trade-weighted index (-11% since Mar peak and -5% since 1yr ago) is expected to be a significant tailwind for multinational earnings in the coming quarters and for broader liquidity conditions;
- Corporates should begin to release excess balance sheet cash starting next year (S&P 500 record cash balance at ~\$2.1 trillion ex-Financials), revitalizing capex, M&A, and capital return, and reducing debt/revolvers – positive for earnings/multiple;
- We expect ~\$1 trillion of equity inflow / demand in 2021 driven by systematic flows, hedge fund positioning, retail buying, share buybacks, rotation from non-equity into equity (see details below).

Given the above (and as detailed in our [November Strategy report](#)), we see the **S&P 500 reaching 4,000 by early next year. Our base case S&P 500 price target for 2021 is 4,400 with a range of 4,200 to 4,600. Our 2021 EPS estimate is \$178 (consensus \$168.85) and 2022 EPS is \$200 (consensus \$196.79).** We expect next year to be front-loaded in terms of performance. While the broader backdrop should still remain constructive in the second half of next year, by then the market will have likely priced in close to a full recovery and investors may start to expect a gradual shift in central bank forward guidance away from the current exceptionally accommodative stance. This could start to pressure the multiple expansion story, making any market upside increasingly dependent on future earnings growth potential. As such, we expect investors to become increasingly more selective in 2H21. We expect the elevated equity multiple to be resilient as upward pressure on bond yields should continue to be restrained by the Fed (JPM FI/Rates Strategy expects US 10-year yield at 1.3% in 2021), while equity risk premium is currently still elevated offering room to absorb moderately higher yields (see below for analysis on Equity Multiples vs. Rates).

See page 43 for analyst certification and important disclosures.

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We expect ~\$1 trillion of equity inflow / demand in 2021. As noted in our [Nov. US Equity Strategy report](#), Equity positioning relative to a longer-term historical context is still below average with ample room for mechanical re-leveraging as volatility level subsides. Our [Volatility Outlook](#) is for VIX to decline to an average of ~17 in 2021 (vs. ~28 in 2020, [Market Commentary](#)). Decline in volatility creates a positive feedback loop, where systematic and discretionary hedge fund strategies increase allocation to equities. This process may take most of 2021, as economic recovery as well as inflows in the risky strategies are likely to be gradual. For instance, if the exposure goes from current below average levels (CTA < ~40%tile, VT ~15%tile, RP ~15%tile, HFRX ~25%tile) to ~65th historical percentile this would result in ~\$250bn inflows for systematic funds and ~\$300bn inflows for hedge funds across strategies. For next year, we estimate at least ~\$450 billion in net buybacks (increase of ~\$100 billion YoY), continued retail buying (supported by a new round of government stimulus), and continued rotation from non-equity into equity asset class as the economy recovers and bond yields continue to see gradual upward pressure.

Risks to outlook — Georgia Senate run-off election is the key short-term risk while liquidity tapering and higher rates are key medium/long-term risks.

- **Index rebalance.** On December 18th, TSLA addition (largest addition to S&P 500 by market cap) is estimated to result in \$57b selling of the existing S&P 500 index members, to make room for the addition based on estimates from our Macro QDS team, see [Index Rebalance](#). This volatility could get further amplified by Nasdaq rebalance, which is expected to be 3x larger than last year due to significant increase in stock concentration (i.e. reallocation away from Mega-cap tech to rest of Nasdaq universe). While this could result in a short-term technical sell-off, we would be buyers of this decline.
- **Georgia Senate election.** The other, and more meaningful, short-term risk is the Georgia Senate run-off election on January 5th, 2021. The unexpected loss of both Republican seats could result in a “light blue sweep” outcome, which could pose some downside for equities and re-introduce risk of anti-growth policy changes (i.e. tax increases). However, we expect this risk to be mostly manageable given Congress has pivoted to the center (i.e. Dem House majority has narrowed significantly, providing less room for drastic changes).
- **Liquidity tapering, higher rates and inflation scare are key medium / long-term risks.** Record global Central Bank liquidity has been key in supporting equities by facilitating credit market function and helping restore balance sheet cash across sectors. This has helped keep afloat both healthy and marginal companies, and fund new / emerging companies. When the Fed signals some tapering, we would see it as a risk-off event triggering some de-rating in multiples. On inflation, the market expects some firming of the cyclical component of inflation concurrent with cycle expansion in 2021. However, longer term, the risk of structural increase in trend (i.e. average) inflation may be higher than any time in the last 25 years or so. The huge injection of money/QE, the Fed’s expressed tolerance of higher inflation for a while and large public debt pose an inflation tail risk (details below), and could have significant negative implications for equity valuation / multiples and many quantitative strategies that are back tested in a mostly low inflation environment.

Business cycle, expansion expected to accelerate in 2021. JPM’s leading indicator of US business cycle transitioned to Expansion phase from Recovery in October and continued to advance higher in November. This was its best reading in 2 years, with continued improvement in second derivatives of key forward-looking metrics (QMI, Figure 1). As we had noted previously ([Style Positioning](#), Apr’20), a combination of timely and aggressive “whatever it takes” monetary and fiscal easing will likely result in a swift recovery from a “nobody’s fault” COVID-19 recession. The spike in COVID-19 cases during winter months and reactive shutdowns contingent on

positivity rate in states/localities may moderate the growth impetus but are unlikely to derail the expansion.

- The QMI, which leads the cycle by 3 to 6 months and is mean reverting, is close to its historical median (55%ile) and has room to expand. The expansion appears broad based with all four components of our cycle indicator (QMI) – Growth, Sentiment, Liquidity and Inflation – moving higher in the past two months (Figure 2 to Figure 5). On the Growth front, manufacturing recovered ahead of services after the shutdown in April, though services sector is closing the gap gradually. Global Manufacturing PMI has risen to 53.7 (79%ile vs history since 1998) in November from 39.6 Apr low while Services PMI has climbed to 52.2 (28%ile) from 23.7 in Apr. As COVID-19 vaccines become widely distributed, a more balanced recovery with pent-up services as the principal driver is likely. Lagged effects of fiscal and monetary stimulus already in motion are likely to fuel job growth creating a virtuous cycle of higher income and employment underpinning the cyclical expansion in 2021. We also note that the yield curve, a key slow moving indicator of cycle turning points, had already decisively steepened from its trough in 4Q19 (Figure 8) after the Fed began easing in Jul'19. Thus, COVID-19-related stimulus since March will only hasten an ongoing expansion especially in a vaccine-available world.
- Among other subcomponents of QMI, Sentiment has risen to neutral from a very depressed level but is far from exuberant. For example, corporate high yield spread averaged 412bps in November, which is 44%ile lowest spread relative to history since 1994 and can still narrow considerably. Consumer sentiment at 76.9 (26%ile) in Nov is quite subdued, again reflecting substantial upside potential in the coming months. Inflation-related cyclical indicators have firmed up considerably also. For instance, 10-year breakeven at ~1.8% is up from an average of 1.0% in Mar but lower than previous cyclical high of 2.2% in Sep'18. Outside the US, QMIs in Europe, GEM/Asia and Australia are also in Expansion phase. In summary, we expect the cyclical expansion to accelerate given the economic momentum, stimulus, vaccine news and the sizable slack in the labor market.

Fundamentals — robust earnings growth on pent-up demand, margin recovery, and investment activity. S&P 500 companies should see high earnings growth at least through end of 2022. Our EPS estimates assume above trend sales growth of ~8%/yr for the next two years, record quarterly margin by 4Q21-1Q22, and pick-up in investment activity (buybacks and M&A, see Earnings Model on page 13). EPS bottomed in 2Q20 and should continue to recover with 2Q21 marking the first record EPS quarter since the start of recession. The V-shape recovery was evident in 3Q results, which were well ahead of consensus (23% EPS surprise and 80%+ beat estimates). Also, weaker dollar and US long duration tech plays have helped buffer some earnings downside, especially relative to its international peers during 2020 (S&P 500: -15%, Eurozone: -37%). These drivers as well as earlier than expected vaccine development should help pull forward demand and margin recovery estimates—hence, our above consensus 2021 EPS of \$178 (bottom-up IBES: \$168.85) and 2022 EPS of \$200 (consensus \$196.79). If global growth continues to firm, USD could decline further, which would be another source of earnings upside, especially for US Multinationals (i.e. we estimate every 2% decline in trade-weighted USD translates into ~1% upside in EPS). A legislative gridlock along with the new administration converging to the center post-election as we expected (e.g., cabinet picks, repositioning for 2022 midterm election, see [Election Implications](#)) is a significant positive given it substantially reduces the risk of higher taxes (estimated headwind of ~\$11 of EPS) and regulatory risks. And, a more diplomatic approach to global trade should at a minimum yield some benefits (i.e., we estimate trade tariffs were \$6 drag to EPS through first order effects, see [US / China Trade Tariffs](#)). Lastly, record cash balance of \$2.1 trillion

ex-Financials (up \$560b vs. 1yr ago) should result in some EPS accretion when excess capital is reinvested via buybacks and M&A next year.

- **Sales growth** — We are expecting solid revenue growth over the next two years (2021: 10%, 2022: 6%) on price and demand recovery fueled by rising disposable income, elevated savings, and record low credit cost. With the global demand shock behind us, we are expecting pent-up recovery across sectors with the strongest revenue growth led by cyclicals (Energy +18% y/y in 2021, Discretionary +14%, Industrials +10%) and long duration plays (Tech/Communications 9-10%, Healthcare 7-8%). Bond proxies should see above trend sales growth (3-4%) but margin pressure should increase for companies unable to pass on commodity costs. While cyclicals represent about 1/4 of S&P 500 revenues, these sectors are expected to contribute about half of revenue growth next year based on consensus estimates, see Figure 30. In particular Energy, which makes up only 2% of market cap weight, is expected to have an outsized impact on 2021 revenue contribution of 13% for S&P 500 with expected revenue growth of 18%. Tech (28% market cap weight and 12% revenue weight) is expected to grow revenues by 8% in 2021 (13% S&P 500 sales contribution). Financials should continue to deliver better than expected results on strong noninterest income (e.g., trading, IB, etc.), focus on expense management, and potentially some unwind of reserve build, though will likely be offset by NIM compression with long-end rates remaining compressed. Discretionary should continue to outperform expectations with strong revenue growth next year on Consumer Services rebound, especially companies at the epicenter of COVID-19 (i.e. retail, leisure, entertainment). Industrials, which have been plagued by investment spending cuts by capital users (e.g. Airlines, Energy, Infrastructure) should see a significant pick-up in new orders, aided by sharply lower USD (sector most sensitive to currency move), low rates, and fiscal spending projects.
- **Full margin recovery on lower overhead and interest costs.** We expect S&P 500 companies to recapture all margin compression seen during 2020 and reach record margin levels by late 2021 / early 2022 (12-13%). In our view, a full margin recovery will hinge on lockdowns easing (strong volume growth and pricing), lower overhead costs, declining interest expense, and utilization of excess balance sheet cash. In recent quarters, S&P 500 companies experienced broad based margin recovery which could be attributed to a combination of reopening / demand, fiscal stimulus and cost cutting programs especially among Cyclicals, which have highest operating leverage (net margin collapsed from 11.6% in 4Q19 and troughed at 8.9% in 2Q20 and is expected to fully recover based on consensus estimates, see Figure 35/Figure 25). Additionally, we see lower trade barriers and weaker USD to provide further upside for margins / earnings for next year. Based on our estimates, rising tariff costs have been a significant drag on S&P 500 margins in the range of 50-75bp through direct and second-order effects. In regards to lower rates, corporates are benefiting on two fronts: (1) higher demand for durable goods from end users (housing, autos, machinery, etc); and (2) lower interest expense (i.e., S&P 500 companies have issued \$1.5t in debt YTD) with average cost of debt for S&P 500 companies at record low, see Figure 49. While the new administration has discussed implementing higher Federal Minimum wages, we believe concerns related to margin impact are overstated. In fact, we see large-caps as net beneficiaries given their operating scale and potential for further market share gains (assuming higher wages does not stoke inflation fears / prompting an adverse Fed response). Lastly, as corporates utilize record balance sheet cash, this should be immediately accretive to earnings.

Balance sheet and shareholder capital return. Even before the COVID-19 pandemic triggered cash hoarding via debt capital market, S&P 500 leverage was rising (debt to total assets, ex-Financials see Figure 47) for several years and crossed above prior cycle peak. However, we did not see this rise as a risk given it was supported by

fundamental drivers of maturing companies with high margins (especially Tech and Healthcare) and strong interest coverage. After the COVID-19 shock, we believe cash levels will slowly deflate starting early next year as corporates will see growing pressure from investors to release excess cash via special dividends, buybacks, and M&As. Since most S&P 500 companies are asset-lite, less cyclical, and strong cash flow generators, there is less of a need to retain excess cash other than for optics / lingering recession risks. Also, the ability to pay interest has improved significantly over the cycle and will be back at or near best levels given the expected sharp earnings ramp (S&P 500 annual pre-tax interest expense is only ~\$230b (based on 3Q20) compared to expected 2021 net income of ~\$1.5 trillion). With interest coverage high and cash balance at a record, we believe shareholder return will be a 2021 theme.

- So far YTD, S&P 500 dividends have remained resilient (+3% y/y) while buybacks have taken the brunt of the shareholder payment adjustment (-42% y/y). Buybacks continue to be constrained mostly by Financials (\$-66b y/y 2Q/3Q20) as well as by Cyclical (\$-137b y/y 2Q/3Q20). Based on 3Q annualized figure, US corporates repurchased shares at an annual rate of ~\$350b, which is down from 2019's rate of ~\$630b. We expect S&P 500 companies to increase net buybacks next year to an annual pace of ~\$450b and increase S&P 500 dividend yield, which is now 1.6% (though still attractive relative to 10Yr yield of 0.9%). Also, we are expecting a robust M&A environment in 2021. A combination of richer equity valuation, abundant access to cash / low cost of debt, and many sectors disrupted by the pandemic make a compelling case for S&P 500 companies to target domestic SMid-caps and international peers.

Equity P/E multiple is expensive in absolute terms but not when low rates and reasonable growth prospects are taken into account. The current S&P 500 forward P/E multiple at 22.2x (94%ile vs history since 1985) may appear expensive at face value but seems less extreme when measured against the low 10-year bond yield which is close to historical lows at 0.9% (2%ile), negative real policy rate of -1.5% (13%ile), and reasonable growth rate (trend 20-year eps growth).

- **Attractive earnings yield vs. bond yield.** The spread between the forward earnings yield (reciprocal of P/E) and bond yield, the so-called Fed Model popularized by ex-Chairman Greenspan, is at 74%ile relative to 30-year history (Figure 58). The larger the spread, the cheaper the equity market relative to the fixed income market. International equity markets appear even cheaper on this metric in absolute terms (5.4% spread versus 3.3% for the US, Figure 58) but relative to its own history the spread is 74%ile, not far from that of the US. However, the Fed Model is often criticized for not taking the underlying discounted future earnings stream into account in judging valuation. The Dividend Discount Model (DDM) and its variations provide a more complete framework for linking yield (discount rate) and expected future growth jointly with equity valuation.
- **In the DDM framework the current P/E multiple remains attractive.** Assuming consensus 1-year forward EPS growth of 18.5% from current depressed levels, terminal earnings growth of 5.9% (equal to trailing 20-year trend eps growth), 10-year bond yield of 0.9% and long-term average payout ratio (dividends + buybacks / earnings) of 71%, P/E multiple of 22.2x implies an equity risk premium of 7.3% or 69%ile relative to ten-year history (Figure 59). Though the implied premium is not as attractive as it was in March (at 9.6%) there is considerable room for the multiple to re-rate from here. Even if the multiple were to increase to 24.5x (S&P 500 at ~4000), the implied risk premium would drop from 7.3% to 7.1%, still above the historical median. Furthermore, long-term growth sensitivity analysis indicates that for implied risk premium to fall to the median 6.7% level, terminal EPS growth must be assumed to be 5.2% instead of 5.9% (Figure 60). This is an unrealistically pessimistic assumption since in the last decade the trailing 20-year EPS trend growth

has never dropped below 5.4% even as inflation remained subdued and real GDP growth was unexceptional during this period. In summary, all else equal, as long as 10-year bond yield remains in the range 0.8% to 1.5% (i.e. risk premium in 7.3% to median 6.7% range), forward P/E multiple is unlikely to come under significant stress. [JPM Treasuries 2021 Outlook](#) projects 10-year yields rising to 1.10% by 2Q21 and 1.30% by 4Q21 as large-scale fiscal stimulus and a widely available COVID-19 vaccine contribute to better growth outcomes in 2H21.

- **Liquidity and low rates are powerful tailwinds for equity multiples, especially in the US which is the home of a large number of Sustainable Income and Long Duration stocks.** While earnings and discount rate anchor valuation in the long run, ample liquidity and easy financial conditions can front run earnings and drive valuations above equilibrium for a considerable period. An equity bubble is an extreme outcome of such an environment. We believe that valuations are still within a range justifiable by earnings and low rates (see above) but the powerful combination of QE and near zero interest can drive the valuations higher in 1H2021. Base money (the money central bank directly controls) has grown at a pace almost comparable to the GFC (Figure 62). More important, US M2 money supply, the liquidity actually gushing through the economy and driving the pace of transactions, is expanding at the fastest rate since World War II (Figure 63). Free liquidity, liquidity in excess of that needed for GDP growth, is similarly growing at the fastest pace. Underpinning the attractive expected returns of equities are persistent negative real rates (Figure 65 and Figure 66) and aggressive steps taken by the Fed to compress credit spreads which continue to support the equity multiple (Figure 67).

Inflation tail risk. Debate over the risk of future structurally higher trend inflation and its impact on financial markets is gaining increasing traction among investors though its timing and intensity remains a contentious issue. We make a distinction between cyclical and trend inflation. Cyclical inflation fluctuates with the business cycle and is firming currently (see US Inflation QMI, our cyclical inflation measure, Figure 5). By contrast, trend (average) inflation has been remarkably subdued in the last 25 years despite historically low unemployment rate at times. In particular, the Fed's preferred measure of inflation, core PCE, has been below its stated target rate of 2% for 233 out of 298 months (78%), averaging just 1.7% since 1996 (Figure 68). Although a jump in trend inflation seems unlikely in 2021, an increasing number of investors are arguing that preconditions for such an event are gradually falling into place. While not a main risk, higher trend inflation may be a larger tail risk than at any time in the past two decades.

- **Three conditions are necessary for trend inflation to move higher. (1) The economy should be operating close to or above capacity** – output gap had nearly closed in 4Q19 but there is a big slack now due to the COVID-19 pandemic. This output gap will close over time though there is considerable academic debate about its correlation with inflation in recent years. **(2) Rising inflation expectation** creates wage/inflation feedback loop needed to sustain higher inflation. Inflation expectations have lifted from the COVID-19 trough but are still quite low compared to history. What has changed recently? The Fed has signaled explicitly that it will tolerate inflation above 2% for some time in order to avoid the deflationary tendency of the last 30 years and lift the policy rate sufficiently above zero to give it greater flexibility in conducting monetary policy when the next recession occurs. **(3) Rapid growth in money supply**, currently growing at record pace (Figure 63), supports the feedback dynamics of output gap and rising inflation expectation. Higher base money has not translated into faster money growth so far because both money multiplier (rate at which base money translates into M2) and velocity of money (rate at which money supply drives price inflation) have been subdued (Figure 75 and Figure 76). Risk aversion (i.e. high demand for liquidity by public) and anchored inflation expectation have kept the money multiplier and the velocity in check but

the risk that faster money growth could eventually trigger higher trend inflation may be increasing.

- Shift in inflation is obviously a complex process involving feedback between the above three factors. As a backdrop, we have a huge increase in US public debt (absolute and as percentage of GDP) that needs to be reduced over time. While the Fed is currently appealing to the US legislature to boost spending (i.e. increase deficit and debt) to help increase the efficacy of monetary policy, the huge stock of debt could limit future fiscal policy especially if the Fed wants to build a buffer by raising policy rate. Rational forward looking investors/public would take this policy conundrum into account when forming long-term inflation expectations. From 1950s to 1970s reduction of public debt as % of GDP was accompanied by rising inflation (Figure 77) along with bond yield staying below the growth rate of GDP (Figure 78). From investors' perspective, the tail risk of higher trend inflation could have significant negative implications for equity valuation / multiples and for quantitative strategies historically back tested for a low inflation environment.

Portfolio positioning — COVID-19 Recovery will likely be the dominant theme driving investor choices in 2021. The COVID-19 Recovery theme will cut across styles/sectors traditionally employed for positioning within the market. For instance, we think preference for Value in 1H21 should be aligned with COVID-19 beneficiaries, i.e. stocks beaten down by COVID-19 with a resilient business model in the post-COVID world and decent balance sheet (e.g. ability to raise equity/debt capital if needed). Building a portfolio purely on Value metrics like P/E and P/B could pick up value traps with unsustainable strategy in the post-COVID world. In addition, COVID-19 Recovery plays could be found in other style silos like Growth and Quality. Thus while style preference matters, strict adherence will be counterproductive in our view. 2021 may be the year of stock pickers especially focused on the COVID-19 Recovery theme.

Style preference — Barbell portfolio with preference for COVID-19 Recovery Value plays alongside Winner Take All stocks (i.e. secular growth stocks with staying power post vaccine distribution). In a reflationary recovery, sustained by positive vaccine developments, resulting in a risk-on backdrop, Value remains our style of preference. As mentioned above, [the dominant theme](#) for next year will likely revolve around COVID-19 Recovery. While Value may have the biggest positive correlation to COVID-19 Recovery, various parts of Growth, Momentum and even Quality are also positively exposed to COVID-19 Recovery. Consequently, we recommend a barbell portfolio overall favoring Value and Growth and underweighting defensive styles i.e. Low Vol and to a lesser extent Quality.

- Value is the general preference in cyclical recovery and has outperformed its peers in Nov'20 (Value up 7.5% vs Mom down 15.2% and Growth down 7.7% on L/S, sector normalized, quantile based S&P 500 portfolios). Similarly Energy and Banks are general preference (up 15.4% and 8.2% respectively vs market in Nov'20). In addition to Banks and Energy, we think key focus should be in consumer epicenter stocks and select health care stocks. Further, as the cyclical recovery and vaccine distribution continue to pan out, more outperformance is likely in pockets of Value that were heavily beaten down due to COVID-19 concerns, have not recovered yet but have repairable balance sheet (i.e. ability to raise equity and/or debt capital) and have a resilient business model – e.g. select retail, leisure, entertainment, etc. This should provide short-term stock picking opportunities within the Value cohort (See Value Screen on pg 30). As a result of these bouts of outperformances in a subset of Value stocks, we expect some normalization in style dislocation e.g. (1) Earnings Yield dispersion could decrease further (Figure 81); (2) Incremental easing of Momentum Crowding (Figure 85); (3) Normalization in Momentum Correlation with Growth vs Value (Figure 86). Overall Value should continue to benefit from

reflation that began in 4Q19 but suffered a temporary setback due to COVID-19 and is now gaining even more due to additional stimulus (Figure 8, yield curve).

- However, the sustainability of Value dominance in the long term is doubtful due to reasons we highlighted in our [Value Conundrum](#) note. Growth (i.e. long duration) stocks are better positioned than pure Value in a low yield environment driven by accommodative monetary policy. As we have argued [before](#), Winner Takes All theme, Digitalization theme, superior balance sheets, unintended dislocation from extraordinary Fed policy actions put in place (i.e. low rates, preference for high-quality corporate bonds) along with increasing likelihood of industry consolidation accelerated by the COVID-19 crisis will likely result in investors paying higher premiums for Large Cap, Secular Growth stocks. Every recession typically accelerates pre-existing trends, such as work-from-home or preference for online retail in recent years. This should increasingly challenge traditional business models (often Value stocks) and favor innovative and tech adoptive businesses, typically Growth stocks that are best positioned to benefit in the long term. Additionally, we see the green secular theme to benefit from a Biden presidency. We think “Winner takes all” is bound to remain the dominant theme within equities favoring Large Cap, Secular Growth stocks medium- to long-term.

Sector outlook — at the sector level, the central theme next year will likely be COVID-19 recovery with easing lockdowns releasing pent-up demand and reflation. The largest beneficiaries should be stocks at the epicenter of the 2020 pandemic: Consumer Discretionary (in particular, Consumer Services such as Leisure / Gaming / Hotels, Off-line Retail), Financials (Banks, Consumer Finance), and Energy. We also like Healthcare for its strong defensive growth, below market valuation, and reducing headline risk with an expected gridlock in Congress. Also, COVID-19 beneficiaries / secular growth (e.g. internet retail / services, tech hardware / software) could see some relative multiple de-rating even though these companies should continue to deliver strong growth and market share gains. However, economic growth recovery and reflation should make bond proxies a more difficult trade next year (e.g. Utilities, Telecom, Staples). We believe the following sectors and themes should outperform next year:

- **Consumer Discretionary** is our top sector pick as easing lockdowns release pent-up demand funded by savings, labor market expansion, and stimulus. Consumer Discretionary (in particular, Services) should see the strongest growth and credit improvement in the coming year. A new round of fiscal stimulus should help demand further. In a post-vaccination world, we expect a combination of pent-up demand / attractive pricing / and lower expenses to drive record margins and improve credit for most companies in Leisure / Hotels / Restaurants. We also prefer off-line over on-line retail as a recovery trade. Prior to the COVID-19 shock, Consumer Durables saw a significant headwind related to US / China tariffs. If there is any easing on the trade front by the Biden Administration, this would be another source of margin expansion for the sector. This sector is our top pick for 2021.
- **Energy** represents only 2.4% of S&P 500 (down from 16% during prior cycle high in 2008), trades at a record low relative P/B, with a dividend yield of ~5% (vs. 10yr rate of 0.9% and S&P 500 DY of 1.6%). The sector has been one of the most beaten down in the S&P 500 in 2020 suffering from a combination of demand destruction (e.g. COVID-19 response, Trade), credit concerns and limited access to liquidity. However, with most of the downside priced-in, we think the risk/reward in 2021 has significantly improved as vaccines ease the path to pre-COVID-19 mobility, demand recovery/reflation is likely on global synchronized economic recovery (see QMI), and there is potential upside surprise on better than expected cost discipline/operating efficiencies. Given the sharp underperformance, this sector is the most under-owned and universally hated based on our conversations with

investors. Executive action remains an area of concern for names levered to federal lands/pipelines but political gridlock should cap broader regulatory changes.

- **Financials** are well positioned to benefit from sustained economic recovery (higher yields / spreads) and positive vaccine news (limiting credit losses). Banks / Consumer Finance in particular could be significant beneficiaries of reflation if long-term rates drift higher / yield curve steepens, and labor market firms (lower credit loss reserves). While revenue growth and credit concerns remain, a combination of fiscal and monetary support should sustain an easier credit environment for businesses and consumers in the short-to-medium term. In addition, political gridlock should limit potential for corporate tax hikes (sector was one of the top beneficiaries of Tax Act) and sweeping regulatory changes. As the recovery firms, we expect shareholder payouts (Dividends + Buybacks) to improve in 2H21.
- **Healthcare** checks off growth, value, and quality characteristics and is a steady performer due to strong secular tailwinds. With significant political overhang (e.g. Blue Wave) waning, Healthcare should be well positioned to benefit from economic normalization, growing M&A activity and steady sector fundamentals. Specifically, Healthcare Providers/Services are potential beneficiaries from pent-up medical demand (e.g. deferred/elective procedures, etc.) and will have easier comps in 2021. While there remains some risk from the GA special elections, current expectations (i.e. betting odds) suggest that Republicans will maintain a majority in the Senate in 2021. Despite a global slowdown in 2020, Healthcare is expected to deliver another year of strong and healthy earnings growth of 7% (vs. Tech 6% and S&P 500 -15%) based on consensus estimates. Despite the low earnings volatility and attractive secular trends, the sector trades at only 17x based on 2021 consensus estimates vs. 24x for S&P 500.
- **Technology/Semiconductors:** While growth should moderate after massive pull forward of e-comm transition, we expect a recovery in business spending, resilient consumer and continued cloud/data center growth to drive the sector higher and deliver above-market fundamentals. We favor names that have not been primary beneficiaries of the work-from-home trend and maintain a higher conviction on more cyclical Semis/Tech Hardware (vs. Software). Semis in particular should benefit from demand recovery supported by global economic rebound, cloud/capex growth, production increases for 5G smartphones/autos and normalizing supply chain.
- **Bond Proxies** (Staples, Utilities, Real Estate) should underperform given their high sensitivity to rising rates and lower exposure to cyclical / pent-up demand recovery in the coming months. In a year in which earnings should rebound 23%+ for the market, Bond Proxies offer only 5-8% growth based on consensus. With further confirmation of ongoing economic recovery (e.g. Jobs, GDP, etc.), we expect rising inflation and long-term rates to trigger further rebalancing among equity investors out of Bond Proxies into more Cyclical industries. Staples industries that were harder hit by the COVID-19 slowdown, such as Beverages, should still benefit from the recovery / vaccine trade given their exposure to restaurants / bars / workplaces / schools. However, industries such as Household & Personal Products and Food Retailers, which were large beneficiaries of one-time WFH trends, should see some headwinds.

