TRIVARIATE RESEARCH

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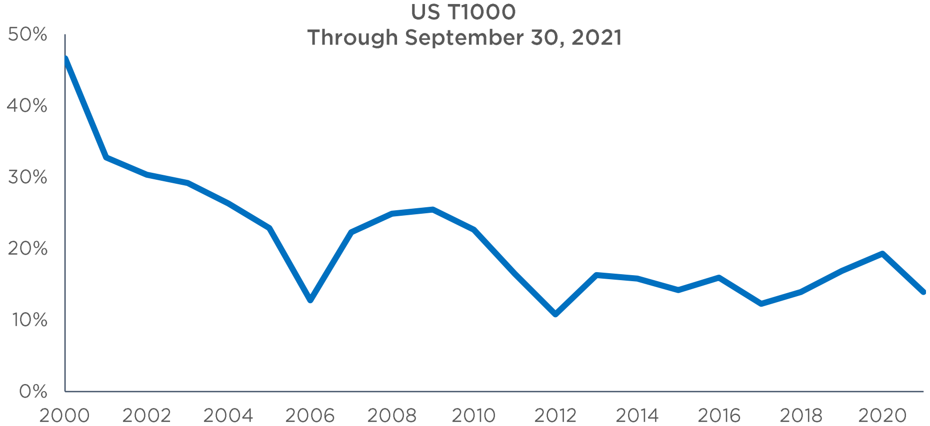
For further information on our Quantitative Framework, or our notes on FAANGM, BATJ (Baidu, Alibaba, Tencent, JD.com) or ESG ETFs please contact us or log into our website www.trivariateresearch.com for access.

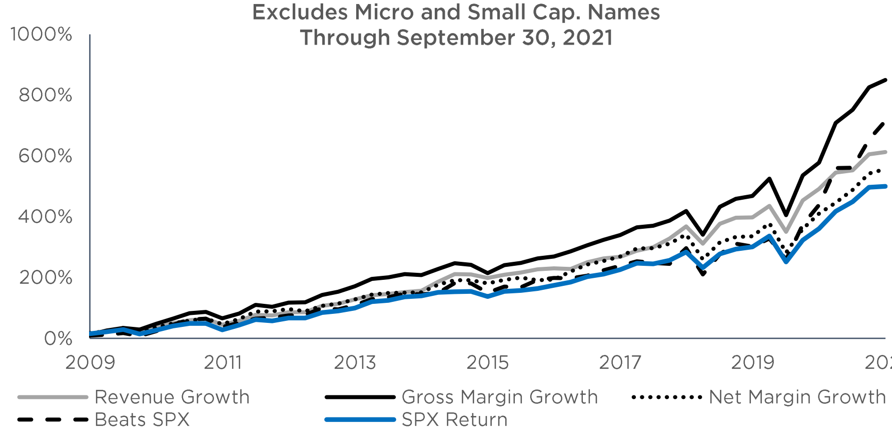
FOUR CHARTS YOU SHOULD NOT MISS

Alpha generation has been challenged in part by the fewest “big” long ideas in years (upper left). The key focus today should be gross margin expansion, as this leads to the highest likelihood of compounding (upper right). Our sector bets include energy / materials over industrials, discretionary over staples, healthcare over tech, and utilities over REITS (bottom left). We search for the Double Whammy of growth ideas (bottom right) with higher revenue growth and disproportionately higher multiples

Percentage of Beta-Adjusted Returns Above 20%
US T1000
Through September 30, 2021



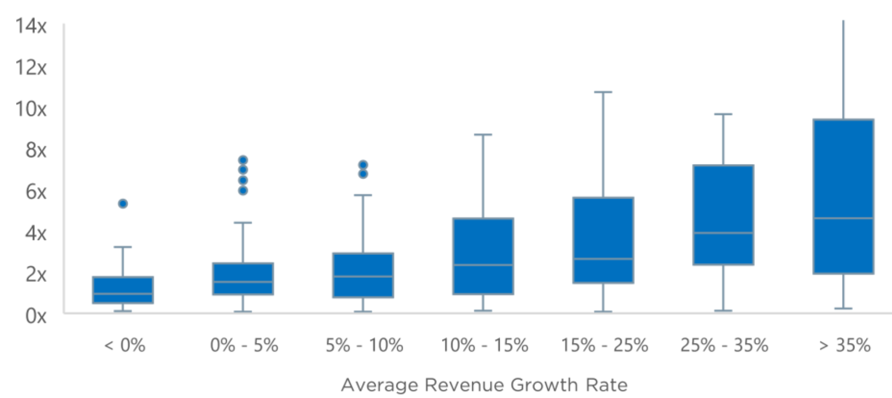
Average Returns Rebalanced Quarterly and Compounded
Excludes Micro and Small Cap. Names
Through September 30, 2021



Trivariate Sector Recommendations

Sector	Trivariate Recommendation	Comments
Materials	Max Overweight	Prefer copper long-term, steel near-to-medium term
Energy	Max Overweight	Oil is rising, and M&A is likely
Health Care	Overweight	Healthcare services are rate-sensitive, and demand trends are above GDP
Consumer Discretionary	Overweight	Retailing, reopening, and services better than durables
Utilities	Equal-Weight	Some idiosyncratic bets probably sensible
Communication Services	Equal-Weight	Makes sense to keep market-weight FAANGM
Financials	Equal-Weight	Large cap banks better than regionals
Real Estate	Under-Weight	Commercial real-estate is challenged
Information Technology	Under-Weight	Semis are over-earning, focus on margin expansion / cash flow generation
Consumer Staples	Under-Weight	Plenty of short ideas in idiosyncratic staples
Industrials	Max Underweight	Industrial activity is rolling over, but earnings expectation are very high

Distribution of Relative to T500 Price-to-Forward Sales Multiple
By Growth Rate Bucket
September 30, 2021



INVESTMENT CONCLUSIONS

- **We are bullish on the US stock market.** We see earnings growth and a solid US economy, accompanied by accommodative monetary policy and a sustained fiscal stimulus. Admittedly, the market is expensive relative to its own history and in absolute terms at roughly 21x forward earnings. However, the constitution of the market has changed. Nearly 20% of the top 3000 US stocks market cap is FAANGM. Roughly another 20% of the market is pharma & biotech. or software companies, where current profitability is not as important as sustained growth. Signs of management hubris are missing, as capital spending-induced impediments to margin expansion in most industries do not appear likely and inventory risk is small. Low real yields keep equity market multiples elevated
- **We think a growth – value barbell is appropriate.** Following the last ten large drawdowns in growth stocks, margin expanders with positive free cash flow subsequently outperformed. There is a non-linear relationship between revenue growth and valuation, revealing several opportunities. The key to identifying compounders is gross margin growth, and our judgment is investors should be spending a disproportionate amount of time on margin expectations at this point in the cycle
- **Alpha generation has been challenging. H**igh-conviction out of consensus ideas have recently failed, volatility in factor efficacy, a dearth of long ideas beating the market by 20% or more and the growth universe being less idiosyncratic than value are among the issue
- **Sector recommendations.** We like energy / materials over industrials, discretionary over staples, healthcare over technology, and utilities over REITs. We like large banks over small

INVESTMENT CONCLUSIONS

- **Gross exposure advice:** We ingest over 100 macro variables and conclude that investors should gross up TMT, consumer, and lower quality stocks that are not fast growing (i.e., gross up high yield junk and other junk) and de-gross durables, banks, and lower quality stocks that do not pay a dividend
- **If risks did not change, anyone could do risk management.** The importance of measuring "work from home" vs. "reopening" exposure crossed with quality and junk, inflation exposure, and the unprecedented correlation of signals in certain segments like REITS and industrials are all huge risks that grew after COVID-19 roiled markets in Q1 2020. When considering risk, investors should consider correlation convexity and negative asymmetric beta. Canvassing multiple metrics, REITs look particularly risky today

WE ARE OPTIMISTIC ABOUT US EQUITIES

- **Our conclusion: We are bullish on US equities.** When investors look back several years from now what will they observe? A solid economy with sustained profit growth, accommodative monetary policy and big fiscal stimulus
- **Does it matter that the market is expensive?** While there is no question that the US stock market is expensive on forward earnings vs. its own history, we do not think history is a relevant determinative of subsequent return as market constitution, profit margins, and low interest rates render many historical comparisons irrelevant
- We generally do not see signs of management hubris, with capital spending unlikely to impede margin progress and inventory levels for a decreasingly relevant set of companies relatively tame. **Hence, we remain optimistic about the sustainability of earnings growth and the maintenance of elevated multiples**
- **IN SUMMARY: We have a healthy US economy, growing earnings, impediments to margin expansion isolated to raw goods and transportation logistics, fiscal stimulus and an accommodative monetary policy. The biggest risks in our mind is input costs rising faster than revenue for select companies, though a material reset due to policy related to the COVID Delta variant, or increased China tension could unerve the market at these levels**

EARNINGS EXPECTATIONS PEAKED IN Q2 AND DECELERATE UNTIL Q1

The bottom-up analyst earnings growth expectations are for 23.1% YoY earnings growth for Q3, down from the 92.4% growth in Q2 (a function of the COVID trough) but slightly up from where expectations were at the end of Q2. Earnings will decelerate but remain in the mid-twenties through Q4, trough in Q2 2022, and then accelerate again from there. The energy sector lost money in 2020, so the rebound is to be expected. Industrials companies have very high YoY earnings growth expectations every quarter through 2022, which may be a risk as input costs rise

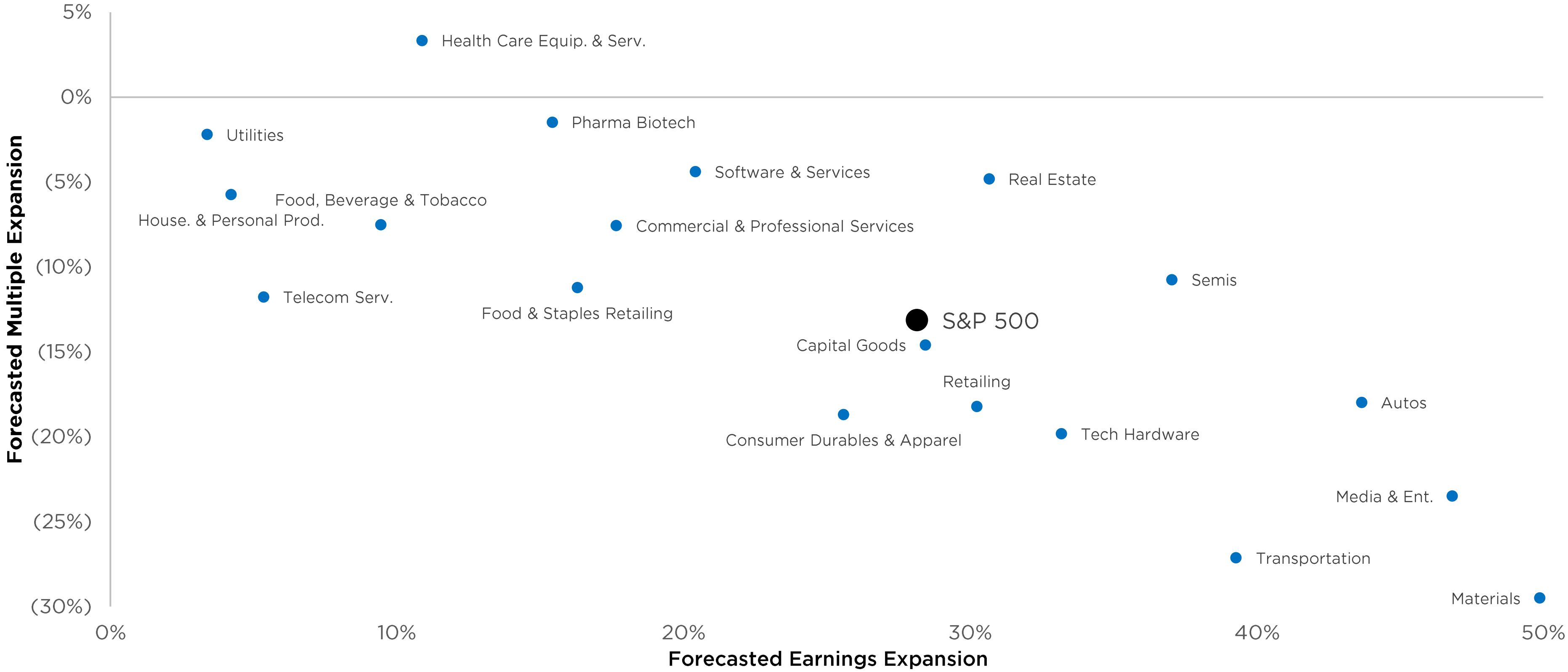
Bottom-Up Analyst Earnings Growth Expectations
October 1, 2021

Sector	1Q21	2Q21	3Q21E	4Q21E	1Q22E	2Q22E	3Q22E	4Q22E
S&P 500	46.7%	92.4%	23.1%	20.7%	5.4%	3.5%	15.6%	13.2%
S&P ex-Financials	33.2%	73.1%	25.6%	26.6%	12.9%	9.2%	17.0%	13.8%
Consumer Discretionary	224.2%	258.2%	1.7%	15.3%	8.8%	27.6%	46.8%	35.9%
Consumer Staples	8.3%	16.4%	(0.2%)	1.8%	5.3%	5.7%	10.0%	10.0%
Energy	16.0%	N/A	N/A	N/A	109.8%	28.0%	4.7%	(2.4%)
Financials	130.9%	251.8%	11.4%	(3.3%)	(21.7%)	(19.7%)	8.0%	9.5%
Health Care	21.7%	20.1%	10.5%	16.7%	5.7%	4.4%	10.3%	4.2%
Industrials	(4.6%)	384.1%	63.9%	129.4%	61.1%	32.6%	37.3%	24.3%
Info Tech	37.7%	41.9%	22.8%	13.5%	5.8%	5.2%	15.8%	15.8%
Materials	53.7%	128.3%	66.2%	58.3%	31.2%	(2.6%)	1.4%	(9.6%)
Communication Services	49.7%	68.2%	21.5%	10.7%	1.9%	2.7%	16.9%	18.3%
Utilities	(1.0%)	13.7%	(0.9%)	0.2%	7.7%	(11.8%)	4.0%	16.2%
REITS	3.4%	27.5%	15.7%	13.2%	5.7%	0.6%	8.9%	9.7%

INDUSTRY LEVEL MULTIPLE AND EARNINGS EXPANSION

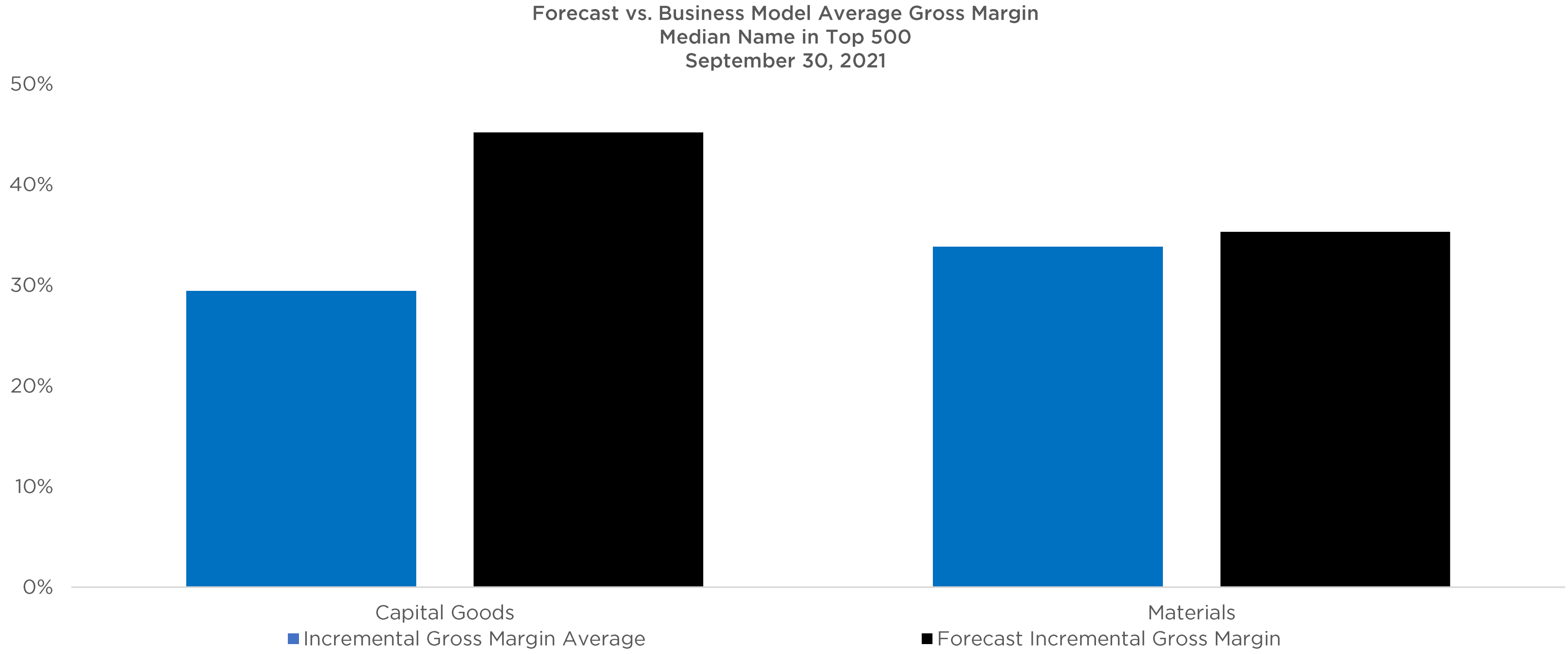
Only one industry has both upward earnings revisions and higher multiples this year – healthcare equipment and services. On a 12-month forward basis, we have seen low double-digit multiple contraction YTD overall, and massive multiple contraction in energy, materials, and consumer services where the market thinks earnings strength is not sustainable or where the strength of the rebound seems structurally jeopardized. (The energy and consumer services industry earnings expansion and multiple contraction are so extreme that they are literally "off the chart")

Forecasted Earnings Expansion vs. Forecasted Multiple Expansion
December 31, 2020 vs. October 1, 2021



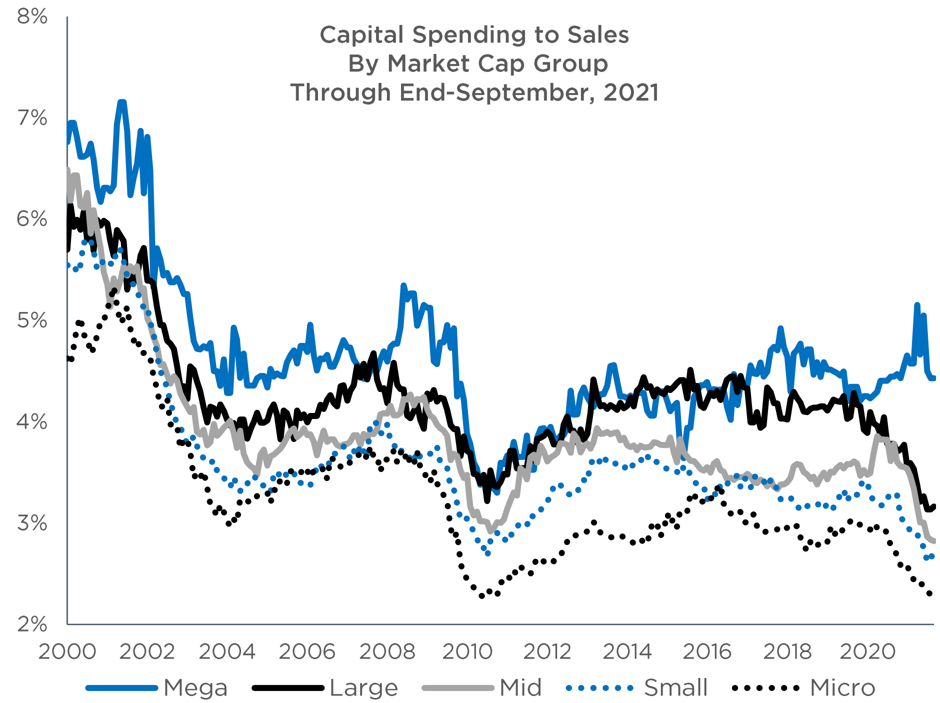
INCREMENTAL GROSS MARGIN EXPECTATIONS VS. HISTORY

Cyclical industries are in part defined by having high fixed costs, causing cyclical earnings when revenues inflect. We think it is extremely important for investors to assess the incremental margins of the stocks in which they are investing at this point in the cycle. Analysts should have some knowledge about the fixed and variable costs of a business, and whether the incremental margin expectations embedded in the consensus outlook are achievable. We measure the median stock's expectations for the next year vs. the incremental margins the company has on average achieved previously, as a proxy for estimate achievability. Materials estimates look far more achievable than capital goods, meaning relative estimate achievability is likely far greater



INVENTORY AND CAPITAL SPENDING ARE NOT BURDENS TO PROFITS

Overall inventory is less of a risk than it was in the past, because now approximately 40% of the top 3000 US equities do not even have inventory as part of their business model. That is roughly 300 more stocks than 20 years ago. Moreover, we are still more likely to hear about shortages (semiconductor supply chain) than excesses in many area of manufacturing today. Therefore, an inventory burn off or backlog cancellation seems highly unlikely to impede margin expectations for the coming couple of quarters. Restocking could drive higher factory utilization and margins for manufacturers. Excessive capital spending can also be bad. However, we generally have not seen any increases in capital intensity (right chart), so there is limited fear of over-producing consumption in the near-to-medium term. In the end, management hubris that caused cycle tops previously seems less likely when inventory and capital spending are under control

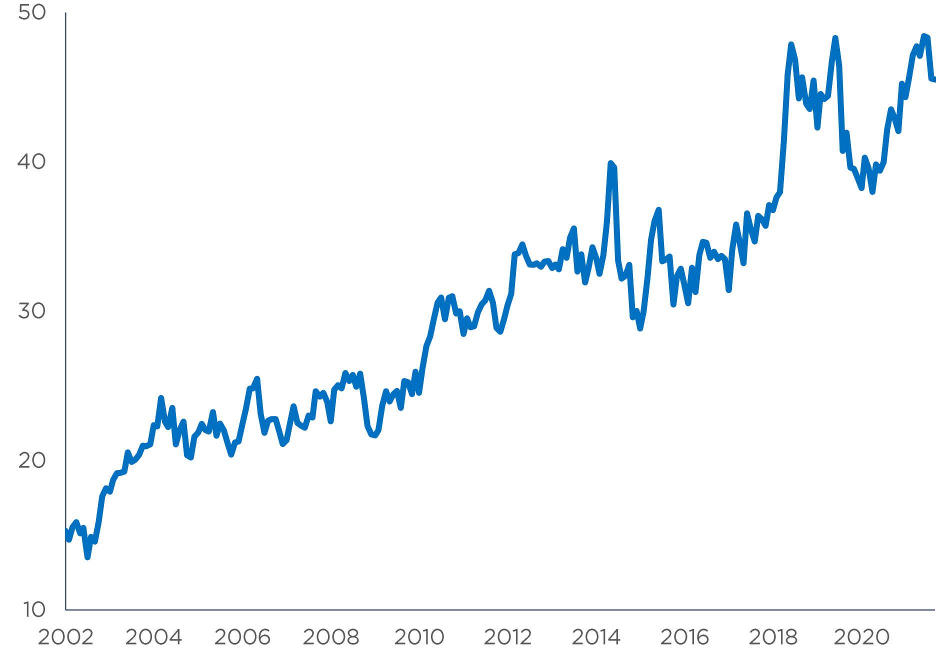


IS VALUATION DEFENSIBLE? CONSTITUENTS HAVE SHIFTED

Roughly twenty percent, or 600 of the biggest 3000 public US equities are currently in the Software & Services or Pharmaceuticals, Biotechnology, and Life Sciences industries. That is nearly twice the number we had 20 years ago! Investors are buying long-dated potential growth, not current profitability (left chart). We think that the elevated market valuation is in part sensible because these faster-growing businesses are maintaining their growth status for close to the longest amount of time ever (right chart) with the average number of consecutive months a growth stock in the SP500 has been able to grow near a record level of 48 months straight, up from just under two years in 2007

Software Plus Biotechnology
Percentage of Companies in the Top 3000
Through End-September, 2021

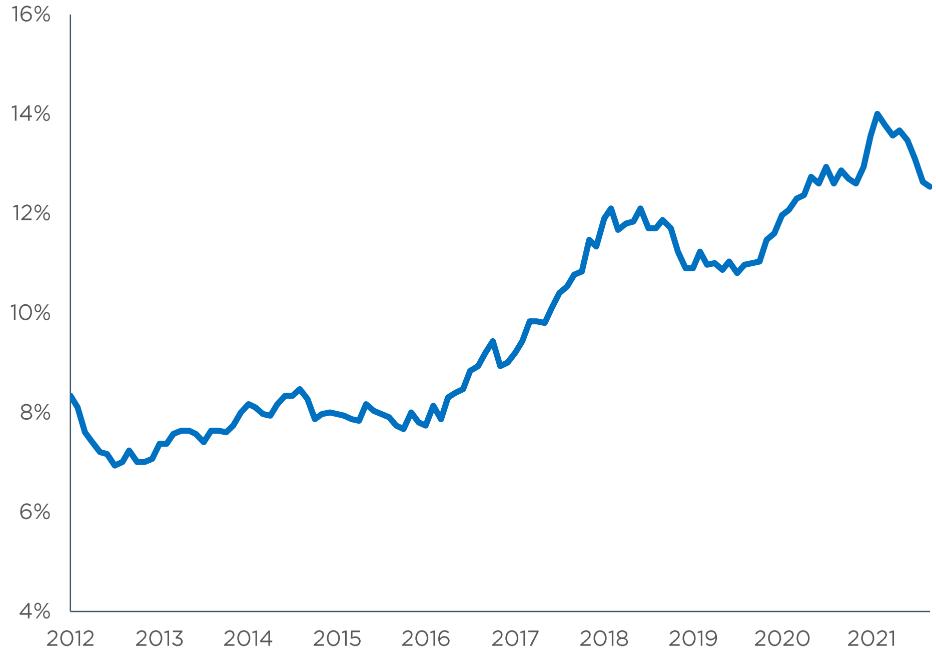
Average Number of Consecutive Months
An SP500 Growth Stock Has Been in Growth Universe
Through End-August, 2021



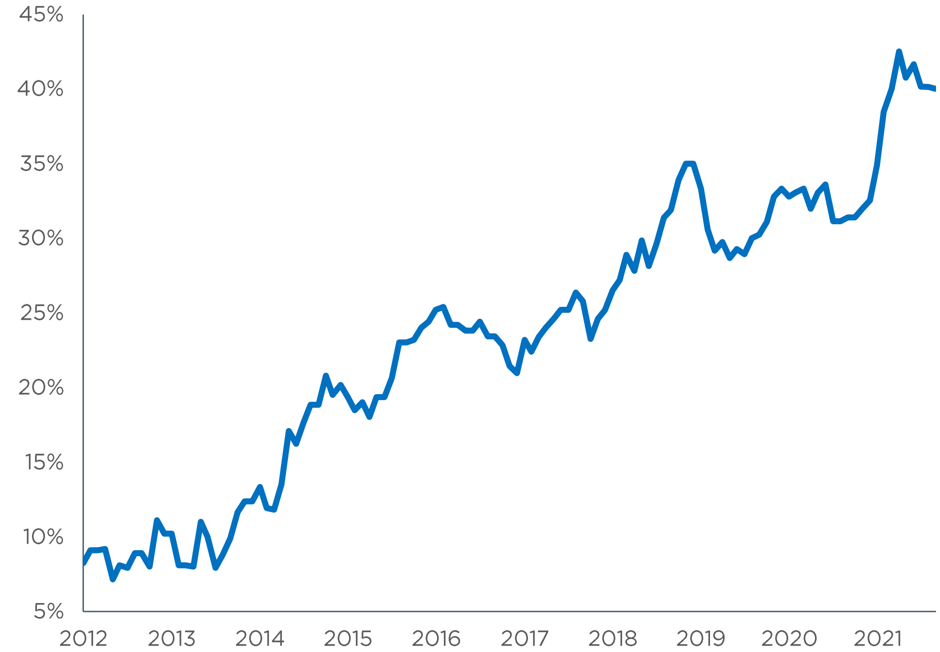
CURRENT PROFITS DO NOT MATTER FOR GROWTH INDUSTRIES

Investors in hyper growth stocks do not seem to care that much about current profitability, because more than 13% of the largest 3000 companies by market capitalization have lost money on an annual basis every quarter for the past two years (left chart). In industries like software, over 40% of the companies that have more than $500 million in annual trailing revenue still lose money (right chart). Investors clearly are not concerned focused on current profitability and will pay in an increasingly anticipatory fashion for growth if they believe it will be sustained or recurring for longer in the future