Themes — In this report, we are highlighting 4 stock themes compiled alongside JPM Stock Analyst input including (1) Domestic COVID-19 beneficiaries (JPAMCRDB <INDEX>; pg 32); (2) International COVID-19 beneficiaries (JPAMCRIB; pg 33); (3) Short Vaccine Tactical Shorts (JPAMVACS; pg 31); (4) 5G theme (JPAMFIVG; pg 35). Additionally, included are the quantitatively constructed Style themes (1) Value; (2) Growth; (3) Momentum, see pages 30 and 31.

State of the Business Cycle

Figure 1: US Business Cycle Indicator

US QMI is a leading indicator of US Business Cycle

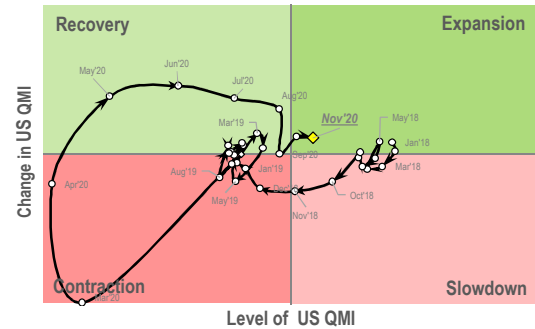
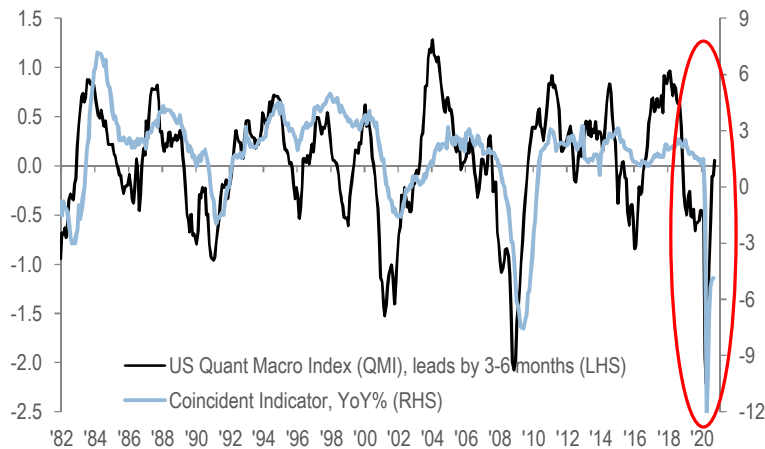
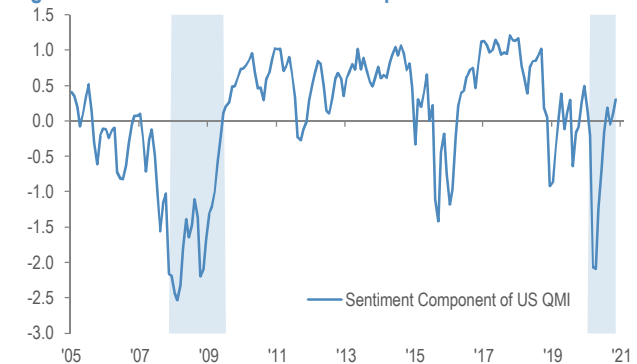
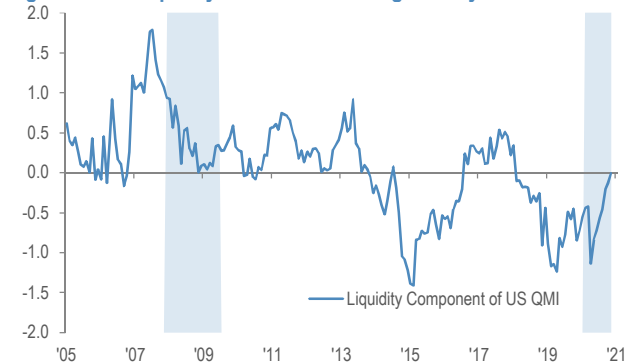


Figure 3: US Sentiment QMI — Back at pre-Recessions levels



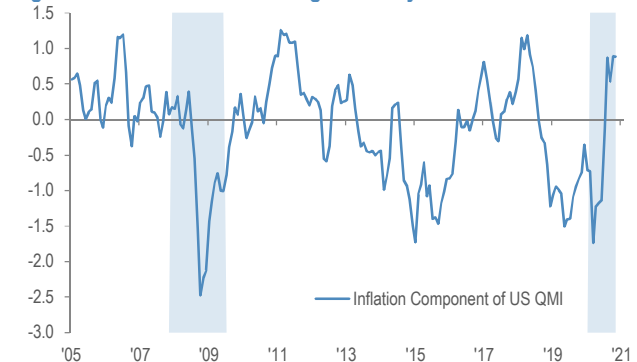
The blue bar show the months of recession.

Figure 4: US Liquidity QMI — Normalizing Quickly



The blue bar show the months of recession.

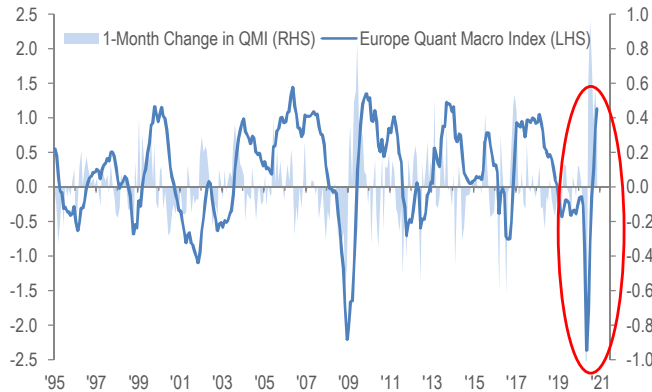
Figure 5: US Inflation QMI — Highest in 2 years



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 6: Europe QMI — in Expansion

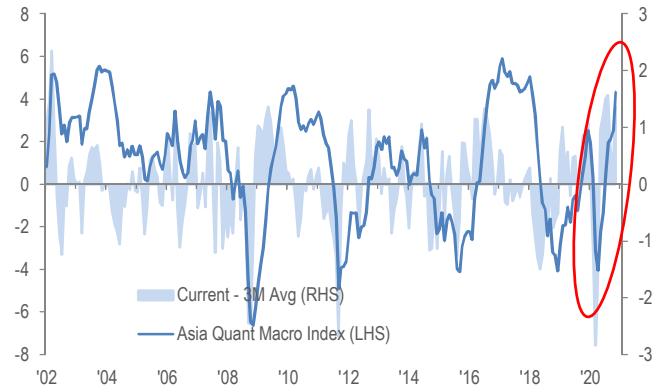
Europe QMI is a leading indicator of European Business Cycle



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 7: Asia QMI – in Expansion, Likely Leading Other Regions

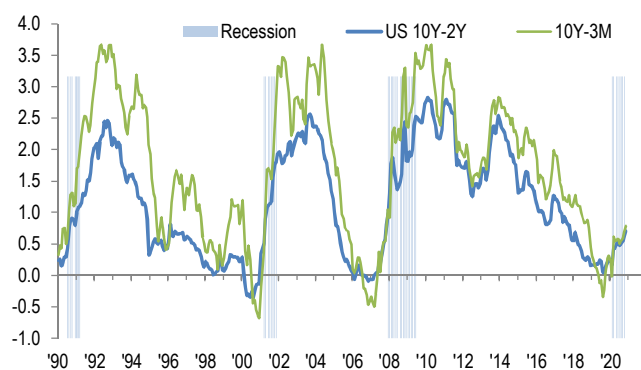
Asia QMI is a leading indicator of Asian Business Cycle



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

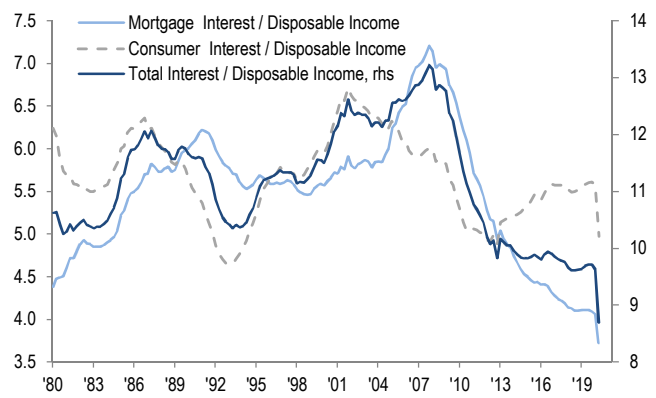
Figure 8: US Yield Curve Is Steepening

Historically yield curve inverts before a recession but the lead is variable and can be long



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

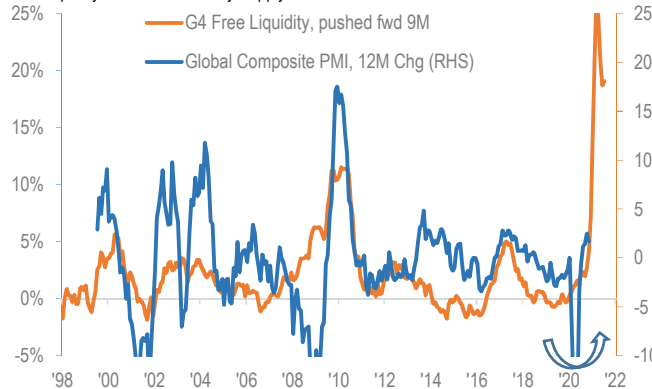
Figure 9: US Consumer Debt Service Ratio at a 40 Year Low



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 10: Upturn in G4 Free Liquidity Leads Global Composite PMI

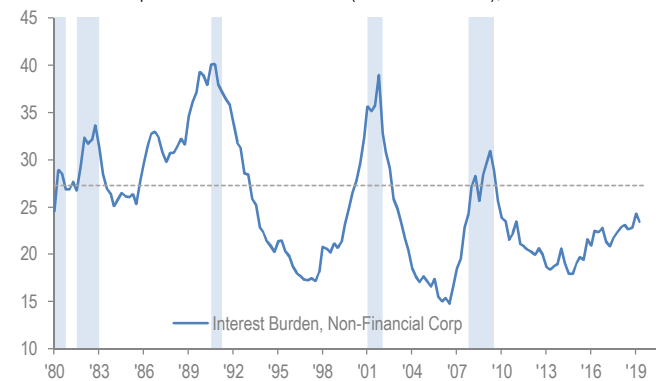
Free Liquidity is Growth in Money Supply in excess of Nominal GDP Growth



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, U.S. CBP

Figure 11: Nonfinancial Corporate Debt Service Burden Manageable

Nonfinancial Corporates: Net Interest/Profits (National Accounts), US



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Investor Positioning

Figure 12: Equity Beta of Macro and L/S Hedge Funds

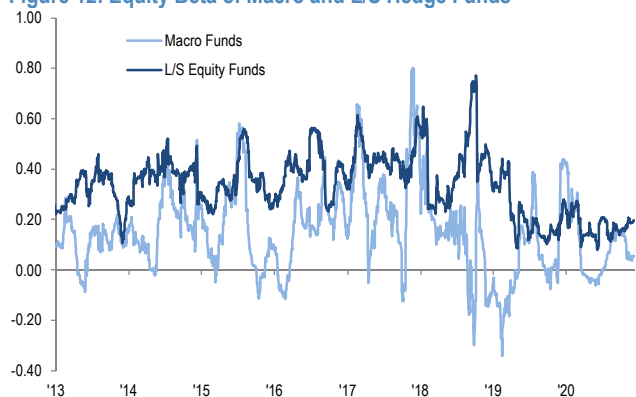


Figure 13: Fund Flows — Equity vs. Bonds

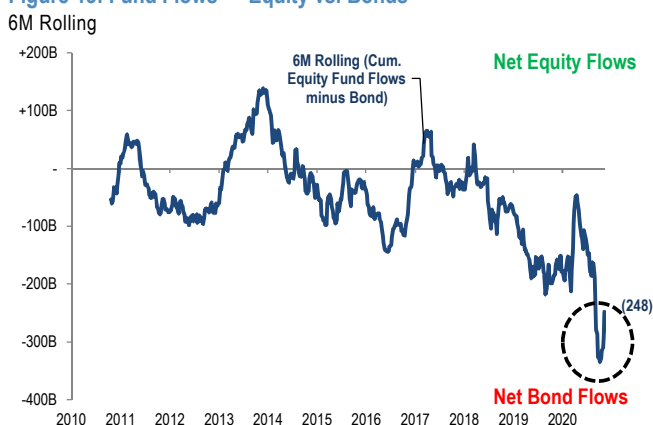


Figure 14: Positioning Signals for Systematic Equity Strategies

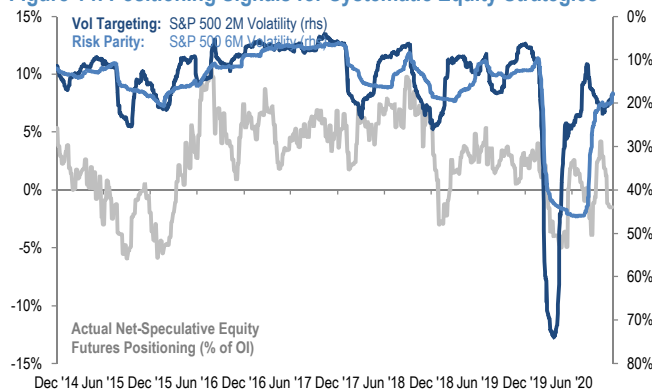
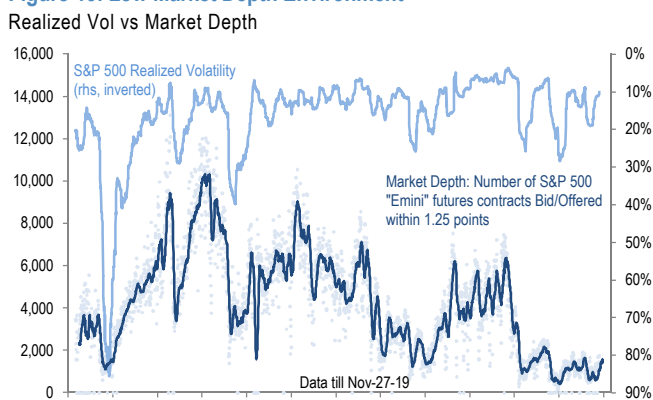


Figure 15: Low Market Depth Environment



Fundamentals

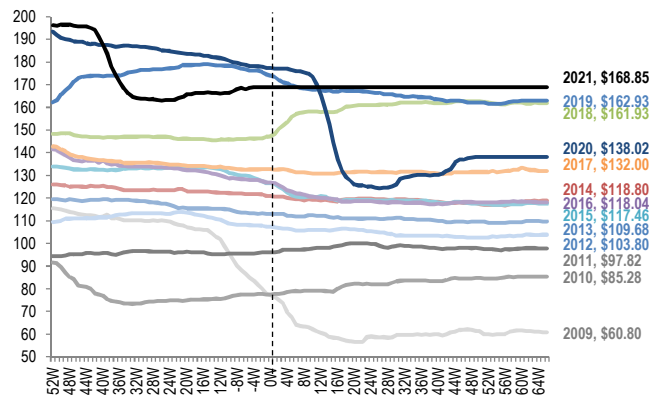
Figure 16: S&P 500 Earnings Model

Actual Annual/LTM — Per Share Data											LTM	JPM Strategy (Rev. & Margin Drivers)		
Income Statement	Dec '10	Dec '11	Dec '12	Dec '13	Dec '14	Dec '15	Dec '16	Dec '17	Dec '18	Dec '19	Jun '20	2020	2021	2022
Net Sales	\$963	\$1,053	\$1,092	\$1,117	\$1,163	\$1,127	\$1,151	\$1,232	\$1,343	\$1,415	\$1,373	\$1,359	\$1,494	\$1,584
• % chg Y-o-Y	6.0%	9.4%	3.8%	2.2%	4.2%	-3.1%	2.1%	7.0%	9.0%	5.4%	-0.4%	-4.0%	10.0%	6.0%
Less: Cost of Goods Sold	661	732	755	772	805	787	802	857	932	981	973			
• % chg Y-o-Y	3.0%	10.7%	3.2%	2.3%	4.3%	-2.2%	1.9%	6.9%	8.8%	5.2%	1.9%			
• COGS as % of Sales	68.7%	69.5%	69.1%	69.1%	69.2%	69.8%	69.7%	69.6%	69.4%	69.3%	70.9%			
Gross Income	301	321	338	345	358	340	349	374	411	434	399			
• % chg Y-o-Y	13.3%	6.5%	5.1%	2.1%	3.9%	-5.1%	2.6%	7.4%	9.7%	5.7%	-5.7%			
• Gross Margin	31.3%	30.5%	30.9%	30.9%	30.8%	30.2%	30.3%	30.4%	30.6%	30.7%	29.1%			
Less: SG&A Expenses (ex D&A)	135	142	148	150	157	151	154	163	174	188	185			
• % chg Y-o-Y	6.0%	5.3%	4.1%	1.2%	4.7%	-3.7%	2.1%	6.1%	6.7%	7.9%	3.0%			
• SG&A as % of Sales	14.0%	13.5%	13.5%	13.4%	13.5%	13.4%	13.4%	13.3%	13.0%	13.3%	13.5%			
EBITDA	167	179	190	195	202	189	195	211	237	246	214	209	254	279
• % chg Y-o-Y	20.0%	7.5%	5.9%	2.8%	3.3%	-6.2%	2.9%	8.4%	12.0%	4.1%	-12.1%	-200bp	160bp	60bp
• EBITDA Margin	17.3%	17.0%	17.4%	17.5%	17.3%	16.8%	16.9%	17.1%	17.6%	17.4%	15.6%	15.4%	17.0%	17.6%
Less: D&A	46	49	53	56	60	65	68	71	75	83	87			
• % chg Y-o-Y	-0.5%	5.8%	8.7%	5.8%	6.9%	8.1%	4.4%	4.5%	6.0%	10.7%	10.7%			
• D&A as % of Sales	4.8%	4.6%	4.9%	5.0%	5.2%	5.8%	5.9%	5.7%	5.6%	5.9%	6.3%			
EBIT	121	130	137	139	142	124	127	140	162	163	127			
• % chg Y-o-Y	30.2%	8.1%	4.9%	1.7%	1.9%	-12.2%	2.2%	10.6%	15.0%	1.0%	-22.9%			
• as % of Sales	12.5%	12.4%	12.5%	12.4%	12.2%	11.0%	11.0%	11.4%	12.0%	11.5%	9.3%			
Interest Expense	20	19	19	19	19	20	22	25	28	29	28			
• % chg Y-o-Y	-7.0%	-0.4%	-0.6%	-3.7%	1.5%	5.3%	12.2%	12.2%	11.0%	5.9%	-3.7%	-35bp	-20bp	-10bp
• Implied Interest Rate (Int Exp as % Avg Debt)	2.6%	2.6%	2.6%	2.5%	2.5%	2.6%	2.6%	2.7%	2.9%	2.9%	2.5%	2.5%	2.3%	2.2%
Pre-Tax Income	119	134	142	150	162	153	155	170	193	196	167			
• % chg Y-o-Y	39.6%	13.0%	6.2%	5.3%	8.1%	-5.9%	1.6%	9.9%	13.3%	1.4%	-14.0%			
Income Taxes	33	36	39	40	43	34	36	37	30	31	22			
• Effective Tax Rate (%)	28.0%	27.0%	27.1%	26.4%	26.7%	22.5%	23.2%	21.9%	15.5%	15.8%	13.2%			
Operating EPS	\$85.49	\$97.84	\$103.76	\$110.39	\$118.83	\$118.20	\$119.08	\$132.95	\$162.91	\$164.58	\$145.23	\$137.00	\$178.00	\$200.00
• EPS chg Y-o-Y	\$23.47	\$12.35	\$5.92	\$6.63	\$8.44	(\$0.63)	\$0.88	\$13.87	\$29.96	\$1.67	-\$19.07	(\$27.58)	\$41.00	\$22.00
• % chg Y-o-Y	37.8%	14.4%	6.1%	6.4%	7.6%	-0.5%	0.7%	11.6%	22.5%	1.0%	-11.6%	-16.8%	29.9%	12.4%
• Net Income Earnings Margin	8.9%	9.3%	9.5%	9.9%	10.2%	10.5%	10.3%	10.8%	12.1%	11.6%	10.6%	10.0%	11.8%	12.5%
Net Buybacks	\$1.4	\$2.5	\$2.00	\$2.56	\$2.77	\$2.62	\$2.77	\$2.71	\$5.08	\$3.95	\$3.33	\$1.90	\$2.10	\$2.70
• % Contribution to EPS	1.7%	2.5%	1.9%	2.3%	2.3%	2.2%	2.3%	2.0%	3.1%	2.4%	2.3%	1.3%	1.3%	1.5%
• \$'s in billions	\$180	\$308	\$252	\$361	\$429	\$427	\$448	\$452	\$738	\$621	\$561	\$375	\$450	\$550
Operating IBES EPS, Actual and Consensus	\$85.49	\$97.84	\$103.76	\$110.39	\$118.83	\$118.20	\$119.08	\$132.95	\$162.91	\$164.58	\$145.23	\$138.02	\$168.85	\$196.77
• % chg Y-o-Y	37.8%	14.4%	6.1%	6.4%	7.6%	-0.5%	0.7%	11.6%	22.5%	1.0%	-11.6%	-16%	22%	17%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 17: S&P 500 Annual EPS: 2019 – 2021

Bottom-up Consensus



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Thomson EPS

Figure 18: Quarterly EPS Growth by Sector

S&P 500 EPS Actual 1Q17-3Q19; IBES Consensus Estimates

S&P 500 EPS Growth											
	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	2020	2021		
Cyclicals / Value:											
Discretionary	-53%	-65%	1%	-23%	82%	194%	8%	-34%	58%	Strong Growth Recovery	
Industrials	-33%	-85%	-54%	-42%	0%	446%	79%	-55%	79%		
Energy	-30%	-168%	-108%	-99%	-62%	148%	715%	-108%	597%		
Materials	-12%	-29%	-1%	5%	28%	53%	21%	-10%	29%		
Financials	-38%	-47%	-3%	-8%	47%	60%	-7%	-25%	20%		
Long Duration / Secular Growth:											
Technology	7%	6%	10%	3%	12%	14%	12%	6%	14%	Continued	
Communication Svcs	2%	-17%	4%	-13%	7%	28%	12%	-7%	17%	Secular	
Healthcare	7%	7%	12%	3%	13%	6%	7%	7%	12%	Growth	
Bond Proxies:											
Staples	7%	-4%	6%	-1%	1%	9%	6%	2%	6%	Trend Growth	
Utilities	4%	6%	1%	-3%	2%	0%	2%	-2%	5%		
Real Estate	-4%	-15%	-13%	-12%	-3%	13%	10%	-11%	8%		
S&P 500	-13%	-31%	-6%	-11%	15%	44%	13%	-15%	23%		



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Thomson EPS

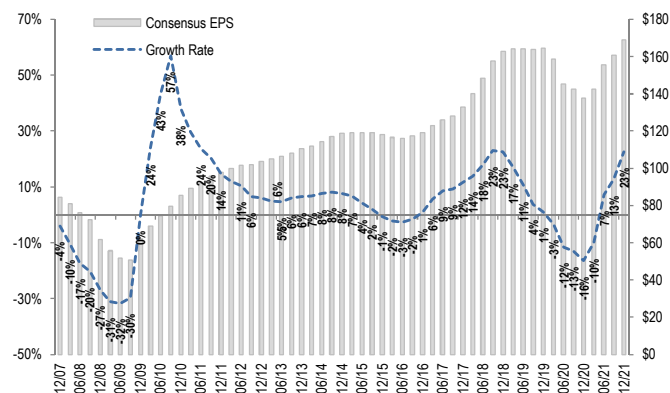
Figure 19: 2020 & 2021 Sales Growth vs. July 2020

	2020 Sales Growth			2021 Sales Growth		
	07/2020	Current	Delta	07/2020	Current	Delta
Discretionary	-6.0%	0.7%	6.7%	15.7%	14.3%	-1.4%
Staples	2.2%	3.2%	1.0%	2.7%	2.6%	-0.1%
Energy	-29.9%	-33.8%	-3.9%	21.8%	18.2%	-3.6%
Financials	-12.8%	-5.9%	6.9%	9.4%	2.3%	-7.1%
Healthcare	6.5%	8.3%	1.8%	7.3%	6.8%	-0.5%
Industrials	-17.2%	-15.1%	2.1%	13.8%	10.1%	-3.7%
Materials	-14.0%	-12.1%	1.9%	7.0%	7.7%	0.7%
Real Estate	-2.0%	-2.8%	-0.8%	9.3%	5.8%	-3.5%
Technology	1.3%	4.5%	3.2%	9.0%	8.3%	-0.7%
Communication Svcs	0.4%	2.3%	1.9%	12.8%	11.4%	-1.4%
Utilities	0.1%	-3.2%	-3.3%	4.5%	3.7%	-0.8%
S&P 500	-5.7%	-3.2%	2.5%	10.1%	8.1%	-2.0%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 21: V-Shape Recovery in EPS Growth

S&P 500 EPS



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, FactSet

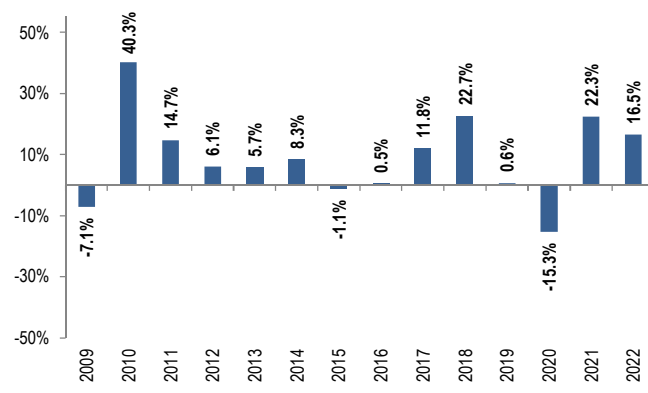
Figure 20: 2020 & 2021 EPS Growth Change vs. July 2020

	2020 EPS Growth			2021 EPS Growth		
	07/2020	Current	Delta	07/2020	Current	Delta
Discretionary	-59.3%	-34.2%	25.1%	122.8%	57.8%	-65.0%
Staples	-3.6%	1.9%	5.5%	8.5%	6.3%	-2.2%
Energy	-108.5%	-108.4%	0.1%	552.4%	596.7%	44.3%
Financials	-36.3%	-24.6%	11.7%	39.5%	20.4%	-19.1%
Healthcare	-1.5%	7.1%	8.6%	17.7%	11.7%	-6.0%
Industrials	-52.6%	-54.5%	-1.9%	78.7%	79.0%	0.3%
Materials	-20.2%	10.0%	30.2%	29.9%	29.1%	-0.8%
Real Estate	-9.7%	11.1%	20.8%	10.4%	7.9%	-2.5%
Technology	-0.6%	6.4%	7.0%	18.2%	13.7%	-4.5%
Communication Svcs	-16.7%	-6.7%	10.0%	26.7%	17.0%	-9.7%
Utilities	1.6%	1.5%	-0.1%	6.0%	4.5%	-1.5%
S&P 500	-23.5%	-15.3%	8.2%	31.0%	22.5%	-8.5%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 22: Consensus EPS Growth Rates

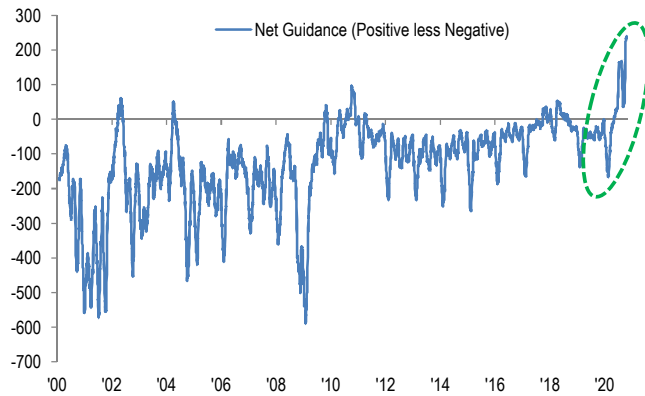
Bottom-up IBES



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Thomson EPS

Figure 23: Net Guidance Strongest on Record

Total Up less Down Guidance



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bloomberg Finance L.P.

Figure 24: Consensus Quarterly and Annual Sales Growth

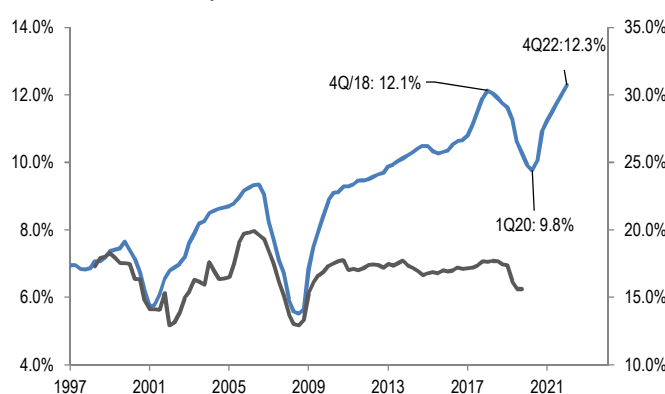
S&P 500 Sectors

	Sales Growth								2020	2021
	2020/1C	2020/2C	2020/3C	2020/4C	2021/1C	2021/2C	2021/3C	2021/4C		
Energy	-11.0%	-54%	-35%	-33%	-15%	61%	27%	22%	-33.9%	18.3%
Materials	-19.4%	-18%	-7%	-3%	3%	16%	8%	5%	-12.1%	7.7%
Industrials	-7.5%	-25%	-15%	-12%	-4%	20%	14%	12%	-15.0%	10.0%
Discretionary	-0.9%	-8%	5%	6%	12%	23%	10%	12%	0.8%	14.2%
Staples	6.1%	0%	3%	4%	0%	4%	3%	3%	3.3%	2.6%
HealthCare	10.1%	3%	11%	9%	8%	11%	5%	5%	8.4%	7.1%
Financials	-23.0%	6%	4%	-11%	25%	-9%	-5%	5%	-5.9%	2.4%
Technology	4.3%	5%	4%	6%	10%	8%	9%	7%	4.7%	8.4%
Communication Svcs	5.0%	-4%	4%	4%	9%	16%	12%	9%	2.4%	11.4%
Utilities	-7.1%	-7%	-3%	4%	6%	6%	4%	0%	-3.3%	3.7%
Real Estate	5.4%	-7%	-4%	-5%	-2%	9%	7%	9%	-2.7%	5.6%
S&P 500	-2.4%	-7.8%	-0.7%	-1.6%	6.3%	11.6%	7.1%	7.8%	-3.1%	8.2%
Ex-Energy	-1.6%	-3.2%	2.6%	1.2%	8.0%	9.3%	6.0%	7.0%	-0.2%	7.5%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 25: Fully Recovery in Net Income Margins by early 2022

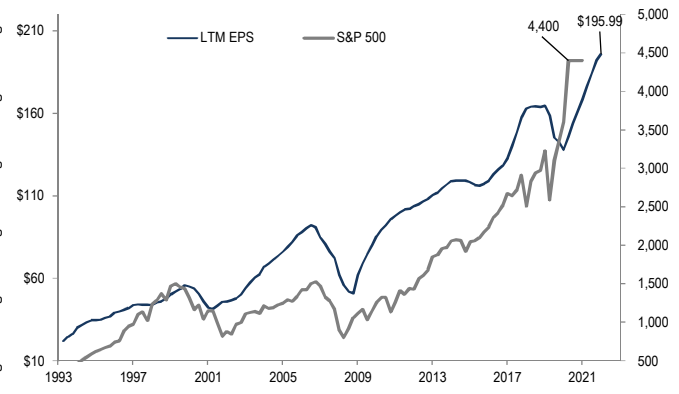
S&P 500 Actual and Projections based on Consensus Estimates



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

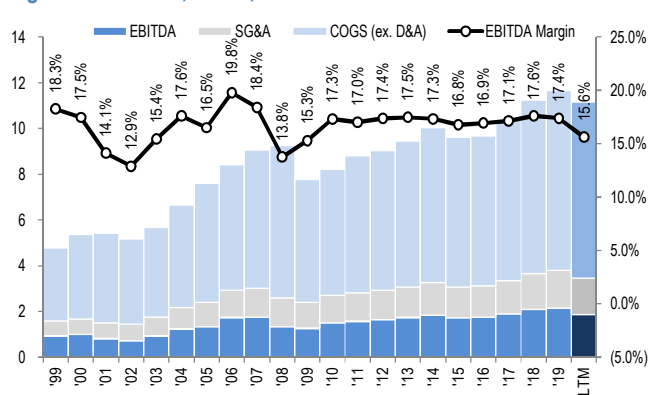
Figure 26: S&P 500 and Consensus EPS

J.P. Morgan Price Target (4,400)



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 27: EBITDA, SG&A, COGs as % Sales



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, FactSet

Figure 28: Price and Earnings over the Cycle

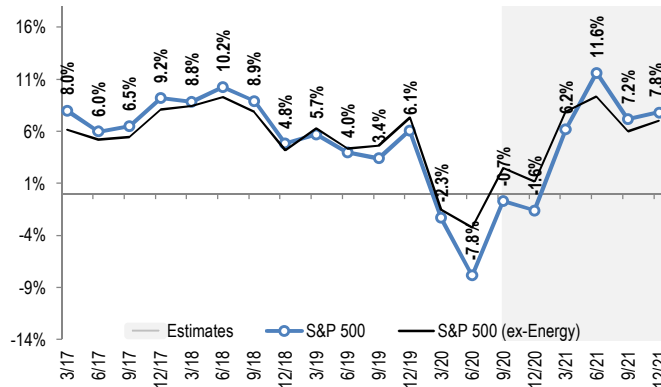
Actual EPS prior to 3Q2019; IBES 2020 EPS Est, JPM 2021 Estimate

	S&P 500 Index		S&P 500 EPS		P/E — Contraction/Expansion		
	As of	Level	%	EPS Growth	P/E	Δ	Contraction/Expansion
Peak 2007		1,565	10%	\$92.15	17.0x	0.9x	Contraction
2008		903	-42%	\$61.85	14.6x	-2.4x	Contraction
2009		1,115	23%	\$62.02	18.0x	3.4x	Expansion
2010		1,258	13%	\$85.49	14.7x	-3.3x	Contraction
2011		1,258	0%	\$97.84	12.9x	-1.9x	Contraction
2012		1,426	13%	\$103.76	13.7x	0.9x	Expansion
2013		1,848	30%	\$110.39	16.7x	3.0x	Expansion
2014		2,059	11%	\$118.83	17.3x	0.6x	Expansion
2015		2,044	-1%	\$118.20	17.3x	0.0x	Flat
2016		2,239	10%	\$119.08	18.8x	1.5x	Expansion
2017		2,674	19%	\$132.95	20.1x	1.3x	Expansion
2018		2,507	-6%	\$162.91	15.4x	-4.7x	Contraction
2019		3,231	11%	\$164.58	19.6x	4.2x	Expansion
2020		3,704	15%	\$138.02	26.8x	7.2x	Expansion
2021		4,400	19%	\$178.00	24.7x	-2.1x	Contraction
Δ 2007-21E		2,835	181%	\$85.85	7.7x		Expansion
CAGR 2007-21E			7.5%	4.7%			

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 29: Quarterly Sales Growth

Actual and IBES Estimates



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 30: Sales Growth Contribution

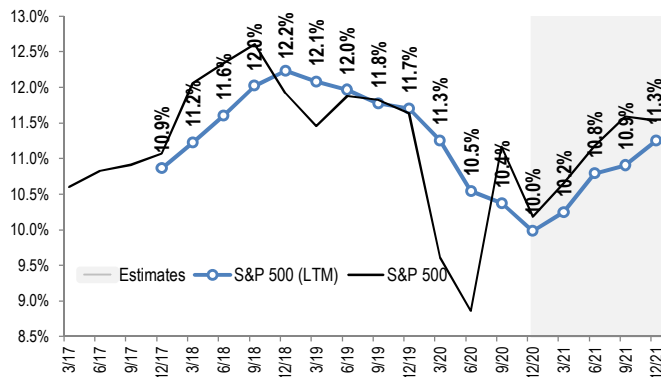
Actual and IBES Estimates

	S&P 500 Sales			% of Total	2020 Sales Contribution		
	2019	2020E	2021E		Sales Δ (\$)	% Chg	Contrib. to Sales Growth
Energy	\$1,021	\$675	\$799	6.4%	\$124	18.3%	13%
Materials	\$358	\$315	\$339	2.7%	\$24	7.7%	3%
Industrials	\$1,368	\$1,163	\$1,280	10.2%	\$117	10.0%	12%
Discretionary	\$1,426	\$1,438	\$1,642	13.1%	\$204	14.2%	22%
Staples	\$1,560	\$1,610	\$1,652	13.2%	\$42	2.6%	4%
HealthCare	\$2,152	\$2,333	\$2,498	20.0%	\$165	7.1%	17%
Financials	\$1,580	\$1,487	\$1,523	12.2%	\$35	2.4%	4%
Technology	\$1,275	\$1,335	\$1,447	11.6%	\$112	8.4%	12%
Communication Svcs	\$968	\$991	\$1,104	8.8%	\$113	11.4%	12%
Utilities	\$220	\$212	\$220	1.8%	\$8	3.7%	1%
Real Estate	\$109	\$106	\$112	0.9%	\$6	5.6%	1%
S&P 500	\$11,928	\$11,560	\$12,504	100%	\$944	8.2%	100%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 31: Net Income Margin by Quarter

Actual and IBES Estimates



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 32: Margin Expectations by Sector

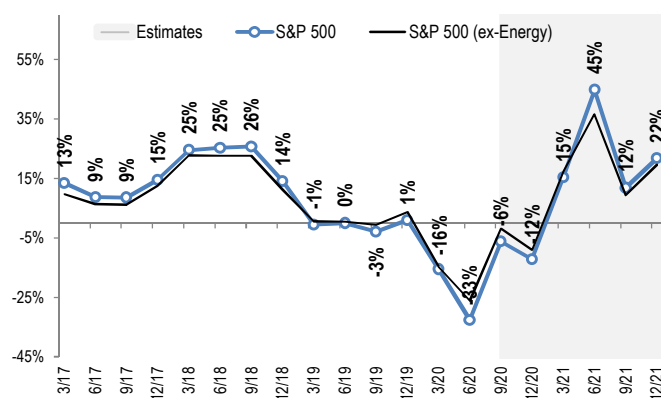
Actual and IBES Estimates

	NI Margin (Avg Last 4Qs)				
	2019	2020	Delta	2021	Delta
Energy	5.2%	-0.7%	-5.9%	2.5%	3.2%
Materials	9.4%	8.7%	-0.7%	10.0%	1.3%
Industrials	9.5%	5.6%	-3.9%	8.9%	3.3%
Discretionary	7.7%	4.5%	-3.2%	6.5%	2.0%
Staples	6.9%	6.8%	-0.1%	6.9%	0.1%
HealthCare	10.1%	10.1%	0.0%	10.5%	0.4%
Financials	19.4%	14.0%	-5.3%	16.5%	2.4%
Technology	22.1%	21.9%	-0.2%	22.6%	0.7%
Communication Svc	15.0%	14.0%	-1.0%	14.8%	0.8%
Utilities	9.4%	12.0%	2.6%	12.6%	0.6%
Real Estate	21.1%	14.8%	-6.2%	13.7%	-1.1%
S&P 500	11.7%	10.0%	-1.72%	11.3%	1.27%
Ex-Energy	12.3%	10.7%	-1.67%	11.9%	1.20%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 33: Net Income Growth by Quarter

Actual and IBES Estimates



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 34: S&P 500 Earnings Growth Contribution

Actual and IBES Estimates

	S&P 500 Earnings				2020 Earnings Contribution		
	2019	2020E	2021E	% of Total	Net Inc. Δ (\$)	% Chg	to Earnings Growth
Energy	\$53	(\$5)	\$20	1.5%	\$25	-538.4%	10%
Materials	\$27	\$21	\$26	2.0%	\$5	24.3%	2%
Industrials	\$127	\$64	\$111	8.3%	\$48	75.2%	19%
Discretionary	\$117	\$72	\$116	8.6%	\$44	61.5%	18%
Staples	\$107	\$109	\$114	8.4%	\$5	4.7%	2%
HealthCare	\$216	\$234	\$261	19.4%	\$27	11.3%	11%
Financials	\$241	\$173	\$206	15.3%	\$33	19.3%	13%
Technology	\$282	\$292	\$328	24.3%	\$35	12.0%	14%
Communication Svcs	\$145	\$139	\$163	12.1%	\$25	17.7%	10%
Utilities	\$2	\$2	\$2	0.2%	\$0	11.1%	0%
Real Estate	\$22	\$15	\$15	1.1%	(\$0)	-2.2%	0%
S&P 500	\$1,317	\$1,101	\$1,348	100%	\$247	22.4%	100%

Source: J.P. Morgan US Equity Strategy & Global Quant Research

Figure 35: Net Income Margins by Sector

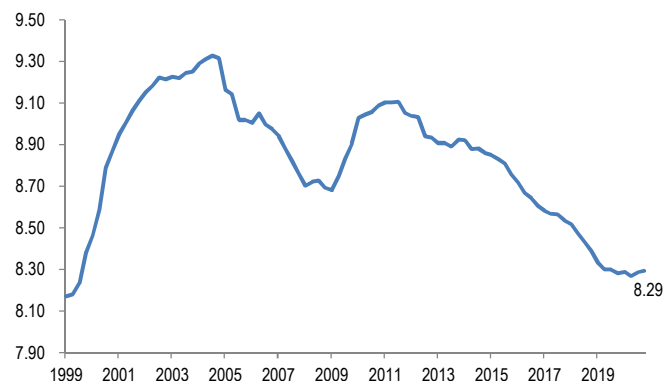
	Actual Net Income Margin				Post-Covid						
	2019/2C	2019/3C	2019/4C	2020/1C	2020/2C	2020/3C	2020/4C	2021/1C	2021/2C	2021/3C	2021/4C
Energy	5.9%	5.4%	4.6%	3.2%	-8.6%	-0.7%	0.1%	1.3%	2.2%	3.1%	3.3%
Materials	10.3%	10.0%	8.6%	7.5%	8.3%	9.8%	9.0%	8.7%	10.4%	10.8%	10.1%
Industrials	9.2%	10.5%	8.9%	6.8%	2.4%	6.3%	6.3%	6.9%	8.8%	9.8%	9.7%
Discretionary	7.7%	8.2%	7.5%	3.4%	3.0%	7.0%	4.4%	5.3%	6.8%	7.5%	6.4%
Staples	7.0%	7.1%	6.9%	6.3%	6.6%	7.6%	6.5%	6.3%	7.0%	7.4%	6.8%
HealthCare	10.5%	10.1%	9.5%	9.9%	10.9%	10.4%	9.1%	10.5%	10.5%	10.7%	10.2%
Financials	20.3%	18.4%	18.3%	11.5%	9.9%	17.9%	16.9%	17.2%	16.4%	15.8%	16.6%
Technology	21.5%	22.1%	23.3%	21.5%	21.2%	22.7%	22.1%	21.7%	22.0%	22.9%	23.7%
Communication	15.1%	15.0%	16.1%	13.6%	13.3%	15.3%	13.8%	13.8%	14.8%	15.1%	15.3%
Utilities	6.4%	7.8%	10.6%	18.0%	8.7%	10.1%	9.5%	16.9%	8.8%	10.6%	12.1%
S&P 500	11.9%	11.8%	11.6%	9.6%	8.9%	11.2%	10.2%	10.7%	11.2%	11.6%	11.5%
ex-Energy	12.5%	12.5%	12.3%	10.1%	9.7%	11.9%	10.8%	11.3%	11.8%	12.2%	12.1%

	Incremental Net Margin — YoY Change in BP				Post-Covid						
	2019/2C	2019/3C	2019/4C	2020/1C	2020/2C	2020/3C	2020/4C	2021/1C	2021/2C	2021/3C	2021/4C
Energy	-62bp	-236bp	-288bp	-148bp	-1448bp	-615bp	-458bp	-189bp	1082bp	378bp	328bp
Materials	-180bp	-68bp	-113bp	-136bp	-197bp	-12bp	44bp	120bp	207bp	101bp	109bp
Industrials	-125bp	27bp	-90bp	-253bp	-681bp	-424bp	-259bp	12bp	640bp	350bp	335bp
Discretionary	-39bp	-60bp	16bp	-413bp	-478bp	-119bp	-311bp	195bp	380bp	54bp	201bp
Staples	-15bp	-4bp	-1bp	-10bp	-38bp	47bp	-39bp	1bp	35bp	-17bp	35bp
HealthCare	-22bp	-62bp	-28bp	-35bp	47bp	29bp	-38bp	66bp	-42bp	25bp	106bp
Financials	77bp	-143bp	-5bp	-900bp	-1042bp	-48bp	-148bp	567bp	648bp	-211bp	-32bp
Technology	-139bp	-151bp	3bp	23bp	-30bp	65bp	-118bp	15bp	78bp	24bp	165bp
Communication	-118bp	-143bp	40bp	-10bp	-185bp	29bp	-232bp	23bp	155bp	-22bp	152bp
Utilities	46bp	75bp	205bp	655bp	227bp	224bp	-109bp	-113bp	10bp	53bp	256bp
S&P 500	-46bp	-78bp	-28bp	-185bp	-302bp	-66bp	-145bp	105bp	232bp	43bp	135bp
ex-Energy	-47bp	-70bp	-8bp	-197bp	-278bp	-55bp	-149bp	115bp	210bp	31bp	130bp

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 36: S&P 500 Divisor Flat in 2020

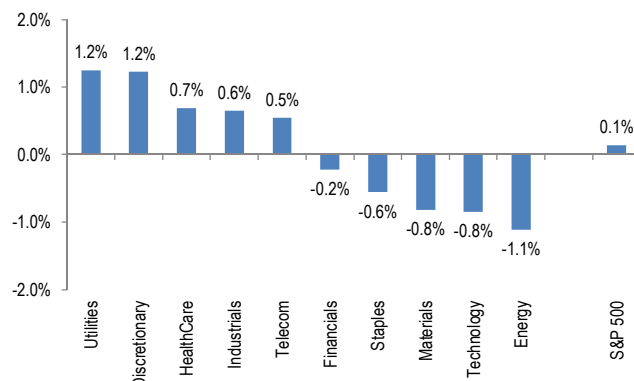
Net Buybacks Still a Support for S&P 500 Divisor



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 37: S&P 500 Divisor by Sector

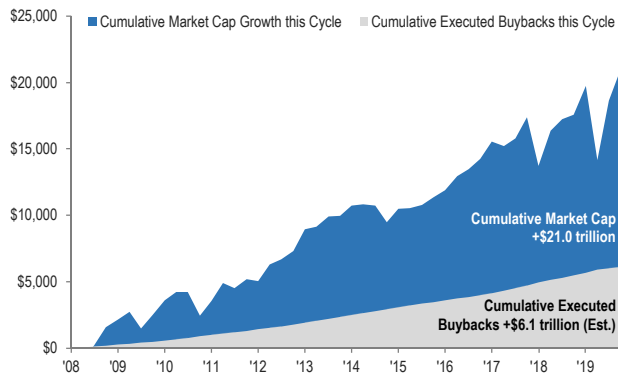
Change since 4Q2019



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

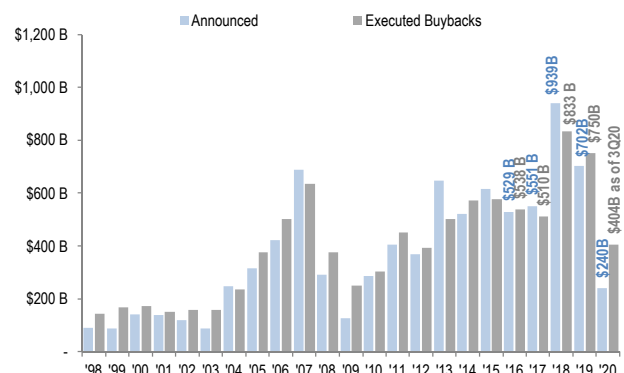
Shareholder Capital Return

Figure 38: Buybacks Relative to S&P 500 Market Cap Since 2009



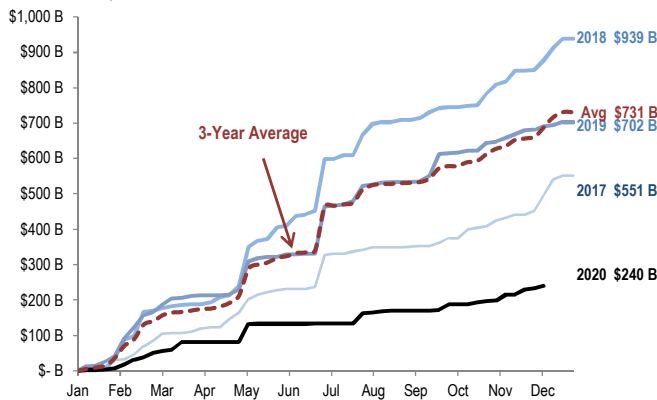
Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bloomberg Finance L.P., Factset

Figure 39: Announced vs. Executed Buybacks
\$ in billions



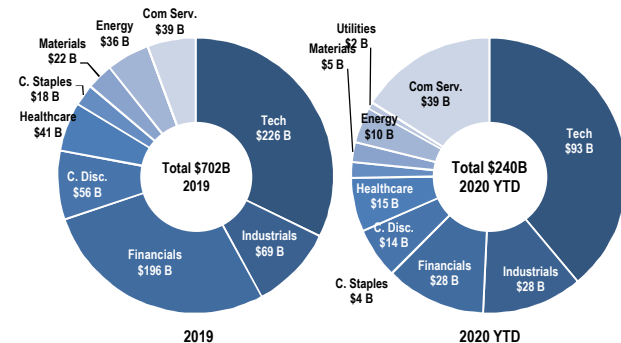
Source: J.P. Morgan US Equity Strategy & Quantitative Research, Bloomberg Finance L.P., Factset

Figure 40: \$ Announced Share Repurchases
S&P 500 companies



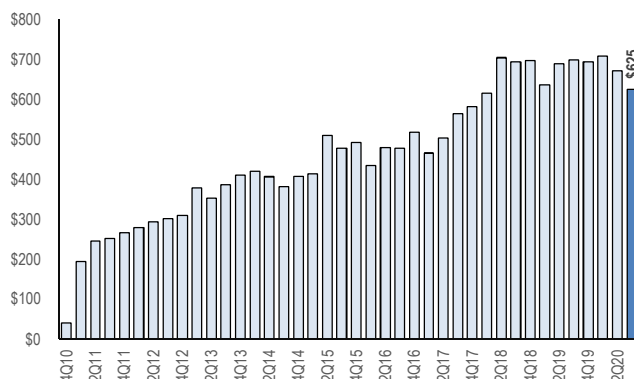
Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bloomberg Finance L.P.

Figure 41: Announced Buybacks by Sector (2020 YTD vs. 2019)
Technology Remains Most Active but Absence of Financials Noticeable



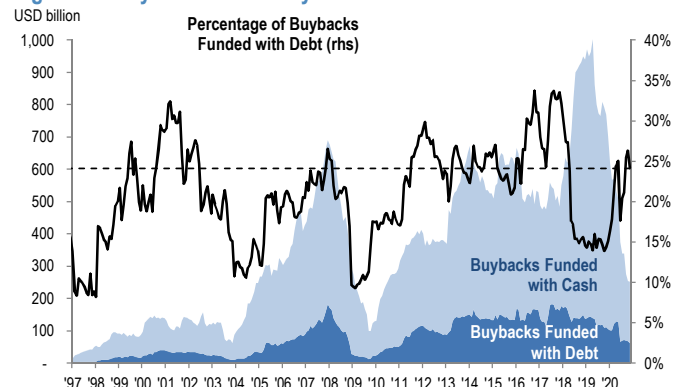
Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bloomberg Finance L.P.

Figure 42: Existing Buyback Program Capacity
S&P 500 Companies, \$ in Billions



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bloomberg Finance L.P.

Figure 43: Buybacks Funded by Debt near Financial Crisis Levels



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bloomberg Finance L.P.

Figure 44: S&P 500 Shareholder Return and Payout Metrics

Current Constituents

	S&P 500 Index, Current Constituents															
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	4Q2019	1Q2020	2Q2020	3Q2020	LTM
Gross Stock Buybacks	\$275,089	\$276,688	\$425,140	\$364,635	\$434,175	\$502,002	\$534,835	\$520,763	\$530,916	\$806,877	\$748,475	\$190,806	\$209,371	\$89,990	\$108,401	\$598,567
YoY Change	\$0	1%	54%	-14%	19%	16%	7%	-3%	2%	52%	-7%	-16%	2%	-46%	-40%	-23%
Less: Equity Issuance	237,639	115,337	125,674	122,429	117,191	120,293	128,966	100,842	87,159	92,716	116,555	28,048	33,082	62,368	20,742	144,240
Net Buybacks	\$37,450	\$161,351	\$299,465	\$242,206	\$316,984	\$381,709	\$405,869	\$419,921	\$443,758	\$714,161	\$631,920	\$162,758	\$176,289	\$27,622	\$87,658	\$454,327
Net Buyback Yield	0.4%	1.4%	2.7%	1.9%	2.0%	2.1%	2.3%	2.1%	1.9%	3.2%	2.2%	0.6%	0.8%	0.1%	0.3%	1.6%
Cash Dividend Paid	\$210,144	\$217,672	\$250,989	\$286,972	\$317,796	\$353,261	\$399,672	\$421,272	\$447,979	\$482,673	\$514,767	\$130,789	\$143,648	\$126,975	\$123,815	\$525,227
YoY Change	-11%	4%	15%	14%	11%	11%	13%	5%	6%	8%	7%	5%	14%	1%	-3%	4%
Total: Gross Buybacks + Dividends	\$485,233	\$494,360	\$676,129	\$651,607	\$751,971	\$855,263	\$934,507	\$942,035	\$978,895	\$1,289,550	\$1,263,242	\$321,595	\$353,019	\$216,965	\$232,215	\$1,123,794
Total Shareholder Yield	5.1%	4.4%	6.1%	5.1%	4.7%	4.7%	5.2%	4.8%	4.1%	5.8%	4.5%	1.1%	1.6%	0.8%	0.8%	3.9%
Net Income	\$518,869	\$739,178	\$844,141	\$898,308	\$935,956	\$1,023,895	\$1,028,415	\$1,033,699	\$1,150,969	\$1,412,965	\$1,412,625	\$359,235	\$281,640	\$242,409	\$337,357	\$1,220,640
Dividend Payout as % of Net Income	41%	29%	30%	32%	34%	35%	39%	41%	39%	34%	36%	36%	51%	52%	37%	43%
Buybacks as % of Net Income	53%	37%	50%	41%	46%	49%	52%	50%	46%	57%	53%	53%	74%	37%	32%	49%
Total Payout as % of Net Income	94%	67%	80%	73%	80%	84%	91%	91%	85%	91%	89%	90%	125%	90%	69%	92%
Cash flow from Operations	\$1,175,402	\$1,398,667	\$1,502,814	\$1,546,779	\$1,599,316	\$1,653,137	\$1,638,150	\$1,698,581	\$1,822,492	\$2,068,421	\$2,268,012	\$582,565	\$559,331	\$484,705	\$530,512	\$2,157,113
less Capex	\$398,421	\$427,658	\$508,600	\$561,034	\$586,344	\$639,103	\$612,182	\$594,168	\$609,282	\$700,772	\$727,573	\$199,991	\$172,113	\$149,488	\$157,629	\$679,221
YoY Change	\$0	7%	19%	10%	5%	9%	-4%	-3%	3%	15%	4%	2%	3%	-16%	-13%	-6%
CFO less Capex	\$776,982	\$971,010	\$994,214	\$985,746	\$1,012,972	\$1,014,034	\$1,025,968	\$1,104,413	\$1,213,210	\$1,367,649	\$1,540,438	\$382,574	\$387,219	\$335,217	\$372,883	\$1,477,893
Capex as % of CFO	34%	51%	68%	66%	74%	84%	37%	35%	33%	34%	32%	34%	31%	31%	30%	31%
Dividend Payout as % CFO	27%	22%	25%	29%	31%	35%	39%	38%	37%	35%	33%	34%	37%	38%	33%	36%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 45: S&P 500 Long-term Debt Schedule by Sector

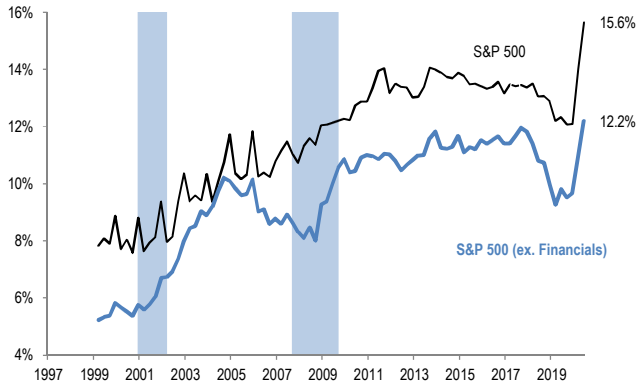
Debt securities issued by S&P 500 companies and their subsidiaries