Percentage of Top 3000 Companies That Have Lost Money Annually For 24 Consecutive Months Through End-September, 2021

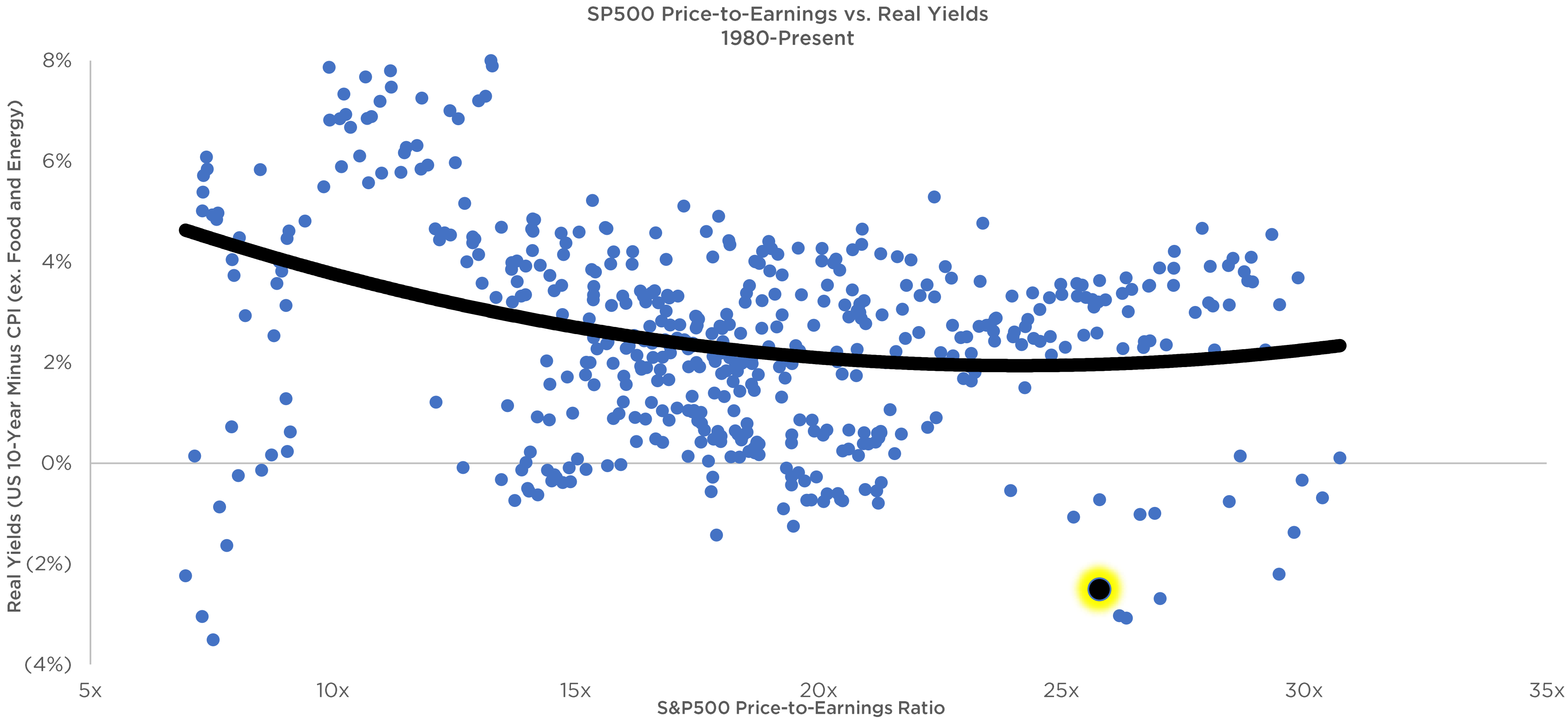


Percentage of Software Companies with Greater than $500m in Revenue that Lose Money Through End-September, 2021



THE PRIMARY REASON FOR HIGHER MULTIPLES IS LOW REAL YIELDS

The interest rate environment is an important metric for assessing an appropriate price-to-earnings ratio. Historically extreme real yields were accompanied by lower multiples because they were considered risk regimes. Today (highlighted below), the nominal level of yields seems to matter –i.e. the 1.7% dividend, 2% net buyback, and 'call option' on earnings growth make the market look much more attractive than the yield of government bonds



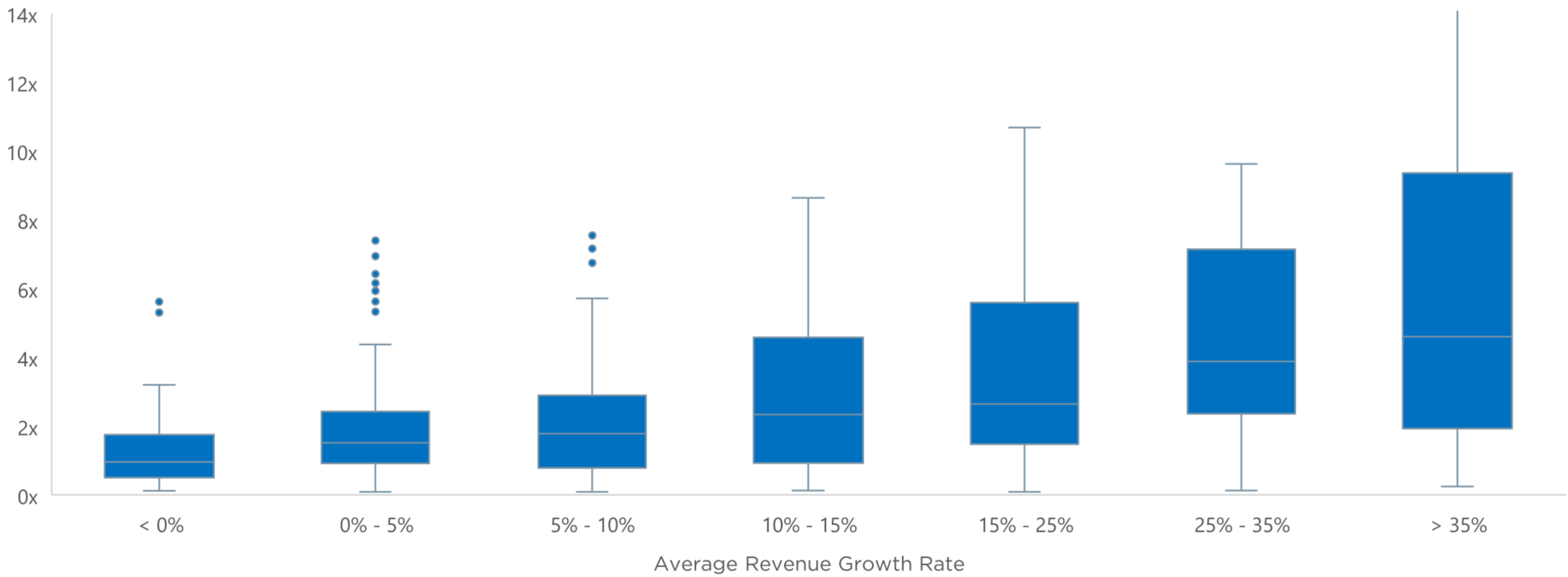
SUMMARY OF VIEWS ON GROWTH STOCKS

- There is a non-linear relationship between revenue growth and relative price-to-sales multiples – the "Double Whammy" is identifying stocks that will not only grow faster(slower) but also begin to command a higher (lower) multiple – please contact us for stock ideas
- We looked at industry-level revenue growth and relative to SP500 price-to-forward sales and compared the forecasted growth and multiples to historical averages. Every industry is forecasted to grow faster than its long-term average next year. Energy is expected to grow nearly 25% faster than its average over the next year, but its sales multiple is nearly half its long-term average, as oil prices recover. Software is expected to grow 4% faster than average but is nearly 32% more relatively expensive than average
- We evaluated 11 prior growth-stock sell-offs since 2008 and identified that the key signals to focus on following every sell-off are largely similar – positive free cash flow and gross margin expansion. These typically work better than very fast growing, high margin, and low free cash flow stocks, which were more the type of growth stock that worked in 2020
- We analyzed attributes associated with compounding and found that sustained gross margin growth produces the highest level of subsequent stock performance, more than sustained revenue growth, net margin growth, earning per share growth, and stock performance. Stock ideas are shown on page 20

FASTER GROWTH MEANS DISPROPORTIONATELY HIGHER MULTIPLES

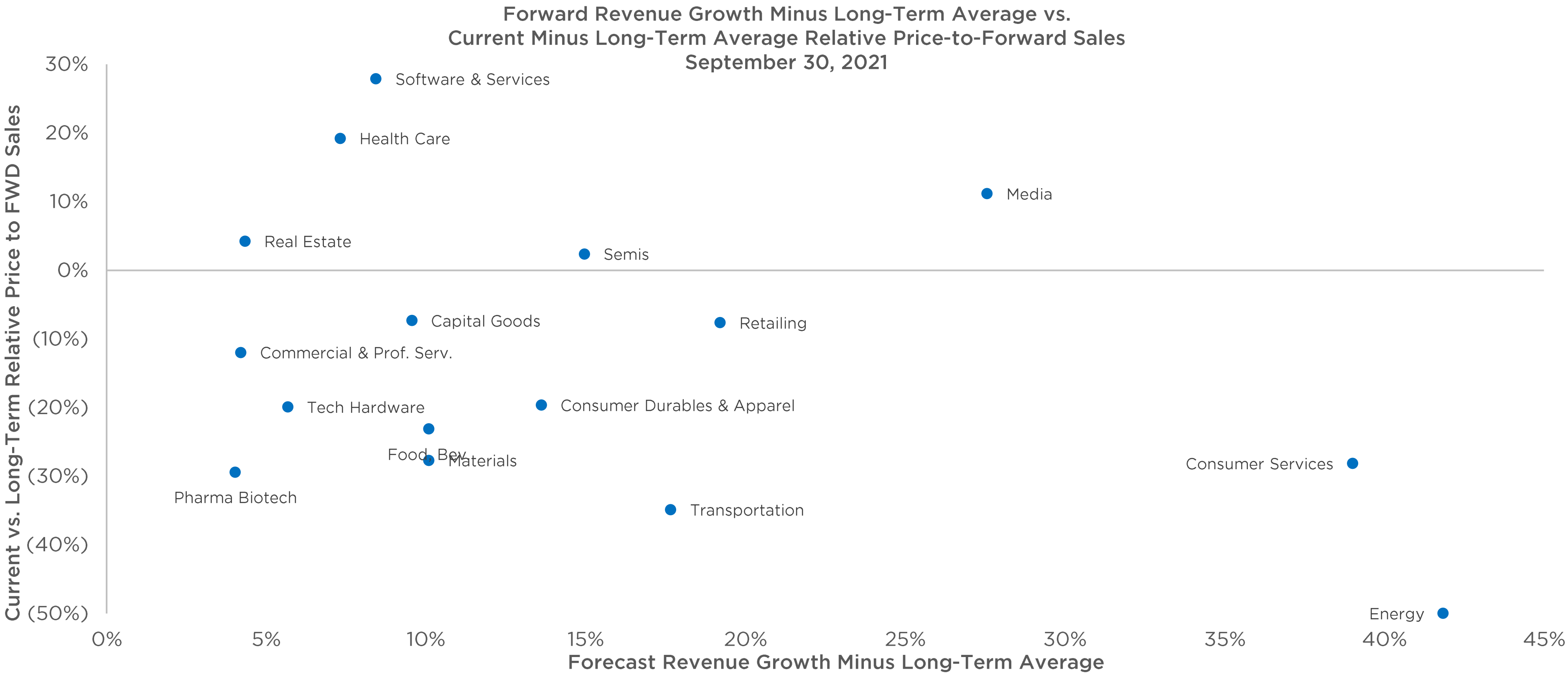
We analyzed the growth rates and relative to SP500 price-to-sales multiples for US stocks (excluding small / micro caps and value stocks). Growth / neither stocks with revenue growth below 0% have a relative price-to-sales multiple close to the market level, but as annual revenue growth exceeds 10%, the relative multiple begins to incrementally expand. Companies that grow 25-35% annual trade at nearly 4x the market multiple on sales on average, vs. 2x on average at 5-10% annual growth. **Higher growth means disproportionately higher multiples!**

Distribution of Relative to T500 Price-to-Forward Sales Multiple
By Growth Rate Bucket
September 30, 2021



INDUSTRY GROWTH RATES AND MULTIPLES SHOW DISLOCATIONS

We looked at industry-level revenue growth and relative to SP500 price-to-forward sales and compared the forecasted growth and multiples to historical averages. Every industry is forecasted to grow faster than its long-term average next year. Energy is expected to grow over 42% faster than its average over the next year, but its relative sales multiple is half its long-term average. Software is expected to grow ~8% faster than average but is ~28% more relatively expensive than average



Note: Our analysis excludes all "value" stocks, financials, and all small and micro cap. stocks

LONG / SHORT GROWTH STOCK IDEAS

Long (short) ideas are poised to grow faster (slower) and get higher (lower) multiples

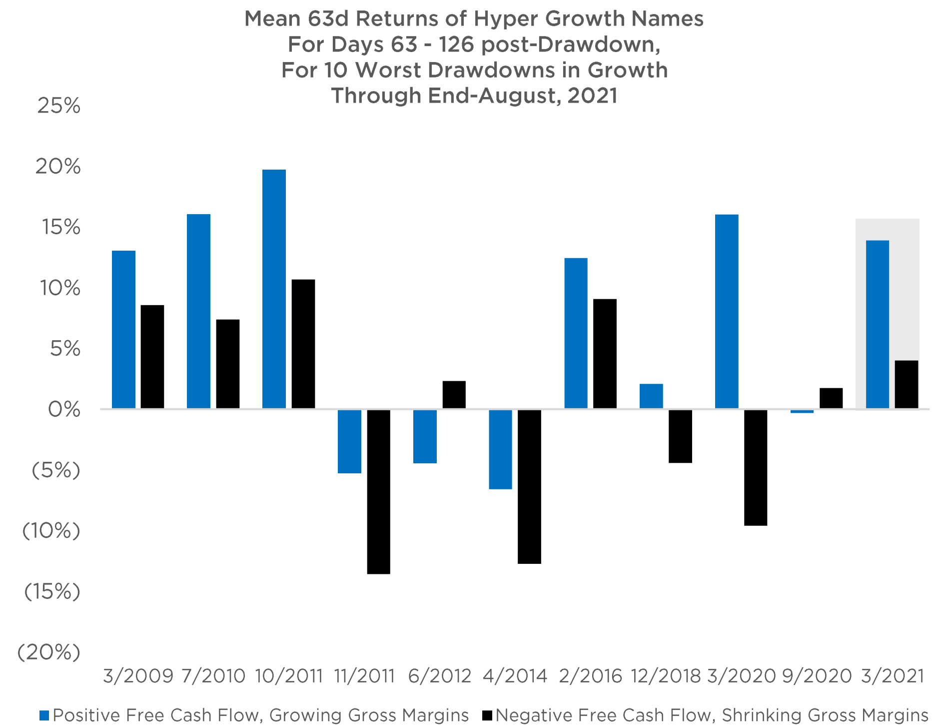
Buy Cheap Relative to Bucket or Moving to Higher Revenue Bucket, Short Expensive Relative to Bucket or Moving to Lower Revenue Bucket
End-September, 2021

Long				Short			
Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)	Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
DELL	Dell Technologies Inc.	Tech Hardware & Equipment	79.60	MA	Mastercard Incorporated	Software & Services	343.08
HUM	Humana Inc.	Health Care Equip. & Serv.	50.01	ISRG	Intuitive Surgical, Inc.	Health Care Equip. & Serv.	118.29
MAR	Marriott International, Inc.	Consumer Services	48.23	BKNG	Booking Holdings Inc.	Consumer Services	97.47
MCK	McKesson Corporation	Health Care Equip. & Serv.	30.84	WDAY	Workday, Inc.	Software & Services	61.97
DHI	D.R. Horton, Inc.	Consumer Durables & App.	30.08	NOC	Northrop Grumman Corporation	Capital Goods	57.66
VLO	Valero Energy Corporation	Energy	28.85	PSA	Public Storage	Real Estate	52.06
DAL	Delta Air Lines, Inc.	Transportation	27.17	GPN	Global Payments Inc.	Software & Services	46.29
W	Wayfair Inc.	Retailing	26.55	MTCH	Match Group, Inc.	Media & Entertainment	43.46
CVNA	Carvana Co.	Retailing	25.48	ZS	Zscaler, Inc.	Software & Services	36.38
Z	Zillow Group, Inc.	Media & Entertainment	22.38	MDB	MongoDB, Inc.	Software & Services	31.20
MOH	Molina Healthcare, Inc.	Health Care Equip. & Serv.	15.84	ANSS	ANSYS, Inc.	Software & Services	29.71
UAL	United Airlines Holdings, Inc.	Transportation	15.39	PAYC	Paycom Software, Inc.	Software & Services	28.71
CAH	Cardinal Health, Inc.	Health Care Equip. & Serv.	14.03	VRSN	VeriSign, Inc.	Software & Services	22.94
AAL	American Airlines Group Inc.	Transportation	13.29	EXR	Extra Space Storage Inc.	Real Estate	22.48
TRGP	Targa Resources Corp.	Energy	11.25	MAA	Mid-America Apartment Communities, Inc.	Real Estate	21.67
BLDR	Builders FirstSource, Inc.	Capital Goods	10.72	CLX	The Clorox Company	Household & Personal Prod.	20.34
BWA	BorgWarner Inc.	Automobiles & Components	10.36	HOLX	Hologic, Inc.	Health Care Equip. & Serv.	18.71
CLF	Cleveland-Cliffs Inc.	Materials	9.90	CDAY	Ceridian HCM Holding Inc.	Software & Services	16.88
NCLH	Norwegian Cruise Line Holdings Ltd.	Consumer Services	9.88				

AFTER THE GROWTH SELL OFF USE MARGINS AND POSITIVE FCF

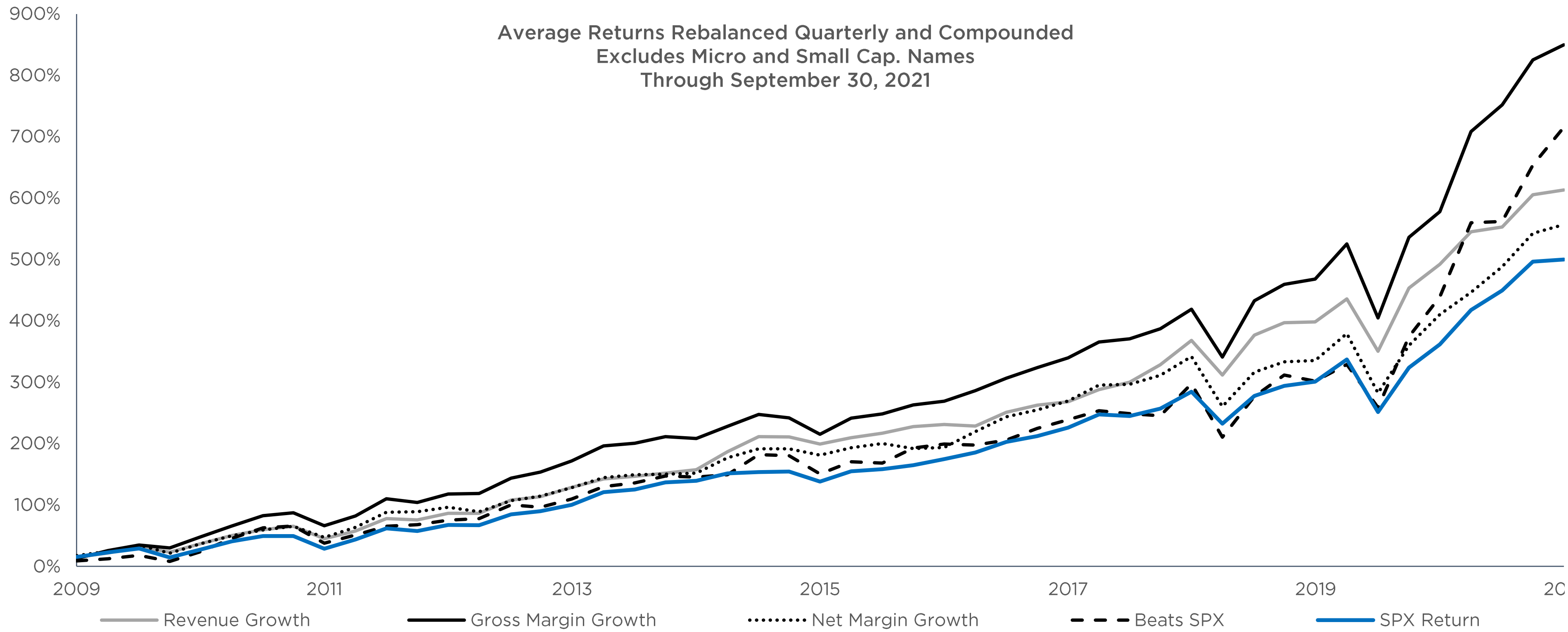
The sharp growth stock sell-off starting in mid-February may be over, but clearly is still the source of apprehension, particularly given the starting valuation levels prior to the sell-off were the most extreme since the financial crisis. On an absolute basis it was only the 11th worst drawdown (left chart), but relative to the SP500 the drawdown lasted until May 13th and was the WORST index-relative growth-stock drawdown since the financial crisis. So far this year those stocks with positive free cash flow and growing margins have beat the opposite by nearly 10%, showing the historical trend continued (right chart)

Date			Drawdown			
Starting	Ending	Days of Drawdown	Absolute	Relative	Prior 12-Month Momentum	Growth : Market Price-to-Sales Multiple
2/20/2020	3/23/2020	23	(30.4%)	3.4%	(8.1%)	1.7x
10/14/2008	3/9/2009	100	(30.2%)	1.5%	(30.2%)	1.7x
10/2/2018	12/24/2018	58	(24.2%)	(5.0%)	(0.5%)	1.8x
7/25/2011	10/3/2011	50	(21.4%)	(3.5%)	2.5%	2.1x
7/21/2015	2/8/2016	140	(17.9%)	(6.0%)	(2.7%)	1.7x
4/26/2010	7/2/2010	49	(17.3%)	(1.7%)	20.7%	1.7x
4/4/2012	6/1/2012	41	(12.4%)	(3.2%)	(3.8%)	1.9x
9/3/2020	9/23/2020	14	(11.5%)	(1.9%)	39.1%	2.3x
3/6/2014	4/11/2014	27	(11.0%)	(8.1%)	21.7%	1.8x
11/9/2011	11/25/2011	12	(10.6%)	(1.5%)	(5.2%)	2.1x
2/16/2021	3/8/2021	15	(10.4%)	(2.8%)	35.5%	2.1x



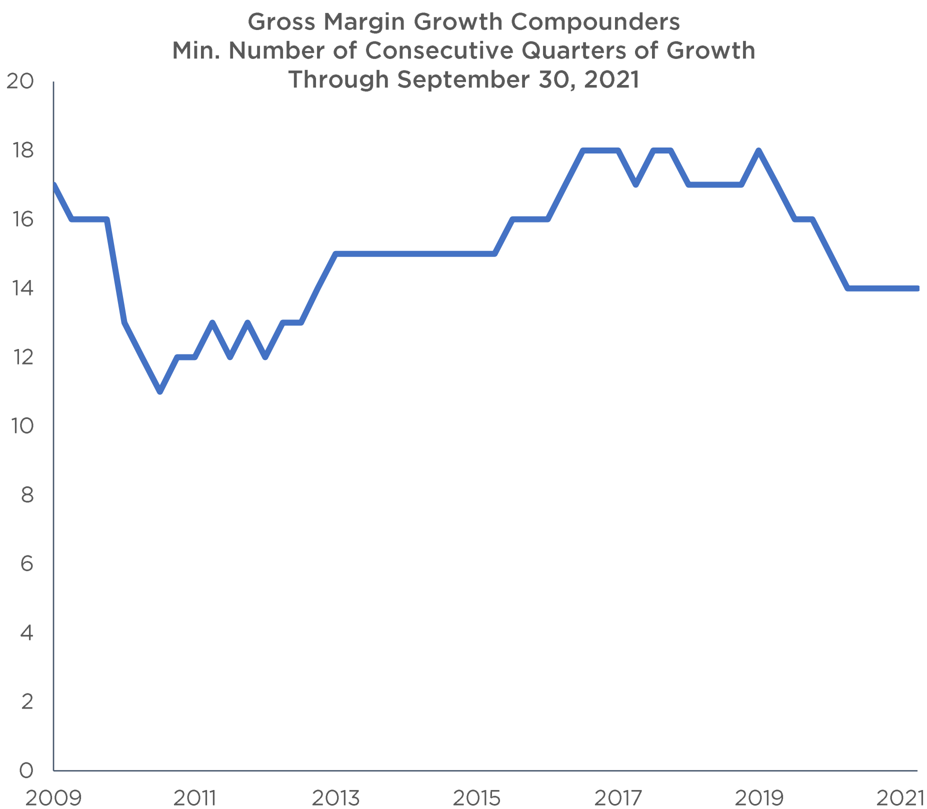
BUY CONSISTENT GROSS MARGIN EXPANDERS

Of the four signals we studied (prior relative stock performance, revenue growth, gross margin expansion, and net margin expansion) buying stocks in the top 10% of consistent previous gross margin expansion resulted in the best subsequent stock performance. While all four approaches beat the SP500, the consistency and total performance of the gross margin approach far bested the others. Net margin growth was clearly the weakest. Prior stock performance was strong, but much of this was generated since COVID



GROSS MARGIN GROWTH COMPOUNDERS ARE BEST

Of the ~400 companies with at least 2 consecutive quarters of gross margin growth this last quarter, 35 companies (top decile) had quarterly year-over-year gross margin expansion for at least 14 straight quarters (left chart). This universe of stocks has typically resulted in strong, above market performance. The stocks among this list with forecasted further gross margin expansion include NFLX, AVGO, and AMD (right chart) among others



Gross Margin Growth Compounders
And Forecasted Gross Margin Growth
September 27, 2021

Ticker	Company	Industry Group	Market Cap. (US$ Bil.)
NFLX	Netflix, Inc.	Entertainment	270.13
AVGO	Broadcom Inc.	Semis & Semi. Equip.	199.61
AMD	Advanced Micro Devices, Inc.	Semis & Semi. Equip.	124.81
MO	Altria Group, Inc.	Tobacco	83.94
ADSK	Autodesk, Inc.	Software	62.69
ATVI	Activision Blizzard, Inc.	Entertainment	60.19
MSCI	MSCI Inc.	Capital Markets	50.15
FTNT	Fortinet, Inc.	Software	47.70
CVNA	Carvana Co.	Specialty Retail	25.48
STE	STERIS plc	Health Care Equip. & Supplies	20.38
QRVO	Qorvo, Inc.	Semis & Semi. Equip.	18.58
GPC	Genuine Parts Company	Distributors	17.36
RH	RH	Specialty Retail	14.03
NTRA	Natera, Inc.	Biotechnology	10.45
HRC	Hill-Rom Holdings, Inc.	Health Care Equip. & Supplies	9.87
RL	Ralph Lauren Corporation	Textiles, Apparel & Luxury Goods	8.16
NTNX	Nutanix, Inc.	Software	8.08
BRKS	Brooks Automation, Inc.	Semis & Semi. Equip.	7.49