# in billions	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031 & Beyond	% of Total		Wgtd Avg Maturity
												Total Debt	Debt 2031+	
Long Duration	\$118	\$149	\$155	\$159	\$198	\$147	\$142	\$99	\$96	\$117	\$741	\$2,120	35%	11.6
Technology	51	58	67	62	77	46	53	17	32	40	179	681	26%	10.0
Comm. Serv.	22	31	32	43	48	46	45	43	28	38	301	678	44%	13.7
Health Care	45	60	55	54	73	55	43	38	36	38	261	761	34%	11.1
Cyclicals	\$98	\$163	\$158	\$141	\$182	\$110	\$125	\$83	\$65	\$101	\$483	\$1,708	28%	10.2
Industrials	45	67	56	40	71	35	53	34	28	37	196	661	30%	10.8
Discretionary	28	46	54	67	68	42	40	24	18	30	110	527	21%	8.8
Materials	9	20	20	13	14	9	14	11	7	14	57	187	31%	10.4
Energy	16	30	28	21	29	24	17	15	13	21	120	333	36%	11.0
Bond Proxy	\$82	\$85	\$90	\$89	\$92	\$79	\$69	\$54	\$61	\$69	\$490	\$1,262	39%	12.3
Staples	34	36	32	32	28	32	25	19	18	24	137	416	33%	10.5
Utilities	38	31	32	29	37	24	22	21	22	26	298	578	51%	15.2
Real Estate	11	18	26	28	28	24	23	15	21	20	56	268	21%	9.0
S&P 500 ex Fin	\$298	\$396	\$403	\$389	\$473	\$336	\$335	\$235	\$222	\$287	\$1,714	\$5,090	34%	11.3
% of total ex Fin	6%	8%	8%	8%	9%	7%	7%	5%	4%	6%	34%	-	-	-
Financials	85	120	102	101	75	73	38	39	45	39	681	1,398	49%	15.1
S&P 500	\$383	\$516	\$505	\$490	\$548	\$410	\$373	\$275	\$268	\$326	\$2,396	\$6,488	37%	12.1
% of Total	6%	8%	8%	8%	8%	6%	6%	4%	4%	5%	37%	-	-	-

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 46: Record Balance Sheet Cash

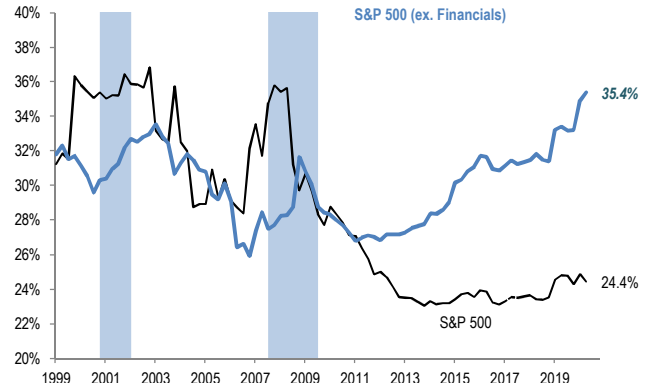
Cash as % of Total Assets



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Factset

Figure 47: Higher Leverage Supported by Low Rates & Profits

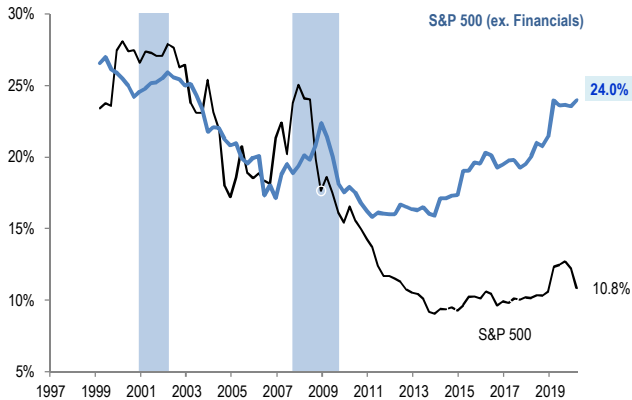
Debt to Total Assets



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Factset

Figure 48: However, Net Debt Should Rise Further

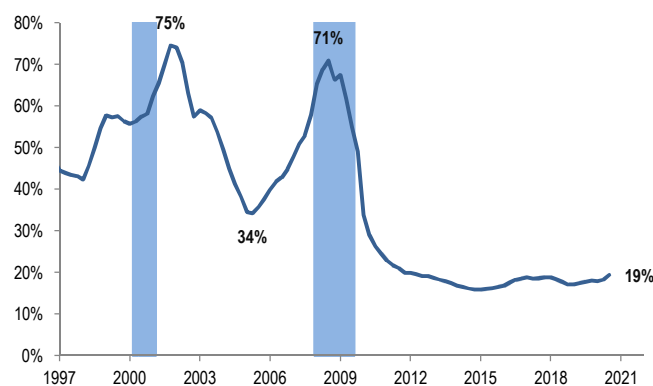
Net Debt to Total Assets



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Factset

Figure 50: Interest Coverage Remains Strong

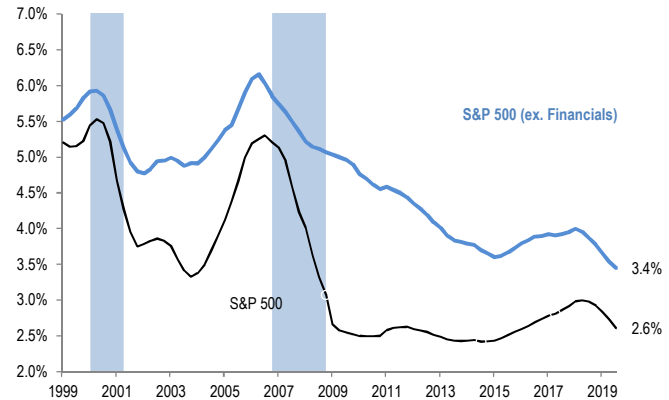
Interest Expense as % of IBES EPS



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Factset

Figure 49: Implied Interest Rate Declining Again

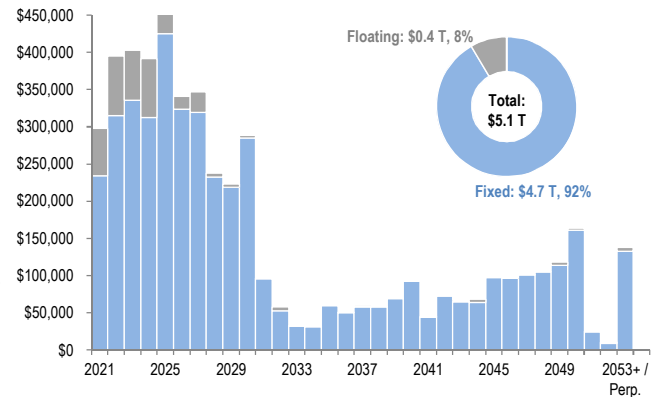
Average Interest Rate



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Factset

Figure 51: S&P 500 Long-term Debt Schedule (ex Financials)

Debt securities issued by S&P 500 companies and their subsidiaries



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Factset

Valuation

Figure 52: Equity Valuation Ex-Cash

PE NTM Multiple 23x, ~8x higher than Median

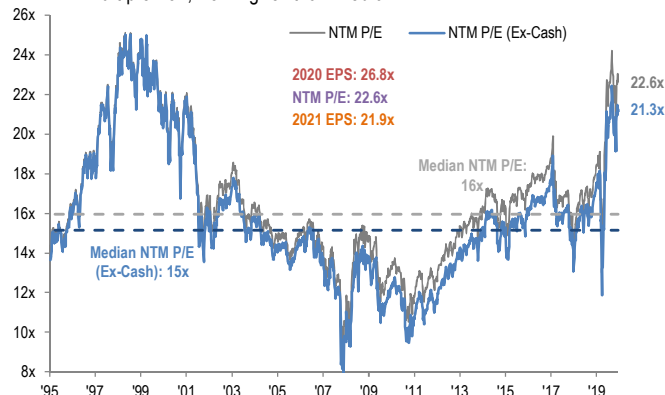


Figure 54: FCF Yield of ~4% within Pre-Crisis Range

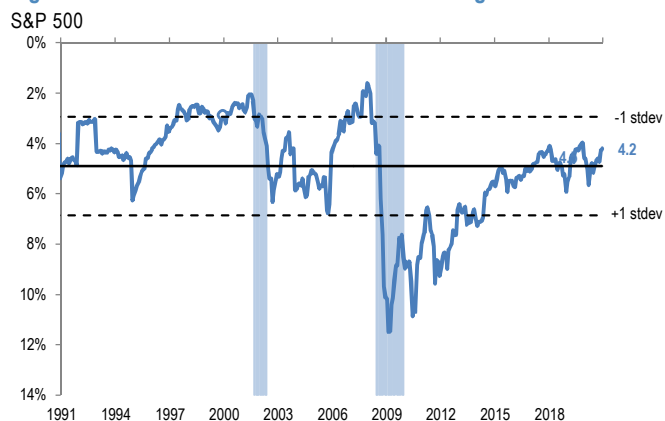


Figure 56: Still More Attractive to Buy Back Shares than Deleverage

Earnings Yield less High Grade Bond Yield

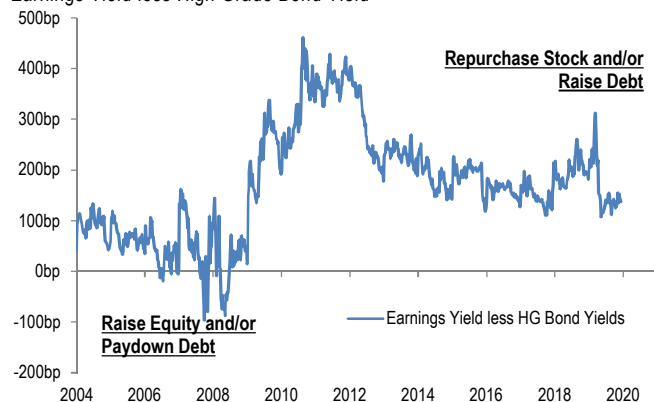


Figure 53: Total Shareholder Return at ~4%

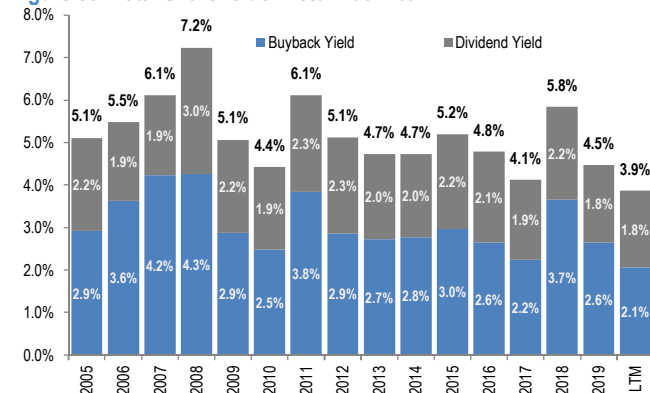


Figure 55: Dividend Yield of ~1.6% Higher than DM Bond Yields

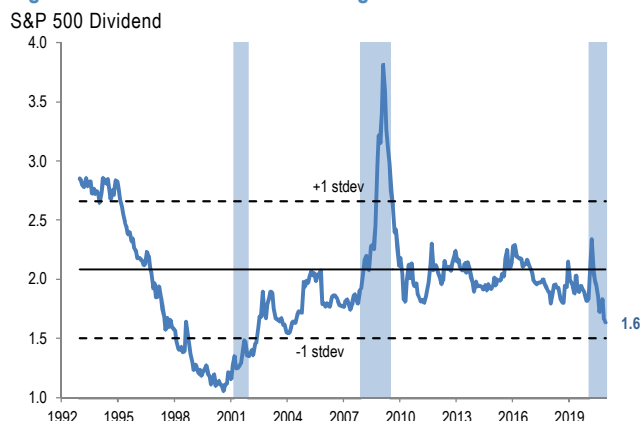
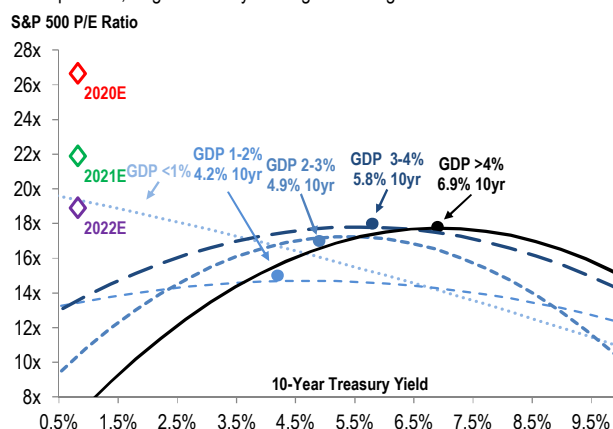


Figure 57: P/E Sensitivity to Bond Yields

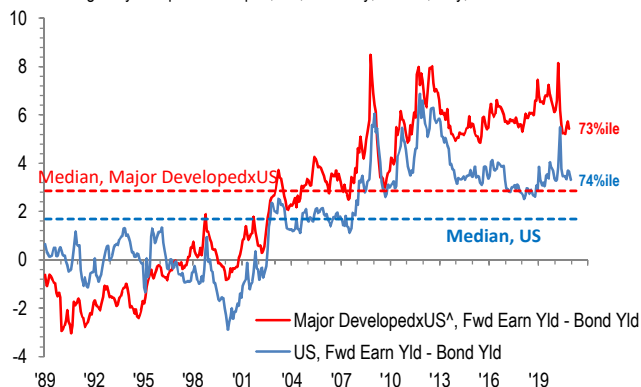
1947-present, segmented by GDP growth regime



Equity Risk Premium

Figure 58: Fed Model: Earnings Yield and Bond Yield Spread

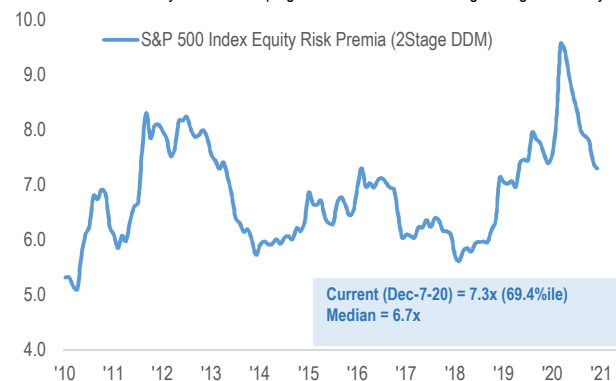
^ Wtd. average of yield spread of Japan, UK, Germany, France, Italy, Canada and Australia



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 59: 2-Stage Dividend Discount Model: Risk Premium Is High

Based on consensus 1-year forward eps growth and transition to long-term growth in 5 years



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

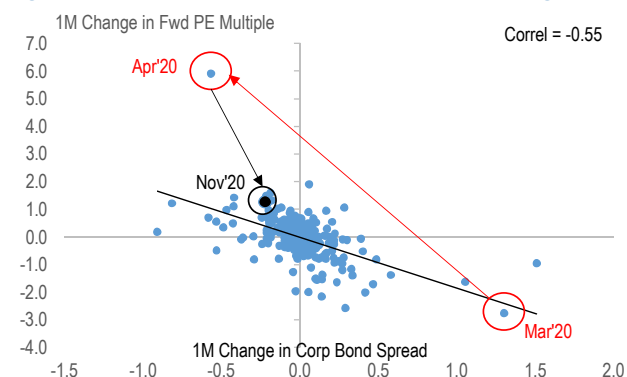
Figure 60: Sensitivity of Implied Risk Premium to Terminal Growth

Estimation as of Dec 7, 2020. Percentile relative to history from Jan-2010.

Long-Term Growth (input)	LT-Growth %ile	Implied Risk Premium (output)	Implied RP %ile
6.9	100%	8.2	94%
6.7	96%	8.0	90%
6.5	85%	7.8	82%
6.3	80%	7.7	79%
6.1	74%	7.5	75%
5.9	63%	7.3	69%
5.7	46%	7.1	67%
5.5	18%	6.9	58%
5.4	0%	6.9	56%
5.2	0%	6.7	50%
4.9	0%	6.4	44%
4.7	0%	6.2	33%
4.5	0%	6.0	21%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 61: Credit Spread Compression Correlates with Higher P/E

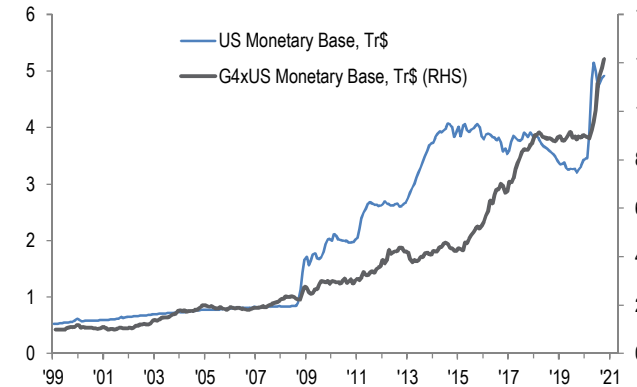


Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Liquidity Boom and Negative Rates

Figure 62: G4 Base Money at \$17.1tr from 12.4tr Pre-COVID-19

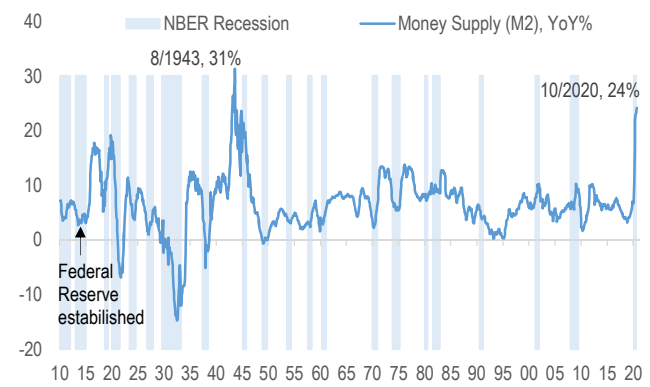
G4 = US, Japan, Eurozone, UK



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 63: Best Post-War Liquidity Condition for US

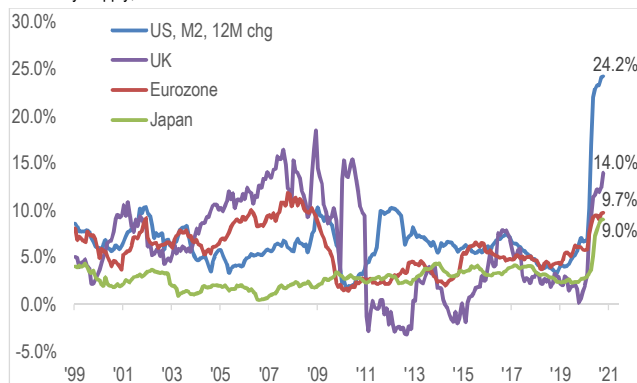
M2 Money Supply, YoY%



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 64: Synchronized G4 Acceleration in Money Supply Growth

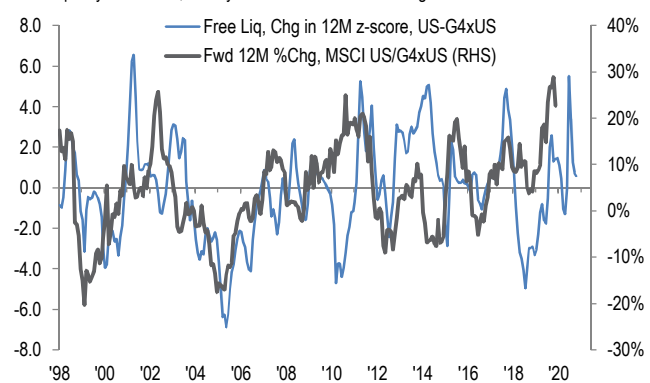
M2 Money Supply, YoY%



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 65: Faster Free Liquidity Implies Future Outperformance

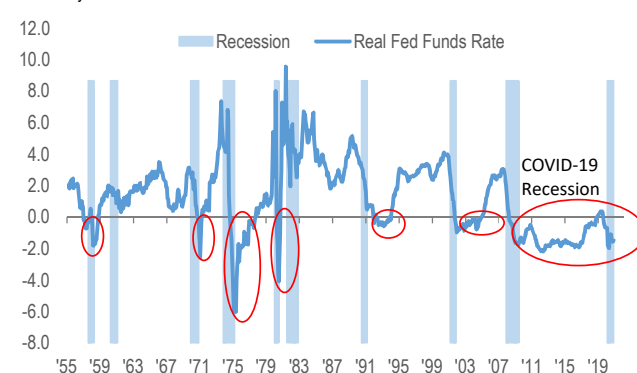
Free Liquidity = M2/GDP, money in excess of nominal GDP growth



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 66: Real Policy Rate Likely to Remain Negative for a While

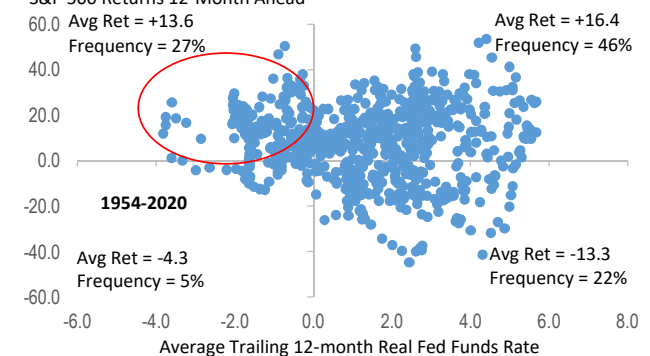
Real Policy Rate = Effective Fed Funds Rate minus Core CPI Inflation



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 67: Negative Real Rates Imply Positive Future Returns

S&P 500 Returns 12-Month Ahead



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Inflation Risk

Figure 68: PCE Core Inflation, Averaging Below Fed Target Rate since 1995 (S:\QES\Narendra\Inflation\Inflation_Regimes.xlsb)Summ
YoY% change in Core PCE Price Index

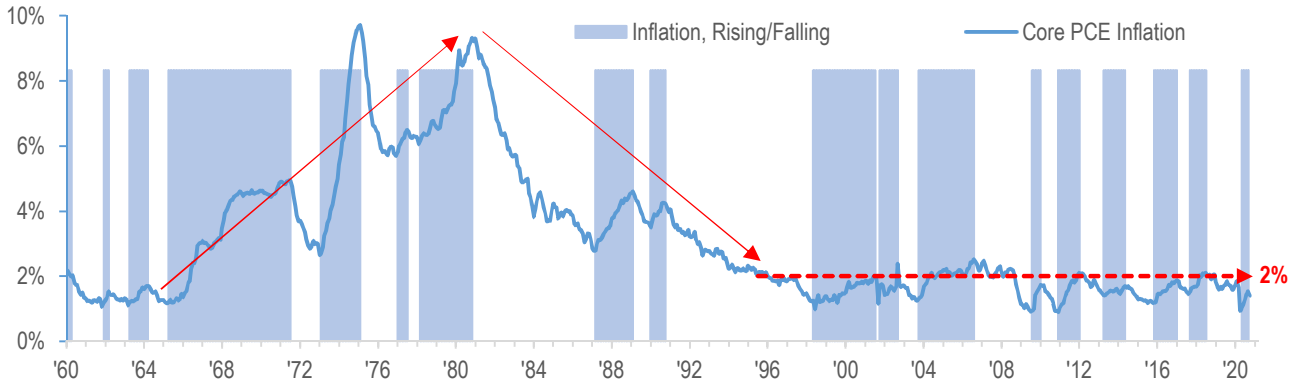
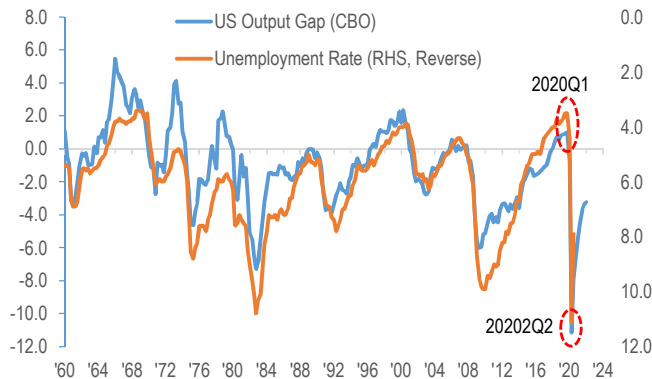


Figure 69: Output Gap and Unemployment Rate

Output Gap had tightened and Unemployment Rate was at historical low pre-COVID crisis



Source for all: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 70: Rolling Correlation: Output Gap and Inflation

The correlation is close to zero in the last 25 years

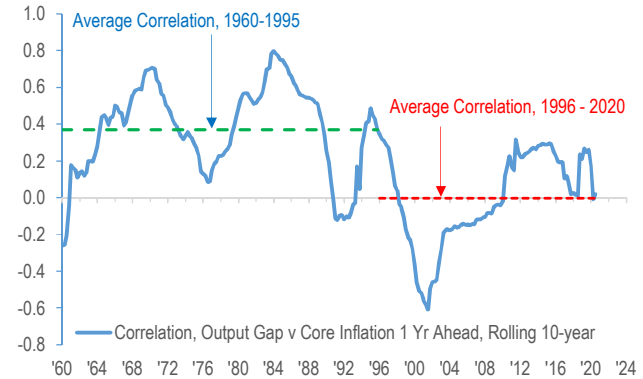
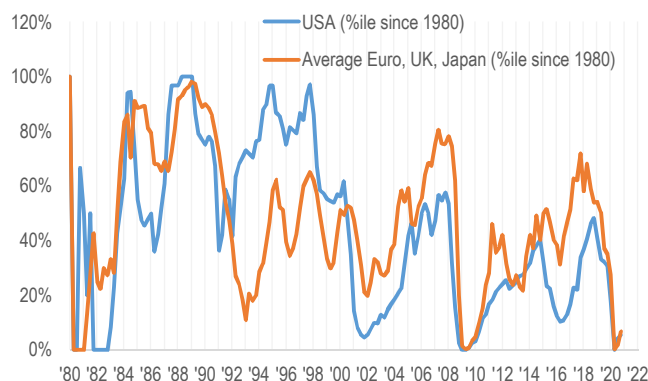


Figure 71: Manufacturing Utilization Rate

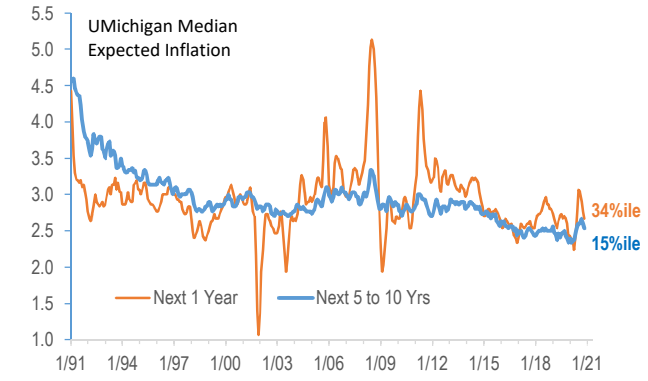
Percentile Since 1980



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 72: Inflation Expectations, Survey Based

University of Michigan Consumer Survey



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 73: Market Implied Cyclical Inflation Expectation Rising

Relative to shorter history, inflation swap rate is high. Swap rate is low relative to longer history

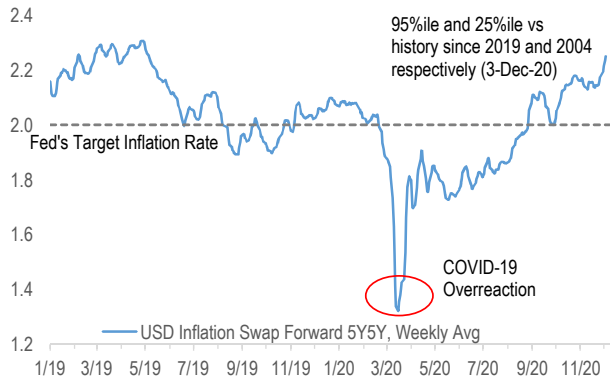


Figure 74: Inflation Expectations, Model Based

Weighted St Louis Expectation = $\sum(\text{estimated probability} * \text{median of inflation ranges})$

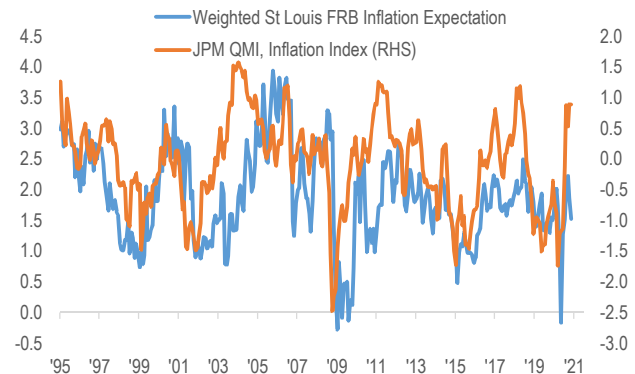


Figure 75: Money Multiplier Still Low

Rate at which Central Bank Money multiples into Broad Money Supply (M2)

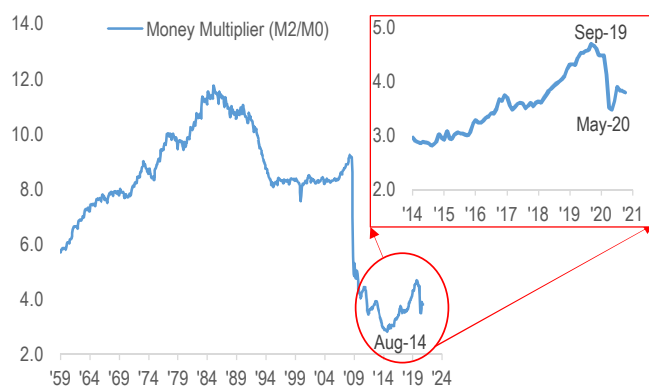


Figure 76: Velocity of Money – Lowest Since Great Depression

Low Velocity implies desire to hold liquidity due to structural changes and risk aversion

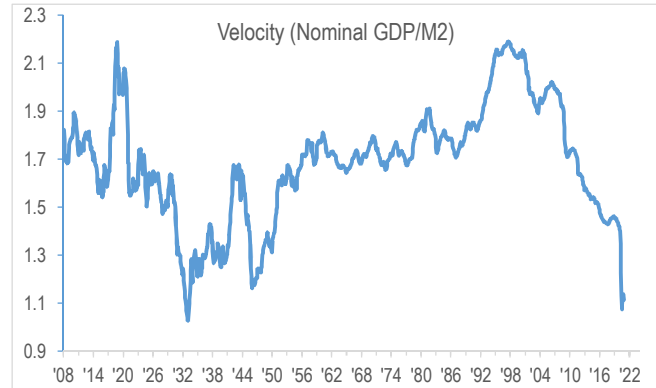


Figure 77: Will Inflation Make Federal Debt More Manageable?

Outstanding Treasury Securities as % of GDP

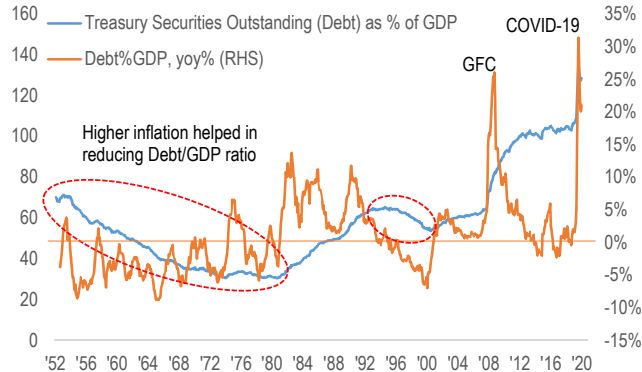
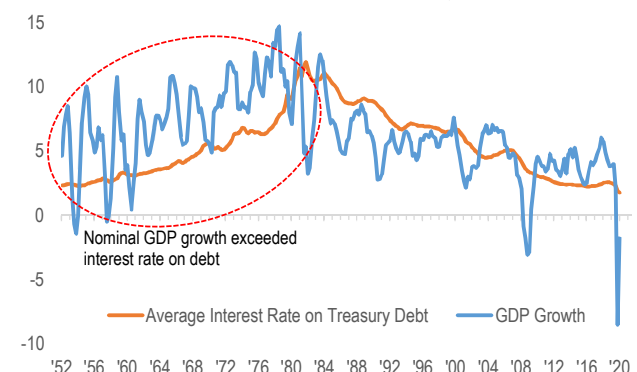


Figure 78: Nominal GDP Growth vs Average Interest Rate on Debt

Debt/GDP ratio fell when Nominal GDP Growth exceeded Average Interest Rate on Debt



Source for all: J.P. Morgan US Equity Strategy & Global Quantitative Research

Style Performance

Figure 79: Value vs. Momentum Performance this Year ...

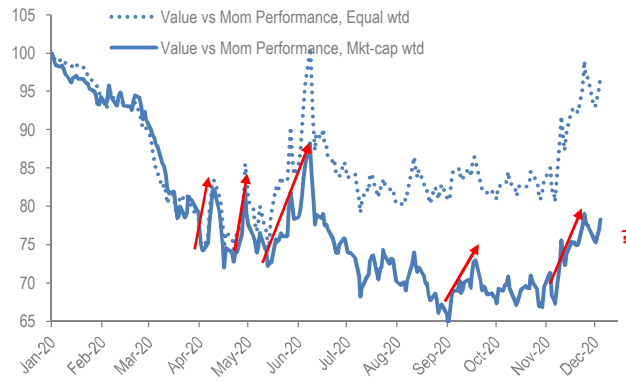


Figure 80: ... in Sigma Terms

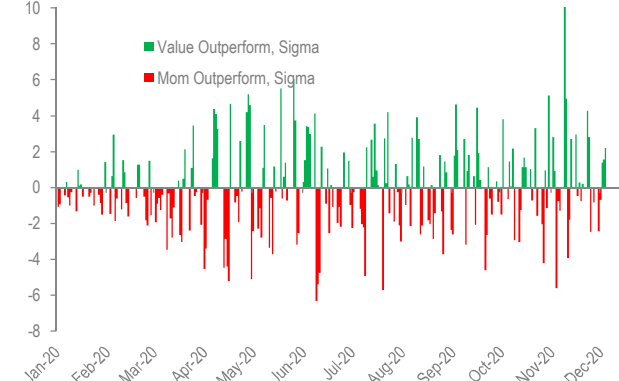


Table 1: US Style Performance (%) in the Current Cycle, Sector Neutral (YTD as of 3rd Dec'20)

	Value	Growth	Quality	Mom.	Low Vol	Hi Beta		Value	Growth	Quality	Mom.	Low Vol	Hi Beta
Long-Only Portfolio, Relative to Market, Cap Weighted							Long-Only Portfolio, Relative to Market, Equal Weighted						
2009	28.0	0.8	-0.9	-12.7	-11.3	24.9	33.2	-4.7	-5.1	-21.3	-22.3	34.0	
2010	3.4	0.9	-1.1	11.7	-7.3	9.4	0.5	-0.9	-3.0	1.8	-6.2	6.6	
2011	-5.1	5.8	5.6	-0.3	6.9	-15.6	-3.6	2.4	3.8	-2.0	9.0	-10.2	
2012	10.0	3.7	-0.1	2.1	-0.3	2.8	1.9	1.5	0.0	1.0	-1.9	0.3	
2013	8.6	2.0	-4.8	0.9	-0.6	5.2	10.2	-0.5	-3.2	1.5	-1.9	3.2	
2014	0.2	-0.8	-1.1	0.6	-3.8	-4.8	0.1	0.4	0.6	-0.9	0.0	-4.1	
2015	-5.2	4.0	-3.9	4.6	-0.3	-1.5	-4.9	1.4	-2.3	6.9	2.0	-2.2	
2016	-1.6	-5.2	-1.2	-2.3	-0.7	1.1	1.2	-1.7	-4.6	-3.7	-2.2	4.4	
2017	-3.5	1.8	2.0	3.4	-1.6	0.5	-2.9	1.8	4.8	5.8	0.8	0.0	
2018	-8.7	-1.0	4.9	7.3	5.1	-1.7	-5.6	-1.6	5.7	0.9	4.4	-5.6	
2019	0.0	-0.6	3.6	-8.4	-3.7	-2.9	1.3	-1.4	-1.2	-5.0	-0.5	0.7	
2020 YTD	-16.2	9.4	2.4	6.4	3.4	17.7	-7.5	3.5	-2.8	-2.6	-7.1	10.8	
Q1'20	-16.1	8.5	3.4	5.5	4.5	-0.1	-13.7	3.7	3.2	7.4	6.0	-10.7	
Q2'20	-0.8	4.1	2.5	3.3	-0.2	5.3	3.4	4.2	0.5	-2.1	-3.7	11.6	
Q3'20	-6.6	1.8	1.3	2.2	0.5	-0.1	-3.0	-0.7	0.6	0.5	0.2	0.1	
Oct'20	1.4	-1.0	-1.9	-0.8	1.7	0.6	1.4	-1.9	-2.2	-0.8	-1.9	1.2	
Nov'20	5.9	-3.2	-2.8	-3.6	-2.7	9.9	5.3	-1.6	-4.7	-7.1	-7.3	9.7	
Long-Short Portfolio, Cap Weighted							Long-Short Portfolio, Equal Weighted						
2009	28.2	-10.2	-4.2	-27.9	-42.9	37.7	44.0	-13.1	-24.0	-48.2	-48.3	62.6	
2010	0.4	-3.3	-6.1	5.1	-22.0	12.7	-1.6	-0.3	-7.1	-1.4	-13.6	8.3	
2011	-8.5	12.2	17.1	5.9	22.5	-22.9	-8.3	6.5	8.3	0.0	18.3	-18.3	
2012	10.7	1.3	-6.4	-4.3	-10.9	8.4	3.0	-1.7	-2.7	-2.9	-5.3	2.2	
2013	7.1	-1.8	-11.7	-5.0	-7.4	8.0	15.8	-3.6	-9.1	0.0	-7.8	8.3	
2014	-0.2	-0.9	1.6	1.9	-7.0	-8.6	-2.7	2.4	3.6	1.9	-2.8	-7.4	
2015	-15.4	7.5	-6.7	9.3	-5.0	-0.2	-13.2	4.6	0.8	14.0	4.5	-2.4	
2016	5.6	-7.9	3.6	-8.5	-3.0	-2.4	8.9	-5.6	-4.4	-12.6	-5.4	4.1	
2017	-11.6	11.6	8.4	4.7	-1.4	6.1	-8.4	3.5	7.5	13.7	4.0	2.1	
2018	-17.7	-2.3	6.4	19.6	6.3	-3.5	-12.1	0.6	10.3	7.3	6.3	-10.9	
2019	2.8	0.8	4.1	-18.7	0.8	3.3	-0.3	-3.7	-7.3	-12.8	1.5	2.1	
2020 YTD	-27.8	27.2	8.6	10.2	-8.4	24.5	-16.6	2.4	-10.6	-13.8	-20.9	14.9	
Q1'20	-22.6	17.7	12.3	18.6	10.3	-2.7	-23.2	9.5	10.2	20.0	15.2	-19.2	
Q2'20	-5.3	10.1	4.9	1.5	-5.0	6.0	2.5	2.8	-6.9	-14.9	-13.9	15.2	
Q3'20	-8.4	7.9	3.2	5.9	0.3	1.8	-4.1	1.8	1.1	1.0	-1.0	2.0	
Oct'20	-0.3	0.0	-2.7	-1.4	0.5	2.3	2.9	-3.1	-3.1	-1.4	-3.6	3.8	
Nov'20	8.0	-7.0	-7.9	-11.3	-11.8	13.7	7.5	-7.7	-11.1	-15.2	-16.4	16.6	

Source for All Charts: J.P. Morgan US Equity Strategy & Global Quantitative Research

Style Valuations

Figure 81: Extreme Valuation Dispersion – A Precursor to Value Squeeze

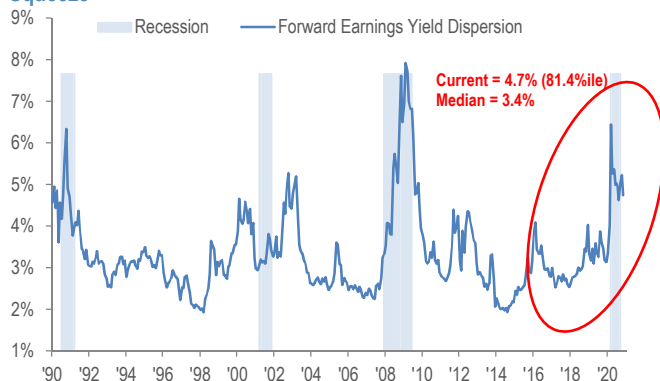


Figure 82: Value Forward P/E Spread Narrowing

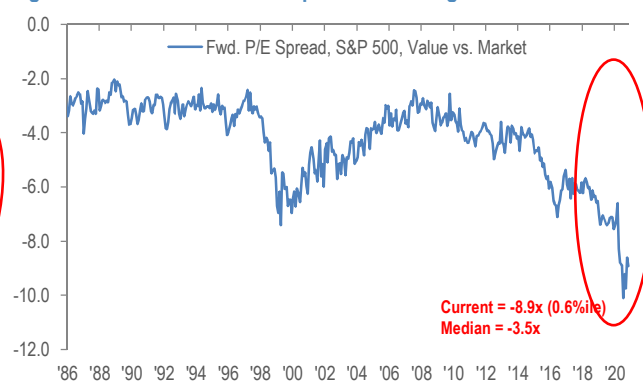


Figure 83: Relative Valuation of Momentum vs Value

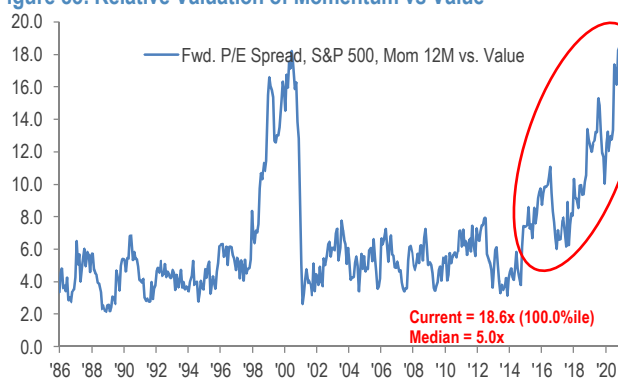
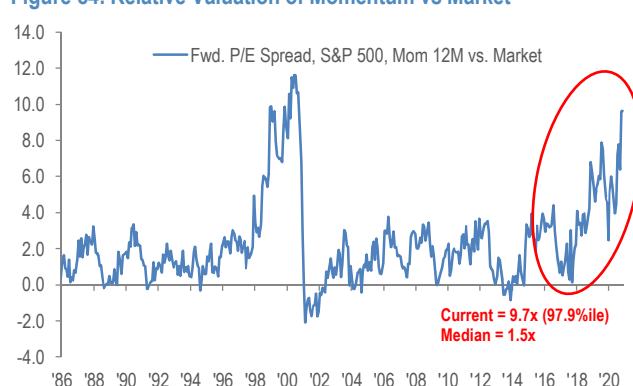


Figure 84: Relative Valuation of Momentum vs Market



Source for All Charts: J.P. Morgan US Equity Strategy & Global Quantitative Research

Table 2: US Snapshot of Valuation (forward Price-to-Earnings): Relative to Own History and Relative to the Market (Nov 30, 2020)

	Long Only		Long vs Short		Long vs Market		Long vs Cheapest	
	Current	30yr %ile	Current	30yr %ile	Current	30yr %ile	Current	30yr %ile
Market	21.0x	99%	-	-	-	-	-	-
Value	12.1x	64%	-29.1x	0%	-8.9x	1%	-	-
Growth	20.1x	94%	-1.7x	4%	-0.9x	3%	8.0x	94%
Quality	22.1x	99%	1.4x	81%	1.1x	80%	10.0x	97%
Mom 12M	30.7x	100%	16.2x	100%	9.7x	97%	18.6x	100%
Low Vol	22.4x	99%	4.2x	84%	1.4x	83%	10.4x	96%
High Beta	18.9x	83%	-3.4x	17%	-2.1x	15%	6.8x	83%

Source for All Charts: J.P. Morgan US Equity Strategy & Global Quantitative Research

Style Positioning

Figure 85: Growth-Based Momentum Crowding Unwinding

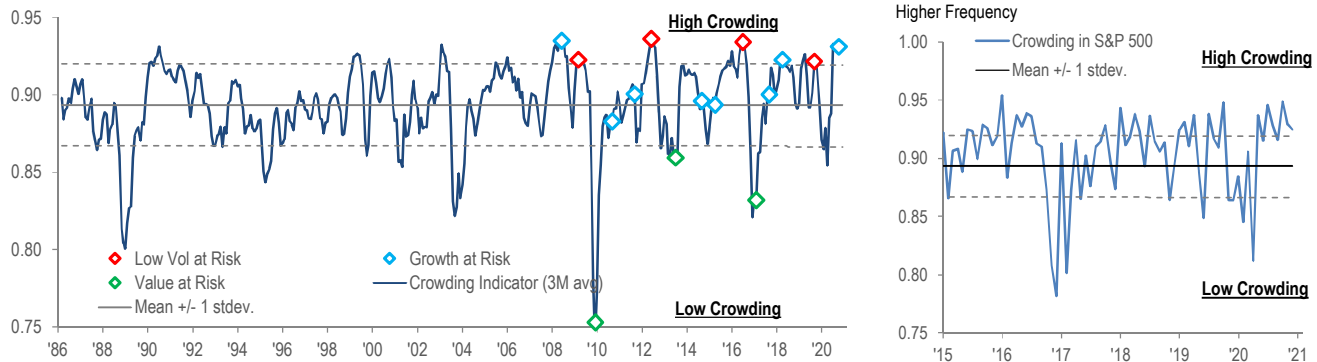


Figure 86: Momentum Correlation with Growth and Value ...

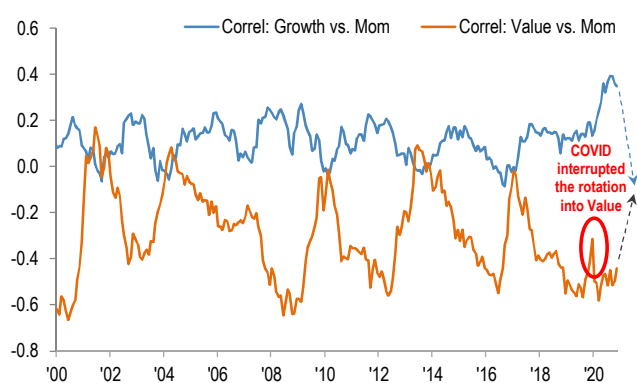


Figure 87: ... at Opposite Extremes

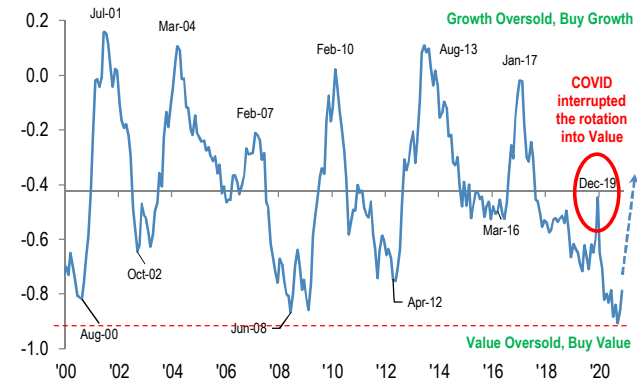


Figure 88: Value-Growth Correlation Nearing Highs

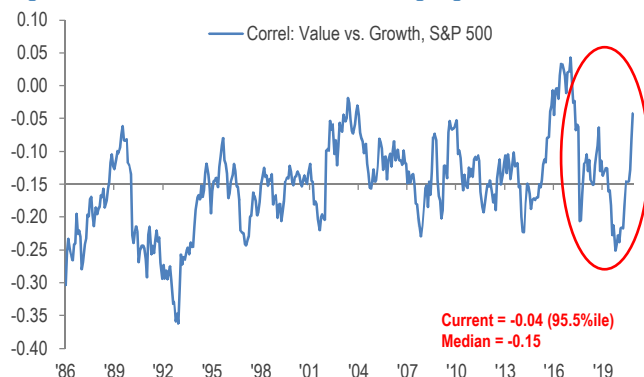
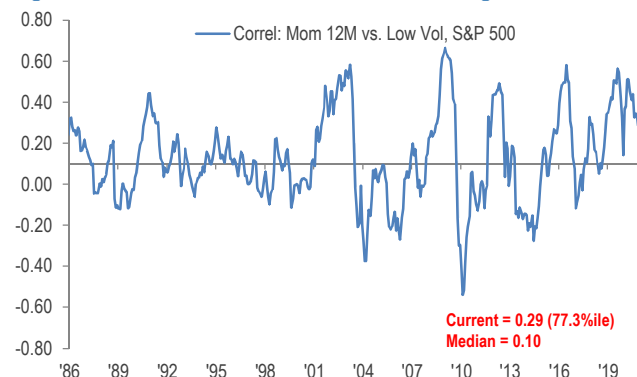


Figure 89: Momentum/Low Vol Correlation Heading Down



Source for All Charts: J.P. Morgan US Equity Strategy & Global Quantitative Research

S&P 500 Industry – Style Relationship

Figure 90: Sector Exposure to Styles

Industry	Cheap Value	High Growth	Good Quality	High Mom.	Low Vol.
Energy					
Energy Equip & Serv					
Oil, Gas & Cons Fuels					
Materials					
Chemicals					
Construction Materials					
Containers & Packaging					
Metals & Mining					
Industrials					
Aerospace & Defense					
Building Products					
Construction & Engg					
Electrical Equip					
Industrial Conglomerates					
Machinery					
Trading Cos & Distri					
Comm. Serv & Supplies					
Professional Serv					
Air Freight & Logistics					
Airlines					
Road & Rail					
Cons Disc					
Auto Components					
Automobiles					
Household Durables					
Leisure Products					
Textiles, Apparel & Luxury					
Hotels, Rest. & Leisure					
Diversified Consumer Serv					
Distributors					
Internet & Direct Marketing					
Multiline Retail					
Specialty Retail					
Cons Stap					
Food & Staples Retailing					
Beverages					
Food Products					
Tobacco					
Household Products					
Personal Products					

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Industry	Cheap Value	High Growth	Good Quality	High Mom.	Low Vol.
H Care					
H Care Equip & Suppli					
H Care Providers & Servic					
H Care Technology					
Biotechnology					
Pharmaceuticals					
Life Sciences Tools & Serv					
Financials					
Banks					
Diversified Financial Serv					
Consumer Finance					
Capital Markets					
Insurance					
Technology					
IT Serv					
Software					
Communications Equip					
Tech Hardware, Storage					
Electronic Equip, Instrume					
Semiconductors					
Comm					
Diversified Telecom					
Media					
Entertainment					
Interactive Media & Serv					
Utilities					
Electric Util					
Gas Util					
Multi-Util					
Water Util					
Inde Power and Renewable					
REITs					
Equity Real Estate Inv					
Real Estate Mngmt & Dvlpmnt					

Most Favored	Favored	Neutral	Unfavored	Most Unfavored

US Style Screens

Figure 91: Top 100 US Value Stocks based on forward Price-to-Earnings, Price-to-Sales and Price-to-Book Value (As of 30th Nov'20)

#	Name	Ticker	Score	#	Name	Ticker	Score
1	Unum Group	UNM	3.00	51	Nucor Corp	NUE	1.34
2	Lincoln Natl Crp	LNC	3.00	52	Weyerhaeuser Co	WY	1.34
3	Xerox Holdings C	XRX	3.00	53	Viacomcbs Inc-B	VIAC	1.32
4	Hewlett Packa	HPE	3.00	54	Whirlpool Corp	WHR	1.32
5	Dxc Technology C	DXC	3.00	55	Loews Corp	L	1.28
6	Western Digital	WDC	2.98	56	Intel Corp	INTC	1.27
7	Cvs Health Corp	CVS	2.95	57	Diamondback Ener	FANG	1.26
8	Ford Motor Co	F	2.92	58	Borgwarner Inc	BWA	1.24
9	Viatis Inc	VTRS	2.87	59	Discovery Inc-C	DISCK	1.23
10	Westrock Co	WRK	2.83	60	Ibm	IBM	1.22
11	Walgreens Boots	WBA	2.77	61	At&T Inc	T	1.19
12	Prudentl Finl	PRU	2.69	62	Hanesbrands Inc	HBI	1.15
13	Centurylink Inc	LUMN	2.64	63	Phillips 66	PSX	1.14
14	General Motors C	GM	2.55	64	Hartford Finl Sv	HIG	1.12
15	Nielsen Holdings	NLSN	2.53	65	Anthem Inc	ANTM	1.12
16	Cbre Group Inc-A	CBRE	2.49	66	Universal Hlth-B	UHS	1.12
17	Centene Corp	CNC	2.47	67	Leidos Holdings	LDOS	1.12
18	Technipfmc Plc	FTI	2.29	68	Sl Green Realty	SLG	1.10
19	Textron Inc	TXT	2.26	69	Lkq Corp	LKQ	1.10
20	Exelon Corp	EXC	2.11	70	Flowserve Corp	FLS	1.08
21	Cigna Corp	CI	2.02	71	Fedex Corp	FDX	1.07
22	Huntington Ingal	HII	1.97	72	Lyondellbasell-A	LYB	1.07
23	Iron Mountain	IRM	1.95	73	Intl Paper Co	IP	1.07
24	Nrg Energy	NRG	1.95	74	Northrop Grumman	NOC	1.03
25	Quanta Services	PWR	1.95	75	Allstate Corp	ALL	1.01
26	Wabtec Corp	WAB	1.93	76	Gap Inc/The	GPS	1.01
27	Molson Coors-B	TAP	1.92	77	Edison Intl	EIX	1.00
28	Kimco Realty	KIM	1.92	78	Micron Tech	MU	0.98
29	Metlife Inc	MET	1.87	79	Principal Finl	PFG	0.97
30	Juniper Networks	JNPR	1.82	80	Dr Horton Inc	DHI	0.95
31	Hollyfrontier Co	HFC	1.79	81	Seagate Technolo	STX	0.94
32	Kroger Co	KR	1.79	82	Regency Centers	REG	0.94
33	Perrigo Co Plc	PRGO	1.74	83	Amerisourceberge	ABC	0.93
34	Mohawk Inds	MHK	1.70	84	Invesco Ltd	IVZ	0.93
35	Pvh Corp	PVH	1.69	85	Ppl Corp	PPL	0.93
36	Firstenergy Corp	FE	1.67	86	Discovery Inc -	DISCA	0.93
37	General Dynamics	GD	1.64	87	United Airlines	UAL	0.93
38	Hp Inc	HPQ	1.63	88	Valero Energy	VLO	0.92
39	Lennar Corp-A	LEN	1.62	89	Paccar Inc	PCAR	0.91
40	Mckesson Corp	MCK	1.61	90	Newell Brands In	NWL	0.90
41	American Interna	AIG	1.56	91	News Corp-CI B	NWS	0.90
42	Cardinal Health	CAH	1.55	92	General Electric	GE	0.88
43	Archer-Daniels	ADM	1.54	93	Best Buy Co Inc	BBY	0.87
44	Tyson Foods-A	TSN	1.53	94	Laboratory Cp	LH	0.86
45	Mosaic Co/The	MOS	1.52	95	Snap-On Inc	SNA	0.83
46	Jacobs Engin Grp	J	1.51	96	Bristol-Myer Sqb	BMJ	0.82
47	Kraft Heinz Co/T	KHC	1.49	97	Citigroup Inc	C	0.82
48	Pulte group Inc	PHM	1.46	98	Ch Robinson	CHRW	0.81
49	Raytheon Technol	RTX	1.42	99	L Brands Inc	LB	0.81
50	Johnson Controls	JCI	1.40	100	Cons Edison Inc	ED	0.80

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 92: US Stocks: Rotate out of Low Vol and Quality (Stocks to Avoid) and into Value and Growth (Stocks to Favor), as of Nov 30th, 2020