WHY ALPHA HAS BEEN TOUGH FOR MANY THIS YEAR

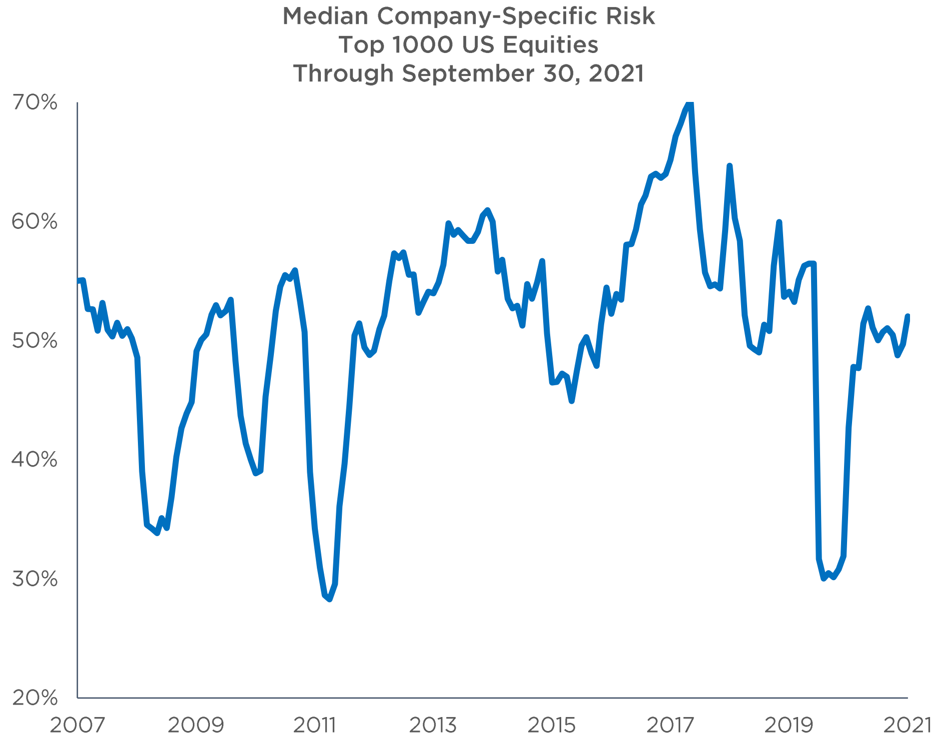
Correlations, dispersion, and company-specific risk have historically been good gauges of the alpha generating environment. However, this year has been challenging because:

1. The industry level dynamics are different than the aggregate
2. The number of stocks outperforming by 20% or more is relatively low
3. The non-consensus, high conviction hedge fund ideas have lagged
4. The growth stocks have lower company-specific risk than the value stocks for the first time in awhile, and the dispersion of valuation among the highly company-specific risks stocks has materially declined
5. The signals that work to pick stocks one month, strongly reverse and fail the next, particularly in May to June, but also some in August to September

The alpha environment will likely improve, as that has historically happened following poor periods. We think searching for long-short ideas in the value universe might be helpful for generalists who have over-indexed toward growth in the last few years. Lastly, we recommend analytically rigorous risk management, running with more diversified than normal portfolios, more trading than normal, and avoiding "Texas hedge" factor bets

COMPANY-SPECIFIC RISK IS NEAR AVERAGE, DISPERSION STILL WIDE

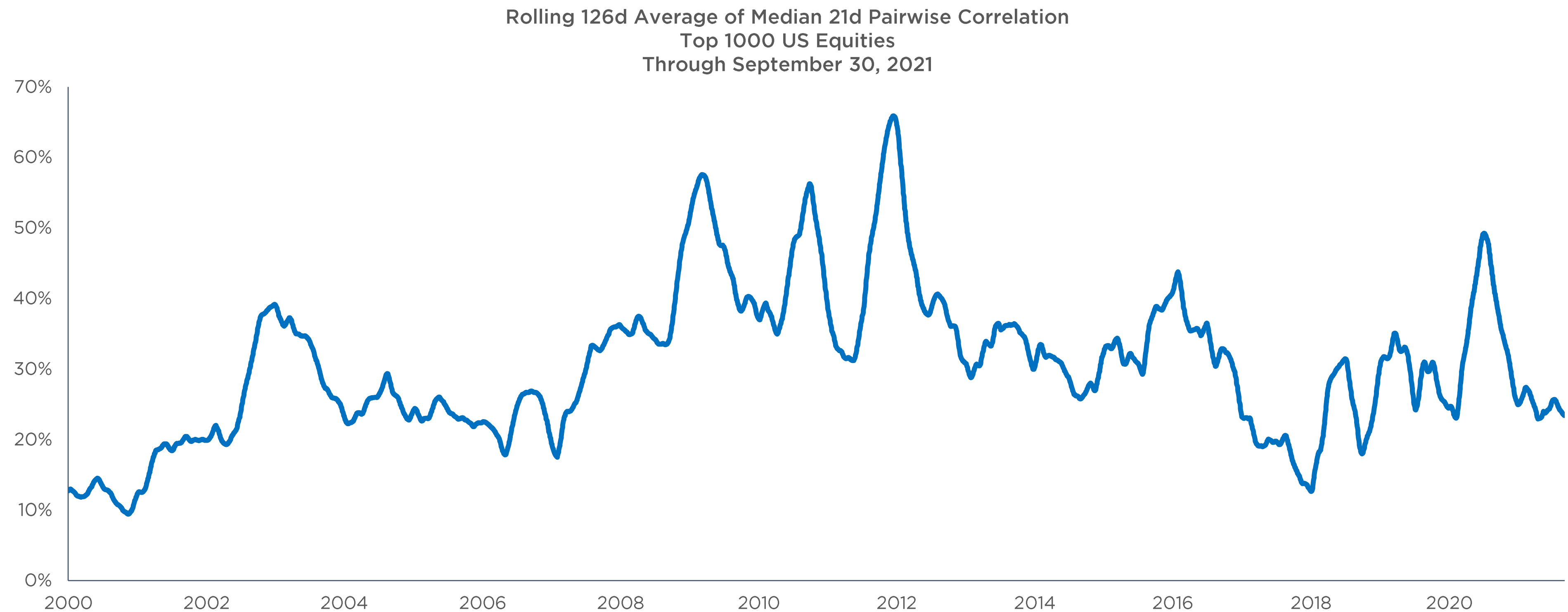
Two of the gauges we use to comment on the market environment are company-specific risk (left) and dispersion on valuation (right). Company-specific risk rose in September by 2.3%, to the 48th percentile vs history. Dispersion on price-to-forward earnings remains quite high, signaling some overall opportunity, in the 92nd percentile vs. history



Note: The median's stock return can be explained by our proprietary seven factor model – equity market beta, two size factors (mega/large vs mid and mid vs. small/micro), style (growth vs. value), substance (quality vs. junk), liquidity, and momentum. At the peak of the COVID market hysteria, nearly 70% of the average stocks' return could be explained by these macro signals. Today, it is less than 50%.

PAIRWISE CORRELATION IS BELOW AVERAGE

Another potential tailwind for stock selection is that the average pairwise correlation of stocks is below average. Building a risk-adjusted and alpha-generative portfolio is typically easier when correlations are low, and today the average is in the 26th percentile vs. history



POINT 1: CONFLICTING SIGNALS AT THE INDUSTRY LEVEL

Only 6 of the 24 industries are above average on each of the three signals, pairwise correlation (low is good), company-specific risk (high is good) and price-to-forward earnings dispersion (high is good)

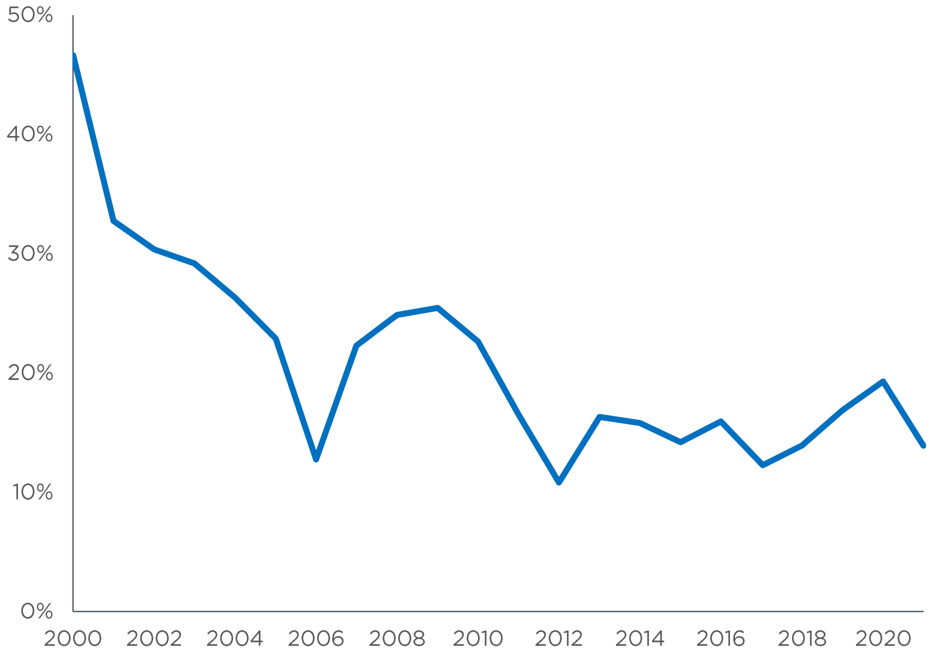
Percentile Rank vs. History of the Industry Group (US Top 1000)
Through September 30, 2021

Industry Group	Median Pairwise Correlation	Company Specific Risk	Price-to-Forward Earnings Dispersion
Automobiles & Components	55.9%	51.8%	87.8%
Banks	96.5%	5.4%	59.6%
Capital Goods	63.0%	35.1%	89.4%
Commercial & Professional Services	45.3%	38.7%	92.0%
Consumer Durables & Apparel	78.4%	38.7%	52.7%
Consumer Services	85.3%	22.6%	98.4%
Diversified Financials	38.1%	39.9%	95.7%
Energy	95.2%	12.5%	13.3%
Food & Staples Retailing	60.3%	63.7%	61.2%
Food, Beverage & Tobacco	58.6%	40.5%	95.7%
Health Care Equipment & Services	21.7%	38.7%	92.0%
Household & Personal Products	5.5%	53.6%	96.8%
Insurance	77.3%	19.6%	57.4%
Materials	67.2%	48.8%	27.1%
Media	21.1%	54.2%	92.6%
Pharmaceuticals, Biotechnology & Life Sciences	8.3%	75.0%	97.9%
Real Estate	38.6%	70.2%	3.2%
Retailing	15.3%	43.5%	95.2%
Semiconductors & Semiconductor Equipment	77.8%	49.4%	75.0%
Software & Services	17.1%	53.6%	96.3%
Technology Hardware & Equipment	68.4%	40.5%	41.5%
Telecommunication Services	42.6%	32.1%	6.4%
Transportation	23.3%	60.7%	97.9%
Utilities	65.2%	63.1%	72.3%

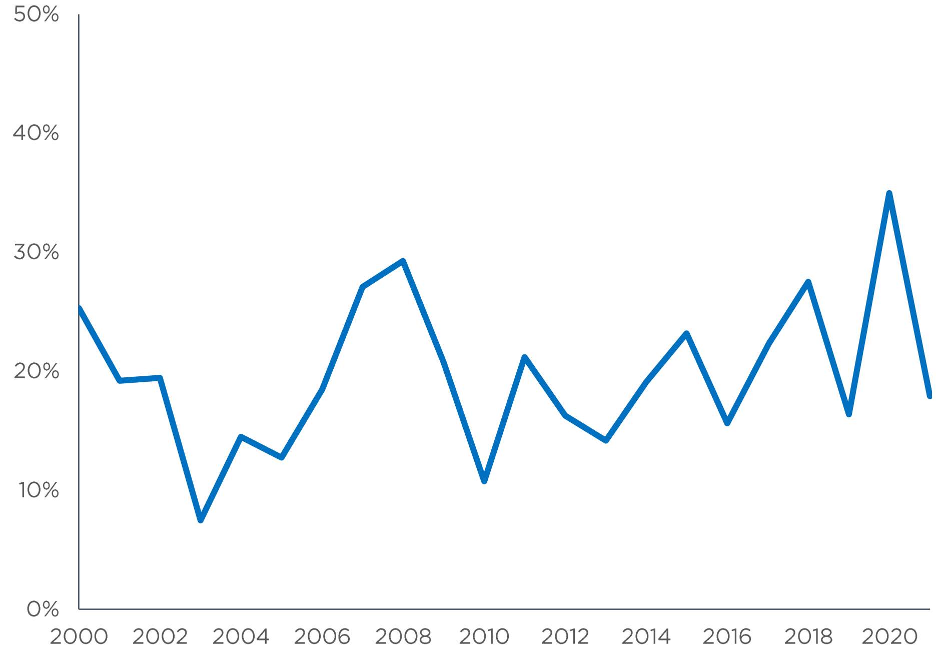
POINT 2: THERE ARE FEW GOOD LONG IDEAS

The number of stocks generating 20%+ alpha on the long side is relatively low (left exhibit). Only ~14% of the top 1000 US equities by market cap. have beta-adjusted returns above 20% YTD. Only 6 of the 24 industry groups have average beta adjusted returns that are positive (Diversified Financials, Food & Staples Retailing, Real Estate, Energy, Banks, Retailing). On the other hand, the number of names lagging by 20% or more YTD is slightly average (right exhibit). With hedge funds running relatively net long, this has not been a good YTD combination

Percentage of Beta-Adjusted Returns Above 20%
US T1000
Through September 30, 2021

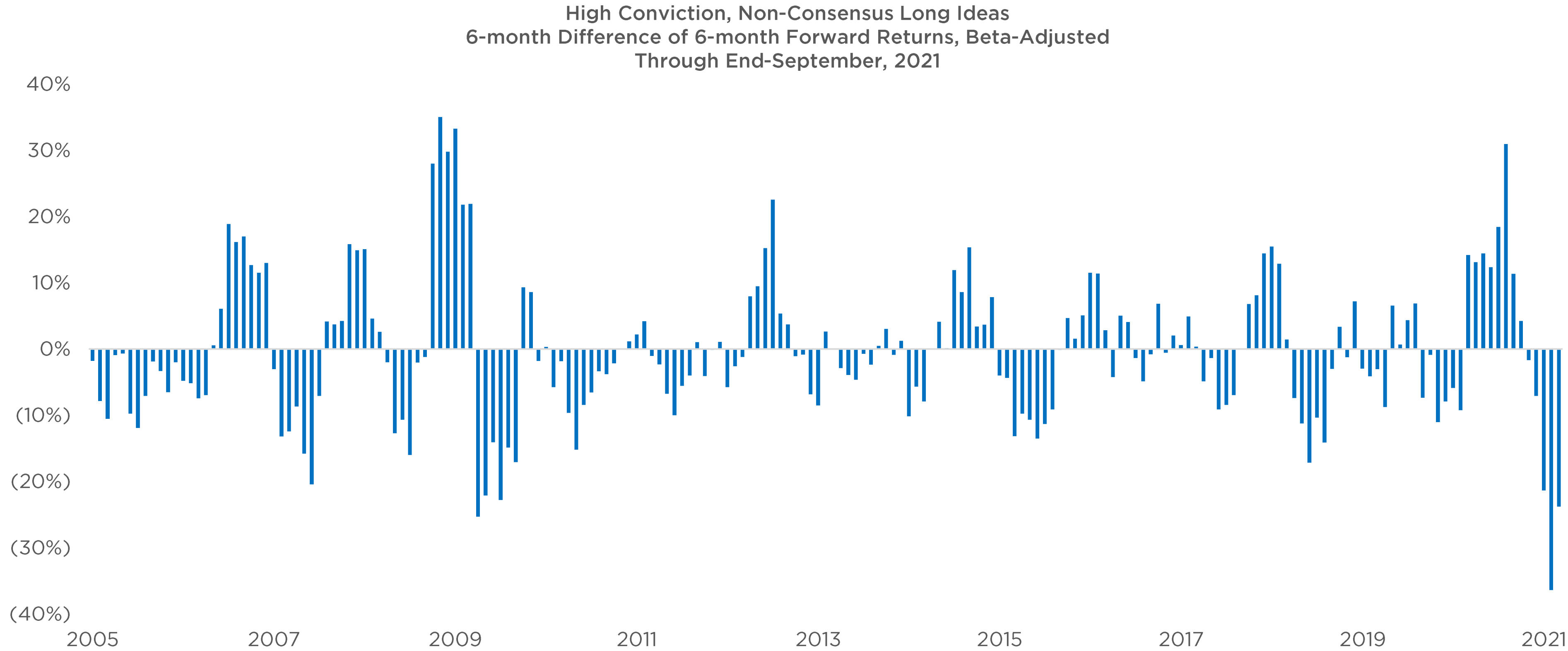


Percentage of Beta-Adjusted Returns Below (20%)
US T1000
Through September 30, 2021



POINT 3: THE BIG AND NON-CONSENSUS LONGS HAVE FAILED

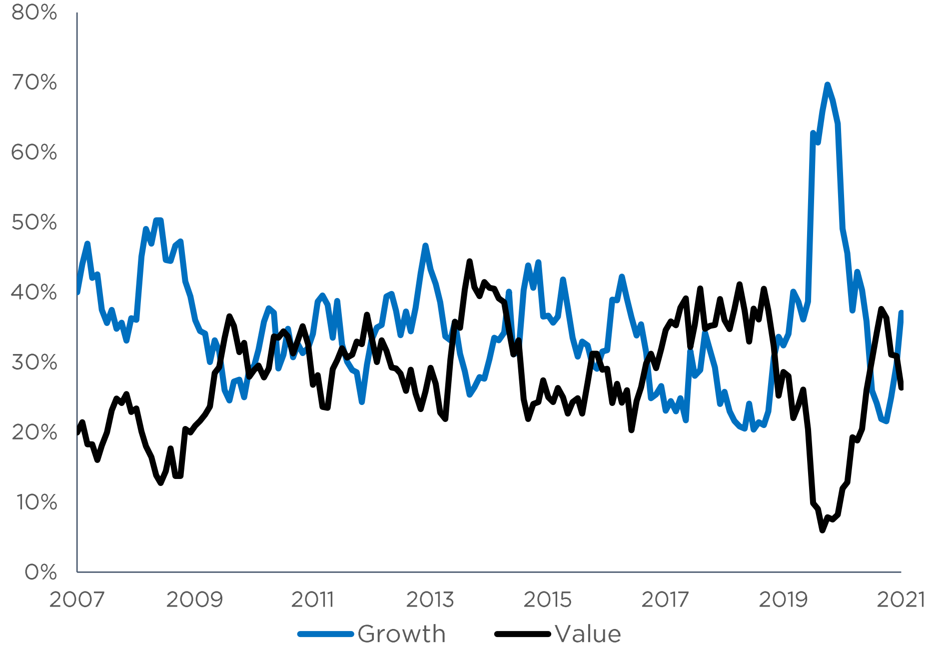
We analyze the high conviction (3% or more of their long AUM) holdings of 60 fundamental hedge fund managers who run between $1 and $15b that are not disproportionately owned by the rest of the asset managers. Since the fall of 2020, these hedge fund manager's high-conviction, non-consensus long ideas began degrading and have lagged the market since December. The difference between the most recent six-month beta-adjusted return – based on March 2021's ideas – and that of the return six months before that – based on September 2020's ideas – are the second-lowest of all six-month differences, behind last month



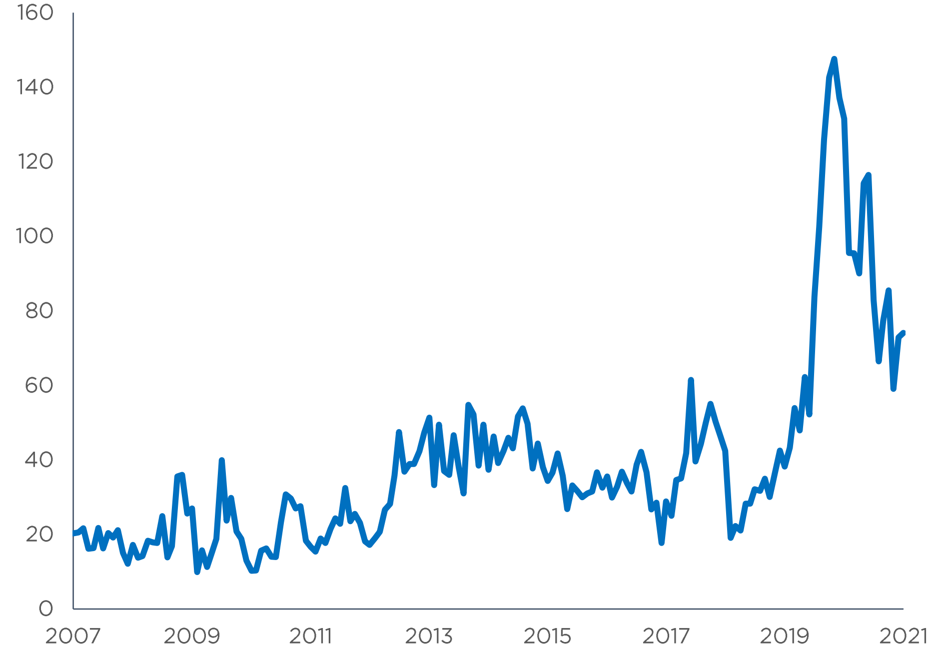
POINT 4: GROWTH AND VALUE ARE EQUALLY MACRO

The most idiosyncratic names are now equally represented from the value and growth universe, a reversal from the peak levels we saw for growth last year (left chart). Many bottom-up stock pickers have gravitated toward growth given its strong outperformance over the last decade, but the most idiosyncratic stocks became more macro this year. The most idiosyncratic names have seen a sharp reversal in the dispersion on price-to-forward earnings, back down to pre-COVID levels and only modestly elevated today, suggesting there is less potential dislocation in the most idiosyncratic names (right chart)

Composition of Top Quintile of Company-Specific Risk
US Top 1000 Stocks
Through September 30, 2021

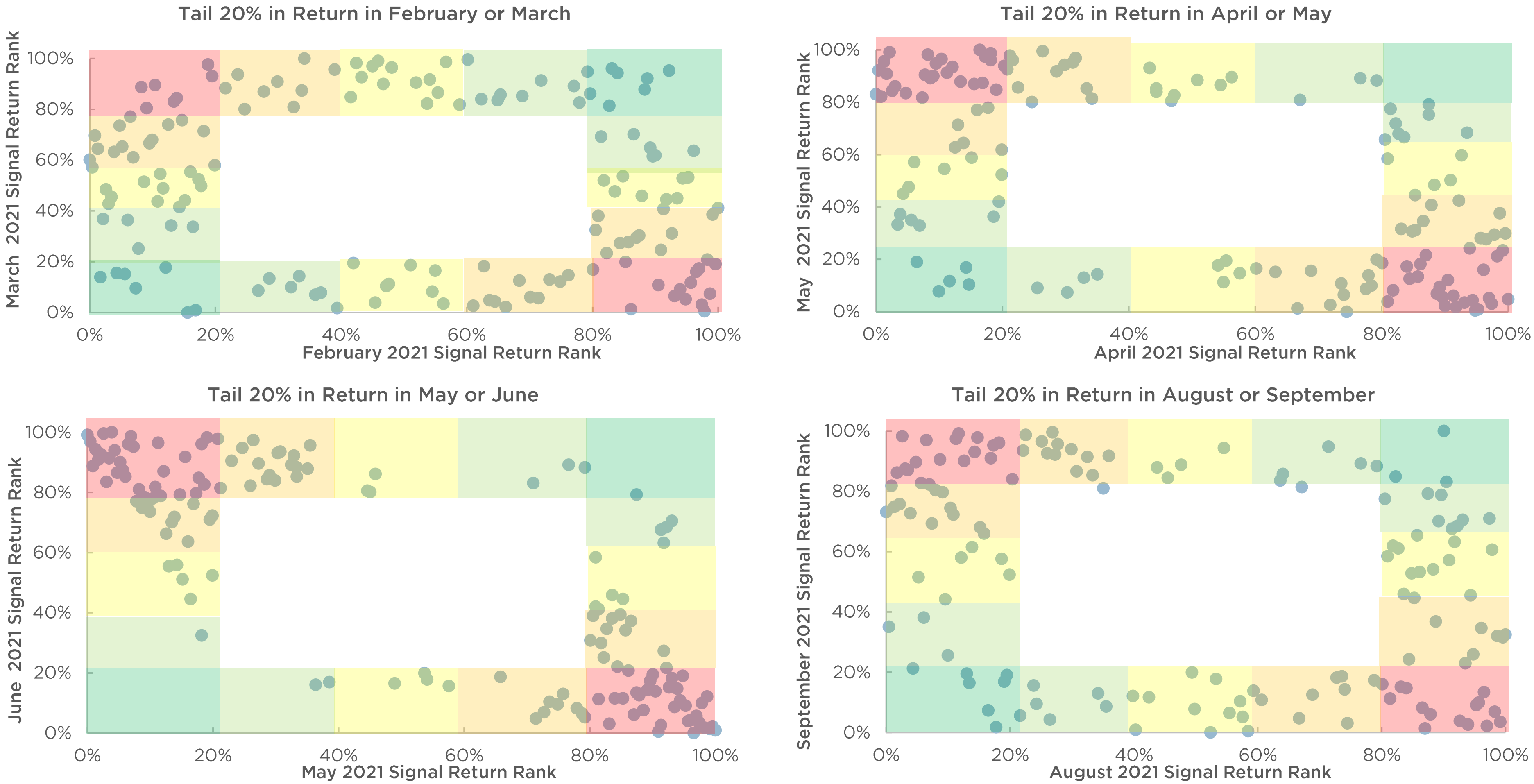


Dispersion of Price-to-Forward Earnings
Top Quintile of Company-Specific Risk
Through September 30, 2021



POINT 5: THE BEST SIGNALS ONE MONTH ARE THE WORST THE NEXT

In each of the below four months (Feb to March, April to May, May to June, August to September), those signals ranked in the top 10% of efficacy in one month are rarely seen in the top 10% of efficacy in the next month and can often be found in the *bottom* 20% of efficacy in the next month. Put visually, we see a disproportionate number of signals in the upper left or bottom right boxes, meaning they completely reversed in their efficacy from one month to the next



HOW DO WE ASSESS WHERE ARE WE ARE TODAY?

We created twelve proprietary indices using over 100 variables that systematically process "macro" data. The macro data have various frequencies, ranging from daily through monthly and are downloaded from Bloomberg, except for corporate profitability and company-specific risk data, which we compute. We smooth and transform the data to create twelve indices or gauges of where we are in the investing world today. Our proprietary gauges include:

1. Economic activity
2. Consumer activity
3. Corporate profitability
4. Financial conditions
5. Currency
6. The slope and level of the US Treasury yield curve
7. Industrial activity
8. China activity
9. European activity
10. Oil
11. Commodities
12. Company-specific risk

ALL GOOD EXCEPT FINANCIAL CONDITIONS, CHINA, AND CURRENCY?