Top 50 Stocks based on Sector Neutral Scores

Growth (OW)			Mom.			Quality (UW)			LowVol (UW)		
Name	Ticker	Score	Name	Ticker	Score	Name	Ticker	Score	Name	Ticker	Score
Adv Micro Device	AMD	3.00	Adv Micro Device	AMD	3.00	Moody'S Corp	MCO	3.00	Verizon Communic	VZ	2.02
Netflix Inc	NFLX	3.00	Nvidia Corp	NVDA	3.00	S&P Global Inc	SPGI	3.00	Tyler Technolog	TYL	1.82
Vertex Pharm	VRTX	3.00	Msci Inc	MSCI	3.00	Kimberly-Clark	KMB	2.94	Berkshire Hath-B	BRK/B	1.76
Cboe Global Mark	CBOE	3.00	Albemarle Corp	ALB	2.99	Nrg Energy	NRG	2.73	Bristol-Myer Sqb	BMJ	1.74
Linde Plc	LIN	2.59	Fedex Corp	FDX	2.79	Idexx Labs	IDXX	2.65	Johnson&Johnson	JNJ	1.69
Bristol-Myer Sqb	BMJ	2.32	Freeport-Mcmoran	FCX	2.79	Sherwin-Williams	SHW	2.44	Tiffany & Co	TIF	1.68
Costco Wholesale	COST	2.23	West Pharmaceut	WST	2.68	Mettler-Toledo	MTD	2.40	Broadridge Finl	BR	1.66
Fiserv Inc	FISV	2.20	Catalent Inc	CTLT	2.57	Public Storage	PSA	2.36	Marsh & McLennan	MMC	1.66
Newmont Corp	NEM	2.14	Amazon.Com Inc	AMZN	2.57	Eli Lilly & Co	LLY	2.29	Progressive Corp	PGR	1.59
Alexandria Real	ARE	2.11	Idexx Labs	IDXX	2.50	Home Depot Inc	HD	2.25	Juniper Networks	JNPR	1.54
Autodesk Inc	ADSK	2.08	Svb Financial Gr	SIVB	2.49	Autodesk Inc	ADSK	2.25	Intercontinental	ICE	1.52
Quanta Services	PWR	2.04	Cabot Oil & Gas	COG	2.43	Rockwell Automat	ROK	2.19	Cerner Corp	CERN	1.50
Cbre Group Inc-A	CBRE	2.02	Blackrock Inc	BLK	2.30	Progressive Corp	PGR	2.19	NortonlifeLOCK I	NLOK	1.50
Hca Healthcare I	HCA	1.92	American Water W	AWK	2.19	Colgate-Palmoliv	CL	2.06	Merck & Co	MRK	1.46
Invesco Ltd	IVZ	1.92	Nextera Energy	NEE	2.17	Lockheed Martin	LMT	2.06	Aon Plc-Class A	AON	1.41
United Parcel-B	UPS	1.90	Align Technology	ALGN	2.12	Lowe'S Cos Inc	LOW	2.06	Kinder Morgan In	KMI	1.41
Marketaxess	MKTX	1.87	Paypal Holdings	PYPL	2.06	Cadence Design	CDNS	2.05	Dollar General C	DG	1.41
Conagra Brands I	CAG	1.84	T-Mobile Us Inc	TMUS	1.90	Marketaxess	MKTX	2.04	Public Storage	PSA	1.40
Alexion Pharm	ALXN	1.82	Rollins Inc	ROL	1.89	Avery Dennison	AVY	2.03	Linde Plc	LIN	1.40
Facebook Inc-A	FB	1.75	Chipotle Mexican	CMG	1.86	American Tower C	AMT	2.02	Akamai Technolog	AKAM	1.38
Global Payments	GPN	1.67	Crown Castle Int	CCI	1.83	O'Reilly Automat	ORLY	2.01	Arthur J Gallagher	AJG	1.36
Raymond James	RJF	1.66	Old Dominion Frt	ODFL	1.83	Mastercard Inc-A	MA	1.97	Ball Corp	BLL	1.34
Nrg Energy	NRG	1.66	Servicenow Inc	NOW	1.78	T Rowe Price Grp	TROW	1.91	Willis Towers Wa	WLTW	1.33
Lowe'S Cos Inc	LOW	1.65	Deere & Co	DE	1.78	Simon Property	SPG	1.90	Expeditors Intl	EXPD	1.32
Amazon.Com Inc	AMZN	1.63	Marketaxess	MKTX	1.77	Masco Corp	MAS	1.84	Ch Robinson	CHRW	1.29
Edison Intl	EIX	1.61	S&P Global Inc	SPGI	1.76	Exxon Mobil Corp	XOM	1.79	American Electri	AEP	1.28
Centene Corp	CNC	1.56	Williams Cos Inc	WMB	1.75	Align Technology	ALGN	1.78	Alliant Energy	LNT	1.28
People'S United	PBCT	1.55	Monster Beverage	MNST	1.72	Clorox Co	CLX	1.77	DanaHER Corp	DHR	1.27
Lennar Corp-A	LEN	1.53	Clorox Co	CLX	1.62	Facebook Inc-A	FB	1.71	Cms Energy Corp	CMS	1.24
Fastenal Co	FAST	1.51	Equinix Inc	EQIX	1.60	Marsh & McLennan	MMC	1.70	Nasdaq Inc	NDAQ	1.21
Kroger Co	KR	1.47	Mettler-Toledo	MTD	1.59	Vertex Pharm	VRTX	1.63	Verisign Inc	VRSN	1.17
Clorox Co	CLX	1.47	Tractor Supply	TSCO	1.56	Texas Instrument	TXN	1.58	Xcel Energy Inc	XEL	1.16
Blackrock Inc	BLK	1.44	Qualcomm Inc	QCOM	1.54	Citrix Systems	CTXS	1.56	Waste Management	WM	1.15
Servicenow Inc	NOW	1.43	Morgan Stanley	MS	1.50	Intuit Inc	INTU	1.52	Republic Svcs	RSG	1.15
Deere & Co	DE	1.42	Apple Inc	AAPL	1.50	Fastenal Co	FAST	1.50	Allstate Corp	ALL	1.14
Dr Horton Inc	DHI	1.42	Sba Comm Corp	SBAC	1.46	Aon Plc-Class A	AON	1.45	Cboe Global Mark	CBOE	1.14
PerkinElmer Inc	PKI	1.41	Netflix Inc	NFLX	1.43	Sealed Air Corp	SEE	1.43	Costco Wholesale	COST	1.13
Nvidia Corp	NVDA	1.40	Teradyne Inc	TER	1.42	United Parcel-B	UPS	1.43	Charter Commun-A	CHTR	1.12
Weyerhaeuser Co	WY	1.39	Target Corp	TGT	1.39	Adobe Inc	ADBE	1.40	Equinix Inc	EQIX	1.12
Technipfmc Plc	FTI	1.36	Danaher Corp	DHR	1.38	Applied Material	AMAT	1.37	Garmin Ltd	GRMN	1.12
Hologic Inc	HOLX	1.36	Arthur J Gallagher	AJG	1.37	Kimco Realty	KIM	1.36	AbbVie Inc	ABBV	1.11
Concho Resources	CXO	1.36	Moody'S Corp	MCO	1.35	Pioneer Natural	PXD	1.36	Target Corp	TGT	1.10
Progressive Corp	PGR	1.36	United Rentals	URI	1.33	Microsoft Corp	MSFT	1.35	Pfizer Inc	PFE	1.10
Eversource Energ	ES	1.29	Nike Inc -Cl B	NKE	1.33	Kinder Morgan In	KMI	1.32	Intl Flvr & Frag	IFF	1.10
Natl Oilwell Var	NOV	1.28	Davita Inc	DVA	1.32	3M Co	MMM	1.30	Extra Space Stor	EXR	1.08
Moody'S Corp	MCO	1.24	United Parcel-B	UPS	1.31	Netapp Inc	NTAP	1.30	Ibm	IBM	1.07
Fmc Corp	FMC	1.24	Nasdaq Inc	NDAQ	1.29	Netflix Inc	NFLX	1.30	Oracle Corp	ORCL	1.07
American Water W	AWK	1.24	Ebay Inc	EBAY	1.29	Apple Inc	AAPL	1.25	At&T Inc	T	1.07
Pioneer Natural	PXD	1.20	Lam Research	LRCX	1.28	Illinois Tool Wo	ITW	1.24	Amphenol Corp-A	APH	1.05
Everest Re Group	RE	1.19	Trane Technologi	TT	1.26	Cardinal Health	CAH	1.22	Paccar Inc	PCAR	1.04

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research. For details about the construction of investment styles, please see our note [Framework for Style Investing](#)

Investment Themes

LONG: J.P. Morgan COVID-19 Recovery Domestic Basket (JPAMCRDB <Index>)

This basket was launched in our report: [Conditions Increasingly Favor COVID-19 Recovery Candidates](#), July 27th

Criteria: This basket is designed to benefit as the economy reopens and there is progress in containment of the virus. Our screening methodology for COVID-19 Recovery Domestic stocks is based on S&P 500 companies that became considerably cheaper during the pandemic compared to the pre-COVID-19 period (Q2'20 vs Q4'19) based on our Value composite score (sector-neutral equal weight combination of price-to-forward-earnings, price-to-book-value and price-to-sales). The list is then filtered to select only Domestic candidates based on their Revenue exposure. The list is reviewed and further revised to incorporate fundamental Stock Analysts' feedbacks.

Figure 93: J.P. Morgan COVID-19 Recovery Domestic Basket (JPAMCRDB <Index>)

			Company Stats			IBES Estimates		Valuation		
			Current	Market	YTD	Sales	EPS	EV/		
GICS Sector/Industry	Company	Ticker	Price	Cap	Perf	Growth	Growth	EBITDA	P/E	P/B
Sector: Industrials	United Rentals, Inc.	URI	\$246.5	\$17,780	48%	-3%	-8%	5.6x	14.9x	4.3x
Airlines	Southwest Airlines Co.	LUV	\$47.9	\$28,268	-11%	21%	- to +	NA	190.0x	2.9x
	Alaska Air Group, Inc.	ALK	\$51.0	\$6,308	-25%	17%	Neg	NA	Neg	1.8x
Sector: Consumer Discretionary	General Motors Company	GM	\$44.3	\$63,421	21%	17%	97%	2.7x	7.5x	1.4x
Household Durables	Lennar Corporation Class A	LEN	\$76.3	\$21,000	37%	10%	17%	9.8x	9.1x	1.4x
Hotels Restaurants & Leisure	MGM Resorts International	MGM	\$29.8	\$14,734	-10%	35%	+ to -	6.8x	Neg	2.1x
	Caesars Entertainment Inc	CZR	\$74.9	\$15,592	26%	236%	Neg	205.9x	Neg	3.7x
	Hilton Worldwide Holdings Inc	HLT	\$109.8	\$30,472	-1%	20%	76%	57.1x	52.4x	NA
	Planet Fitness, Inc. Class A	PLNT	\$74.8	\$6,116	0%	48%	407%	41.1x	49.1x	NA
	Six Flags Entertainment Corpora	SIX	\$33.1	\$2,810	-27%	81%	Neg	NA	Neg	NA
	Cedar Fair, L.P.	FUN	\$39.3	\$2,226	-29%	128%	Neg	NA	Neg	NA
	Dunkin' Brands Group, Inc.	DNKN	\$106.4	\$8,771	41%	6%	14%	19.6x	33.2x	NA
	Dave & Buster's Entertainment, Ir	PLAY	\$25	\$1,183	-38%	19%	Neg	14.3x	Neg	4.7x
Specialty Retail	TJX Companies Inc	TJX	\$65.9	\$79,098	8%	25%	314%	27.9x	26.5x	14.2x
	Ross Stores, Inc.	ROST	\$113.6	\$40,442	-2%	29%	185%	35.1x	26.7x	13.4x
	L Brands, Inc.	LB	\$40.2	\$11,191	122%	7%	19%	14.0x	14.9x	NA
	Gap, Inc.	GPS	\$21.3	\$7,956	20%	12%	- to +	NA	20.7x	3.4x
	Best Buy Co., Inc.	BBY	\$102.7	\$26,601	17%	4%	4%	8.3x	13.5x	6.5x
	Ulta Beauty Inc	ULTA	\$273.3	\$15,395	8%	15%	105%	14.4x	27.4x	8.3x
	CarMax, Inc.	KMX	\$96.1	\$15,762	10%	16%	30%	15.2x	17.8x	4.0x
Sector: Health Care	DaVita Inc.	DVA	\$108.5	\$12,148	45%	2%	11%	7.6x	13.2x	7.8x
Health Care Providers & Services	HCA Healthcare Inc	HCA	\$155.4	\$52,573	5%	7%	13%	7.3x	13.1x	NA
Sector: Financials	Bank of America Corp	BAC	\$29.1	\$251,651	-17%	-3%	4%	NA	13.9x	1.0x
Banks	PNC Financial Services Group, I	PNC	\$141.8	\$60,085	-11%	2%	-49%	NA	16.7x	1.2x
	Citizens Financial Group, Inc.	CFG	\$35.3	\$15,080	-13%	-4%	27%	NA	12.6x	0.7x
	SVB Financial Group	SIVB	\$355.0	\$18,386	41%	-4%	-18%	NA	21.0x	2.5x
Consumer Finance	Capital One Financial Corporation	COF	\$93.0	\$42,524	-10%	-1%	354%	4.1x	10.2x	0.7x
	Synchrony Financial	SYF	\$32.6	\$19,014	-10%	0%	47%	4.5x	9.9x	1.7x
Capital Markets	Raymond James Financial, Inc.	RJF	\$94.5	\$12,941	6%	5%	9%	5.2x	14.3x	1.8x
Mortgage Real Estate Investment Tr	Apollo Commercial Real Estate FI	ARI	\$11.2	\$1,577	-39%	-5%	4%	NA	9.4x	0.7x
Insurance	Assurant, Inc.	AIZ	\$131.3	\$7,790	0%	7%	19%	NA	12.2x	1.3x
	Allstate Corporation	ALL	\$103.4	\$31,444	-8%	7%	1%	NA	8.4x	1.2x
	Travelers Companies, Inc.	TRV	\$133.9	\$33,918	-2%	6%	18%	NA	12.8x	1.2x
Sector: Real Estate	Duke Realty Corporation	DRE	\$38.6	\$14,368	11%	10%	2%	30.7x	65.0x	2.9x
Equity Real Estate Investment Trusts	Alexandria Real Estate Equities, I	ARE	\$171.0	\$23,081	6%	7%	-39%	26.3x	64.6x	2.1x
	Mid-America Apartment Commun	MAA	\$125.3	\$14,333	-5%	3%	-22%	19.0x	57.6x	2.4x
	Public Storage	PSA	\$224.7	\$39,279	6%	4%	12%	22.9x	31.1x	8.2x
	Weyerhaeuser Company	WY	\$30.2	\$22,564	0%	3%	25%	16.9x	28.7x	2.6x
	Extra Space Storage Inc.	EXR	\$115.0	\$14,862	9%	4%	7%	22.7x	32.2x	6.2x
	VICI Properties Inc	VICI	\$25.7	\$13,792	1%	28%	29%	25.3x	14.5x	1.5x

Source: J.P. Morgan US Equity Strategy and Quantitative Research, Bloomberg Finance L.P., IBES, Reuters, FactSet. Note on noncovered companies: This basket has been created to leverage the theme of this research report. It includes companies that are not covered by J.P. Morgan Research and should not be viewed as a recommendation with respect to these companies.

LONG: J.P. Morgan COVID-19 Recovery International Basket (JPAMCRIB <Index>)

This basket was launched in our report: [Conditions Increasingly Favor COVID-19 Recovery Candidates](#), July 27th

Criteria: This basket is designed to benefit as the economy reopens and there is progress in containment of the virus. Our screening methodology for COVID-19 Recovery International stocks is based on S&P 500 companies that became considerably cheaper during the pandemic compared to the pre-COVID-19 period (Q2'20 vs Q4'19) based on our Value composite score (sector-neutral equal weight combination of price-to-forward-earnings, price-to-book-value and price-to-sales). The list is then filtered to select only International candidates based on their Revenue exposure. The list is reviewed and further revised to incorporate fundamental Stock Analysts' feedbacks.

Figure 94: J.P. Morgan COVID-19 Recovery International Basket (JPAMCRIB <Index>)

GICS Sector/Industry	Company	Ticker	Company Stats			IBES Estimates		Valuation		
			Current Price	Market Cap	YTD Perf	Sales Growth	EPS Growth	EV/EBITDA	P/E	P/B
Sector: Energy	Exxon Mobil Corporation	XOM	\$42.2	\$178,601	-39%	8%	2333%	10.6x	28.9x	1.0x
Oil Gas & Consumable Fuels	Chevron Corporation	CVX	\$91.5	\$176,219	-24%	15%	115%	13.3x	32.7x	1.3x
	ConocoPhillips	COP	\$42.7	\$45,580	-34%	17%	- to +	7.2x	53.4x	1.5x
Sector: Materials	Dow, Inc.	DOW	\$54.6	\$40,463	0%	7%	69%	23.9x	20.1x	3.3x
Chemicals	DuPont de Nemours, Inc.	DD	\$66.8	\$49,028	4%	3%	5%	360.5x	18.8x	1.3x
	International Flavors & Fragrances	IFF	\$115.4	\$12,343	-11%	4%	6%	17.7x	18.7x	2.0x
Metals & Mining	Nucor Corporation	NUE	\$56.5	\$17,071	0%	4%	27%	9.5x	17.6x	1.7x
Sector: Industrials	Boeing Company	BA	\$236.6	\$133,551	-27%	27%	- to +	NA	171.1x	NA
Electrical Equipment	Eaton Corp. Plc	ETN	\$117.9	\$46,979	24%	-1%	15%	16.5x	23.6x	3.2x
Machinery	Caterpillar Inc.	CAT	\$178.8	\$97,156	21%	4%	12%	11.1x	24.2x	6.5x
	Deere & Company	DE	\$252.6	\$79,158	46%	14%	52%	10.2x	19.1x	6.1x
Airlines	Delta Air Lines, Inc.	DAL	\$42.4	\$27,046	-27%	11%	Neg	NA	Neg	8.1x
	United Airlines Holdings, Inc.	UAL	\$49	\$14,352	-44%	11%	Neg	NA	Neg	2.0x
Sector: Consumer Discretionary	Ford Motor Company	F	\$9.3	\$36,145	-1%	20%	454%	2.3x	8.8x	1.1x
Household Durables	Newell Brands Inc	NWL	\$21.0	\$8,919	9%	4%	-1%	NA	12.9x	2.4x
Hotels Restaurants & Leisure	Las Vegas Sands Corp.	LVS	\$58.6	\$44,745	-15%	71%	- to +	76.5x	39.9x	14.0x
	Wynn Resorts, Limited	WYNN	\$111.3	\$12,007	-20%	64%	Neg	NA	Neg	NA
	Royal Caribbean Group	RCL	\$82.8	\$18,582	-38%	-8%	Neg	NA	Neg	2.1x
	Norwegian Cruise Line Holdings	NCLH	\$28.2	\$8,885	-52%	-19%	Neg	NA	Neg	1.9x
	Starbucks Corporation	SBUX	\$101.2	\$118,790	15%	23%	152%	24.5x	34.6x	NA
Internet & Direct Marketing Retail	Restaurant Brands International	QSR	\$60.0	\$18,234	-6%	10%	24%	17.8x	21.6x	7.8x
	Booking Holdings Inc.	BKNG	\$2,086.7	\$85,459	2%	16%	95%	56.2x	37.4x	17.4x
	Expedia Group, Inc.	EXPE	\$126.3	\$17,166	17%	13%	- to +	NA	189.0x	10.9x
	Coca-Cola Company	KO	\$53.2	\$228,538	-4%	9%	10%	23.3x	25.2x	12.3x
	Citigroup Inc.	C	\$58.4	\$121,503	-27%	-8%	13%	4.3x	10.1x	0.7x
Consumer Finance	American Express Company	AXP	\$123.5	\$99,459	-1%	6%	68%	11.3x	18.2x	4.5x
Capital Markets	Morgan Stanley	MS	\$63.9	\$115,626	25%	0%	-13%	8.1x	12.4x	1.3x
	Goldman Sachs Group, Inc.	GS	\$238.8	\$82,177	4%	-11%	34%	9.3x	9.9x	1.0x
Sector: Information Technology	Visa Inc. Class A	V	\$212.8	\$360,789	13%	11%	15%	26.9x	36.8x	14.5x
IT Services	Mastercard Incorporated Class A	MA	\$340.8	\$336,861	14%	16%	22%	37.6x	41.3x	58.7x
Sector: Communication Services	Walt Disney Company	DIS	\$153.7	\$278,308	6%	10%	32%	27.5x	58.1x	3.3x
Sector: Real Estate	Iron Mountain, Inc.	IRM	\$30.2	\$8,688	-5%	3%	25%	10.6x	21.8x	9.3x
Real Estate Management & Develop	CBRE Group, Inc. Class A	CBRE	\$66.8	\$22,392	9%	2%	1%	12.0x	20.9x	3.4x

Source: J.P. Morgan US Equity Strategy and Quantitative Research, Bloomberg Finance L.P., IBES, Reuters, FactSet. Note on noncovered companies: This basket has been created to leverage the theme of this research report. It includes companies that are not covered by J.P. Morgan Research and should not be viewed as a recommendation with respect to these companies.

LONG: J.P. Morgan 5G Thematic Basket (JPAMFIVG <Index>)

Criteria: The 5G thematic basket is comprised of stocks that are most closely tied to the ongoing 5G rollout. Using textual analysis of corporate earnings, conferences and other call transcripts, we identified the top 30 names in S&P 1500 that most strongly associated with the 5G theme based on level and type of discussion. JPM analyst feedback was also incorporated to further refine the list of stocks.

Figure 96: J.P. Morgan 5G Thematic Basket (JPAMFIVG <Index>)

Ticker	Company	Industry	Company Stats		Price Perf (%)		Technicals			IBES Estimates		Valuation		
			Current Price	Market Cap	12-mos Change	YTD	Short as % of Out.	Avg Rating RSI 30Day	1 = Sell 5 = Buy	Sales Growth NTM	EPS Growth NTM	EV/ EBITDA LTM	P/E NTM	P/B
KEYS	Keysight Technologies Inc	Electronic Equipment Instruments &	\$127.13	\$23,557	19%	24%	5%	70	4.6	13%	17%	17.4x	22.4x	7.1x
QCOM	Qualcomm Inc	Semiconductors & Semiconductor B	\$158.80	\$179,603	90%	80%	1%	68	4.3	42%	74%	17.3x	21.8x	29.6x
VZ	Verizon Communications Inc.	Diversified Telecommunication Ser	\$61.45	\$254,286	2%	0%	1%	59	3.6	4%	4%	8.2x	12.3x	3.9x
AVGO	Broadcom Inc.	Semiconductors & Semiconductor B	\$423.41	\$171,270	34%	34%	1%	67	4.5	13%	22%	16.3x	16.4x	7.2x
MRVL	Marvell Technology Group Ltd.	Semiconductors & Semiconductor B	\$43.68	\$29,273	66%	64%	4%	54	4.3	18%	65%	91.6x	32.7x	3.5x
COMM	CommScope Holding Co., Inc.	Communications Equipment	\$12.92	\$2,566	-5%	-9%	4%	64	3.9	0%	33%	25.6x	6.9x	10.0x
SWKS	Skyworks Solutions, Inc.	Semiconductors & Semiconductor B	\$155.79	\$25,874	58%	29%	2%	58	4.3	20%	28%	18.3x	20.0x	6.2x
T	AT&T Inc.	Diversified Telecommunication Ser	\$30.81	\$219,552	-18%	-21%	2%	62	3.3	0%	-3%	7.0x	9.6x	1.3x
QRVO	Qorvo, Inc.	Semiconductors & Semiconductor B	\$169.96	\$19,385	63%	46%	2%	67	4.3	17%	26%	14.7x	18.3x	4.4x
TER	Teradyne, Inc.	Semiconductors & Semiconductor B	\$118.67	\$19,706	90%	74%	5%	72	3.9	7%	10%	12.0x	24.5x	9.9x
ADI	Analog Devices, Inc.	Semiconductors & Semiconductor B	\$146.13	\$53,993	29%	23%	7%	67	4.5	13%	18%	20.5x	25.3x	4.5x
XLNX	Xilinx, Inc.	Semiconductors & Semiconductor B	\$146.19	\$35,834	58%	50%	1%	65	3.1	12%	24%	25.7x	46.2x	14.6x
AMT	American Tower Corporation	Equity Real Estate Investment Trus	\$223.61	\$99,331	4%	-3%	1%	42	4.5	9%	30%	27.0x	40.6x	26.6x
VIAV	Viavi Solutions Inc	Communications Equipment	\$13.75	\$3,149	-8%	-8%	4%	56	4.6	5%	2%	11.1x	17.7x	4.2x
ROG	Rogers Corporation	Electronic Equipment Instruments &	\$156.07	\$2,915	20%	25%	2%	67	4.7	11%	35%	13.7x	25.0x	3.0x
MTZ	MasTec, Inc.	Construction & Engineering	\$64.26	\$4,747	-3%	0%	12%	69	5.0	17%	2%	4.1x	13.5x	2.5x
TMUS	T-Mobile US, Inc.	Wireless Telecommunication Servic	\$133.15	\$165,264	70%	70%	1%	65	4.5	30%	-8%	11.0x	47.2x	2.6x
DISH	DISH Network Corporation Class /Media		\$36.35	\$10,452	6%	2%	4%	64	3.6	23%	13%	9.4x	13.1x	1.5x
NATI	National Instruments Corporation	Electronic Equipment Instruments &	\$39.42	\$5,174	-6%	-7%	2%	62	3.0	6%	-45%	13.3x	47.9x	4.2x
CCI	Crown Castle International Corp	Equity Real Estate Investment Trus	\$161.33	\$69,581	21%	13%	1%	47	3.8	6%	47%	29.1x	68.7x	7.3x
NTCT	NetScout Systems, Inc.	Communications Equipment	\$25.82	\$1,900	2%	7%	6%	62	3.0	0%	-6%	10.5x	15.5x	1.0x
INTC	Intel Corporation	Semiconductors & Semiconductor B	\$50.69	\$207,728	-13%	-15%	2%	54	3.1	-9%	-14%	6.0x	11.1x	2.8x
FORM	FormFactor, Inc.	Semiconductors & Semiconductor B	\$45.20	\$3,498	95%	74%	2%	77	4.7	6%	4%	11.9x	29.9x	4.9x
FTNT	Fortinet, Inc.	Software	\$131.66	\$21,373	25%	23%	2%	58	3.7	21%	19%	31.1x	36.3x	30.0x
COHU	Cohu, Inc.	Semiconductors & Semiconductor B	\$37.95	\$1,593	114%	66%	2%	80	5.0	41%	465%	15.3x	15.6x	3.4x
KN	Knowles Corp.	Electronic Equipment Instruments &	\$18.18	\$1,667	-17%	-14%	4%	62	4.1	11%	94%	17.5x	15.4x	1.3x
TDS	Telephone and Data Systems, Inc.	Wireless Telecommunication Servic	\$18.81	\$2,014	-21%	-26%	2%	49	5.0	2%	-42%	4.8x	17.1x	0.4x
IDCC	InterDigital, Inc.	Communications Equipment	\$62.05	\$1,912	9%	14%	4%	55	5.0	-3%	-11%	7.6x	36.5x	2.4x
TTMI	TTM Technologies, Inc.	Electronic Equipment Instruments &	\$13.56	\$1,447	1%	-10%	6%	62	4.8	-12%	9%	7.9x	10.8x	1.0x
SBAC	SBA Communications Corp. Class	Equity Real Estate Investment Trus	\$280.85	\$31,207	19%	17%	1%	43	4.4	6%	- b +	34.2x	98.0x	NA
Median					19%	15%	1.9%	62	4.3	10%	17%	14.2x	20.9x	4.2x

Source: J.P. Morgan US Equity Strategy and Quantitative Research, Bloomberg Finance L.P., IBES, Reuters, FactSet. Note on noncovered companies: This basket has been created to leverage the theme of this research report. It includes companies that are not covered by J.P. Morgan Research and should not be viewed as a recommendation with respect to these companies.

Additional Basket Methodology

In order to keep the basket relevant to the investment theme, J.P. Morgan reserves the right to review the following at any time:

Basket methodology. This is to ensure the rules of the basket remain relevant following any structural changes to the theme. This may include ensuring that the sector exposure of the basket remains broadly consistent with the investment theme.

Basket change implementation. J.P. Morgan will consider extending the implementation of changes to the basket composition from one trading session to any period up to five trading sessions in the event that a material increase in the liquidity or capacity of the basket is required to minimize market impact.

Corporate actions may affect the JPAMVACS<Index>, JPAMCRDB<Index>, JPAMCRIB<Index> and JPAMFIVG<Index> baskets. The composition of a custom basket is typically adjusted in the following manner:

Cash Merger. The divisor is adjusted, and we remove the merging company from the basket on the day of merger and redistribute gains into remaining companies according to recalculated market cap weights of surviving constituents in the basket.

Stock Merger. If the acquirer is a member of the basket, then the weight allocated to the acquired will transfer to the surviving entity on the close of the last day it trades. If the acquirer is not a part of the basket, then proceeds (losses) from the acquired company will be redistributed to the surviving basket constituents based on the recalculated weighting on the close of its last trading day.

Spinoffs. The spinoff company and parent will be included in the basket, and both the spinoff and parent company weights will be readjusted according to new market capitalizations after the spinoff date.

Tender Offers and Share Buybacks. The company remains in the basket and its weight is adjusted according to the impact the tender/buyback has on the stock's market value.

Delisting/Insolvency/Bankruptcy. The company is removed from the basket as of the close of the last trading day, and the proceeds (losses) will be redistributed into remaining companies according to re-calculated weights of remaining companies in the basket. If a stock trades on "pink sheets" it will not be included in the basket.