Many of our signals have multiple inputs (right side of below chart) and are designed to capture larger and longer-term trends, not shorter-term / smaller counter-trend movements. When we look at our 12 gauges (listed alphabetically below) most are generally increasing / improving. The 6-month curve is bull flattening while the 12-month one is bear steepening. Financial conditions are how tightening. China has rolled over. The dollar is strengthening

Current Regime for Each Macro Signal

Macro Signal	Current Regime	Examples of Components
China	None	Fiscal Expenditures, New Auto Registrations, Electricity Consumption, Exports, Consumer Confidence, Financial Conditions, Residential Property Sales, 10-Year Yield
Commodities	Increasing	Aluminum, Corn, Cotton, Copper, Lumber, Natural Gas, Soybeans, Sugar, Silver
Consumer Activity	Increasing	Credit Card Delinquency, Retail Sales, Consumer Confidence, Wage Growth, Unemployment
Corporate Profitability	Increasing	Operating Margin, 1-Year FWD Earnings Expectations, 2-Year FWD Earnings Expectations
Company-Specific Risk	Increasing (More Idiosyncratic, Less Macro)	The amount unexplained by our 7-factor model
Currency	Dollar Strengthening	AUD, CAD, CHF, DXY, EUR, GBP, INR, JPY, SEK
Economic Activity	Increasing	CEO Confidence, Inflation, Philly Fed Business Outlook, Small Business Optimism, Leading Indicators
Europe	Increasing	Financial Conditions, 5y5y Forward Break-evens, Unemployment, Consumer Confidence, CDS Spreads
Financial Conditions	Tightening	Credit Spreads, US Treasury Implied Volatility, 30-Year Fixed Mortgage Rates
Industrial Activity	Increasing	Dry Van Rate per Mile, Baker Hughes Total Rig Count, AAR N. America Total Carloads, US Capacity Utilization, Private Non-Residential Construction, US C&I Loans
Oil	Increasing	WTI, Brent
Yield Curve 63d	None	US 2-Year Yield, US 10-Year Yield
Yield Curve 126d	Bull Flattening	US 2-Year Yield, US 10-Year Yield
Yield Curve 252d	Bear Steepening	US 2-Year Yield, US 10-Year Yield

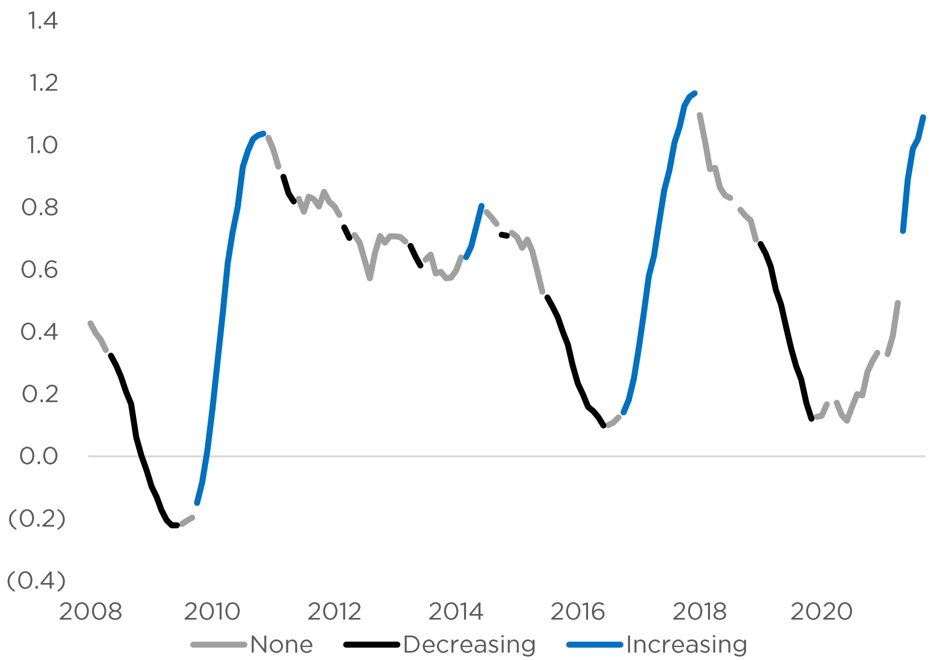
WHAT SHOULD WE DO ABOUT IT?

1. We recommend that investors **gross up their TMT exposure.** Our work shows that our multi-factor quantitative alpha model in TMT performs materially better at picking winners from losers when economic activity is positive and increasing than when it is not
2. We recommend that investors **gross down their durables exposure.** We struggle to separate winners from losers in durables like homebuilders, air conditioners, and select durable apparel when economic activity is positive and increasing
3. We recommend that investors **gross up their consumer discretionary exposure.** Our consumer discretionary model also performs better when our consumer activity gauge is positive and increasing
4. Other recommendations include: **gross down exposure to staples and gross up exposure to healthcare, and non-growth "junk" stocks**

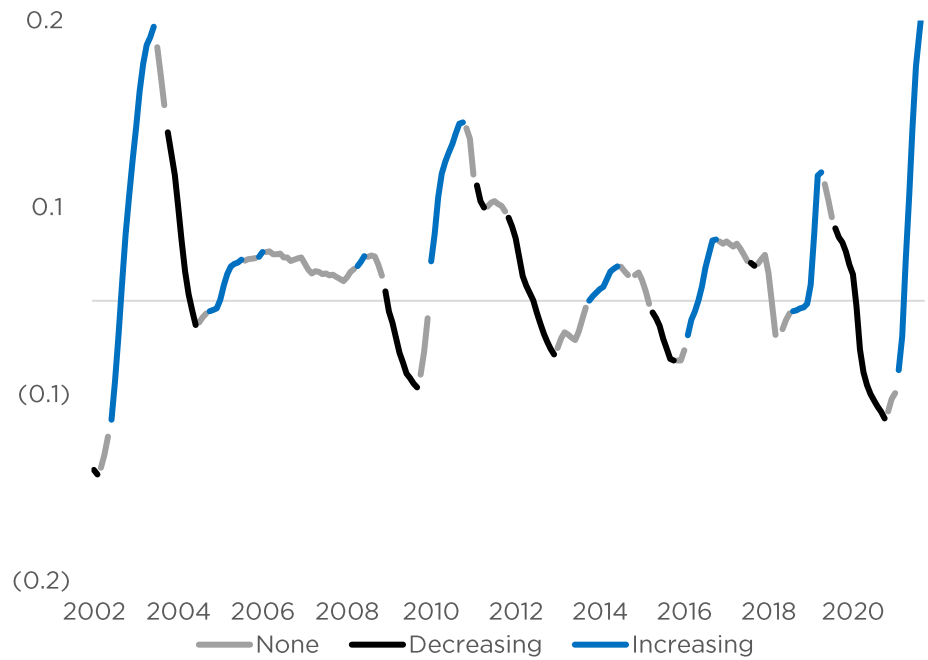
ECONOMIC AND CORPORATE PROFITABILITY GUAGES ARE IMPROVING

We show the economic and consumer activity gauges below. We evaluate where we are in the economic activity cycle by looking at variables like CEO Confidence, Philly Fed Business Outlook, Small Business Optimism, US Economic Surprise, US LEI, US 5y5y Forward Breakeven, etc. Our corporate profitability gauge consists of current operating margins and forward earnings expectations (relative to current) for the fiscal years 1 and 2 years into the future. Currently, 1-year forward earning expectations are at an all-time high, 2-year earnings expectations are in the 86th percentile vs. history, and current operating margins are in the 71st percentile, rebounding off COVID bottoms.

Economic Activity Signal
Through End-September, 2021



Corporate Profitability Signal
Through End-September, 2021



GROSS UP TMT EXPOSURE AND IDEAS

Our model performance is way better in TMT when the economy is improving (left chart). Our Q1-Q5 spread is 16.4% when economic activity is increasing, vs. 7.5% when it is not. Select long / short ideas from our quantitative model are show on the right chart. SHOP, TEAM, CRWD, ROKU, and WK screen well, SPLK, SSNC, OTEX, WEX, and CYBR are among those that screen poorly today

TMT Model Performance
Through End-September, 2021

Stat (Beta-Adjusted)	Economic Activity Increasing	Economic Activity Not Increasing	Difference
Weighted Mean	16.4%	7.5%	8.9%
Weighted Median	16.8%	6.1%	10.7%
Weighted Information Ratio	1.87	0.82	1.06
Hit Rate	67.6%	56.9%	10.8%

Prospective TMT Model Longs and Shorts
September 30, 2021

Long

Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
SHOP	Shopify Inc.	IT Services	169.66
TEAM	Atlassian Corporation Plc	Software	98.50
CRWD	CrowdStrike Holdings, Inc.	Software	56.09
ROKU	Roku, Inc.	Entertainment	41.82
WK	Workiva Inc.	Software	7.11

Short

Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
SPLK	Splunk Inc.	Software	23.38
SSNC	SS&C Technologies Holdings, Inc.	Software	17.71
OTEX	Open Text Corporation	Software	13.17
WEX	WEX Inc.	IT Services	7.89
CYBR	CyberArk Software Ltd.	Software	6.27

OTHER GROSS EXPOSURE RECOMMENDATIONS

Our durables model performance poorly when corporate profitability is increasing, fueling our judgment that picking winners from losers is challenging in areas like home builders, air conditioning, and select apparel today. The top quintile of our durables model UNDERPERFORMS the bottom quintile by 1.5% on average when corporate profitability is increasing but outperforms the bottom quintile by 8.6% when it is not increasing (left chart). We show the additional gross exposure recommendations activated by our 12 proprietary gauges, including grossing up consumer discretionary, banks, healthcare, and high yielding junk, and grossing down staples (right chart)

Durables Model Performance Through End-July, 2021

Stat (Beta-Adjusted)	Corporate Profitability Increasing	Corporate Profitability Not Increasing	Difference
Weighted Mean	(1.5%)	8.6%	(10.2%)
Weighted Median	(2.6%)	10.6%	(13.1%)
Weighted Information Ratio	(0.15)	0.74	(0.89)
Hit Rate	42.2%	63.8%	(21.6%)

Other Current Gross Exposure Recommendations

Model	Grossing Action	Justification
Consumer Discretionary	UP	Consumer Activity and Company-Specific Risk are increasing.
Healthcare	UP	Europe activity
High Yielding Junk	UP	Economic and Consumer Activity and Commodities are increasing,
Regular Yielding Junk	UP	Oil increasing and Yield Curve over past 252d is in bear steepening
Staples	DOWN	Increasing Corporate Profitability

IF RISKS DID NOT CHANGE, ANYONE COULD DO RISK MANAGEMENT

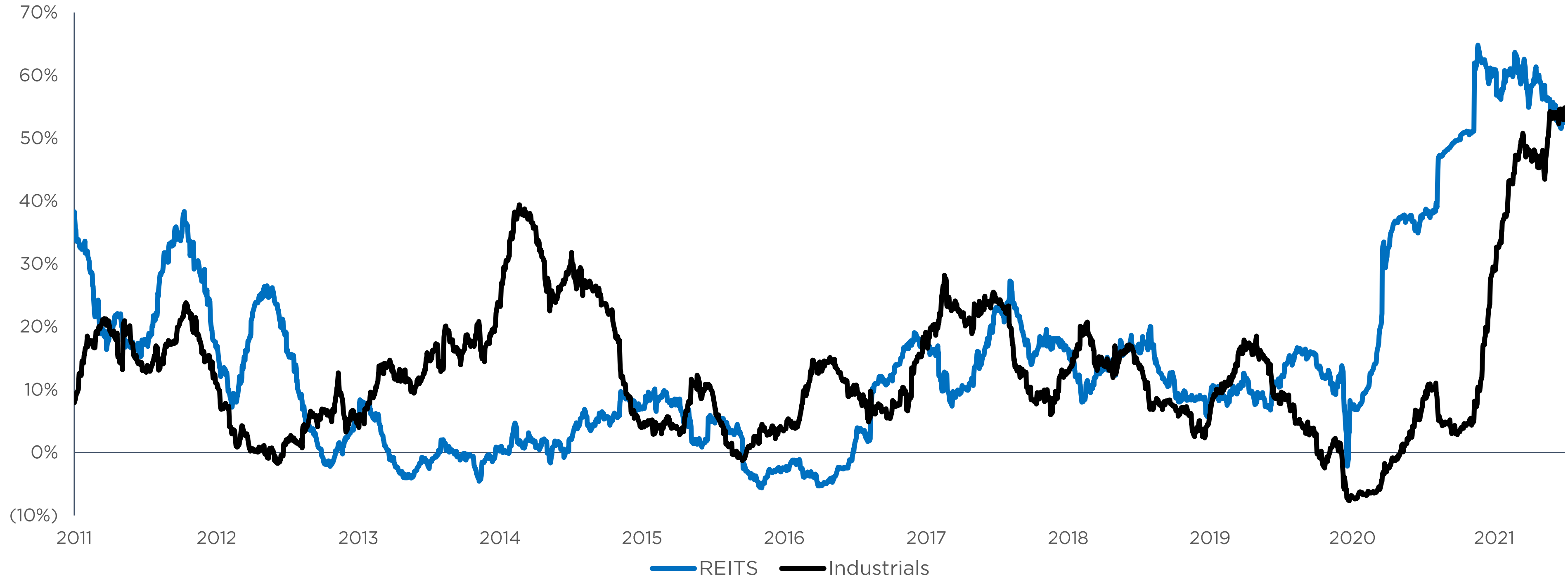
Five key risks worth monitoring:

1. **High signal correlation:** Variables both fundamental managers and quants use to pick winners from losers are highly correlated in both REITS and industrials
2. **COVID:** Quality "reopening" stocks have still massively underperformed "junk" "work from home" stocks – monitor exposure of "substance" and "work from home" / "reopening"
3. **Correlations during downturns:** Many stocks become more correlated to other names during market sell-offs than during "normal" times, and an assessment of drawdowns can help locate better hedges
4. **Asymmetric betas:** Measure beta during downturns as there appears to be a consistent group of stocks that have much higher betas during market corrections than "normal" times –many of these are REITS
5. **Inflation:** We recommend looking at the correlation of every stock in your portfolio to an inflation basket (contact us if you want access to our inflation basket) to monitor exposure

RISK ONE: HIGHLY CORRELATED SIGNALS – REITS AND INDUSTRIALS

We analyzed all 21 of our quantitative models to see if signals have become increasingly correlated recently. The two biggest risks we see are the increased correlation in REITS and industrials. For both, we have a model comprised of eight signals to predict subsequent 18-month returns for stocks in that industry. There were sustained periods during our model development (2012-2017) where the average pairwise correlation of these signals was near zero (even briefly negative). However, right after the Pfizer vaccine announcement on November 9th of 2020, the average pairwise correlation of our REITs-model signals jumped to near 70% as REITs names rose indiscriminately. Signals in the industrials model have continued to have increased correlation as well

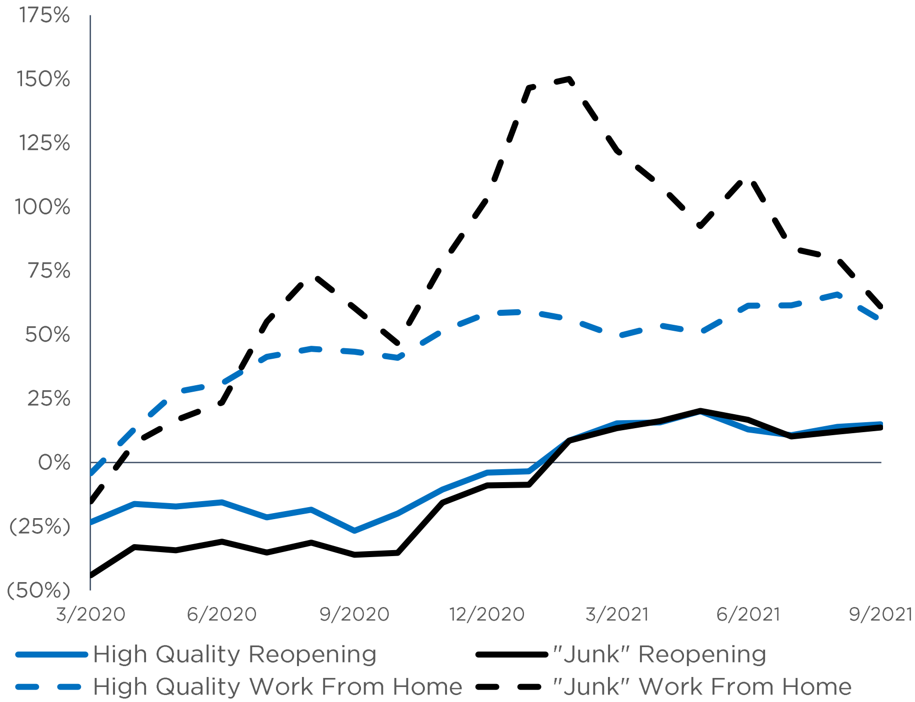
REITS and Industrials Cohort Model
Average 21-Day Pairwise Correlation
Through End-September, 2021



RISK TWO: JUNK WORK FROM HOME VS. QUALITY REOPENING

We created "work from home" and "reopening" baskets and looked at the correlation of every stock in our universe to both baskets – clearly this was a major new risk to monitor that formed last year. Given the simultaneous move in "junk" and "reopening", we looked at performance of work from home quality and junk and reopening quality and junk since March of 2020 (left exhibit). In our minds, high quality reopening names seem poised for incremental catch up, and junk "work from home" ideas could continue to lag (right exhibit for ideas)

Compounded Median Return
Reopening vs. Work-from-Home, High Quality vs. Junk
Through End-September, 2021



Buy High Quality Reopening, Sell "Junk" Work-from-Home
Names in Top/Bottom Model Quartile with Market Cap. of at least $1 Bil.
September 30, 2021

Long

Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
SNA	Snap-on Incorporated	Machinery	11.28
LEVI	Levi Strauss & Co.	Textiles, Apparel & Luxury Goods	9.85
UGI	UGI Corporation	Gas Utilities	8.91
PB	Prosperity Bancshares, Inc.	Banks	6.61
IBOC	International Bancshares Corporation	Banks	2.64
NWBI	Northwest Bancshares, Inc.	Thrifts & Mortgage Finance	1.69

Short

Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
AFRM	Affirm Holdings, Inc.	IT Services	32.39
PTON	Peloton Interactive, Inc.	Leisure Products	26.16
BYND	Beyond Meat, Inc.	Food Products	6.66
FCEL	FuelCell Energy, Inc.	Electrical Equipment	2.45
ACMR	ACM Research, Inc.	Semiconductors & Semi. Equipment	2.13
BLFS	BioLife Solutions, Inc.	Health Care Equipment & Supplies	1.73
TTCF	Tattooed Chef, Inc.	Food Products	1.51
VLDR	Velodyne Lidar, Inc.	Electronic Equipment, Instruments & Components	1.16

RISK THREE: BEAR CASE CORRELATIONS THAT RISE

We analyzed stock performance during market drawdowns of 10% or more and noticed that some stocks become increasingly correlated during market pullbacks. We like to monitor "bear case" correlations so we are not misled about the portfolio being hedged or defensive when there is a measurable phenomena during downturns

Names with Higher 126d Correlations to Peers During SPX Drawdowns of at Least 10%
End-September, 2021

Ticker	Company	Industry Group	Market Cap. (US$ Bil.)
WMT	Walmart Inc.	Food & Staples Retailing	388.66
PFE	Pfizer Inc.	Pharmaceuticals	241.14
ORCL	Oracle Corporation	Software	238.19
VZ	Verizon Communications Inc.	Diversified Telecommunication Services	223.61
COST	Costco Wholesale Corporation	Food & Staples Retailing	198.53
TGT	Target Corporation	Multiline Retail	111.65
EW	Edwards Lifesciences Corporation	Health Care Equipment & Supplies	70.57
PSA	Public Storage	Equity Real Estate Investment Trusts (REITs)	52.06
ORLY	O'Reilly Automotive, Inc.	Specialty Retail	42.13
DLR	Digital Realty Trust, Inc.	Equity Real Estate Investment Trusts (REITs)	41.89
WBA	Walgreens Boots Alliance, Inc.	Food & Staples Retailing	40.70
CTSH	Cognizant Technology Solutions Corporation	IT Services	39.00
AZO	AutoZone, Inc.	Specialty Retail	35.89
AVB	AvalonBay Communities, Inc.	Equity Real Estate Investment Trusts (REITs)	30.89
EFX	Equifax Inc.	Professional Services	30.88
EQR	Equity Residential	Equity Real Estate Investment Trusts (REITs)	30.30
K	Kellogg Company	Food Products	21.79
CLX	The Clorox Company	Household Products	20.34
PCG	PG&E Corporation	Electric Utilities	19.06
FDS	FactSet Research Systems Inc.	Capital Markets	14.91
CPT	Camden Property Trust	Equity Real Estate Investment Trusts (REITs)	14.83
ELS	Equity LifeStyle Properties, Inc.	Equity Real Estate Investment Trusts (REITs)	14.35

RISK FOUR: NEGATIVE ASYMMETRIC BETA

We analyzed the beta of stocks during periods where the market is down 10% or more. 43% of stocks with the highest negative asymmetric betas are REITS (left side). Non-REITs are shown on the right. This list represents names where we expect high underperformance in a market drawdown

Names with Higher 252d Betas During SPX Drawdowns of at Least 10%
End-September, 2021

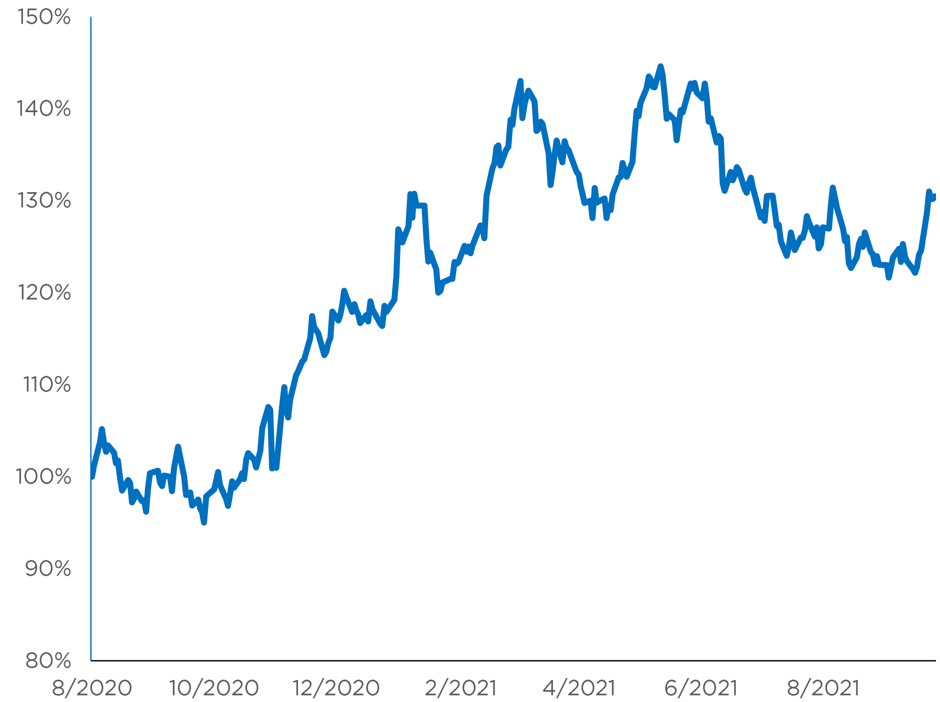
REITs				Non-REITs			
Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)	Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
PSA	Public Storage	REITs	52.06	SQ	Square, Inc.	IT Services	110.39
SPG	Simon Property Group, Inc.	REITs	42.71	CME	CME Group Inc.	Capital Markets	69.45
DLR	Digital Realty Trust, Inc.	REITs	41.89	ICE	Intercontinental Exchange, Inc.	Capital Markets	64.66
SBAC	SBA Communications Corporation	REITs	36.22	TWLO	Twilio Inc.	IT Services	56.52
AVB	AvalonBay Communities, Inc.	REITs	30.89	NDAQ	Nasdaq, Inc.	Capital Markets	32.27
EQR	Equity Residential	REITs	30.30	LEN	Lennar Corporation	Household Durables	28.65
O	Realty Income Corporation	REITs	25.26	YUMC	Yum China Holdings, Inc.	Hotels, Restaurants & Leisure	24.46
EXR	Extra Space Storage Inc.	REITs	22.48	TDOC	Teladoc Health, Inc.	Health Care Technology	20.19
MAA	Mid-America Apartment Communities, Inc.	REITs	21.67	LYV	Live Nation Entertainment, Inc.	Entertainment	20.03
ESS	Essex Property Trust, Inc.	REITs	20.79	MKTX	MarketAxess Holdings Inc.	Capital Markets	15.99
BXP	Boston Properties, Inc.	REITs	16.92	DECK	Deckers Outdoor Corporation	Textiles, Apparel & Luxury Goods	9.96
UDR	UDR, Inc.	REITs	15.73	GPK	Graphic Packaging Holding Company	Containers & Packaging	5.85
CPT	Camden Property Trust	REITs	14.83	RDN	Radian Group Inc.	Thrifts & Mortgage Finance	4.22
ELS	Equity LifeStyle Properties, Inc.	REITs	14.35	EXLS	ExlService Holdings, Inc.	IT Services	4.08
KIM	Kimco Realty Corporation	REITs	12.72	MTH	Meritage Homes Corporation	Household Durables	3.65
LSI	Life Storage, Inc.	REITs	9.30	TIGO	Millicom International Cellular S.A.	Wireless Telecommunication Services	3.64
NNN	National Retail Properties, Inc.	REITs	7.58	NNI	Nelnet, Inc.	Consumer Finance	3.03
CUZ	Cousins Properties Incorporated	REITs	5.54	FBC	Flagstar Bancorp, Inc.	Thrifts & Mortgage Finance	2.68
HIW	Highwoods Properties, Inc.	REITs	4.57	PSMT	PriceSmart, Inc.	Food & Staples Retailing	2.35

RISK FIVE: INFLATION EXPOSURE MATTERS

The consensus view on inflation has totally changed over the last few months.   When we initiated our product in May, the overwhelming consensus was that the 10-year yield would rise. After it "surprisingly" fell the consensus completely reversed, right around the time the 10-year yield bottomed.   Our general sense is that most investors think the 10-year yield will back up in the next six months, but that it will be constrained on the upside after that – we think monitoring inflation exposure is important

Beta-Adjusted Performance of Trivariate's Inflation Basket
Indexed to July 1, 2009

Beta-Adjusted Performance of Trivariate's Inflation Basket
Indexed to August 4, 2020



TRIVARIATE SECTOR OVERVIEW: SUMMARY RECOMMENDATIONS

Our sector recommendations are shown here- obviously there are nuances to the recommendations, but high level we like energy / materials over industrials, discretionary over staples, utilities over real estate, and healthcare over technology

Trivariate Sector Recommendations

Sector	Total S&P 500 Market Cap. (US$ Bil.)	Current S&P 500 Weight	Trivariate-Recommended Weight	Trivariate-Relative Weight	Trivariate Recommendation	Comments
Materials	$891,208	2.2%	6.0%	3.8%	Maximum Overweight	Prefer copper long-term, steel near-to-medium term
Energy	$1,033,176	2.5%	6.0%	3.5%	Maximum Overweight	Oil is rising, and M&A is likely
Health Care	$5,172,416	12.5%	15.0%	2.5%	Overweight	Healthcare services are rate-sensitive, and demand trends are above GDP
Consumer Discretionary	$5,308,772	12.8%	15.0%	2.2%	Overweight	Retailing, reopening, and services better than durables
Utilities	$838,229	2.0%	3.0%	1.0%	Equal-Weight	Some idiosyncratic bets probably sensible
Communication Services	$4,985,720	12.1%	12.0%	(0.1%)	Equal-Weight	Makes sense to keep market-weight FAANGM
Financials	$4,540,766	11.0%	10.0%	(1.0%)	Equal-Weight	Large cap banks better than regionals
Real Estate	$943,160	2.3%	1.0%	(1.3%)	Under-Weight	Commercial real-estate is challenged
Information Technology	$12,055,379	29.2%	27.0%	(2.2%)	Under-Weight	Semis are over-earning, focus on margin expansion / cash flow generation
Consumer Staples	$2,469,956	6.0%	2.0%	(4.0%)	Under-Weight	Plenty of short ideas in idiosyncratic staples
Industrials	$3,095,605	7.5%	3.0%	(4.5%)	Maximum Underweight	Industrial activity is rolling over, but earnings expectation are very high

CAN YOU STILL OWN ENERGY & MATERIALS?

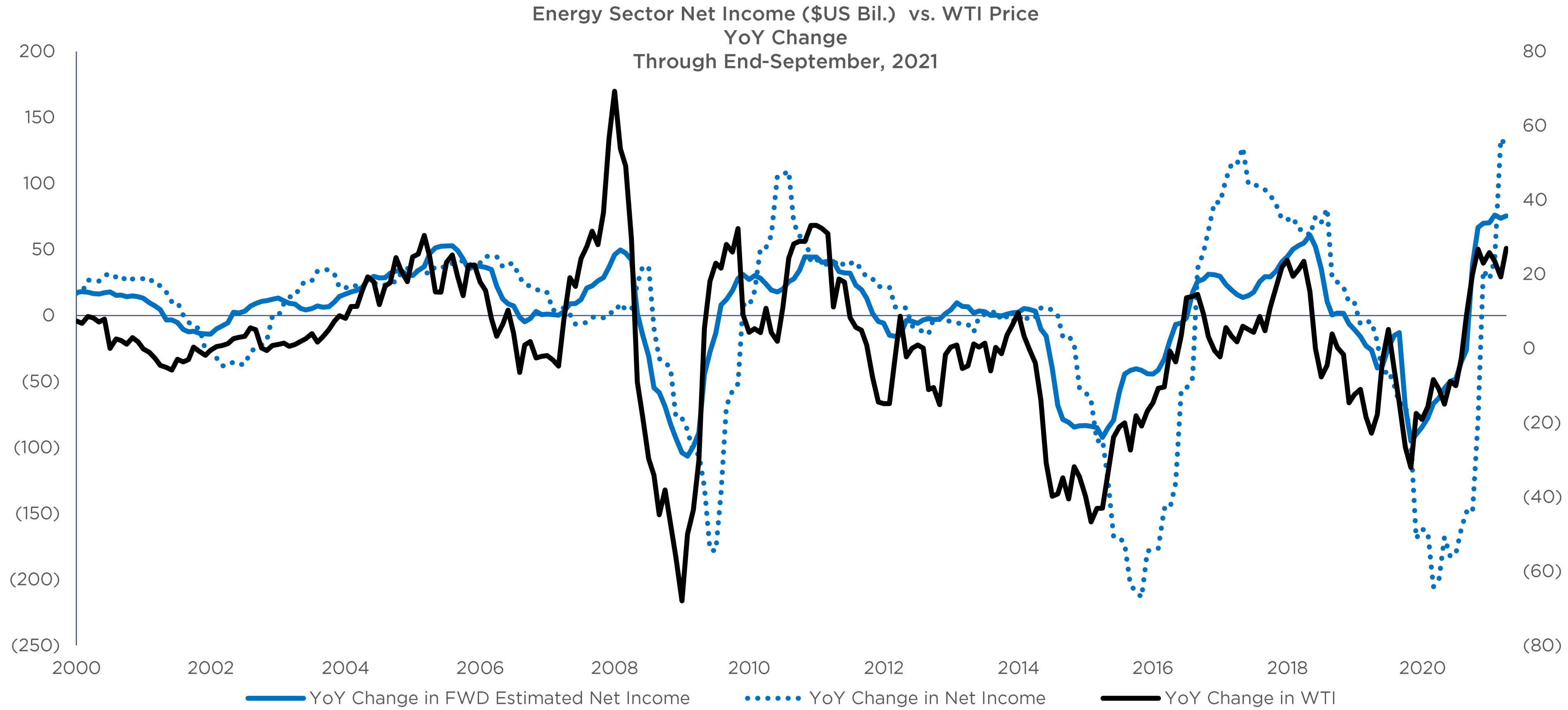
Oil prices were up 7.5% in September and have continued to rise in early October

For energy, rising oil means higher earnings revisions and higher net income for the group. Earnings revisions are highly effective at picking winners from losers within the cohort for the 6-months following periods when oil is rising, likely meaning energy stocks beating estimates will still perform strongly. In addition, despite the strong rally, the sector is quite cheap versus history on price-to-book, which historically was the most efficacious valuation metric for picking energy stocks. It is VERY infrequent in the last decade where a sector has positive revisions, positive momentum, and cheap valuation versus history. Despite what seems obvious to be sustained demand growth exceeding supply growth for the sustainable future, there is a lot of negative sentiment, and firms have dropped coverage or don't have analysts. We think energy is a contrarian investment idea

For materials, the huge year-over-year move in commodities nearly guarantees the sector is poised to see record profitability next year, **yet valuation is at 18-year lows vs. the market excluding materials**. Revisions and valuation also work here so we offer long ideas in energy and materials, and we recommend investors own this group as the underlying commodities likely still rise in the coming year

THERE IS A LAG BETWEEN OIL PRICES, ESTIMATES, AND REPORTS

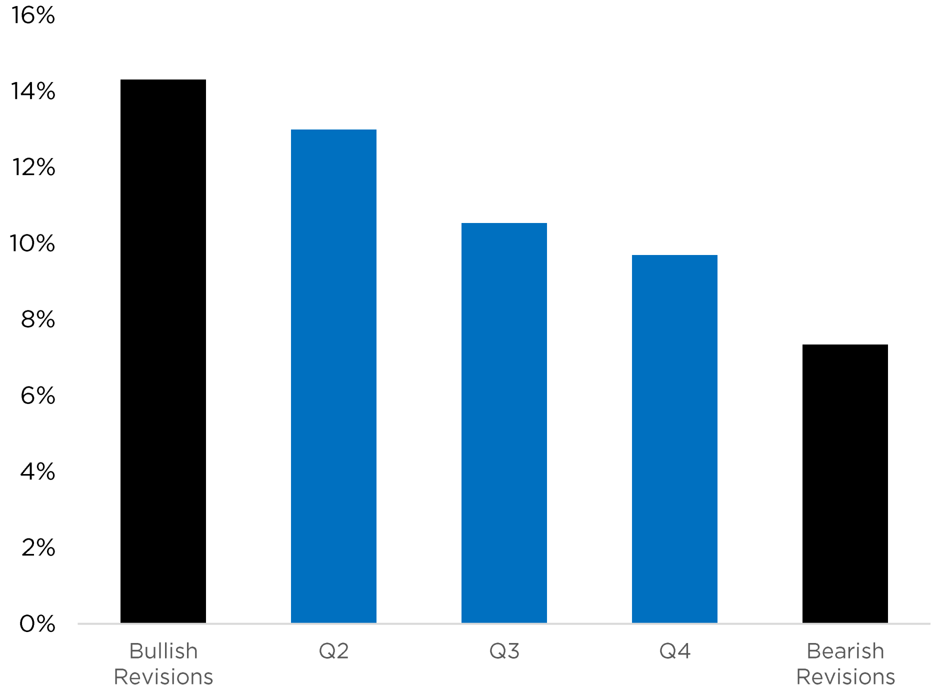
For energy, oil prices are a leading indicator for net income of the energy sector. The black line below shows the change in WTI , which is typically a 3-to-6-month leading indicator for the dashed blue line, which is reported net income. The analysts typically wait until after oil lags (solid blue line), but right before the companies report earnings, so their forecasts are not particularly anticipatory



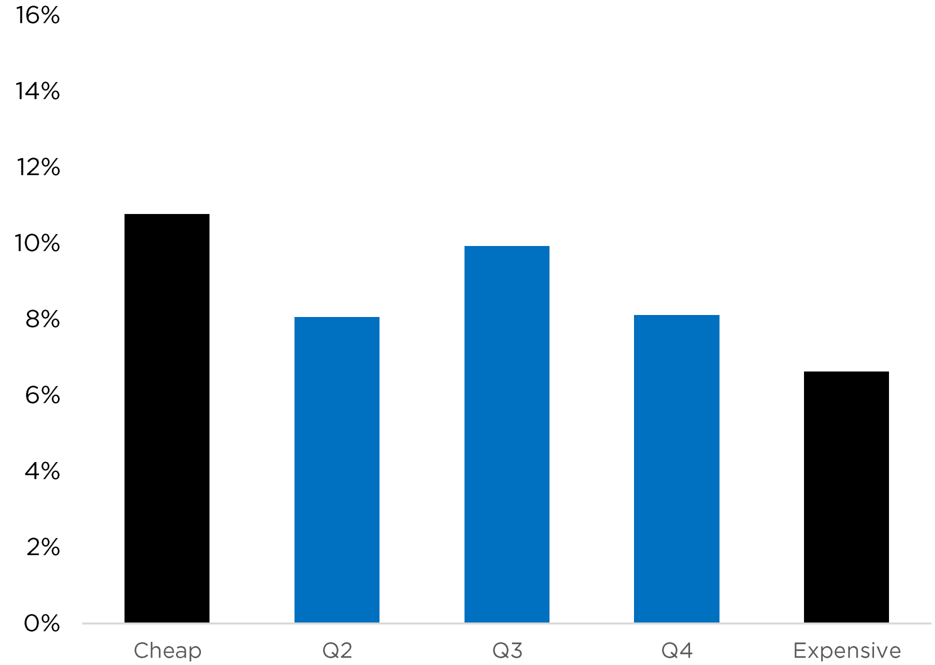
USE ENERGY EARNINGS REVISIONS & VALUATION WHEN OIL IS RISING

We analyzed whether earnings revisions were efficacious at predicting subsequent energy sector returns when oil is rising. Given that stock prices are typically anticipatory, we have received several questions about how much more energy stocks could rally. During a rising oil regime, analyst earnings revisions have historically been a highly effective signal, with the top quintile on revisions beating the bottom by ~7% during the average subsequent 6-month period. While for the broader market we do not necessarily anticipate valuation metrics to work particularly well, valuation has also worked, with the cheapest Q on price-to-book outperforms the most expensive by ~5%

Energy Sector: Earnings Revisions Efficacy
When Oil is Trending Upward over the Previous 6 Months
Through End-June, 2021

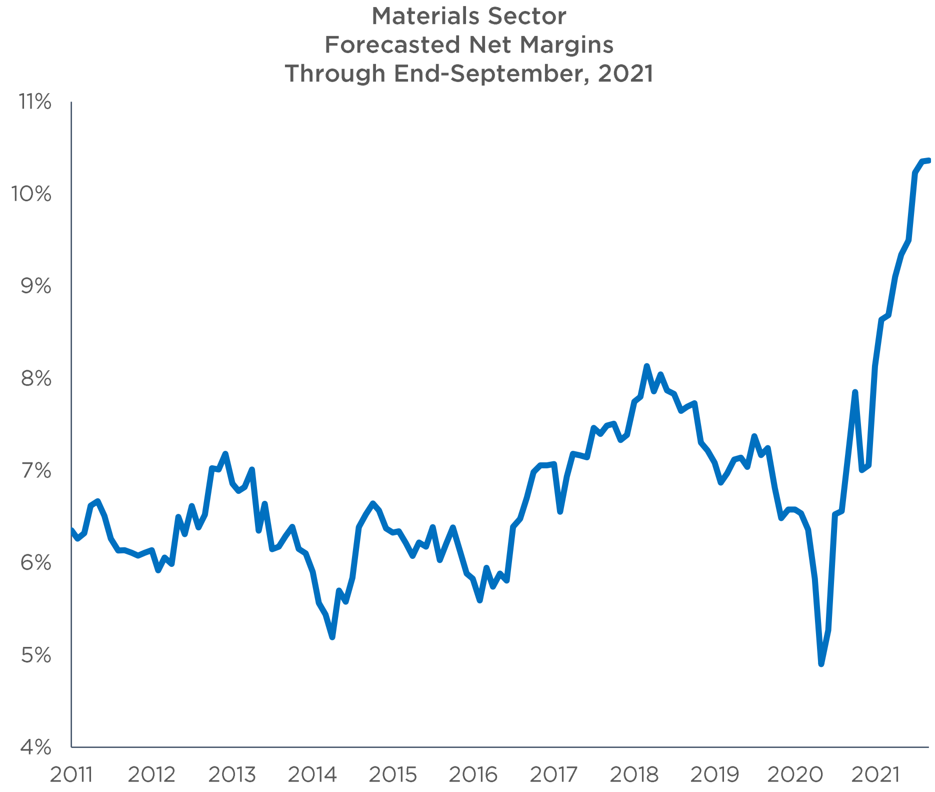


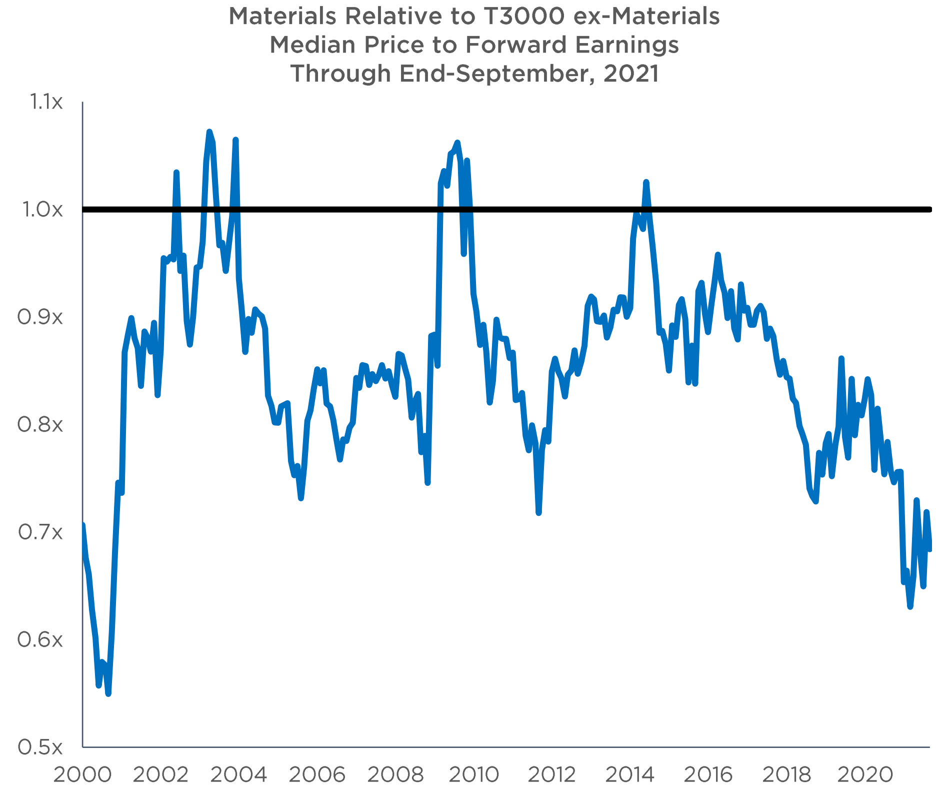
Energy Sector: Price-to-Book Efficacy
When Oil is Trending Upward over the Previous 6 Months
Through End-June, 2021



THE MARKET IS SKEPTICAL OF RECORD MATERIALS PROFIT ESTIMATES

The consensus expectations are that net margins for the materials sector will achieve record highs, yet the valuation on a relative to the market basis has recovered to levels near 18-year lows. Our belief is that many of the companies can structurally improve cycle to cycle with the anticipated profit expansion, helping future investments and balance sheet repair. We like the risk-reward of a sector with high but likely achievable near-term estimates and attractive relative valuation

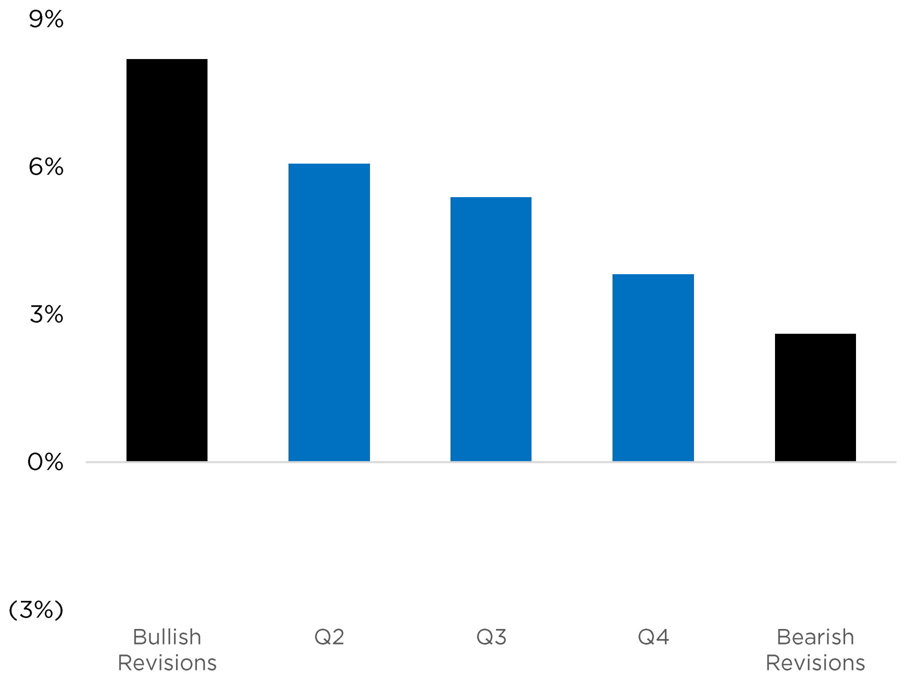




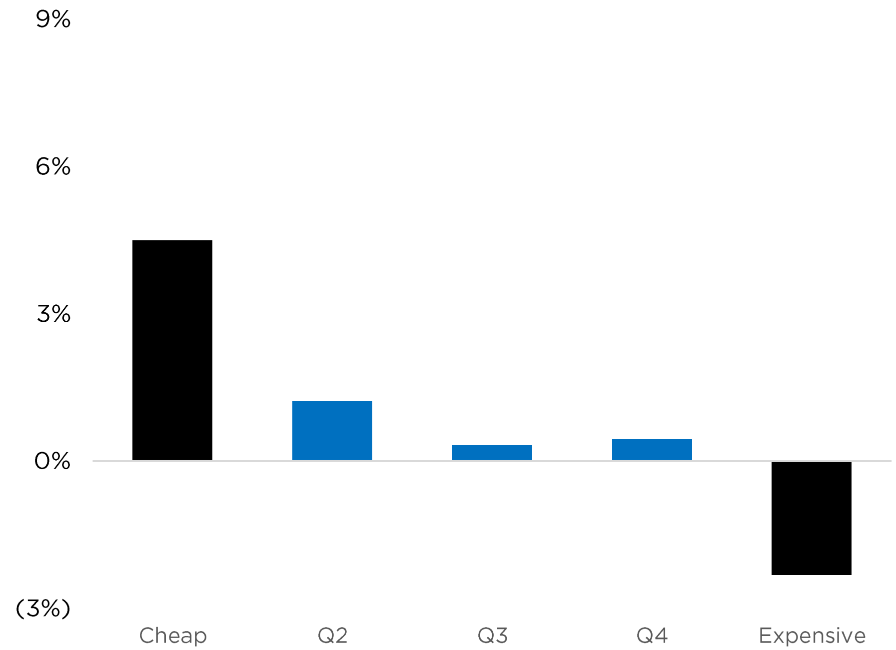
EARNINGS REVISIONS & VALUATION WORK FOR MATERIALS

As was the case in energy, materials stocks with upward analyst earnings revisions and cheaper valuation outperform those with less upward or downward revisions as oil and commodity prices rise. The top vs. bottom quintile spreads on earnings revisions average 6% on average over the subsequent six months following rising revisions, and the cheapest quintile on EV-to-EBITDA outperforms the most expensive by 7% on average

Materials Sector: Earnings Revisions Efficacy When Oil is Trending Upward over the Previous 6 Months Through End-June, 2021



Materials Sector: EV-to-EBITDA Efficacy When Oil is Trending Upward over the Previous 6 Months Through End-June, 2021



ENERGY AND MATERIALS STOCK SCREEN

Tying it together, we are bullish on energy and materials given the combination of estimate achievability and valuation. The below screen shows stocks that are in the energy and materials sector and are in the top 25% of both valuation and earnings revisions today

Energy and Materials Sector
Top Quartile in Estimate Revisions and Valuation
September 30, 2021

Ticker	Company	Industry Group	Market Cap. (US$ Bil.)
DOW	Dow Inc.	Chemicals	42.63
LYB	LyondellBasell Industries N.V.	Chemicals	31.39
NUE	Nucor Corporation	Metals & Mining	28.93
MOS	The Mosaic Company	Chemicals	13.57
STLD	Steel Dynamics, Inc.	Metals & Mining	11.94
WLK	Westlake Chemical Corporation	Chemicals	11.68
MRO	Marathon Oil Corporation	Oil, Gas & Consumable Fuels	10.78
CLF	Cleveland-Cliffs Inc.	Metals & Mining	9.90
AA	Alcoa Corporation	Metals & Mining	9.15
RS	Reliance Steel & Aluminum Co.	Metals & Mining	9.04
OLN	Olin Corporation	Chemicals	7.74
EQT	EQT Corporation	Oil, Gas & Consumable Fuels	7.73
X	United States Steel Corporation	Metals & Mining	5.93
LPX	Louisiana-Pacific Corporation	Paper & Forest Products	5.84
HFC	HollyFrontier Corporation	Oil, Gas & Consumable Fuels	5.32
NOV	NOV Inc.	Energy Equipment & Services	5.12
MUR	Murphy Oil Corporation	Oil, Gas & Consumable Fuels	3.86
UFS	Domtar Corporation	Paper & Forest Products	2.75
TSE	Trinseo S.A.	Chemicals	2.10
CDEV	Centennial Resource Development, Inc.	Oil, Gas & Consumable Fuels	1.87
SCHN	Schnitzer Steel Industries, Inc.	Metals & Mining	1.21
NEXA	Nexa Resources S.A.	Metals & Mining	1.01

THE US CONSUMER – GROSS UP AND NET UP

Our consumer activity gauge leads us to believe the US consumer remains in solid shape. However, investors have been concerned about a modest softening in retail sales and jobs data over the last two months

1. **Investment Strategy #1:** Long quality reopening, short junk work from home. Since the beginning of the pandemic:
   - Quality reopening stocks have barely outperformed junk reopening stocks
   - Junk work from home stocks have still strongly outperformed quality reopening stocks

As the recovery continues, we see a high probability that quality outperforms junk, and reopening outperforms work from home. Hence, our recommendation is to:

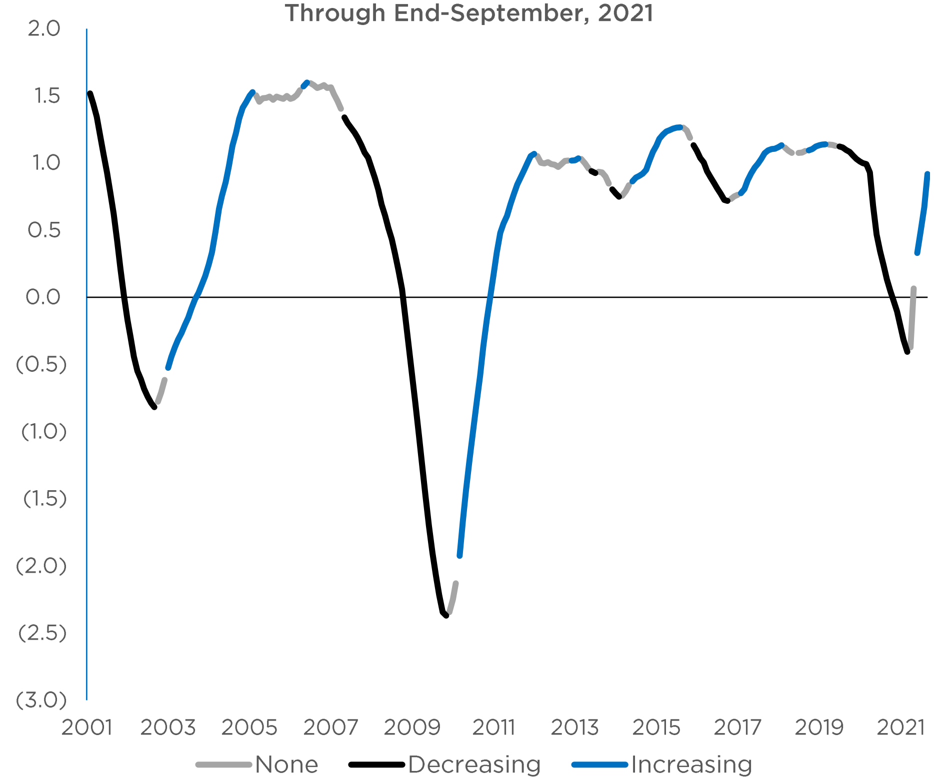
- **Long:** Quality stocks with high correlation to our "reopening" basket (stocks on page 15)
- **Short:** "Junk" stocks with high correlation to our "work from home" basket

2. **Investment strategy #2:** We like a consumer barbell:
   - **Long:** Consumer services with suppressed profitability that likely recover as reopening continues and demand for services grow
   - **Long:** Select retailers given we want to run with higher-than-normal net exposure
   - **Short:** Highly idiosyncratic staples. We can see the logic of being long a staples ETF (to capture long-term above average performance) and short some high company-specific risk staples names given the fact pattern
   - **Short:** Durables that appear to trade like growth stocks with record momentum, and are likely over-earning (stocks ideas included)

OUR CONSUMER ACTIVITY GAUGE IS INCREASING BUT SOFTENING

Our consumer activity gauge contains metrics like 90-day credit card delinquencies, retail sales, consumer confidence, wage growth, unemployment data, and several other metrics. While consumer activity was decreasing for much of 2020, it has rebounded sharply off the bottom. Today, our signals show a positive and increasing consumer overall, though US Consumer Confidence took a hit on a YoY basis, going from the 96th percentile to 62nd

Trivariate's Consumer Activity Signal
Through End-September, 2021



Consumer Activity Signals
As of End-September, 2021

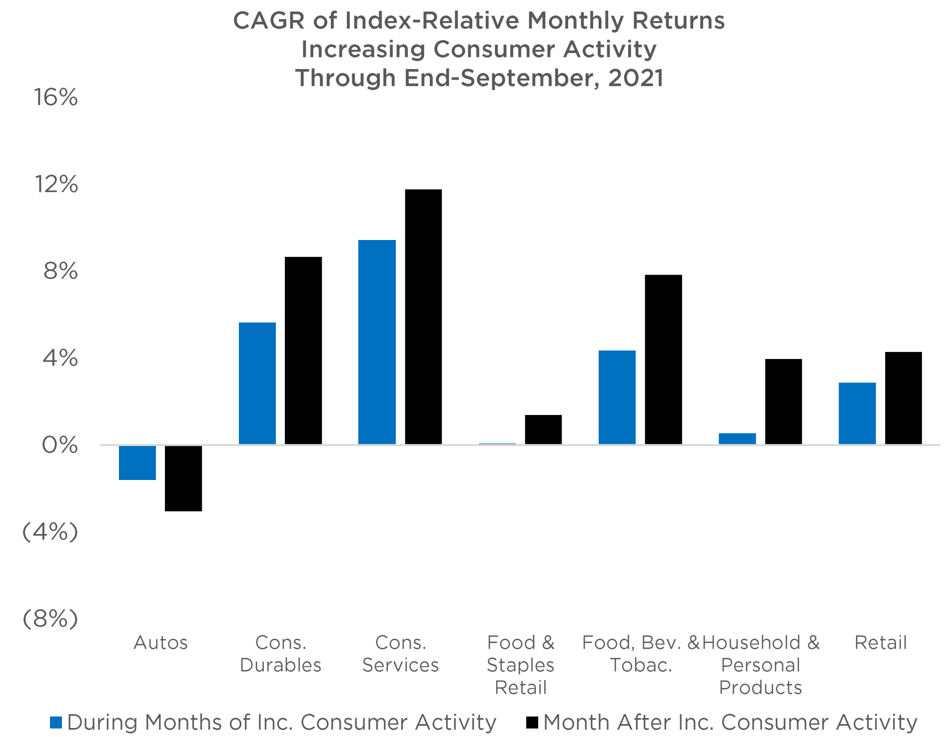
Consumer Activity Component	September 2021 Value	Percentile vs. Long-Term History
ADP Payrolls (YoY%)	4.5%	98%
US Hourly Earnings Growth (6-Month MA)	4.3%	94%
US Consumer Confidence (YoY%)	7.9%	62%
US Credit Cards 90+ Days Delinquency Rate	0.36	0%
Non-Farm Payrolls (YoY%)	4.3%	99%
US Personal Income (YoY% Change)	2.7%	13%
US Retail Sales	15.1%	99%
Atlanta Fed Wage Growth Tracker	3.9%	65%

GROSSING AND NETTING UP DISCRETIONARY IS PRUDENT

Our quantitative model that forecasts returns for discretionary stocks performs better when our consumer activity gauge is increasing, with a higher top vs. bottom quintile spread and hit rate (left chart) that when consumer activity is not increasing. Grossing up exposure to discretionary stocks is therefore prudent. We also analyzed the performance of each of the consumer discretionary industries when our consumer activity gauge is increasing and found that relative performance is strong for all industries except autos (right chart). We saw no reversal in the subsequent month, bolstering our confidence to make a higher net exposure recommendation as well

Performance of Consumer Discretionary Model When Consumer Activity Is Positive and Increasing Through End-September, 2021

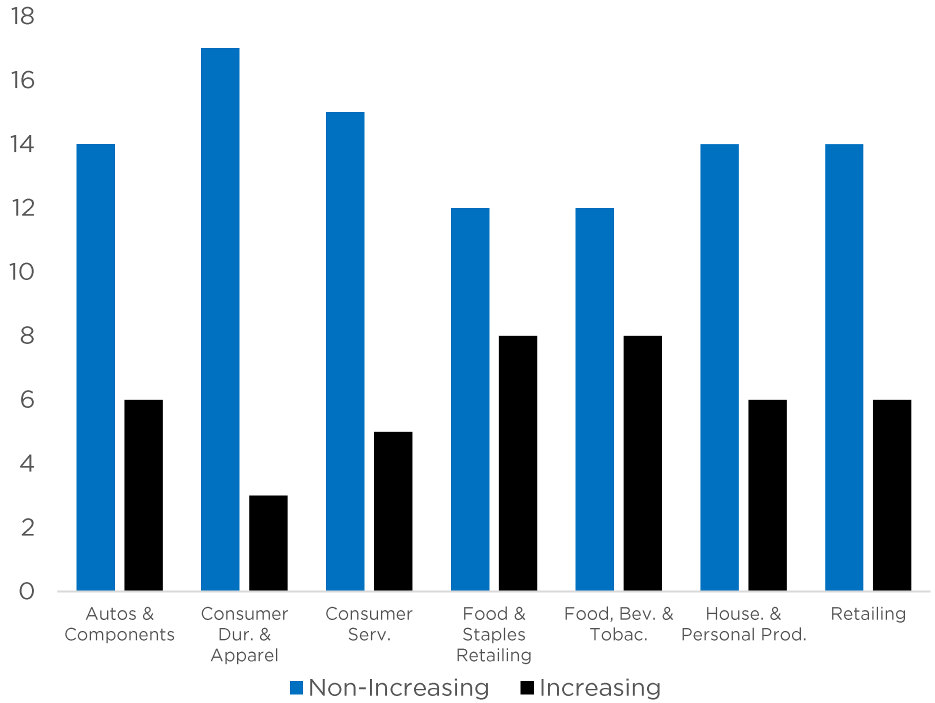
Stat	Consumer Activity Positive and Increasing	Consumer Activity Not Positive and Increasing	Difference
Hit Rate	74.0%	57.0%	17.0%
Weighted IR	1.70	0.82	0.89
Weighted Mean	17.8%	9.5%	8.3%
Weighted Median	20.0%	13.3%	6.7%



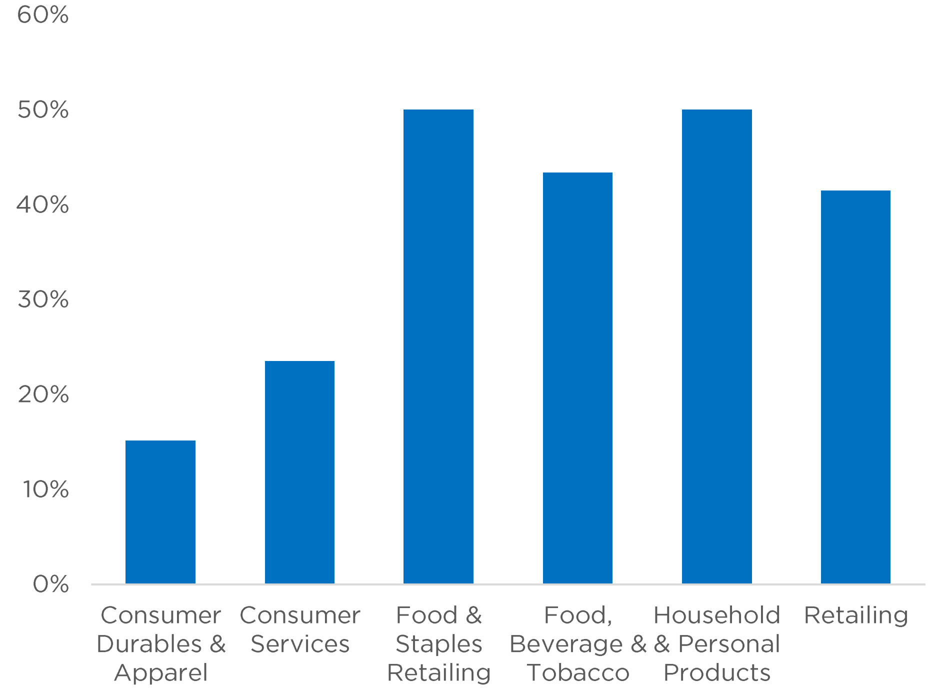
WHAT IF WE ARE WE LATE?