Appendix

Figure 97: Consumption Trend by Category

	% of Total Consumption																			Avg monthly since 1950			
	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Latest	Median	STDev	+/- STDev from Avg		
PERSONAL CONSUMPTION CATEGORIES:																							
Durable goods	15%	14.5%	14.6%	13.6%	12.8%	12.4%	10.5%	10.3%	10.4%	10.5%	10.5%	10.6%	10.6%	10.6%	10.6%	10.5%	11.2%	12.2%	13.5%	1.6%	-0.8		
Motor vehicles and parts	6%	6.1%	5.9%	5.7%	5.2%	4.5%	3.4%	3.4%	3.6%	3.7%	3.7%	3.9%	3.8%	3.8%	3.7%	3.6%	3.7%	4.1%	5.3%	1.0%	-1.3		
Furnishings and durable equipment	5%	4.6%	4.2%	3.5%	3.0%	2.9%	2.5%	2.3%	2.3%	2.3%	2.3%	2.4%	2.4%	2.4%	2.5%	2.5%	2.7%	2.8%	3.5%	1.1%	-0.7		
Recreational goods and vehicles	2%	2.4%	2.9%	2.8%	3.0%	3.4%	3.1%	2.9%	2.8%	2.8%	2.8%	2.7%	2.8%	2.8%	2.9%	3.0%	3.4%	3.7%	2.8%	0.5%	1.8		
Other durable goods	1%	1.4%	1.6%	1.6%	1.6%	1.6%	1.6%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.5%	1.6%	1.6%	0.1%	0.6		
Nondurable goods	42%	37.1%	33.1%	28.2%	23.9%	22.3%	22.5%	22.8%	22.7%	22.4%	22.2%	21.3%	20.7%	20.7%	20.7%	20.5%	21.5%	21.6%	29.3%	8.2%	-0.9		
Food and bev erages (off-premises)	21%	16.9%	14.6%	11.4%	9.0%	7.7%	7.7%	7.7%	7.7%	7.6%	7.6%	7.5%	7.4%	7.3%	7.1%	7.1%	8.1%	8.0%	11.9%	5.2%	-0.8		
Clothing and footwear	9%	7.5%	6.5%	5.5%	4.7%	3.5%	3.1%	3.1%	3.1%	3.1%	3.1%	3.0%	2.9%	2.8%	2.8%	2.8%	2.5%	2.6%	5.5%	2.2%	-1.3		
Gasoline and other energy goods	5%	4.3%	4.5%	4.0%	2.7%	3.0%	3.3%	3.9%	3.8%	3.7%	3.4%	2.5%	2.2%	2.3%	2.5%	2.3%	1.8%	1.7%	4.0%	1.0%	-2.3		
Other nondurable goods	8%	8.4%	7.5%	7.3%	7.5%	8.0%	8.3%	8.1%	8.0%	8.0%	8.1%	8.3%	8.3%	8.3%	8.2%	8.3%	9.2%	9.3%	7.9%	0.4%	3.5		
Services	43%	48.4%	52.4%	58.2%	63.3%	65.4%	67.0%	66.9%	67.0%	67.0%	67.3%	68.1%	68.7%	68.7%	68.8%	69.0%	67.2%	66.2%	57.3%	9.3%	1.0		
Household Expenditures (for services)	44%	46.8%	50.7%	56.4%	61.2%	62.8%	64.3%	64.0%	63.8%	63.9%	64.2%	65.1%	65.6%	65.6%	65.6%	66.0%	63.5%	62.9%	58.5%	6.8%	0.6		
Housing and utilities	17%	17.2%	17.1%	18.4%	18.2%	18.1%	18.7%	18.4%	18.1%	18.2%	18.2%	18.4%	18.5%	18.4%	18.4%	18.4%	19.8%	19.5%	18.1%	0.7%	2.0		
Health care	5%	5.9%	8.6%	11.4%	14.1%	15.0%	16.6%	16.5%	16.5%	16.4%	16.4%	16.7%	17.0%	16.9%	16.8%	16.9%	16.2%	16.6%	12.8%	3.9%	1.0		
Transportation services	3%	2.8%	3.2%	3.2%	3.6%	3.3%	2.9%	3.1%	3.1%	3.2%	3.2%	3.2%	3.3%	3.3%	3.3%	3.3%	2.6%	2.5%	3.2%	0.3%	-2.4		
Recreation services	2%	2.1%	2.3%	2.7%	3.6%	3.8%	3.8%	3.8%	3.9%	4.0%	3.9%	4.0%	4.1%	4.0%	4.0%	4.0%	2.9%	2.8%	3.1%	0.8%	-0.4		
Food services and accommodations	6%	6.1%	6.7%	6.7%	6.4%	6.0%	6.1%	6.3%	6.4%	6.5%	6.6%	6.8%	6.8%	6.8%	6.9%	6.9%	5.6%	5.7%	6.4%	0.3%	-1.8		
Financial services and insurance	4%	4.4%	5.2%	6.4%	7.4%	7.7%	7.5%	7.5%	7.5%	7.6%	7.7%	7.8%	7.7%	7.9%	8.0%	8.1%	8.6%	8.4%	6.8%	1.4%	1.2		
Other services	8%	8.3%	7.8%	7.6%	8.0%	8.7%	8.9%	8.4%	8.3%	8.2%	8.2%	8.2%	8.2%	8.2%	8.3%	8.4%	7.8%	7.4%	8.2%	0.4%	-1.7		
Nonprofit Institutions	2%	1.6%	1.6%	1.8%	2.1%	2.6%	2.7%	2.9%	3.1%	3.1%	3.1%	3.0%	3.1%	3.1%	3.1%	3.0%	3.8%	3.3%	1.9%	0.6%	2.4		

Note: Green if greater than last period, Red if less than last period.

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bureau of Economic Analysis. Note: Green if greater than last period, Red if less than last period.

Figure 98: Investment Trend by Category

	% of Total Private fixed investment																				Avg monthly since 1999					
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Latest	Median	STDev	+/- STDev from Avg
PRIVATE FIXED INVESTMENT:																										
Structures	23%	23%	23%	22%	20%	19%	18%	19%	21%	24%	23%	19%	18%	19%	18%	19%	18%	17%	17%	17%	16%	15%	14%	19%	2.6%	-1.8
Commercial and health care	9%	9%	9%	8%	7%	7%	6%	6%	7%	7%	6%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	1.7%	-0.4
Manufacturing	2%	2%	2%	1%	1%	1%	1%	1%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	0.4%	-0.5
Power and communication	3%	3%	3%	4%	3%	3%	3%	3%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%	4%	3%	3%	4%	3%	4%	0.7%	-0.2
Mining exploration, shafts, and wells	3%	3%	4%	4%	4%	4%	4%	5%	5%	5%	4%	5%	6%	6%	6%	6%	4%	2%	3%	4%	3%	2%	2%	4%	1.1%	-2.4
Other structures	4%	4%	4%	4%	3%	3%	3%	3%	4%	5%	5%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	0.6%	-1.2
Equipment	31%	31%	31%	28%	28%	28%	29%	31%	33%	33%	31%	36%	38%	39%	38%	38%	38%	37%	37%	38%	38%	36%	37%	34%	3.9%	0.9
Information processing equipment	7%	8%	8%	6%	7%	7%	7%	8%	9%	10%	12%	13%	13%	13%	13%	13%	13%	14%	14%	14%	15%	16%	17%	13%	3.1%	1.4
Industrial equipment	8%	9%	8%	8%	8%	7%	7%	8%	8%	8%	8%	8%	8%	8%	8%	8%	7%	7%	7%	7%	7%	7%	7%	8%	0.5%	-1.2
Transportation equipment	10%	9%	8%	7%	7%	7%	7%	8%	7%	6%	3%	7%	8%	8%	9%	9%	10%	9%	9%	9%	8%	7%	7%	8%	1.5%	-1.0
Other equipment	7%	7%	7%	8%	8%	8%	8%	8%	8%	8%	8%	9%	9%	9%	9%	9%	8%	7%	7%	7%	7%	7%	7%	8%	0.6%	-0.7
Intellectual property products	18%	18%	19%	19%	19%	19%	19%	19%	21%	23%	27%	27%	27%	26%	26%	25%	25%	27%	27%	27%	29%	30%	29%	25%	4.0%	1.1
Software	7%	8%	8%	6%	6%	6%	6%	6%	7%	8%	10%	10%	11%	11%	11%	11%	11%	11%	12%	13%	13%	14%	14%	10%	2.5%	1.7
Research and development	8%	8%	9%	11%	11%	10%	10%	10%	11%	12%	14%	14%	13%	12%	12%	12%	12%	13%	12%	13%	13%	13%	13%	12%	1.7%	0.7
Entertainment, literary, and artistic originals	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	3%	0.2%	-1.9
Residential	29%	28%	28%	32%	33%	34%	34%	30%	25%	20%	19%	18%	17%	17%	18%	18%	19%	20%	20%	18%	18%	19%	19%	20%	6.3%	0.0
Structures	29%	27%	28%	31%	33%	34%	33%	30%	25%	20%	18%	17%	16%	17%	18%	17%	18%	19%	19%	18%	17%	18%	19%	19%	6.4%	0.0
Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0.1%	2.3
Residual	-2%	-1%	-1%	-2%	-1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-1%	-1%	-1%	-1%	0%	0.6%	-1.6
Note: Green if greater than last period. Red if less than last period.																										

Note: Green if greater than last period, Red if less than last period.

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bureau of Economic Analysis. Note: Green if greater than last period, Red if less than last period.

Figure 99: Government Spending Trend by Category

	% of Total Private fixed investment																				Avg monthly since 1999					
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Latest	Median	STDev	STDev from Avg
Federal & State/Local Spending																										
Total: Consumption Expenditure	80%	80%	80%	80%	79%	79%	80%	79%	79%	79%	80%	80%	80%	80%	81%	81%	81%	80%	80%	80%	80%	79%	79%	80%	0.5%	-1.3
Total: Gross investment	20%	20%	20%	20%	21%	21%	20%	21%	21%	21%	20%	20%	20%	20%	19%	19%	19%	19%	20%	20%	20%	21%	21%	20%	0.5%	1.3
Structures	12%	12%	12%	12%	12%	12%	11%	11%	11%	11%	10%	10%	10%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	10%	1.3%	-0.8
Equipment	3%	3%	3%	3%	3%	4%	4%	4%	4%	5%	5%	5%	5%	5%	4%	4%	4%	4%	4%	5%	5%	5%	5%	4%	0.6%	1.1
Software	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	1%	0.3%	2.5
Research and development	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	5%	4%	5%	5%	5%	5%	0.2%	1.1
Federal Portion:	33%	33%	33%	34%	35%	36%	36%	37%	37%	38%	39%	41%	41%	41%	40%	39%	38%	38%	38%	38%	39%	40%	40%	38%	2.6%	0.9
Consumption expenditures	26%	26%	26%	26%	28%	28%	28%	28%	28%	29%	30%	31%	32%	32%	31%	30%	30%	30%	29%	29%	30%	30%	31%	29%	1.8%	0.8
Structures	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	1%	1%	1%	1%	0.2%	-0.6
Equipment	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	0.5%	0.8
Intellectual property products	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	6%	5%	5%	0.3%	2.2
National defense	21%	21%	20%	21%	22%	23%	23%	23%	24%	25%	25%	26%	26%	26%	25%	24%	23%	23%	23%	23%	24%	24%	24%	23%	1.7%	0.5
Nondefense	12%	12%	12%	13%	13%	13%	13%	13%	13%	13%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	16%	16%	14%	1.2%	1.4
State and Local Portion:	67%	68%	68%	67%	65%	64%	63%	63%	62%	61%	59%	59%	59%	59%	60%	61%	62%	62%	62%	62%	61%	60%	60%	62%	2.7%	-0.8
Residual	-1%	-1%	-1%	-1%	-1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%	-0.1

Note: Green if greater than last period, Red if less than last period.

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bureau of Economic Analysis. Note: Green if greater than last period, Red if less than last period.

Figure 100: Net Exports Trend by Category

	Net Exports (Exports less Imports) YoY of Change, \$'s in billions																							
Goods & Services	12/99	12/00	12/01	12/02	12/03	12/04	12/05	12/06	12/07	12/08	12/09	12/10	12/11	12/12	12/13	12/14	12/15	12/16	12/17	12/18	12/19	12/20	LTM	
Foods, feeds, and beverages	\$1.9	\$1	\$2	(\$1)	(\$1)	(\$6)	(\$10)	(\$10)	\$1	\$18	\$11	\$15	\$18	\$22	\$20	\$17	(\$1)	(\$0)	(\$6)	(\$15)	(\$20)	(\$12)	(\$22)	
Industrial supplies and materials	(\$78)	(\$133)	(\$120)	(\$115)	(\$147)	(\$214)	(\$297)	(\$334)	(\$332)	(\$412)	(\$176)	(\$222)	(\$280)	(\$252)	(\$194)	(\$175)	(\$74)	(\$54)	(\$49)	(\$44)	\$1	\$16	(\$22)	
Capital goods except automotive	\$15	\$9	\$23	\$6	(\$4)	(\$19)	(\$24)	(\$19)	(\$16)	(\$1)	\$17	(\$3)	(\$19)	(\$24)	(\$24)	(\$47)	(\$67)	(\$74)	(\$109)	(\$131)	(\$133)	(\$77)	(\$144)	
Automotive vehicles, parts, and engines	(\$103)	(\$115)	(\$113)	(\$124)	(\$129)	(\$138)	(\$140)	(\$149)	(\$137)	(\$112)	(\$77)	(\$114)	(\$122)	(\$152)	(\$157)	(\$170)	(\$198)	(\$200)	(\$201)	(\$214)	(\$214)	(\$76)	(\$179)	
Consumer goods except food and automotive	(\$163)	(\$195)	(\$199)	(\$227)	(\$249)	(\$275)	(\$298)	(\$319)	(\$334)	(\$325)	(\$281)	(\$320)	(\$341)	(\$338)	(\$345)	(\$360)	(\$399)	(\$392)	(\$406)	(\$443)	(\$451)	(\$210)	(\$433)	
Other general merchandise	(\$9)	(\$15)	(\$16)	(\$15)	(\$14)	(\$14)	(\$16)	(\$12)	(\$9)	(\$8)	(\$9)	(\$10)	(\$13)	(\$16)	(\$17)	(\$22)	(\$31)	(\$32)	(\$36)	(\$45)	(\$54)	(\$24)	(\$52)	
Net exports of goods under merchanting	\$0	\$0	\$0	\$1	\$1	\$2	\$1	\$1	\$2	\$1	\$1	\$0	\$1	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	
Nonmonetary gold	(\$1)	\$0	\$1	\$0	\$1	\$0	\$1	\$3	\$4	\$5	\$4	\$3	\$17	\$18	\$16	\$7	\$9	\$2	\$9	\$11	\$7	(\$29)	(\$27)	
Maintenance and repair services n.i.e.	\$2	\$2	\$3	\$3	\$3	\$3	\$4	\$3	\$4	\$4	\$6	\$7	\$8	\$8	\$9	\$11	\$12	\$14	\$16	\$21	\$20	\$5	\$15	
Transport	(\$4)	(\$9)	(\$11)	(\$9)	(\$14)	(\$18)	(\$20)	(\$18)	(\$15)	(\$15)	(\$10)	(\$12)	(\$12)	(\$11)	(\$4)	(\$9)	(\$15)	(\$11)	(\$10)	(\$13)	(\$16)	(\$6)	(\$14)	
Travel (for all purposes including education) /I/	\$30	\$33	\$26	\$21	\$16	\$15	\$19	\$18	\$24	\$33	\$28	\$45	\$56	\$64	\$80	\$84	\$90	\$84	\$76	\$70	\$39	\$25	\$54	
Insurance services	(\$6)	(\$8)	(\$13)	(\$18)	(\$19)	(\$22)	(\$21)	(\$30)	(\$36)	(\$45)	(\$49)	(\$49)	(\$44)	(\$43)	(\$37)	(\$36)	(\$34)	(\$36)	(\$33)	(\$26)	(\$35)	(\$21)	(\$40)	
Financial services	\$14	\$13	\$12	\$15	\$18	\$24	\$25	\$30	\$40	\$50	\$49	\$59	\$71	\$77	\$81	\$87	\$82	\$82	\$91	\$93	\$95	\$47	\$94	
Charges for the use of intellectual property n.i.e.	\$27	\$27	\$25	\$26	\$29	\$34	\$40	\$48	\$60	\$62	\$56	\$64	\$74	\$73	\$79	\$79	\$76	\$71	\$74	\$75	\$75	\$33	\$71	
Telecommunications, computer, and information serv	(\$2)	(\$2)	(\$1)	(\$1)	(\$1)	(\$1)	(\$3)	(\$4)	(\$3)	(\$2)	(\$1)	(\$3)	(\$3)	\$0	\$0	\$0	\$3	\$3	\$5	\$7	\$12	\$7	\$13	
Other business services	\$16	\$18	\$20	\$21	\$20	\$24	\$25	\$25	\$31	\$30	\$34	\$34	\$34	\$40	\$38	\$42	\$46	\$53	\$60	\$69	\$76	\$32	\$70	
Government goods and services n.i.e.	(\$6)	(\$5)	(\$7)	(\$12)	(\$15)	(\$14)	(\$12)	(\$8)	(\$7)	(\$10)	(\$11)	(\$13)	(\$10)	(\$6)	(\$3)	(\$5)	(\$1)	(\$3)	(\$2)	(\$1)	(\$2)	(\$1)	(\$1)	

Note: Green if greater than last period, Red if less than last period.

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, Bureau of Economic Analysis. Note: Green if greater than last period, Red if less than last period.

Figure 101: S&P 500 Sector and Industry Performance

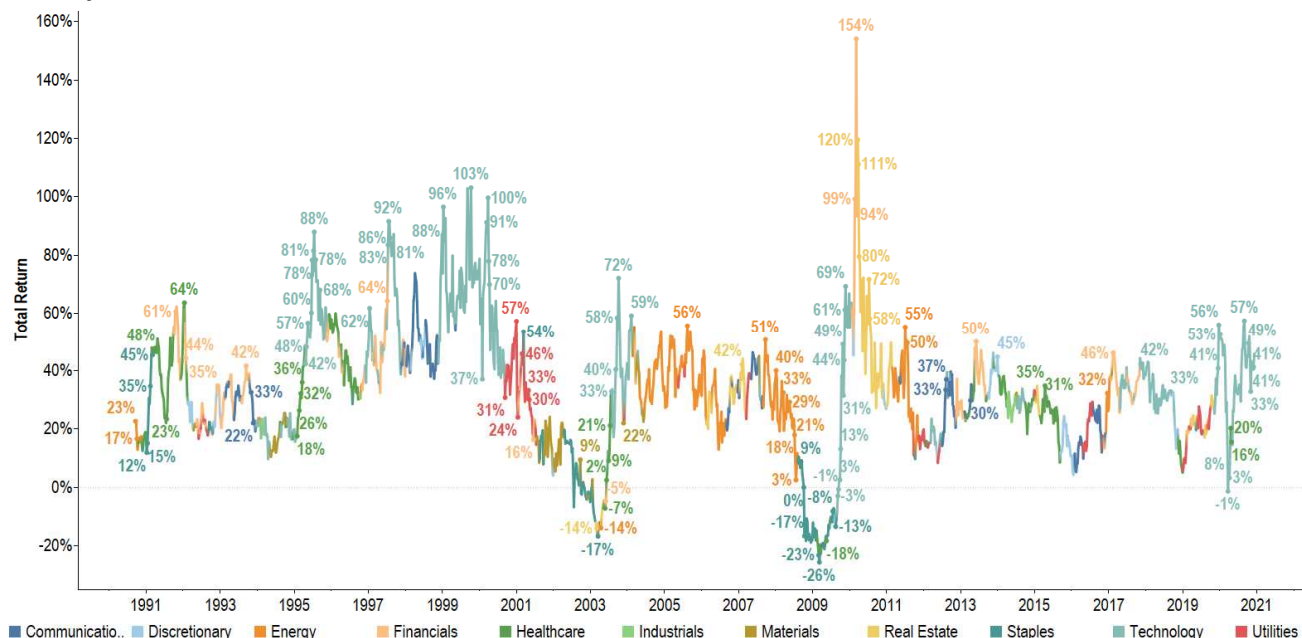
2017		2018		2019		Year-to-Date	
Industry	%Chg	Industry	%Chg	Industry	%Chg	Industry	%Chg
Internet & Catalog Retail	47%	Power Producers/Energy Traders	36%	Computers & Peripherals	79%	Internet & Catalog Retail	64%
Personal Products	47%	Internet & Catalog Retail	27%	Personal Products	61%	Computers & Peripherals	64%
Life Sciences Tools & Svcs	44%	Software	16%	Construction Materials	53%	Air Freight & Logistics	53%
Computers & Peripherals	42%	Life Sciences Tools & Svcs	15%	Real Estate Mngmnt & Dvlpmnt	53%	Semiconductors	45%
Health Care Technology	42%	Health Care Equip & Supplies	13%	Semiconductors	48%	Metals & Mining	44%
Power Producers/Energy Traders	39%	Communications Equipment	12%	Software	46%	Software	40%
Machinery	39%	Health Care Prvdrs & Svcs	5%	Building Products	45%	Construction & Engineering	40%
Software	39%	Pharmaceuticals	5%	Health Care Technology	40%	Trading Cos & Distributors	32%
Aerospace & Defense	39%	Road & Rail	4%	Auto Components	39%	Life Sciences Tools & Svcs	32%
Real Estate Mngmnt & Dvlpmnt	38%	Multiline Retail	4%	IT Services	39%	Multiline Retail	22%
Auto Components	36%	IT Services	3%	Trading Cos & Distributors	38%	Electronic Equip & Instruments	21%
Semiconductors	36%	Diversified Financial Svcs	2%	Household Durables	38%	Road & Rail	21%
Road & Rail	33%	Textiles/Apparel	1%	Commercial Svcs & Supplies	38%	Building Products	21%
Electronic Equip & Instruments	33%	Electric Utilities	0%	Consumer Finance	37%	Containers & Packaging	19%
Health Care Equip & Supplies	30%	Food & Staples Retailing	-1%	Commercial Banks	36%	Textiles/Apparel	19%
Hotels Restaurants & Leisure	30%	Commercial Svcs & Supplies	-1%	Multiline Retail	35%	Machinery	19%
IT Services	29%	Multi-Utilities	-2%	Electrical Equipment	35%	Auto Components	19%
Health Care Prvdrs & Svcs	28%	Specialty Retail	-2%	Media	33%	IT Services	17%
Capital Markets	26%	Household Products	-3%	Construction & Engineering	33%	Food & Staples Retailing	17%
Electrical Equipment	24%	Diversified Consumer Svcs	-3%	Life Sciences Tools & Svcs	32%	Household Durables	17%
Chemicals	24%	Hotels Restaurants & Leisure	-3%	Textiles/Apparel	30%	Electrical Equipment	17%
Communications Equipment	23%	REITs	-6%	S&P 500	29%	Commercial Svcs & Supplies	17%
Trading Cos & Distributors	23%	Beverages	-6%	Specialty Retail	29%	Specialty Retail	15%
Diversified Financial Svcs	21%	S&P 500	-6%	Health Care Equip & Supplies	28%	S&P 500	15%
Textiles/Apparel	21%	Biotechnology	-7%	Road & Rail	28%	Personal Products	14%
Commercial Banks	20%	Real Estate Mngmnt & Dvlpmnt	-8%	Household Products	28%	Capital Markets	14%
Metals & Mining	20%	Computers & Peripherals	-8%	Aerospace & Defense	28%	Health Care Equip & Supplies	13%
S&P 500	19%	Media	-9%	Capital Markets	28%	Chemicals	13%
Commercial Svcs & Supplies	19%	Aerospace & Defense	-10%	Machinery	27%	Household Products	12%
Specialty Retail	18%	Trading Cos & Distributors	-10%	Electronic Equip & Instruments	27%	Media	12%
Consumer Finance	18%	Semiconductors	-11%	Hotels Restaurants & Leisure	27%	Health Care Prvdrs & Svcs	12%
Biotechnology	17%	Diversified Telecom Svcs	-12%	Insurance	26%	Automobiles	10%
Household Durables	17%	Insurance	-13%	Food Products	26%	Real Estate Mngmnt & Dvlpmnt	9%
Containers & Packaging	17%	Chemicals	-13%	Metals & Mining	25%	Industrial Conglomerates	8%
Air Freight & Logistics	16%	Electronic Equip & Instruments	-14%	Containers & Packaging	25%	Power Producers/Energy Traders	6%
Beverages	16%	Personal Products	-15%	Food & Staples Retailing	25%	Biotechnology	5%
Diversified Consumer Svcs	14%	Electrical Equipment	-16%	Distributors	24%	Pharmaceuticals	4%
Insurance	14%	Machinery	-17%	Leisure Equipment & Products	24%	Beverages	4%
Distributors	13%	Capital Markets	-17%	REITs	24%	Food Products	3%
Airlines	11%	Airlines	-17%	Electric Utilities	23%	Health Care Technology	1%
Food & Staples Retailing	11%	Oil Gas & Consumable Fuels	-17%	Industrial Conglomerates	23%	Construction Materials	1%
Household Products	11%	Consumer Finance	-18%	Internet & Catalog Retail	22%	Diversified Financial Svcs	1%
Tobacco	11%	Commercial Banks	-18%	Diversified Telecom Svcs	21%	Hotels Restaurants & Leisure	-1%
Pharmaceuticals	10%	Leisure Equipment & Products	-19%	Beverages	20%	Electric Utilities	-2%
Building Products	10%	Food Products	-19%	Multi-Utilities	20%	Communications Equipment	-3%
Multi-Utilities	8%	Distributors	-19%	Chemicals	20%	Insurance	-4%
Automobiles	8%	Air Freight & Logistics	-22%	Power Producers/Energy Traders	18%	Consumer Finance	-5%
Construction & Engineering	8%	Health Care Technology	-22%	Health Care Prvdrs & Svcs	17%	REITs	-6%
Media	7%	Construction Materials	-23%	Tobacco	15%	Distributors	-6%
Electric Utilities	7%	Containers & Packaging	-23%	Biotechnology	14%	Multi-Utilities	-9%
REITs	7%	Construction & Engineering	-24%	Automobiles	14%	Tobacco	-9%
Multiline Retail	5%	Building Products	-26%	Pharmaceuticals	12%	Diversified Telecom Svcs	-11%
Construction Materials	1%	Metals & Mining	-26%	Diversified Financial Svcs	11%	Aerospace & Defense	-15%
Oil Gas & Consumable Fuels	-1%	Automobiles	-29%	Communications Equipment	11%	Leisure Equipment & Products	-15%
Food Products	-2%	Industrial Conglomerates	-29%	Airlines	10%	Commercial Banks	-20%
Diversified Telecom Svcs	-6%	Auto Components	-30%	Air Freight & Logistics	9%	Airlines	-28%
Industrial Conglomerates	-11%	Tobacco	-34%	Oil Gas & Consumable Fuels	8%	Oil Gas & Consumable Fuels	-34%
Leisure Equipment & Products	-15%	Household Durables	-35%	Energy Equipment & Svcs	6%	Energy Equipment & Svcs	-35%

Technology	37%	Health Care	5%	Technology	48%	Technology	38%
Materials	21%	Utilities	0%	Telecom	31%	Discretionary	29%
Discretionary	21%	Discretionary	0%	Financials	29%	Telecom	22%
Financials	20%	Technology	-2%	S&P 500	29%	Materials	16%
Health Care	20%	S&P 500	-6%	Industrials	27%	S&P 500	15%
S&P 500	19%	Staples	-11%	Discretionary	26%	Health Care	10%
Industrials	19%	Financials	-15%	Staples	24%	Industrials	9%
Staples	10%	Industrials	-15%	Utilities	22%	Staples	7%
Utilities	8%	Telecom	-16%	Materials	22%	Utilities	-4%
Energy	-4%	Materials	-16%	Health Care	19%	Financials	-7%
Telecom	-6%	Energy	-20%	Energy	8%	Energy	-34%

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research. As of 12/8/2020

Figure 102: Top Sector Performance – S&P 500

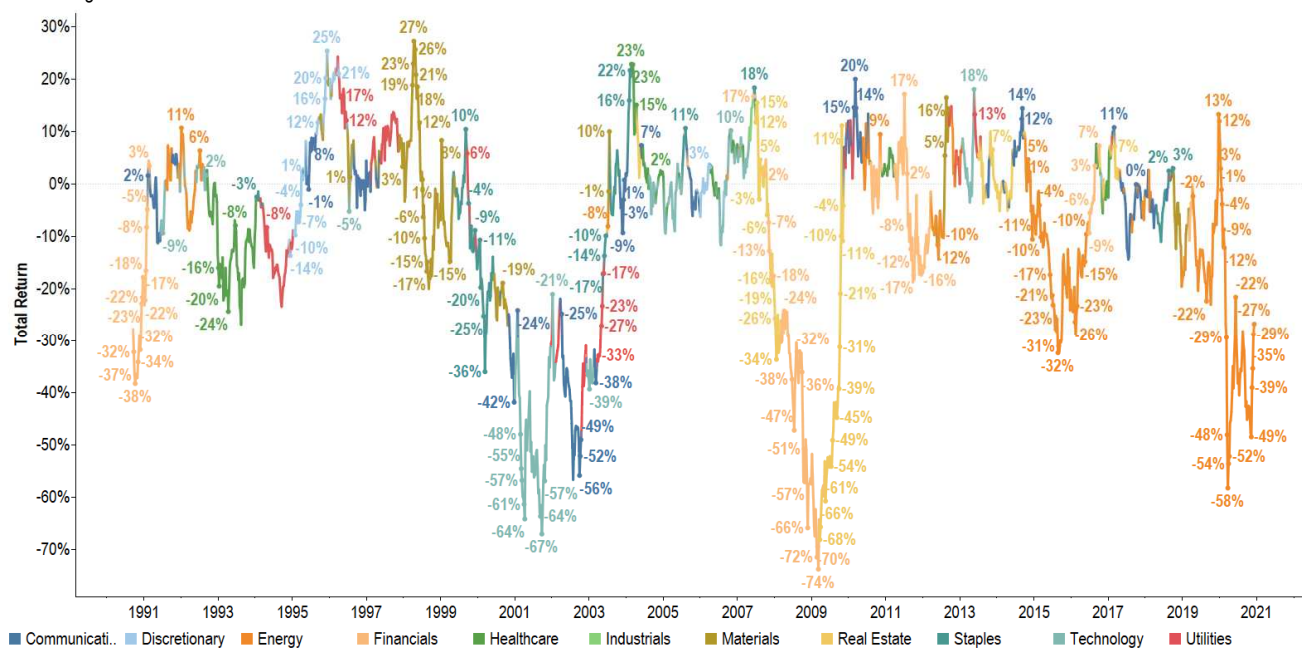
12M Rolling Returns



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 103: Worst Sector Performance – S&P 500