We evaluated the worst 20 months of consumer industry performance in the last 12 years to see if these drawdowns more frequently occurred during or right after periods of increasing consumer activity. We are heartened by the fact that consumer industries typically have their worst relative performance when consumer activity is not increasing (left chart). An additional reason to be bullish on consumer stocks is relative valuation. Less than half the names have seem relative multiple expansion in each group (right chart). We are attracted to consumer services more than durables because their profitability is suppressed, not peaking

Count of Worst 20 Months by Index-Relative Return When Consumer Activity Increasing vs. Not Increasing Through End-September, 2021

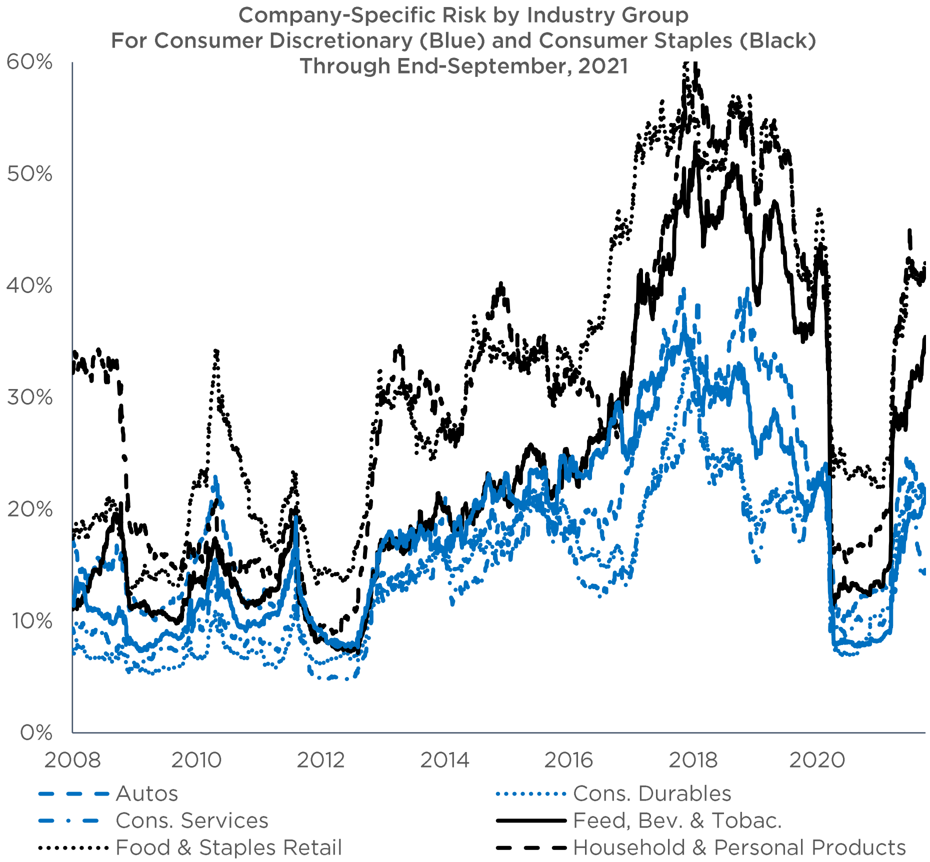


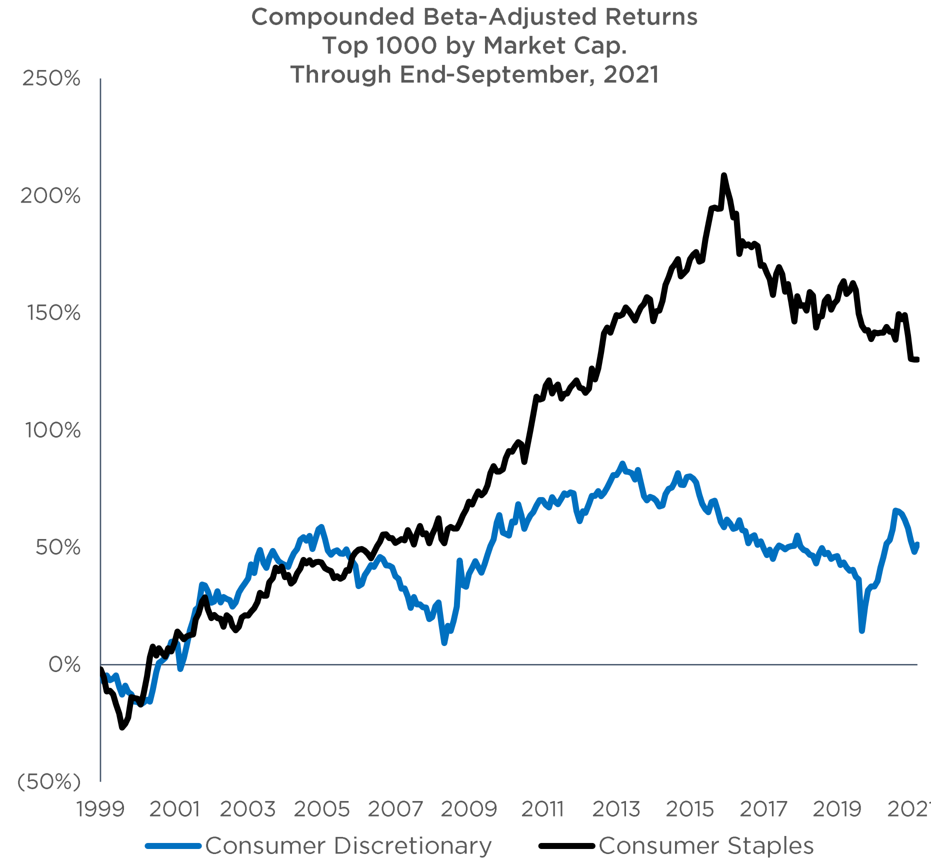
% of Names with Price-to-Forward Earnings Multiple Expansion Relative to SPX September 30, 2021



STAPLES ARE MORE IDIOSYNCRATIC AND HAVE HAD HIGHER ALPHA…

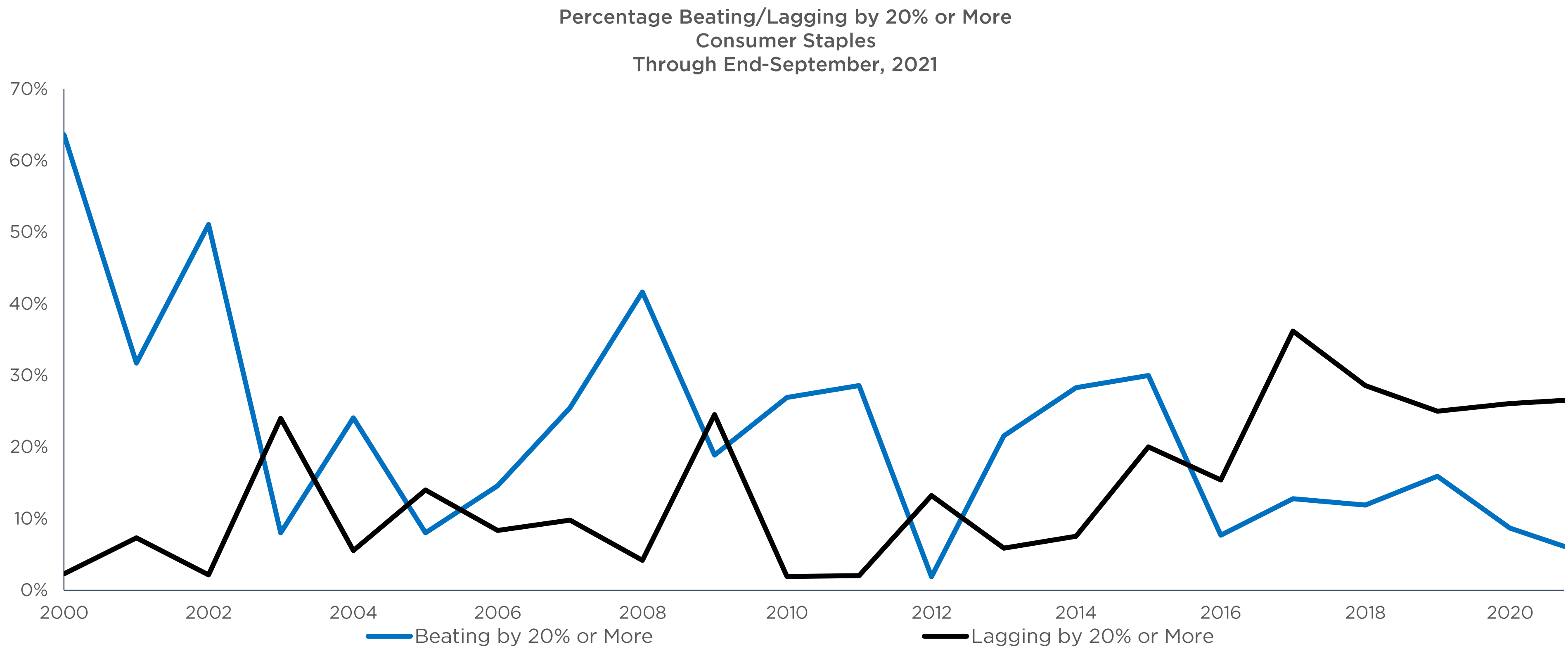
Conventional wisdom is that staples are more macro and discretionary stocks are more idiosyncratic among consumer analysts. However, (left chart) food, beverage & tobacco, and household and personal products tend to have more company-specific risk than retail, durables and consumer services. Since the TMT bubble, staples have also strongly beaten discretionary on a beta-adjusted basis (right chart)





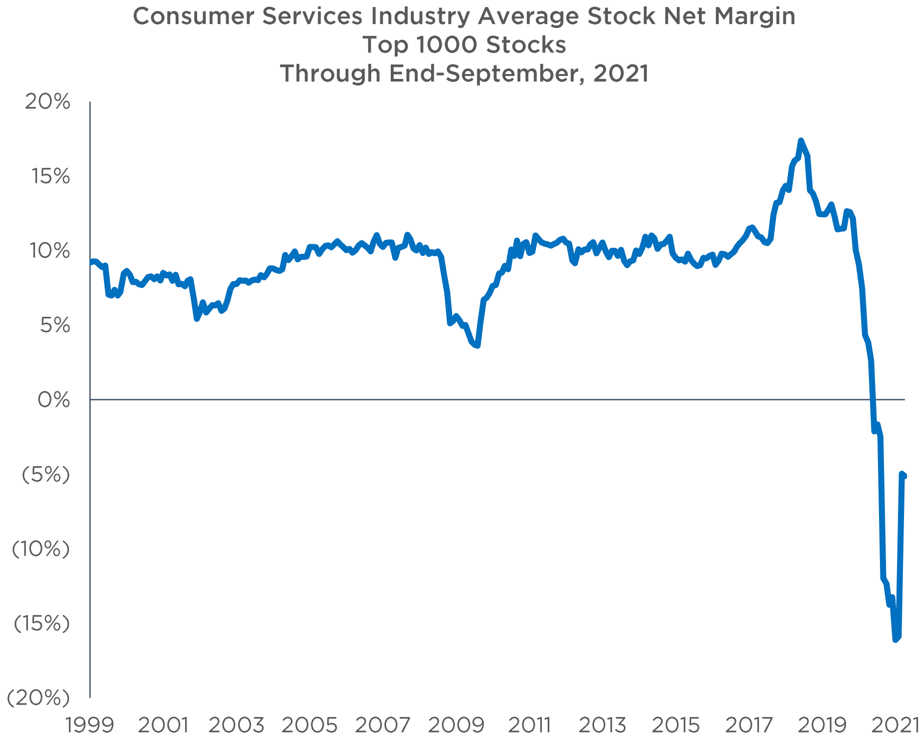
…BUT THERE ARE MORE LARGE LAGGARDS IN STAPLES

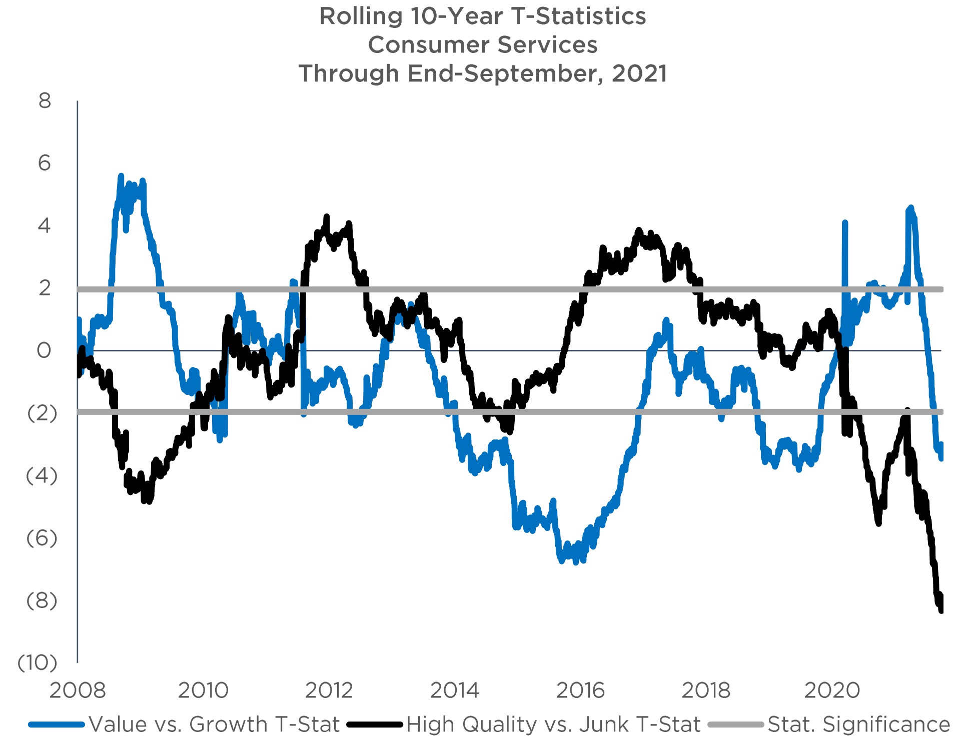
Identifying strong long ideas in staples is particularly challenging today. The fewest number of staples in nine years are beating the market by 20% or more but the third-largest number of staples stocks in 21 years are lagging the market by 20% or more. Given there is higher company-specific risk in staples than many might surmise, hunting for idiosyncratic shorts in staples is prudent. We could also see the logic to stay long a staples ETF and short some high company-specific risk staples to lower the net exposure



THE CONSUMER SERVICES INDUSTRY IS UNDER-EARNING THE MOST

The consumer service industry has been rocked by COVID-19, with the average companies' net margin bouncing just above record lows right now (left chart). As the economy and demand for services grow, it stands to reason that the services industry will regain profitability back toward the lower volatility high single-digit band it was in for the previous two decades. The result of the sustained losses in consumer services is the industry now has the strongest statistically significant relationship to junk and value this cycle (right chart)



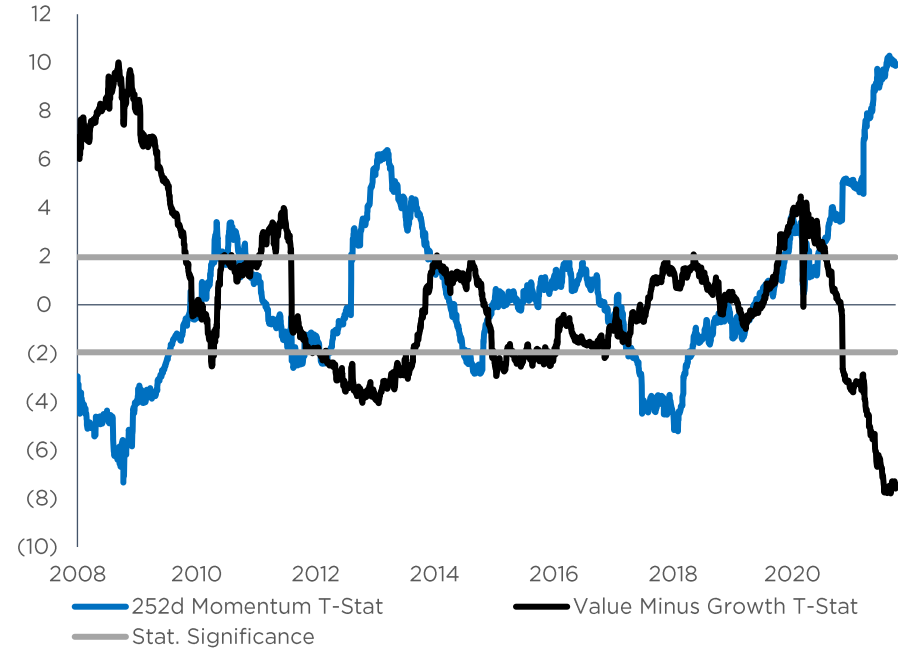


WHEREAS DURABLES SEEM TO BE OVER-EARNING THE MOST

Durables appear to be over-earning the most, with record profitability due in large part to housing demand and the homebuilders (left chart), a trend that is likely to rollover in the coming quarters. The result of strong profitability is the industry now trades the most like the growth universe ever, with the highest momentum ever (right chart). While durables can have prolonged cycles, we doubt there will be a structural shift to growth and momentum for the industry, viewing this as a place to sell winners over the coming months

Consumer Durables & Apparel Median Stock Net Margin
Top 1000 Stocks
Through End-September, 2021

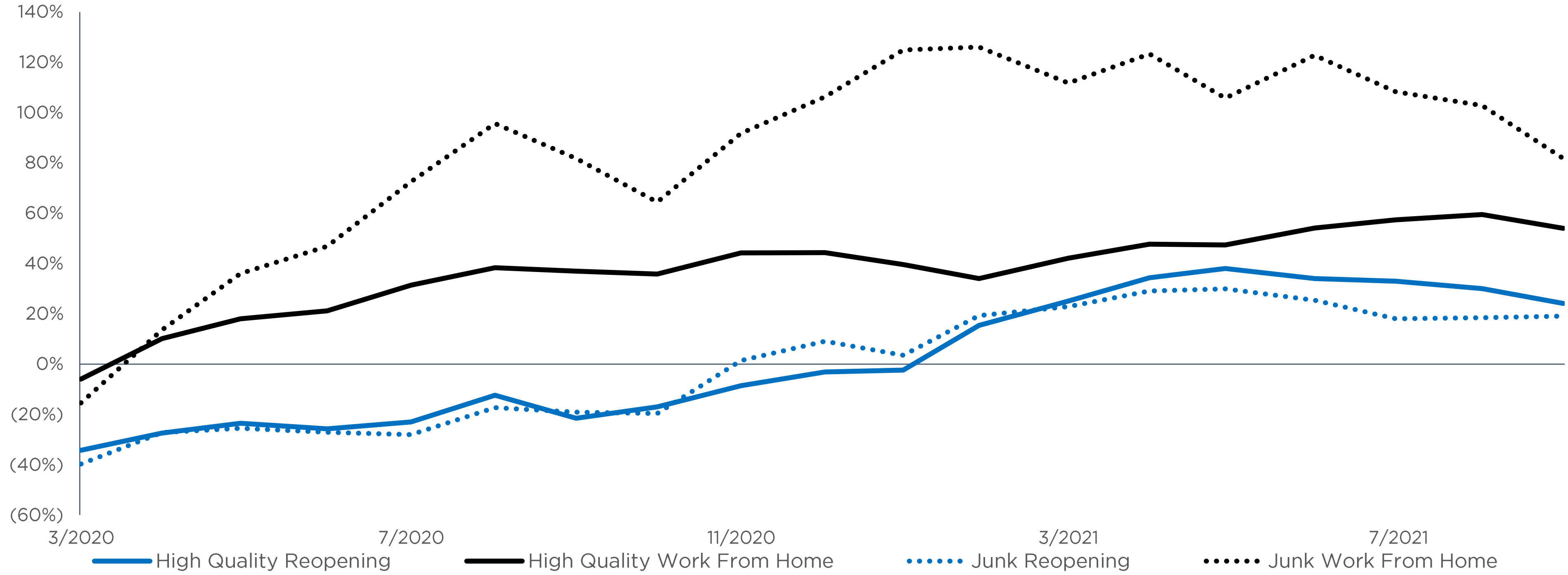
Rolling 10-Year T-Statistic
Consumer Durables & Apparel
Through End-September, 2021



JUNK WORK FROM HOME WILL EVENTUALLY LAG QUALITY REOPENING

We analyzed the returns of quality vs. junk within "work from home" and "reopening" consumer stocks, given the on-again-off-again nature of consumer demand and experience in a Delta-variant world. We have two observations. Firstly, we think quality reopening will ultimately outperforming junk reopening by a more substantial margin over the coming quarters. Secondly, we think quality reopening will perform better than junk work from home as the world continues to adapt and adjust. Our advice is to look for quality reopening long ideas, and junk work from home short ideas

Compounded Median Return, Top 1000 Consumer Stocks
Reopening vs. Work-from-Home Crossed with High Quality vs. Junk
Through End-September, 2021



STRATEGY 1: QUALITY CROSSED WITH WORK FROM HOME / REOPENING

Consistent with this theme, we offer long and short consumer ideas in the quality reopening and junk work from home buckets, respectively

Long Quality Reopening, Short Junk Work From Home, As of August 31, 2021

Longs				Shorts			
Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)	Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
ROST	Ross Stores, Inc.	Retailing	38.68	MELI	MercadoLibre, Inc.	Retailing	83.49
HLT	Hilton Worldwide Holdings Inc.	Consumer Services	36.82	CHWY	Chewy, Inc.	Retailing	28.45
EXPE	Expedia Group, Inc.	Consumer Services	24.72	PTON	Peloton Interactive, Inc.	Consumer Durables & Apparel	26.16
ULTA	Ulta Beauty, Inc.	Retailing	19.62	DKNG	DraftKings Inc.	Consumer Services	19.53
GPC	Genuine Parts Company	Retailing	17.36	FTCH	Farfetch Limited	Retailing	13.28
LKQ	LKQ Corporation	Retailing	14.79	CELH	Celsius Holdings, Inc.	Food, Beverage & Tobacco	6.71
CHH	Choice Hotels International, Inc.	Consumer Services	7.00	BYND	Beyond Meat, Inc.	Food, Beverage & Tobacco	6.66
VAC	Marriott Vacations Worldwide Corporation	Consumer Services	6.72	SAM	The Boston Beer Company, Inc.	Food, Beverage & Tobacco	6.21
				LAZR	Luminar Technologies, Inc.	Automobiles & Components	5.61

STRATEGY 2: A BARBELL

Another consumer theme we like is a barbell approach - long retail as discretionary tends to work when consumer activity is strong and services on a rebound of suppressed profitability - short idiosyncratic staples and durables which are potentially over-earning

Long Retailers and Services that Favored by Our Model, Short Highly Idiosyncratic Staples and Durables Our Model Disfavors, As of August 31, 2021

Longs				Shorts			
Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)	Ticker	Company Name	Industry Group	Market Cap ($ US. Bil)
HD	The Home Depot, Inc.	Retailing	346.43	KHC	The Kraft Heinz Company	Food, Beverage & Tobacco	45.05
MCD	McDonald's Corporation	Consumer Services	180.06	PTON	Peloton Interactive, Inc.	Consumer Durab. & Apparel	26.16
LOW	Lowe's Companies, Inc.	Retailing	140.47	CLX	The Clorox Company	Household & Personal Prod.	20.34
TJX	The TJX Companies, Inc.	Retailing	79.34	HAS	Hasbro, Inc.	Consumer Durab. & Apparel	12.28
CMG	Chipotle Mexican Grill, Inc.	Consumer Services	51.06	YETI	YETI Holdings, Inc.	Consumer Durab. & Apparel	7.50
MAR	Marriott International, Inc.	Consumer Services	48.23	PPC	Pilgrim's Pride Corporation	Food, Beverage & Tobacco	7.09
ROST	Ross Stores, Inc.	Retailing	38.68	CASY	Casey's General Stores, Inc.	Food & Staples Retailing	6.99
YUM	Yum! Brands, Inc.	Consumer Services	36.16	TOL	Toll Brothers, Inc.	Consumer Durab. & Apparel	6.73
BBY	Best Buy Co., Inc.	Retailing	26.00	BLD	TopBuild Corp.	Consumer Durab. & Apparel	6.7
TSCO	Tractor Supply Company	Retailing	23.17	FLO	Flowers Foods, Inc.	Food, Beverage & Tobacco	5.00
DRI	Darden Restaurants, Inc.	Consumer Services	19.74	LANC	Lancaster Colony Corporation	Food, Beverage & Tobacco	4.65
RH	RH	Retailing	14.03	HAIN	The Hain Celestial Group, Inc.	Food, Beverage & Tobacco	4.13
WSM	Williams-Sonoma, Inc.	Retailing	13.19	TMHC	Taylor Morrison Home Corporation	Consumer Durab. & Apparel	3.23
FIVE	Five Below, Inc.	Retailing	9.91	IBP	Installed Building Products, Inc.	Consumer Durab. & Apparel	3.16
GPS	The Gap, Inc.	Retailing	8.54	UNFI	United Natural Foods, Inc.	Food & Staples Retailing	2.73
ALV	Autoliv, Inc.	Automobiles & Components	7.50	ENR	Energizer Holdings, Inc.	Household & Personal Prod.	2.67
M	Macy's, Inc.	Retailing	7.00	TWNK	Hostess Brands, Inc.	Food, Beverage & Tobacco	2.26
FVRR	Fiverr International Ltd.	Retailing	6.68	MED	Medifast, Inc.	Household & Personal Prod.	2.25
				THS	TreeHouse Foods, Inc.	Food, Beverage & Tobacco	2.22
				IRBT	iRobot Corporation	Consumer Durab. & Apparel	2.20
				TR	Tootsie Roll Industries, Inc.	Food, Beverage & Tobacco	2.09

CONTROVERSIES AND VARIABLES TO MONITOR FOR BANKS

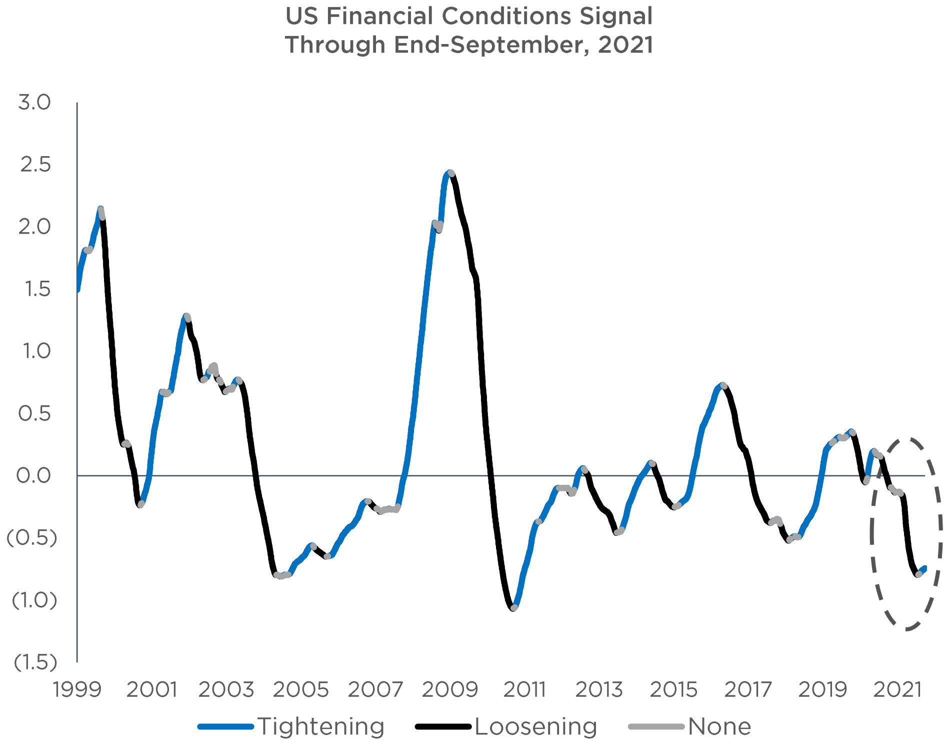
We took a detailed look at the banks sector and research key investment controversies facing bank stock investors and three data points to monitor. We think these concepts apply broadly to investors in other industries as well. The controversies are:

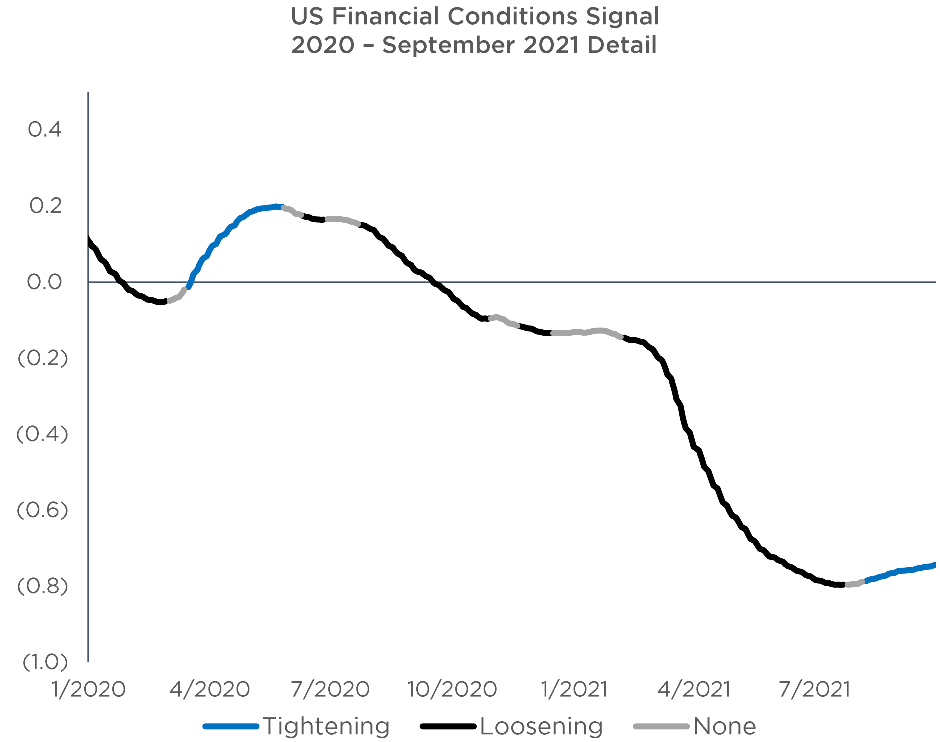
1. **Gross Exposure:** Our quantitative models work better at discriminating banks stocks when financial conditions are loosening, something we capitalized on earlier in the year by recommending high gross exposure in banks. However, financial conditions have tightened over the past couple of months, average pairwise bank stock correlations are near all-time highs, company-specific risk for the banks is low and valuation dispersion has not seen a sustained increase in banks like it has in the broader market.
2. **Long-term vs. short-term valuation:** While banks remain relatively cheap vs. their own history on price-to-tangible book, multiples have expanded substantially more than actual book value has grown since the 10-year yield bottomed in August of 2020, meaning investors have been excessively anticipatory of fundamentals
3. **Large banks look more attractive than small**, with balance sheets that have improved more without a commensurate improvement in relative valuation. Micro cap. quality banks are cheaper than micro cap. junk banks, which seems illogical.

We would continue to monitor financial conditions, the savings rate, and loan growth as three key variables to see whether growth can improve for the group

FINANCIAL CONDITIONS HAVE STARTED TO TIGHTEN

We evaluate financial conditions by combining credit spreads, mortgage rates, US Treasury volatility, the Bloomberg Financial Conditions Index, and other signals. We intentionally try to create a slower moving signal so that we are not over-reacting to shorter term moves in financial conditions. Our framework officially flagged loosening financial conditions in March of this year. This loosening stopped on July 26th according to our framework and tightening began on August 9th





GROSS DOWN BANKS WHEN FINANCIAL CONDITIONS TIGHTENING

We observed that our banks quantitative model works well historically when financial conditions are loosening (left chart). In the past, the top vs. bottom quintile (Q1-Q5) spread is 15.3% when economic activity is increasing vs. 3.8% when it is not. The banks model has again worked well "live" this cycle, both in strong up months like April, and in relative weaker months, like June / July, up about 4% cumulatively over the last four months (right chart). As of the end of August, we no longer recommend grossing up banks as financial conditions have tightened – performance was pretty weak in September

Banks Model Performance
Through End-September, 2021

Stat (Beta-Adjusted)	Financial Conditions Loosening	Financial Conditions Not Loosening	Difference
Weighted Mean	15.3%	3.8%	11.5%
Weighted Median	13.0%	5.5%	7.4%
Weighted Information Ratio	2.51	0.62	1.89
Hit Rate	79.3%	62.0%	14.4%

Select Signals Used in Our Banks Model

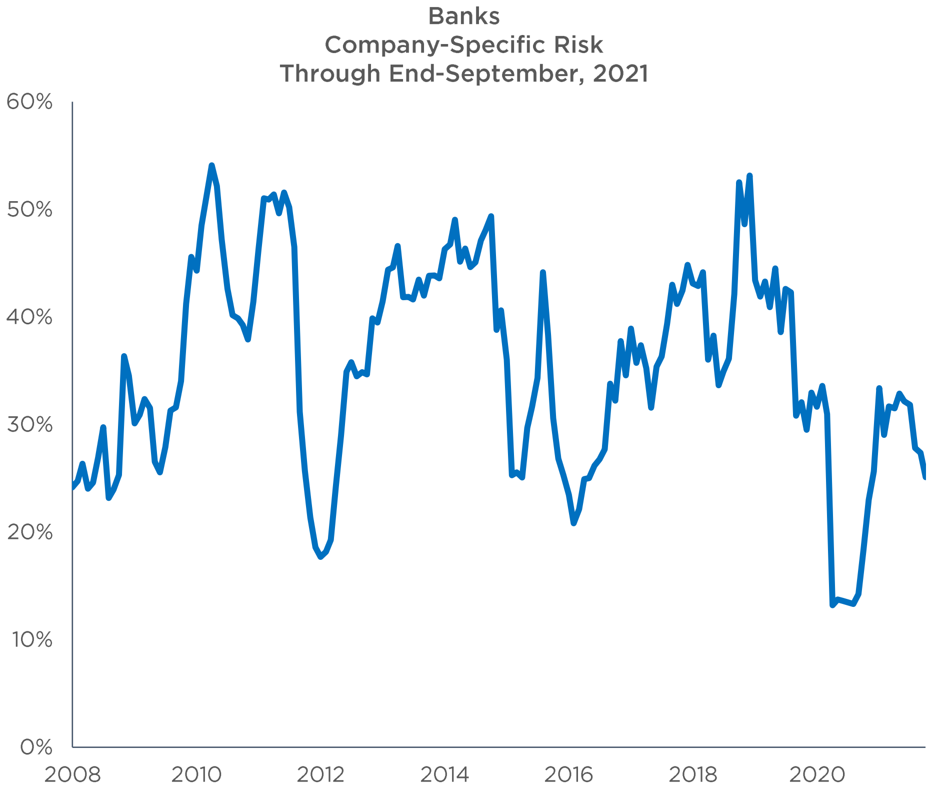
Percent to Median Target (Sentiment),
Provision for Loan Loss Ratio Growth (Balance Sheet),
Consensus Recommendation (Sentiment),
Dividend Yield Trend (Capital Use),
Return on Tangible Book (Profitability),
Price-to-Tangible Book (Valuation),
Loan Loss Coverage Ratio (Balance Sheet)

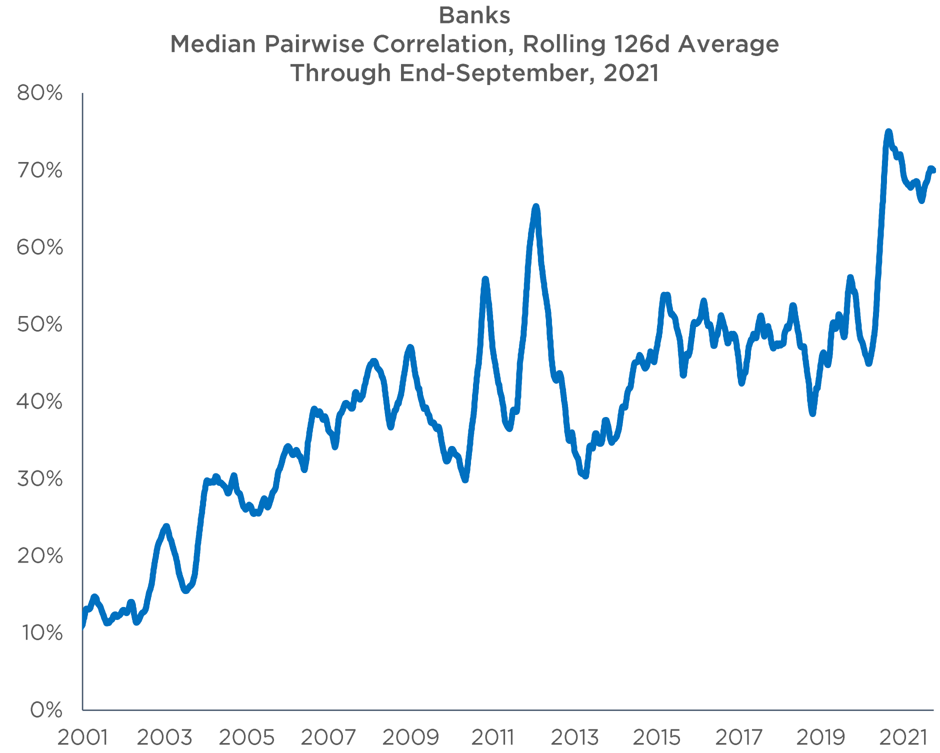
Banks Model Performance
April – September, 2021

Stat (Beta-Adjusted)	Q1 Average Return	Q5 Average Return	Q1-Q5 Spread
April	4.6%	1.7%	2.9%
May	3.7%	2.7%	1.0%
June	(6.2%)	(6.0%)	(0.2%)
July	(2.2%)	(3.2%)	1.1%
August	5.9%	3.8%	2.1%
September	2.2%	1.9%	0.2%

OTHER DATA SUGGEST STOCK SELECTION IN BANKS IS TOUGH TODAY

Company-specific risk for banks has remained relatively low, and below long-term averages for banks (left chart). The average pairwise return correlation of banks is currently 0.7 on a twenty-year trend of higher correlation that was only 0.2 following the TMT crisis (right chart)

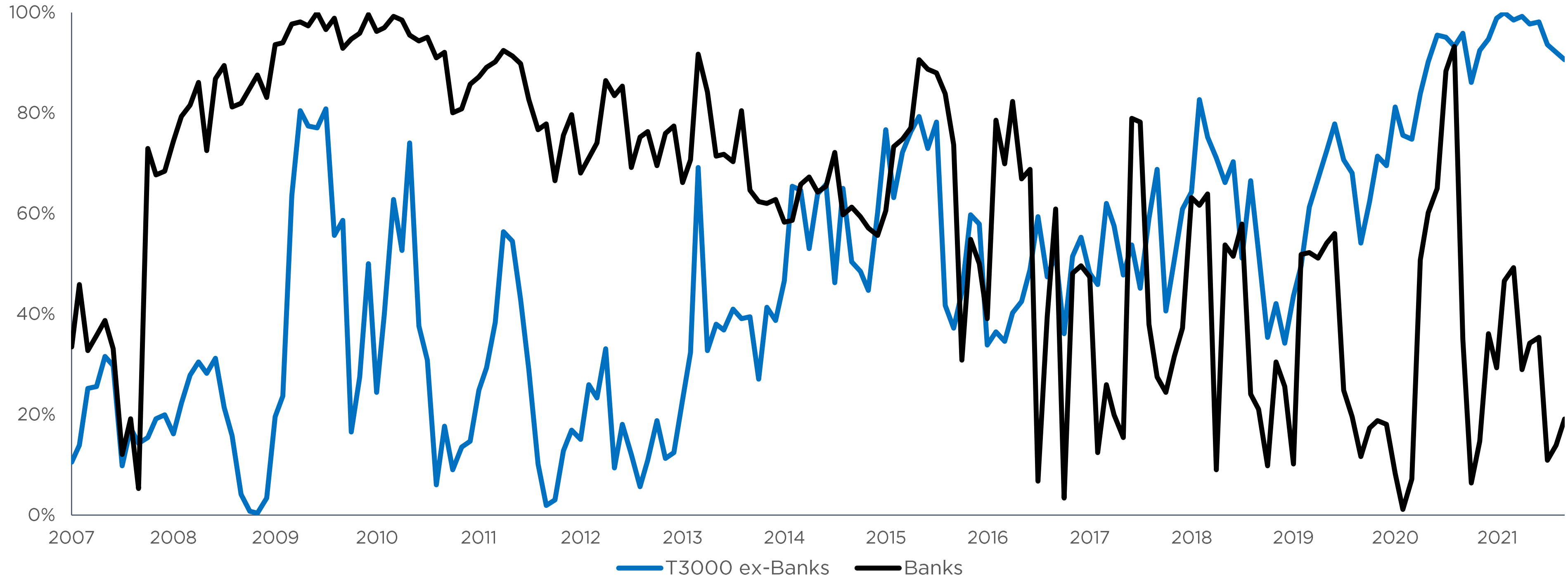




BANK VALUATION DISPERSION IS LOW

Moreover, for the broad market valuation dispersion (shown here on price-to-forward earnings in blue) is elevated, indicated potential above-normal opportunity for stock selection. Yet, for banks (in black), valuation dispersion remains well below long-term averages having corrected quickly after the COVID recovery. Our conclusion is that if you were grossed up in banks the past few months, it might be prudent to reduce gross exposure closer to your baseline level. Financial conditions have begun to modestly tighten, and company-specific risk, pairwise correlation, and valuation dispersion all appear to make bank stock selection more difficult today

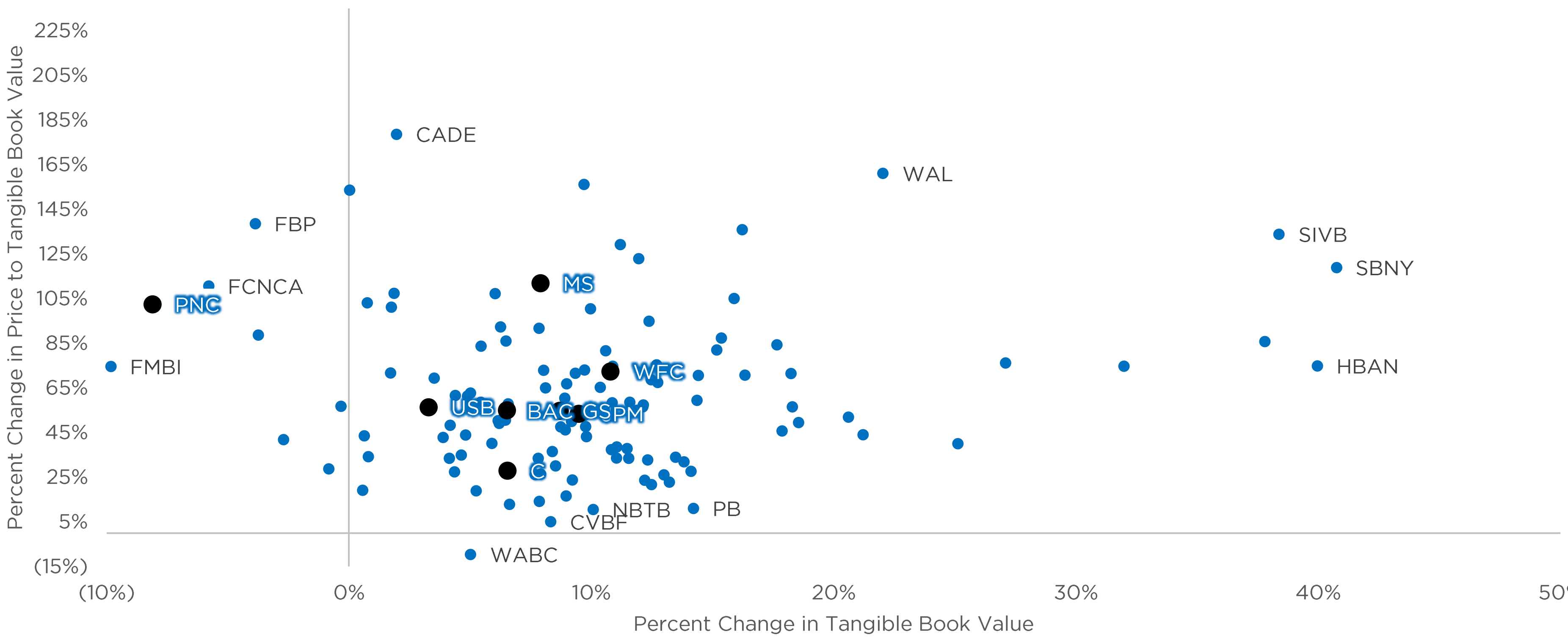
Banks vs. Top 3000 Stocks excluding-Banks
Percentile Rank of Dispersion of Price-to-Forward Earnings
Through End-September, 2021



MULTIPLE EXPANSION VS. TANGIBLE BOOK GROWTH

Since August 4th, 2020 when the 10-year yield bottomed around 0.5%, many banks have had a lot of price-to-tangible book expansion, without much tangible book growth. Our view is that investors have been excessively anticipatory of tangible book expansion, and this fuels some of our caution on banks. We highlight the large banks, which generally have not seen outsized multiple expansion. Among the largest cap stocks, the highest tangible book growth has come from WFC, whereas the most multiple expansion has come from MS

Percent Change in Tangible Book Value vs. Percent Change in Price to Tangible Book Value
August 4, 2020 vs. September 30, 2021



STOCK IDEAS BASED ON VALUATION AND GROWTH

Stocks with relatively strong book growth and relatively low multiple expansion are shown on the left chart. Those with high multiple expansion in the last year but limited actual book value growth are shown on the right chart

Banks Stocks with Less Price-to-Tangible Book Multiple Expansion Relative to Tangible Book Growth
August 4th, 2020 Through September 30, 2021

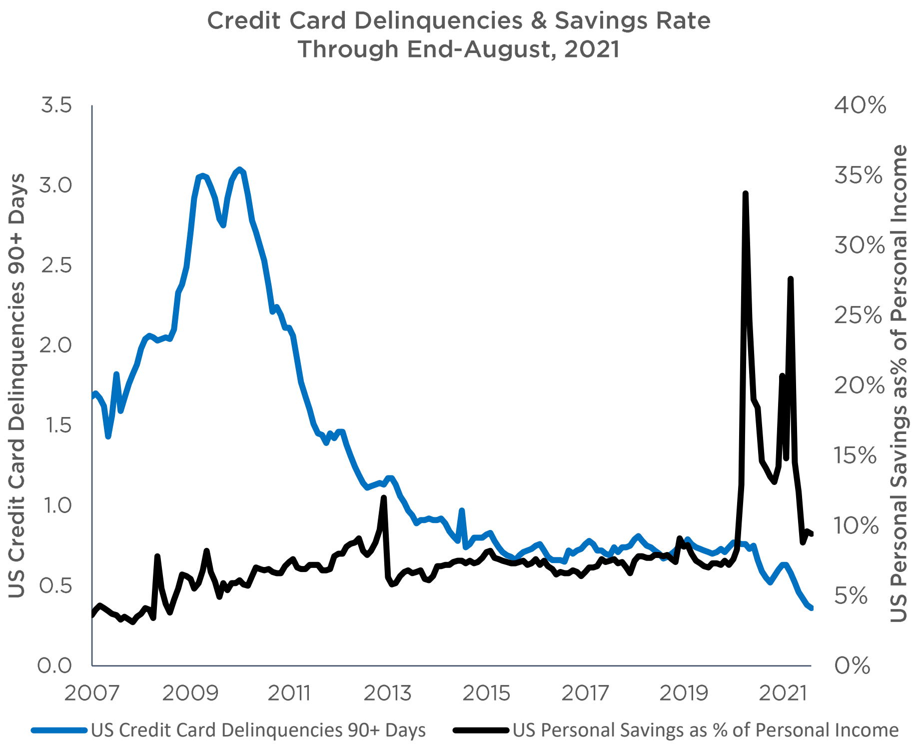
Ticker	Company Name	Market Cap ($ US. Bil)	Book Value Growth	Price to Tangible Book Growth
PB	Prosperity Bancshares, Inc.	6.61	14.2%	11.1%
SSB	SouthState Corporation	5.23	11.5%	33.5%
HOMB	Home Bancshares, Inc. (Conway, AR)	3.86	14.1%	27.6%
BXS	BancorpSouth Bank	3.23	13.8%	31.8%
BANF	BancFirst Corporation	1.97	13.0%	26.0%
NBTB	NBT Bancorp Inc.	1.57	10.1%	10.5%
WABC	Westamerica Bancorporation	1.51	5.0%	(9.7%)
BUSE	First Busey Corporation	1.39	11.0%	33.6%
TCBK	TriCo Bancshares	1.29	13.5%	33.9%
SBSI	Southside Bancshares, Inc.	1.25	13.2%	22.8%
NBHC	National Bank Holdings Corporation	1.25	12.3%	32.7%
GABC	German American Bancorp, Inc.	1.03	12.5%	21.7%
HFWA	Heritage Financial Corporation	0.92	12.2%	23.6%

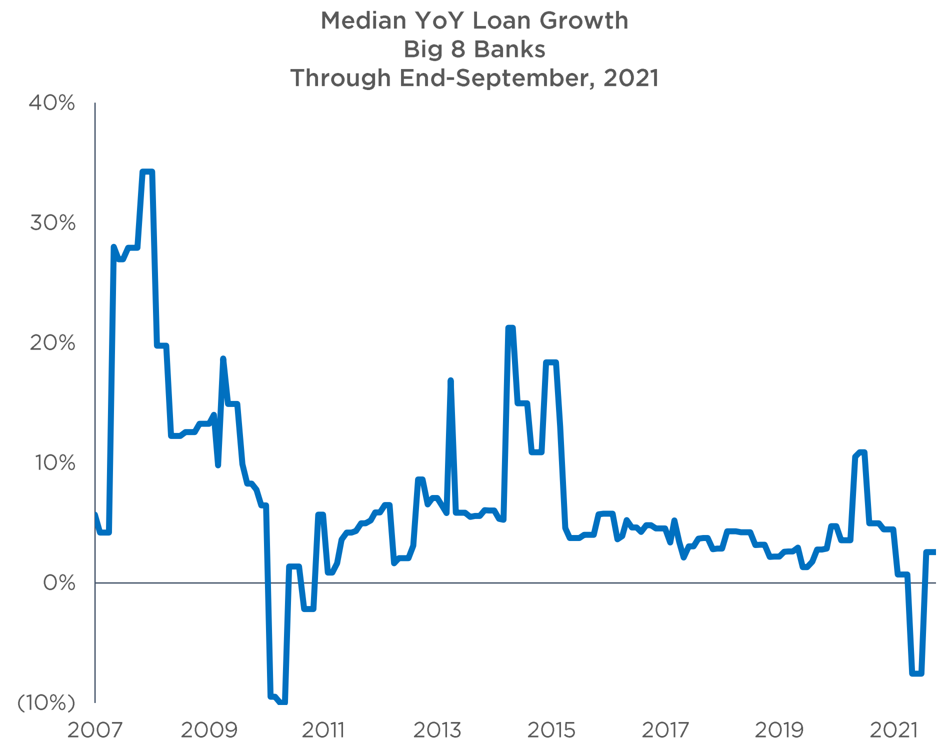
Banks Stocks with Relatively Weak Tangible Book Growth That Have Also Seen Material Price-to-Tangible Book Multiple Expansion
August 4th, 2020 Through September 30, 2021

Ticker	Company Name	Market Cap ($ US. Bil)	Book Value Growth	Price to Tangible Book Growth
PNC	The PNC Financial Services Group, Inc.	83.15	(8.1%)	102.4%
FITB	Fifth Third Bancorp	29.31	1.9%	107.3%
WAL	Western Alliance Bancorporation	11.24	22.0%	161.0%
EWBC	East West Bancorp, Inc.	11.00	12.4%	94.9%
CMA	Comerica Incorporated	10.78	1.8%	101.2%
FCNCA	First Citizens BancShares, Inc.	8.15	(5.8%)	110.6%
PNFP	Pinnacle Financial Partners, Inc.	7.12	15.9%	105.1%
SNV	Synovus Financial Corp.	6.43	6.0%	107.2%
BPOP	Popular, Inc.	6.27	0.8%	103.1%
PACW	PacWest Bancorp	5.31	12.0%	122.8%
CIT	CIT Group Inc.	5.15	9.7%	156.1%
WBS	Webster Financial Corporation	4.93	6.3%	92.3%
STL	Sterling Bancorp	4.81	10.0%	100.4%
HWC	Hancock Whitney Corporation	4.09	11.2%	129.1%
LOB	Live Oak Bancshares, Inc.	2.76	19.9%	246.9%
CADE	Cadence Bancorporation	2.74	2.0%	178.6%
FBP	First BanCorp.	2.73	(3.9%)	138.6%
TBK	Triumph Bancorp, Inc.	2.48	8.2%	265.1%
FMBI	First Midwest Bancorp, Inc.	2.17	(9.8%)	74.5%
GWB	Great Western Bancorp, Inc.	1.80	0.0%	153.6%
NTB	The Bank of N.T. Butterfield & Son Limited	1.74	(2.7%)	41.8%
TBBK	The Bancorp, Inc.	1.45	16.2%	135.8%
AMTB	Amerant Bancorp Inc.	0.91	(3.7%)	88.6%