12M Rolling Returns



Source: J.P. Morgan US Equity Strategy & Global Quantitative Research

Figure 104: Sales Growth, Net Income Margin, Earnings Growth, and Valuation

	Sales Growth				NI Margin (Avg Last 4Qs)							Earnings Growth							Valuation — PE	
	2021/1C	2021/2C	2021/3C	2021/4C	2020	2021	2019	2020	Delta	2021	Delta	2021/1C	2021/2C	2021/3C	2021/4C	2020	2021	2020	2021	
Energy	-15%	61%	27%	22%	-33.9%	18.3%	5.2%	-0.7%	-5.9%	2.5%	3.2%	-65%	-141%	-650%	7630%	-109%	-538%	-166.9x	38.1x	
Materials	3%	16%	8%	5%	-12.1%	7.7%	9.4%	8.7%	-0.7%	10.0%	1.3%	19%	44%	19%	17%	-20%	24%	26.4x	21.3x	
Industrials	-4%	20%	14%	12%	-15.0%	10.0%	9.5%	5.6%	-3.9%	8.9%	3.3%	-2%	335%	77%	71%	-50%	75%	41.7x	23.8x	
Discretionary	12%	23%	10%	12%	0.8%	14.2%	7.7%	4.5%	-3.2%	6.5%	2.0%	81%	233%	11%	52%	-39%	62%	52.1x	32.2x	
Staples	0%	4%	3%	3%	3.3%	2.6%	6.9%	6.8%	-0.1%	6.9%	0.1%	1%	9%	1%	9%	2%	5%	22.1x	21.1x	
HealthCare	8%	11%	5%	5%	8.4%	7.1%	10.1%	10.1%	0.0%	10.5%	0.4%	15%	7%	7%	17%	8%	11%	18.0x	16.2x	
Financials	25%	-9%	-5%	5%	-5.9%	2.4%	19.4%	14.0%	-5.3%	16.5%	2.4%	51%	64%	-10%	2%	-28%	19%	16.7x	14.0x	
Technology	10%	8%	9%	7%	4.7%	8.4%	22.1%	21.9%	-0.2%	22.6%	0.7%	10%	12%	10%	15%	4%	12%	30.5x	27.2x	
Communication Svc	9%	16%	12%	9%	2.4%	11.4%	15.0%	14.0%	-1.0%	14.8%	0.8%	11%	29%	10%	21%	-5%	18%	27.7x	23.5x	
Utilities	6%	6%	4%	0%	-3.3%	3.7%	9.4%	12.0%	2.6%	12.6%	0.6%	0%	8%	16%	29%	-2%	11%	17.7x	16.0x	
Real Estate	-2%	9%	7%	9%	-2.7%	5.6%	21.1%	14.8%	-6.2%	13.7%	-1.1%	-37%	-3%	39%	19%	-31%	-2%	50.9x	52.1x	
S&P 500	6.3%	11.6%	7.1%	7.8%	-3.1%	8.2%	11.7%	10.0%	-1.72%	11.3%	1.27%	16.4%	45.5%	11.6%	21.9%	-16%	22%	27.3x	22.3x	
Ex-Energy	8.0%	9.3%	6.0%	7.0%	-0.2%	7.5%	12.3%	10.7%	-1.67%	11.9%	1.20%	18.6%	37.2%	9.1%	19.5%	-13%	20%	26.5x	22.0x	
Energy Equipment	-24%	1%	4%	4%	-23.4%	-4.9%	3.9%	2.2%	-1.8%	3.2%	1.0%	-31%	301%	50%	40%	-57%	37%	48.4x	35.2x	
Oil Gas & Consuma	-13%	71%	29%	24%	-35.0%	21.3%	5.3%	-1.1%	-6.4%	2.5%	3.5%	-68%	-135%	-460%	-1624%	-113%	-383%	-109.0x	38.4x	
Chemicals	2%	16%	8%	5%	-15.3%	7.6%	11.3%	10.4%	-1.0%	11.5%	1.1%	1%	42%	16%	21%	-25%	19%	27.1x	22.7x	
Construction Materi	-3%	0%	3%	4%	-2.0%	1.2%	13.3%	14.0%	0.7%	13.7%	-0.3%	-2%	-2%	-6%	10%	3%	-1%	28.6x	28.9x	
Containers & Packa	2%	9%	4%	2%	-4.2%	4.1%	7.5%	6.5%	-1.0%	7.2%	0.7%	12%	18%	18%	15%	-17%	16%	21.5x	18.5x	
Metals & Mining	17%	31%	17%	7%	-8.9%	17.2%	3.6%	4.9%	1.3%	8.7%	3.8%	1160%	387%	58%	10%	24%	109%	32.0x	15.3x	
Aerospace & Defen	-2%	15%	14%	9%	-9.7%	8.8%	6.7%	5.5%	-1.2%	7.9%	2.4%	6%	211%	54%	48%	-24%	57%	30.5x	19.5x	
Building Products	3%	12%	3%	5%	-11.8%	5.8%	9.0%	9.2%	0.2%	9.6%	0.4%	16%	18%	1%	10%	-9%	10%	22.7x	20.6x	
Construction & Engi	0%	8%	4%	5%	-1.6%	4.2%	4.8%	5.2%	0.4%	5.2%	0.0%	3%	23%	-11%	13%	6%	5%	18.8x	18.0x	
Electrical Equipmen	-4%	13%	6%	4%	-12.6%	4.8%	12.8%	12.3%	-0.5%	12.6%	0.3%	-9%	30%	3%	11%	-16%	7%	27.3x	25.5x	
Industrial Conglome	-6%	10%	6%	6%	-17.0%	3.9%	10.3%	7.8%	-2.5%	10.2%	2.4%	-3%	256%	22%	30%	-37%	36%	33.3x	24.4x	
Machinery	4%	20%	7%	8%	-13.4%	9.2%	11.3%	9.7%	-1.6%	10.8%	1.1%	14%	52%	12%	17%	-26%	22%	26.6x	21.8x	
Trading Companies	-2%	5%	3%	3%	-1.4%	2.4%	12.5%	11.3%	-1.1%	11.4%	0.0%	-3%	5%	2%	6%	-10%	3%	23.0x	22.5x	
Commercial Service	4%	13%	10%	6%	-1.2%	8.4%	12.7%	12.7%	-0.1%	12.9%	0.3%	6%	23%	5%	10%	-2%	11%	35.1x	31.7x	
Professional Servico	-2%	8%	6%	5%	-3.2%	4.2%	15.4%	16.1%	0.6%	16.7%	0.7%	5%	7%	6%	15%	1%	8%	29.0x	26.8x	
Air Freight & Logisti	8%	5%	2%	5%	8.7%	4.9%	6.8%	6.2%	-0.6%	6.7%	0.6%	51%	18%	0%	11%	-1%	15%	22.5x	19.6x	
Airlines	-41%	319%	160%	115%	-62.6%	65.3%	7.7%	-45.7%	-53.4%	-3.6%	42.2%	89%	-92%	-106%	-114%	-322%	-87%	-3.0x	-23.3x	
Road & Rail	0%	22%	8%	6%	-8.7%	8.6%	22.7%	22.0%	-0.6%	23.4%	1.4%	1%	47%	13%	10%	-11%	15%	26.6x	23.1x	
Auto Components	34%	118%	19%	4%	-8.4%	32.7%	8.5%	4.4%	-4.1%	6.6%	2.2%	47%	-247%	2%	9%	-53%	100%	43.2x	21.6x	
Automobiles	15%	138%	10%	20%	-18.7%	32.3%	3.3%	0.0%	-3.3%	3.2%	3.2%	#####	-295%	-39%	15%	-40%	98%	14.1x	7.1x	
Household Durable	14%	19%	7%	9%	2.7%	12.2%	8.6%	9.9%	1.3%	10.0%	0.1%	29%	37%	-3%	8%	18%	13%	12.4x	10.9x	
Leisure Products	6%	26%	9%	8%	15.1%	10.8%	11.1%	9.1%	-2.0%	10.2%	1.1%	52%	1467%	3%	19%	-5%	24%	24.7x	20.0x	
Textiles Apparel & I	12%	51%	14%	12%	-16.3%	19.3%	10.0%	4.7%	-5.3%	9.6%	4.9%	274%	-214%	27%	42%	-61%	143%	83.1x	34.2x	
Hotels Restaurants	-23%	99%	62%	47%	-41.8%	33.7%	15.2%	-8.3%	-23.5%	4.3%	12.6%	-127%	-117%	-210%	-278%	-132%	-170%	-65.2x	92.9x	
Diversified Consum	25%	-70%	5%	2%	-2.1%	1.9%	14.8%	12.9%	-1.9%	13.7%	0.7%	47%	-229%	1%	-3%	-15%	8%	7.8x	7.3x	
Distributors	-3%	14%	5%	4%	-10.2%	4.6%	4.9%	5.2%	0.3%	5.6%	0.4%	18%	24%	3%	11%	-5%	13%	16.9x	14.9x	
Internet & Direct Ma	22%	18%	18%	17%	26.4%	18.6%	6.1%	4.8%	-1.3%	5.9%	1.1%	71%	34%	15%	106%	-1%	47%	90.2x	61.3x	
Multiline Retail	5%	-4%	-2%	2%	12.0%	0.2%	4.7%	4.9%	0.2%	5.0%	0.2%	133%	-16%	-15%	6%	16%	4%	21.1x	20.3x	
Specialty Retail	19%	4%	-3%	3%	6.6%	5.0%	7.8%	6.9%	-0.9%	8.0%	1.1%	213%	13%	-7%	11%	-6%	21%	24.3x	20.1x	
Food & Staples Ret	0%	4%	3%	3%	4.8%	2.4%	2.7%	2.7%	0.0%	2.7%	0.0%	-2%	11%	-10%	9%	5%	1%	24.5x	24.1x	
Beverages	3%	13%	6%	4%	-1.1%	6.4%	16.6%	16.1%	-0.4%	16.5%	0.3%	1%	15%	6%	12%	-4%	8%	25.5x	23.5x	
Food Products	2%	-2%	0%	2%	1.5%	0.4%	8.4%	8.7%	0.3%	8.6%	-0.1%	1%	-9%	-1%	4%	5%	-1%	17.5x	17.7x	
Tobacco	1%	10%	5%	5%	-0.6%	5.1%	32.2%	32.6%	0.4%	33.4%	0.7%	-1%	12%	10%	9%	1%	7%	12.9x	12.0x	
Household Product	1%	3%	2%	3%	5.8%	2.2%	16.9%	17.7%	0.8%	17.7%	0.0%	-2%	1%	2%	7%	11%	2%	23.8x	23.3x	
Personal Products	3%	33%	14%	10%	-22.4%	13.5%	11.0%	4.6%	-6.4%	11.3%	6.7%	131%	-144%	37%	30%	-68%	179%	110.0x	39.4x	
Health Care Equipn	20%	27%	7%	4%	0.1%	13.6%	20.1%	18.5%	-1.6%	21.3%	2.9%	49%	89%	13%	8%	-8%	31%	34.8x	26.5x	
Health Care Provid	6%	9%	4%	5%	9.1%	5.8%	3.5%	3.5%	0.1%	3.5%	0.0%	13%	-26%	18%	48%	11%	7%	14.6x	13.7x	
Health Care Techni	0%	6%	5%	5%	-3.3%	3.9%	15.1%	15.9%	0.8%	16.7%	0.7%	2%	19%	9%	6%	2%	9%	25.8x	23.8x	
Biotechnology	17%	12%	1%	3%	16.8%	7.9%	39.4%	38.0%	-1.4%	38.1%	0.1%	15%	13%	-2%	10%	12%	8%	11.9x	11.0x	
Pharmaceuticals	6%	16%	9%	7%	6.2%	9.2%	28.5%	29.5%	1.0%	29.1%	-0.4%	1%	12%	5%	14%	10%	8%	15.3x	14.2x	
Life Sciences Tools	22%	19%	3%	0%	10.7%	9.8%	18.0%	20.2%	2.2%	21.2%	0.9%	52%	34%	-1%	-4%	24%	15%	30.5x	26.6x	
Banks	-5%	-8%	-2%	3%	-1.6%	-3.0%	26.5%	15.9%	-10.7%	19.5%	3.7%	88%	75%	-19%	-5%	-41%	19%	16.3x	13.6x	
Consumer Finance	-6%	14%	8%	10%	-10.6%	6.4%	17.7%	6.3%	-11.4%	14.3%	8.0%	-486%	-418%	-24%	4%	-68%	142%	32.9x	13.6x	
Capital Markets	9%	-4%	1%	3%	7.1%	2.3%	25.6%	24.1%	-1.5%	25.6%	1.6%	16%	17%	-2%	8%	1%	9%	18.4x	16.9x	
Insurance	5%	5%	4%	5%	-1.8%	5.0%	10.1%	9.3%	-0.8%	10.1%	0.9%	8%	48%	5%	9%	-10%	15%	13.5x	11.7x	
IT Services	2%	9%	8%	8%	1.1%	6.8%	20.1%	18.2%	-1.9%	20.3%	2.0%	0%	21%	16%	39%	-8%	19%	35.0x	29.5x	
Software	11%	9%	11%	11%	10.4%	10.4%	29.3%	30.7%	1.4%	29.5%	-1.1%	13%	6%	-3%	11%	16%	6%	34.3x	32.3x	
Communications Eq	4%	6%	6%	5%	-6.0%	5.3%	25.3%	25.2%	0.0%	25.5%	0.3%	2%	7%	9%	7%	-6%	6%	15.7x	14.8x	
Technology Hardw	18%	7%	11%	4%	3.1%	9.3%	16.9%	16.4%	-0.5%	17.4%	1.0%	29%	15%	22%	6%	0%	16%	33.2x	28.7x	
Electronic Equipmer	6%	15%	5%	5%	-2.7%	7.6%	12.1%	10.9%	-1.2%	12.1%	1.2%	25%	42%	9%	11%	-12%	20%	28.0x	23.4x	
Semiconductors & S	7%	8%	7%	8%	12.0%	7.7%	28.2%	28.1%	-0.1%	28.8%	0.7%	3%	10%	12%	17%	12%	11%	23.6x	21.4x	
Diversified Telecom	1%	5%	3%	1%	-4.8%	2.3%	14.2%	13.9%	-0.3%	13.8%	-0.1%	-6%	0%	7%	6%	-7%	2%	10.7x	10.5x	
Media	5%	11%	9%	5%	1.0%	7.1%	10.6%	9.7%	-0.9%	10.6%	0.9%	22%	14%	10%	23%	-7%	17%	21.4x	18.3x	
Entertainment	-4%	31%	35%	30%	-13.9%	21.9%	12.7%	6.4%	-6.3%	11.6%	5.2%	-12%	88%	394%	280%	-57%	122%	96.2x	43.4x	

Source: J.P. Morgan US Equity Strategy & Global Quantitative Research, FactSet

Figure 105: Sector and Industry Correlations to Macro Drivers and Style Factors

Code		Sector / Industry		Correlation to Macro Drivers								Correlation to Macro Drivers											
				USD		US BY 10YR		WTI Oil		Inflation Breakeven		High Beta		Value		Growth		Momentum		Quality		Low Vol	
				2YR	10YR	2YR	10YR	2YR	10YR	2YR	10YR	2YR	10YR	2YR	10YR	2YR	10YR	2YR	10YR	2YR	10YR	2YR	10YR
10	Energy	(28%)	(23%)	18%	14%	15%	22%	24%	17%	35%	22%	53%	40%	(46%)	(34%)	(53%)	(45%)	(50%)	(39%)	(47%)	(38%)		
101010	Energy Equipment & Services	(28%)	(25%)	25%	18%	12%	18%	26%	19%	36%	25%	54%	41%	(45%)	(31%)	(55%)	(46%)	(52%)	(41%)	(51%)	(42%)		
101020	Oil, Gas & Consumable Fuels	(27%)	(21%)	16%	12%	15%	21%	24%	15%	34%	20%	52%	38%	(45%)	(34%)	(52%)	(43%)	(49%)	(38%)	(45%)	(35%)		
15	Materials	(22%)	(24%)	11%	11%	2%	7%	14%	17%	25%	16%	45%	31%	(32%)	(18%)	(35%)	(30%)	(37%)	(27%)	(26%)	(25%)		
151010	Chemicals	(19%)	(16%)	19%	12%	4%	7%	19%	15%	24%	15%	44%	27%	(32%)	(17%)	(36%)	(26%)	(37%)	(23%)	(26%)	(19%)		
151020	Construction Materials	(23%)	(8%)	(8%)	7%	6%	5%	(12%)	6%	23%	7%	32%	13%	(16%)	(5%)	(26%)	(14%)	(24%)	(16%)	(22%)	(14%)		
151030	Containers & Packaging	(7%)	(7%)	4%	6%	(3%)	(1%)	0%	6%	13%	5%	34%	24%	(27%)	(17%)	(24%)	(20%)	(26%)	(21%)	(15%)	(10%)		
151040	Metals & Mining	(18%)	(30%)	(17%)	(1%)	(3%)	6%	3%	12%	9%	10%	7%	18%	(3%)	(10%)	(1%)	(20%)	(5%)	(18%)	(7%)	(23%)		
20	Industrials	(20%)	(9%)	16%	16%	5%	4%	15%	14%	39%	20%	61%	40%	(46%)	(28%)	(56%)	(37%)	(49%)	(29%)	(45%)	(23%)		
201010	Aerospace & Defense	(21%)	(5%)	5%	3%	7%	4%	16%	7%	23%	11%	41%	24%	(36%)	(22%)	(42%)	(22%)	(40%)	(20%)	(29%)	(9%)		
201020	Building Products	(16%)	(10%)	(4%)	10%	2%	2%	(5%)	10%	27%	2%	43%	9%	(24%)	(8%)	(32%)	(9%)	(25%)	(13%)	(26%)	(8%)		
201030	Construction & Engineering	(8%)	(12%)	9%	18%	6%	9%	1%	11%	22%	11%	37%	28%	(22%)	(13%)	(28%)	(25%)	(25%)	(22%)	(23%)	(22%)		
201040	Electrical Equipment	(18%)	(11%)	25%	21%	3%	6%	13%	16%	29%	14%	46%	30%	(32%)	(19%)	(41%)	(30%)	(36%)	(22%)	(33%)	(21%)		
201050	Industrial Conglomerates	(14%)	(7%)	11%	9%	0%	0%	4%	4%	38%	18%	54%	33%	(42%)	(29%)	(49%)	(31%)	(43%)	(24%)	(41%)	(15%)		
201060	Machinery	(18%)	(17%)	23%	23%	2%	6%	13%	20%	38%	20%	58%	36%	(38%)	(21%)	(51%)	(36%)	(43%)	(29%)	(44%)	(28%)		
201070	Trading Companies & Distributors	(2%)	2%	32%	15%	4%	4%	9%	6%	15%	7%	30%	15%	(13%)	(6%)	(24%)	(16%)	(13%)	(5%)	(24%)	(15%)		
202010	Commercial Services & Supplies	(5%)	4%	(24%)	(14%)	(1%)	(4%)	(19%)	(10%)	(2%)	(4%)	0%	0%	(7%)	(3%)	3%	3%	(4%)	1%	12%	15%		
202020	Professional Services	11%	2%	0%	3%	0%	(1%)	(3%)	6%	(5%)	(6%)	(4%)	(8%)	(6%)	1%	4%	5%	(3%)	(2%)	8%	6%		
203010	Air Freight & Logistics	17%	9%	10%	1%	(7%)	(7%)	3%	(1%)	14%	8%	18%	12%	(8%)	(6%)	(15%)	(10%)	(3%)	0%	(18%)	(7%)		
203020	Airlines	(27%)	(2%)	6%	3%	0%	(4%)	16%	6%	47%	25%	56%	35%	(54%)	(25%)	(57%)	(29%)	(53%)	(29%)	(53%)	(33%)		
203040	Road & Rail	(4%)	(6%)	18%	12%	9%	6%	15%	13%	20%	9%	32%	18%	(18%)	(10%)	(27%)	(16%)	(23%)	(14%)	(25%)	(15%)		
25	Consumer Discretionary	(3%)	5%	(20%)	(6%)	(6%)	(6%)	(6%)	(2%)	5%	(2%)	(10%)	(16%)	23%	18%	13%	16%	18%	12%	(5%)	(2%)		
251010	Auto Components	(33%)	(17%)	6%	13%	13%	11%	21%	18%	26%	15%	40%	28%	(20%)	(13%)	(34%)	(24%)	(28%)	(21%)	(33%)	(24%)		
251020	Automobiles	(26%)	(11%)	13%	12%	3%	2%	20%	15%	40%	22%	58%	39%	(44%)	(28%)	(51%)	(35%)	(48%)	(30%)	(47%)	(30%)		
252010	Household Durables	(30%)	(15%)	(8%)	1%	4%	3%	9%	9%	4%	(2%)	31%	17%	4%	1%	(15%)	(11%)	(9%)	(12%)	(9%)	(9%)		
252020	Leisure Products	2%	3%	12%	1%	(5%)	(4%)	17%	3%	14%	7%	17%	11%	(22%)	(16%)	(17%)	(12%)	(20%)	(13%)	(17%)	(10%)		
252030	Textiles, Apparel & Luxury Goods	(7%)	1%	13%	6%	2%	1%	9%	5%	22%	5%	29%	6%	(23%)	(5%)	(27%)	(9%)	(23%)	(6%)	(28%)	(13%)		
253010	Hotels, Restaurants & Leisure	(19%)	5%	(13%)	(11%)	5%	(0%)	9%	(1%)	30%	15%	28%	4%	(26%)	(12%)	(30%)	(7%)	(32%)	(13%)	(25%)	(7%)		
255010	Distributors	(28%)	(6%)	12%	4%	1%	(0%)	3%	(1%)	16%	5%	34%	19%	(9%)	(9%)	(25%)	(16%)	(18%)	(9%)	(17%)	(5%)		
255020	Internet & Direct Marketing Retail	11%	2%	(16%)	(5%)	(8%)	(4%)	(14%)	(4%)	(5%)	(1%)	(33%)	(32%)	29%	27%	28%	25%	30%	12%	6%	(2%)		
255030	Multiline Retail	21%	12%	(17%)	(9%)	(6%)	(6%)	(13%)	(9%)	(3%)	(6%)	2%	7%	9%	1%	10%	2%	11%	10%	4%	2%		
255040	Specialty Retail	(16%)	5%	1%	(3%)	2%	(2%)	9%	(1%)	(7%)	(9%)	11%	2%	10%	5%	0%	5%	4%	10%	6%	7%		
30	Consumer Staples	27%	18%	(33%)	(36%)	(9%)	(11%)	(34%)	(30%)	(7%)	(4%)	(12%)	(9%)	7%	(4%)	18%	13%	10%	13%	25%	27%		
301010	Food & Staples Retailing	34%	21%	(24%)	(24%)	(10%)	(12%)	(28%)	(22%)	(1%)	(1%)	(10%)	(3%)	10%	2%	16%	11%	14%	14%	13%	14%		
302010	Beverages	11%	12%	(21%)	(30%)	(4%)	(7%)	(24%)	(25%)	(5%)	(1%)	(7%)	(9%)	(7%)	(9%)	7%	9%	(4%)	5%	20%	25%		
302020	Food Products	24%	15%	(35%)	(31%)	(14%)	(12%)	(27%)	(23%)	(6%)	(4%)	(7%)	(5%)	5%	(3%)	15%	9%	8%	7%	19%	19%		
302030	Tobacco	(6%)	1%	(14%)	(24%)	1%	(3%)	(18%)	(19%)	10%	2%	19%	3%	(15%)	(12%)	(13%)	(1%)	(14%)	1%	(3%)	12%		
303010	Household Products	29%	16%	(31%)	(31%)	(7%)	(9%)	(32%)	(26%)	(18%)	(7%)	(26%)	(14%)	21%	2%	31%	16%	24%	18%	35%	29%		
303020	Personal Products	0%	(3%)	(2%)	(3%)	5%	3%	7%	0%	12%	4%	16%	4%	(10%)	(6%)	(16%)	(7%)	(13%)	(5%)	(10%)	(2%)		
35	Health Care	20%	15%	(27%)	(18%)	(11%)	(11%)	(23%)	(16%)	(13%)	(7%)	(20%)	(15%)	14%	10%	22%	17%	17%	15%	26%	15%		
351010	Health Care Equipment & Supplies	6%	3%	(16%)	(12%)	(9%)	(8%)	(8%)	(7%)	(14%)	(11%)	(26%)	(22%)	10%	8%	23%	17%	14%	9%	24%	19%		
351020	Health Care Providers & Services	(11%)	3%	2%	(3%)	3%	(1%)	(5%)	(5%)	(8%)	(4%)	8%	11%	4%	3%	(2%)	0%	(4%)	(1%)	6%	2%		
351030	Health Care Technology	11%	4%	(25%)	(10%)	(10%)	(5%)	(24%)	(10%)	7%	0%	1%	(7%)	(1%)	4%	1%	5%	0%	2%	2%	1%		
352010	Biotechnology	26%	10%	(22%)	(7%)	(10%)	(7%)	(27%)	(10%)	(12%)	(6%)	(21%)	(18%)	20%	17%	23%	14%	25%	18%	19%	3%		
352020	Pharmaceuticals	30%	19%	(32%)	(23%)	(13%)	(13%)	(26%)	(20%)	(2%)	(0%)	(14%)	(8%)	3%	(3%)	14%	10%	10%	11%	19%	17%		
352030	Life Sciences Tools & Services	16%	(3%)	(16%)	2%	(8%)	(4%)	2%	8%	(17%)	(11%)	(25%)	(18%)	26%	16%	30%	16%	28%	11%	23%	9%		
40	Financials	(20%)	(8%)	33%	36%	3%	3%	25%	23%	37%	16%	58%	45%	(58%)	(38%)	(59%)	(41%)	(62%)	(44%)	(45%)	(26%)		
401010	Banks	(18%)	(3%)	39%	37%	4%	4%	27%	22%	40%	24%	59%	48%	(61%)	(41%)	(62%)	(44%)	(64%)	(47%)	(51%)	(34%)		
402010	Diversified Financial Services	5%	(10%)	2%	21%	(3%)	(0%)	(4%)	13%	37%	7%	40%	26%	(40%)	(21%)	(40%)	(23%)	(40%)	(21%)	(31%)	(10%)		
402020	Consumer Finance	(35%)	(9%)	22%	21%	6%	5%	22%	14%	34%	21%	51%	39%	(49%)	(31%)	(53%)	(37%)	(54%)	(37%)	(42%)	(30%)		
402030	Capital Markets	(19%)	(9%)	24%	42%	(0%)	4%	18%	27%	4%	1%	19%	24%	(20%)	(13%)	(20%)	(22%)	(25%)	(23%)	(10%)	(15%)		
403010	Insurance	(20%)	(3%)	8%	21%	2%	2%	20%	14%	23%	8%	46%	39%	(43%)	(31%)	(40%)	(29%)	(48%)	(32%)	(22%)	(8%)		
45	Information Technology	2%	2%	18%	5%	7%	3%	12%	4%	(35%)	(12%)	(46%)	(34%)	39%	33%	41%	31%	45%	28%	26%	9%		
451020	IT Services	(12%)	0%	8%	1%	6%	2%	10%	2%	(12%)	(7%)	(19%)	(22%)	7%	9%	9%	13%	2%	9%	14%	13%		
451030	Software	10%	0%	6%	2%	2%	1%	1%	2%	(39%)	(20%)	(57%)	(37%)	46%	29%	49%	30%	44%	24%	36%	18%		
452010	Communications Equipment	17%	3%	9%	5%	(5%)	(3%)	(4%)	(0%)	3%	4%	6%	2%	(8%)	(1%)	(6%)	(4%)	0%	1%	(5%)	(5%)		
452020	Technology Hardware, Storage & Peripherals	4%	4%	11%	1%	4%	1%	7%	0%	(20%)	(0%)	(23%)	(10%)	23%	18%	24%	14%	33%	17%	13%	(1%)		
452030	Electronic Equipment, Instruments & Related Products	(11%)	(10%)	28%	18%	1%	3%	20%	13%	21%	8%	31%	18%	(25%)	(8%)	(29%)	(17%)	(23%)	(14%)	(30%)	(17%)		
453010	Semiconductors & Semiconductor Equipment	(7%)	(3%)	24%	12%	9%	5%	18%	8%	(14%)	(1%)	(15%)	(8%)	17%	16%	16%	10%	24%	12%	2%	(8%)		
50	Communication Services	16%	8%	(20%)	(25%)	(6%)	(6%)	(27%)	(21%)	7%	3%	(18%)	(2%)	21%	(2%)	11%	(0%)	17%	7%	0%	8%		
501010	Diversified Telecommunication Services	19%	10%	(23%)	(25%)	(12%)	(10%)	(33%)	(23%)	21%	10%	18%	12%	(22%)	(18%)	(13%)	(9%)	(15%)	(5%)	(8%)	5%		
501020	Wireless Telecommunication Services	4%	2%	(8%)	(12%)	(1%)	(3%)	(15%)	(13%)	2%	12%	(8%)	(

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