WATCH THE SAVINGS RATE AND LOAN GROWTH TO GAUGE REVISIONS

As generalists, our observation is that bank-stock investors excessively focusing on net interest margins, trying to gauge a few bps up or down. The bigger issue in our judgment is loan growth, and what could drive that as the cycle expands. The consumer is in great shape, with 90-day credit card delinquencies at a cycle low and the savings rate quite elevated (left chart). Loan growth has started to pickup for the biggest banks (right chart) but likely requires more dis-savings and a more demanding consumer before growing to levels seen in 2014-2015

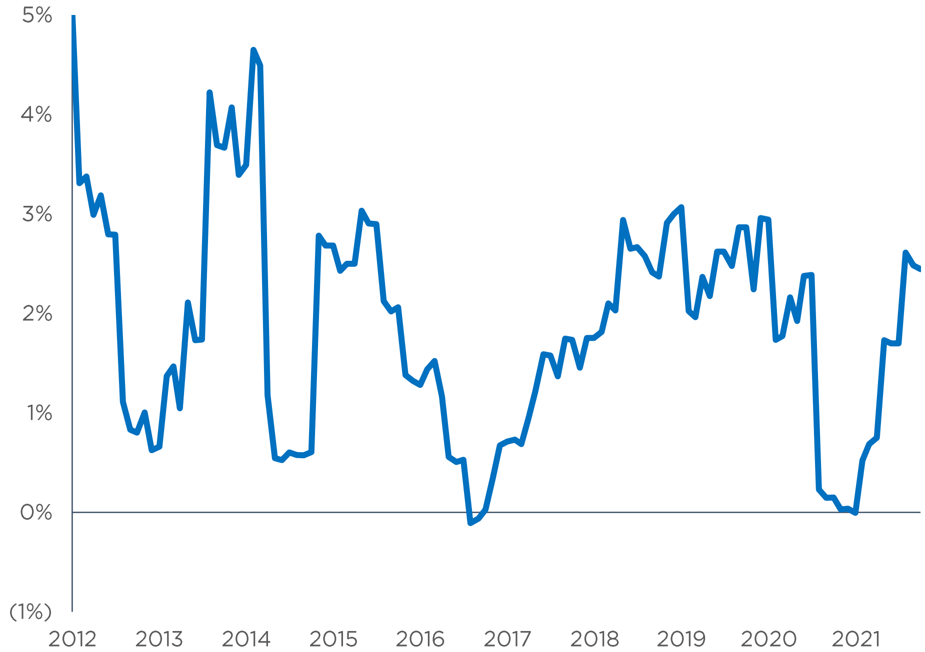




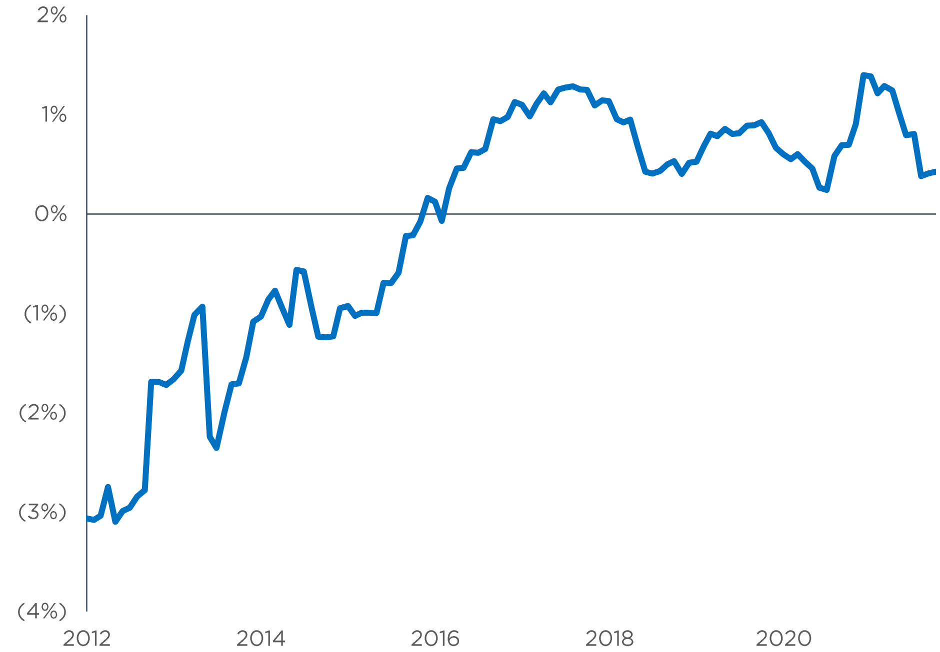
THE BIG 8: INCOME STATEMENT AND BALANCE SHEET IMPROVEMENT

The largest 8 banks (JPM, WFC, C, BAC, USB, PNC, GS, and MS) have markedly improved both their profitability and balance sheets over the last several years, on average better than the broader bank universe on both metrics. Return on tangible equity (left chart) now shows the large banks are at cycle highs on return on tangible book relative to the rest of banks (median ROTE of the Big 8 is now 17% vs 14.6% for the larger universe). This is close to the highest level of excess ROTE since 2014. The Big 8 have also improved their balance sheets over time, with what appears to be a sustainably higher Tier 1 Ratio than the broader group of banks (right chart)

Relative Return on Tangible Equity
Big 8 Banks Minus Top 3000 Median
Through End-September, 2021



Relative Tier One Ratio
Big 8 Banks Minus Top 3000 Average
Through End-September, 2021



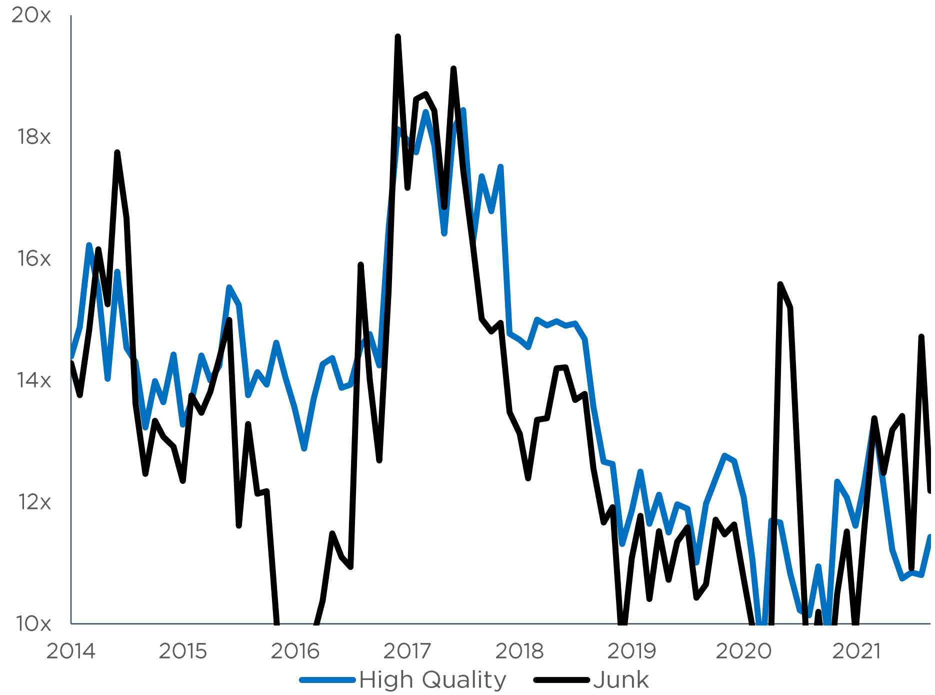
DESPITE THIS RELATIVE STRENGTH – VALUATION PREMIA ARE MODEST

Despite the relatively higher profitability and improved balance sheets, the large cap. banks barely trade at a premium to the broader group of banks. If longer-term history is a guide, the large cap. banks relative valuation could still substantially expand, even as the broader universe in-part have premia related to M&A potential. Our judgment is to prefer the Big 8 banks to the broader universe of banks, as their improved income statements and balance sheets should cost more relative to regionals

THERE IS A QUALITY / VALUATION DISCONNECT AMONG MICRO CAPS.

For those investors who can invest in micro cap. banks, we noticed an unusual valuation-based opportunity today. Historically, high quality micro cap. banks traded at a modest premium on price-to-forward earnings to the lowest quality or “junk” quartile. However, junk stocks are at a premium today (left chart). Our judgment is that this is likely to normalize over time, as it began to in September, and hence, we offer long ideas that are quality micro cap. banks that are cheap on price-to-forward earnings, and short ideas that are junk stocks that are expensive on price-to-forward earnings (right)

Median Price-to-Forward Earnings
Micro Cap Banks, High Quality vs. Junks
Through End-September, 2021



Buy High Quality Cheap Micro Cap. Banks, Sell “Junk” Expensive Micro Cap. Banks
End-August, 2021

Long

Ticker	Company Name	Price to FWD Earnings	Market Cap ($ US. Bil)
PFBC	Preferred Bank	10.56x	1.00
QCRH	QCR Holdings, Inc.	9.48x	0.81
HBNC	Horizon Bancorp, Inc.	9.72x	0.80
GSBC	Great Southern Bancorp, Inc.	11.19x	0.74
THFF	First Financial Corporation	10.60x	0.55
MCBS	MetroCity Bankshares, Inc.	8.18x	0.53
CSTR	Capstar Financial Holdings, Inc.	11.09x	0.47
FMNB	Farmers National Banc Corp.	8.66x	0.44
HBT	HBT Financial, Inc.	9.74x	0.43
CCNE	CNB Financial Corporation	7.91x	0.41

Short

Ticker	Company Name	Price to FWD Earnings	Market Cap ($ US. Bil)
BANC	Banc of California, Inc.	13.32x	0.94
AMTB	Amerant Bancorp Inc.	14.89x	0.91
HTBI	HomeTrust Bancshares, Inc.	14.88x	0.46
HBMD	Howard Bancorp, Inc.	16.76x	0.38

SUMMARY AND CONCLUSIONS FOR INDUSTRIALS

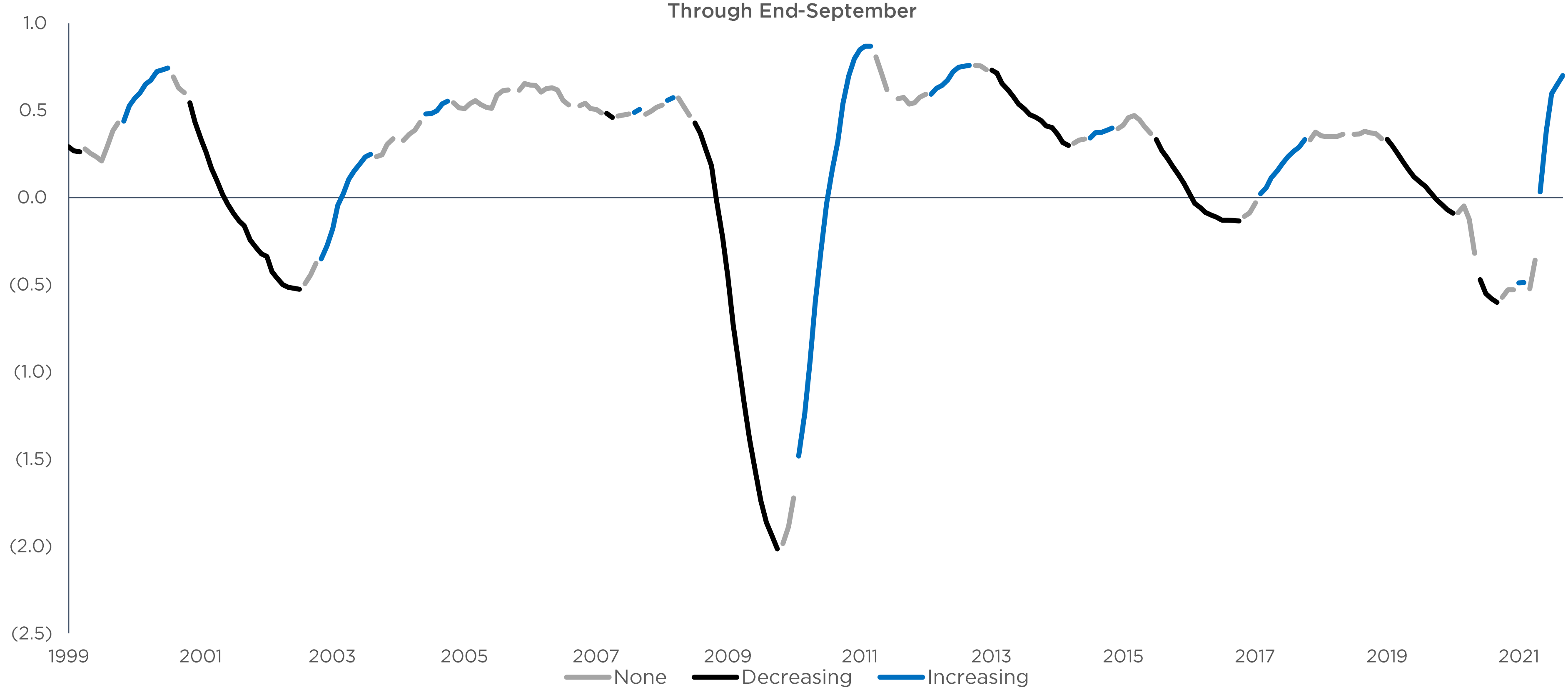
We are negative on the industrials sector relative to the market and would initiate new shorts, or sell down large long positions now

1. **Macro softening:** Our proprietary gauge of macro indicators of industrial activity shows a softening of late after a huge recovery since March of 2020. In particular, C&I loans, manufacturing capacity utilization, durable goods orders, industrial production, PMI, and North American carloads have all rolled over
2. **Earnings expectations are high:** Despite the softening of macro data, bottom-up analyst earnings estimates for the GICS industrial sector appear to embed sustained economic strength, with above 20% YoY earnings growth forecasted each quarter through 2022, among the highest of any sector
3. **Inventory not lean:** While there have been ample supply-chain shortages and logistics problems for many manufacturers, our judgment is that inventory levels for the industrials companies themselves are average
4. **Group is expensive:** Valuations have become elevated, so unlike materials and energy which are cheap on peak earnings, many / most of the industrials' industries are in the 95th percentile or higher vs. their own history on EV-to-EBITDA
5. **Use margin expectations to find short ideas:** Therefore, it appears that the key to investing today will be further margin expansion. Our judgment is to short stocks where incremental margin expectations are high

OUR INDUSTRIAL ACTIVITY GAUGE APPEARS TO BE LEVELING OFF

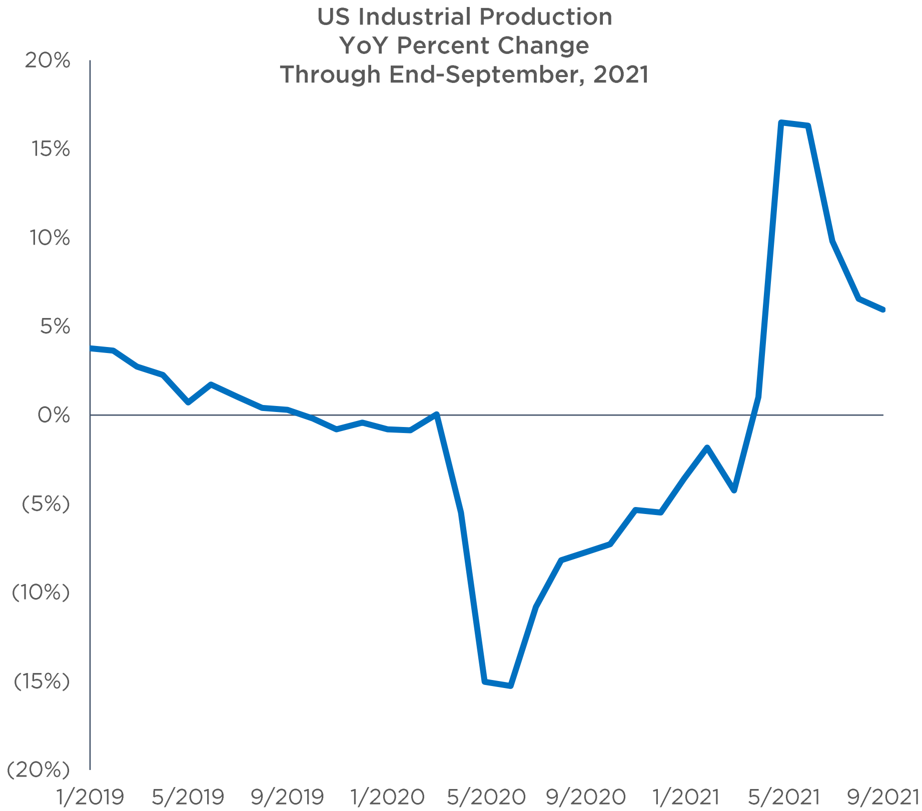
Our industrial activity gauge, which is a broad-based combination of several metrics like C&I loans, Baker Hughes rig count, private nonresidential construction, capacity utilization, new orders of durable goods, PMI, industrial production, and several others show that industrial activity rebounded sharply off the lows of March 2020. However, several signals have begun to roll-over, causing the overall gauge to begin to flatten starting in May of 2021, at about the same level as the gauge did in 2010 / 2011

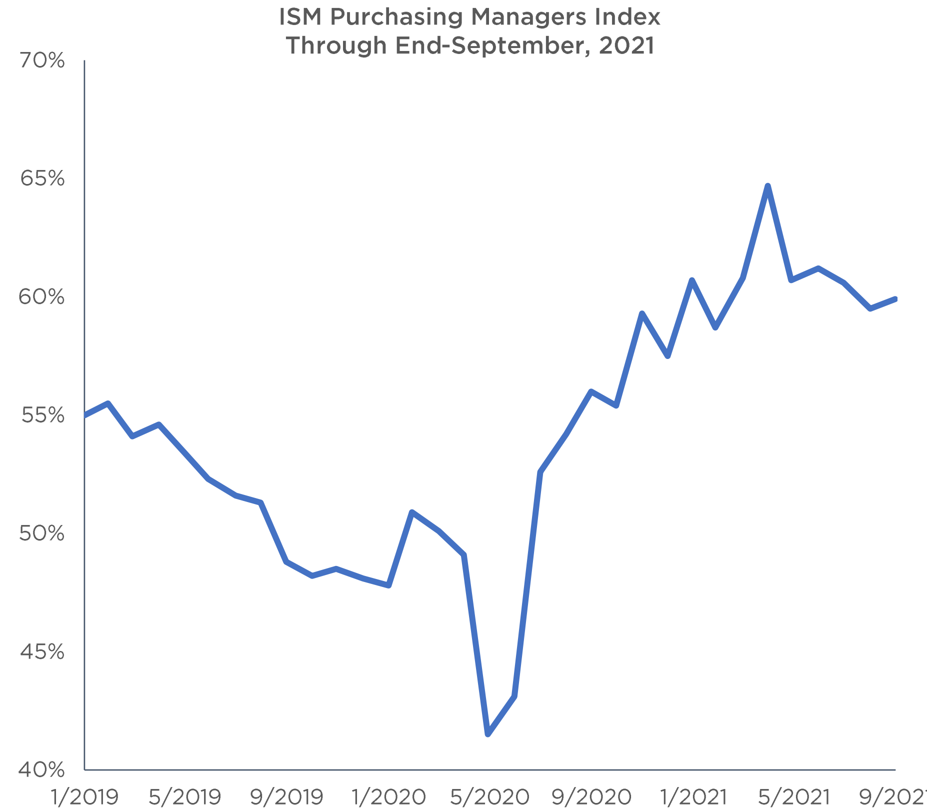
Trivariate's Industrial Activity Signal
Through End-September



INDUSTRIAL PRODUCTION AND PMI IN PARTICULAR HAVE SOFTENED

Among the inputs we track, industrial production (left chart) appears to be more sharply rolling over, although ISM purchasing managers index has also decelerated (right chart). While both remain high in absolute terms, indicating we are far from a recession, the decline from the peak in May of 2021 is a driver of our judgment that corporate fundamentals likely will not achieve forecasted heights

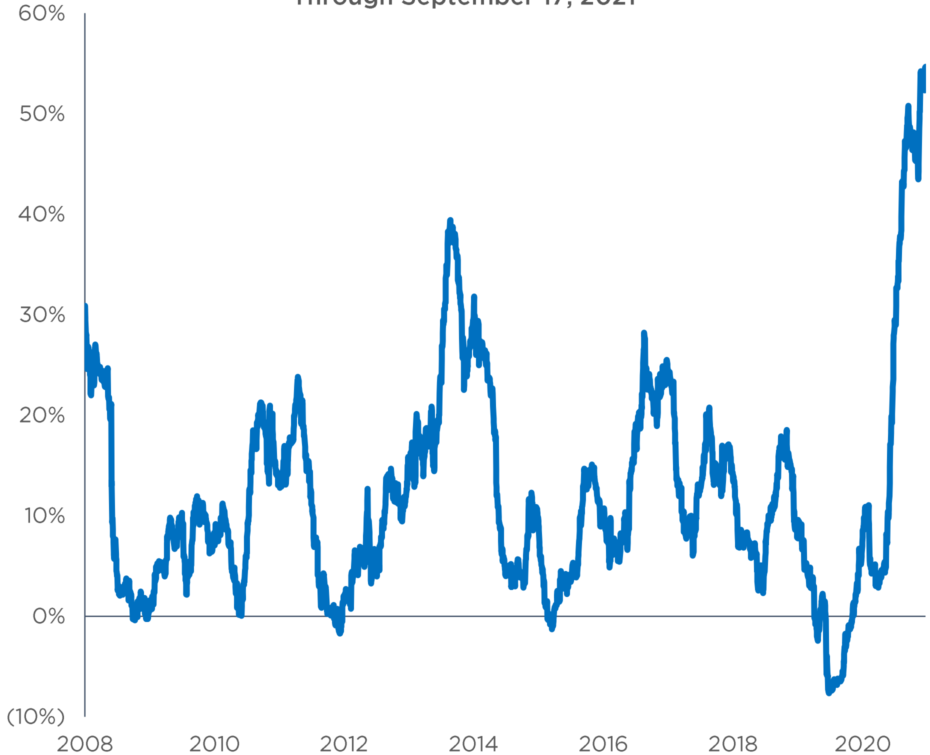




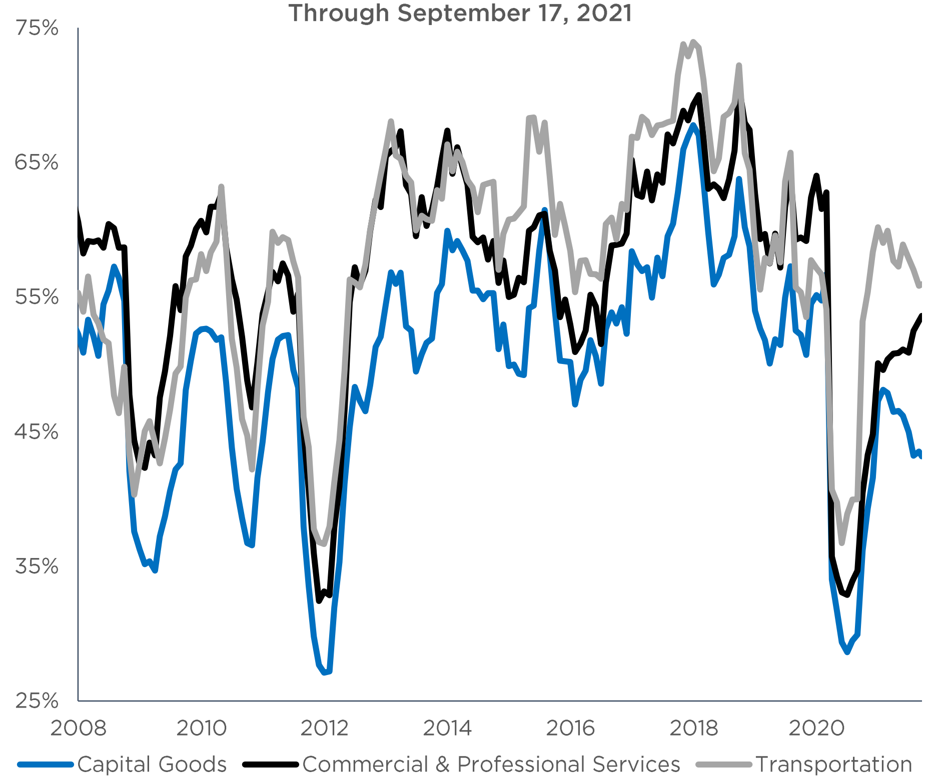
INDUSTRIALS ARE NOT A GOOD PLACE TO SPEND TIME

Using common metrics to pick stocks will be challenging today. Signal correlation was around .15 from 2012-2019 for industrials and today that is closer to 0.6 (left chart). This means that the returns of variables that fundamental analysts use to pick stocks are all correlated to each other. Company-specific risk is also generally lower than average and declining for capital goods and transportation, meaning you need to get the macro call right to get paid in industrials (right chart)

Mean 63d Pairwise Corr. of Industrials Model Signal Returns
Through September 17, 2021

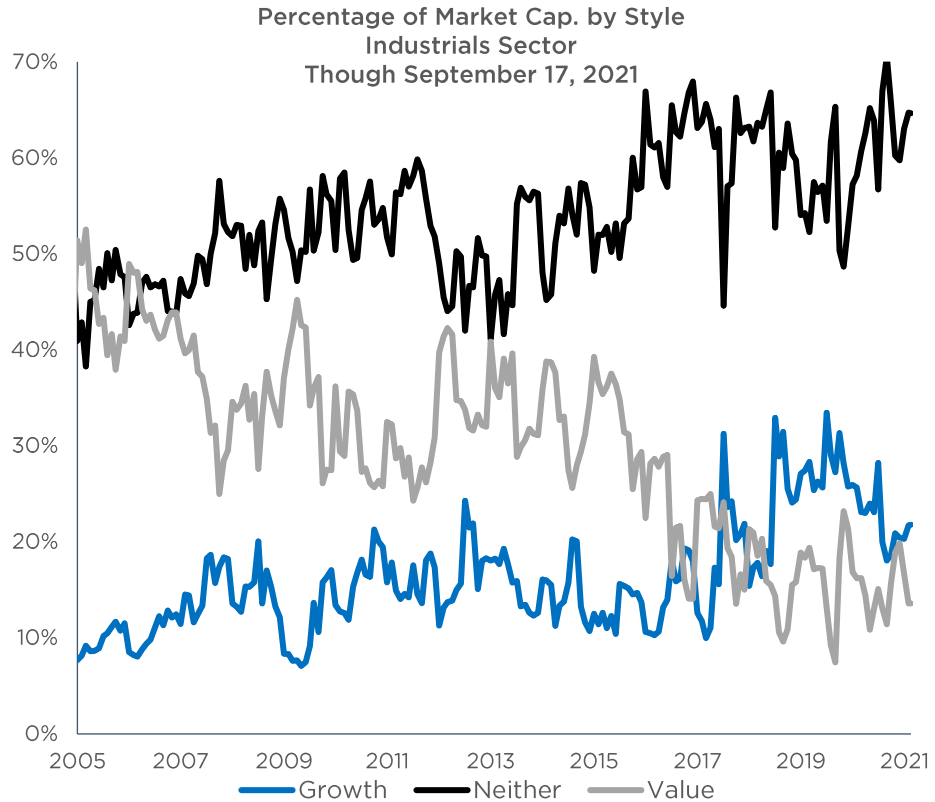


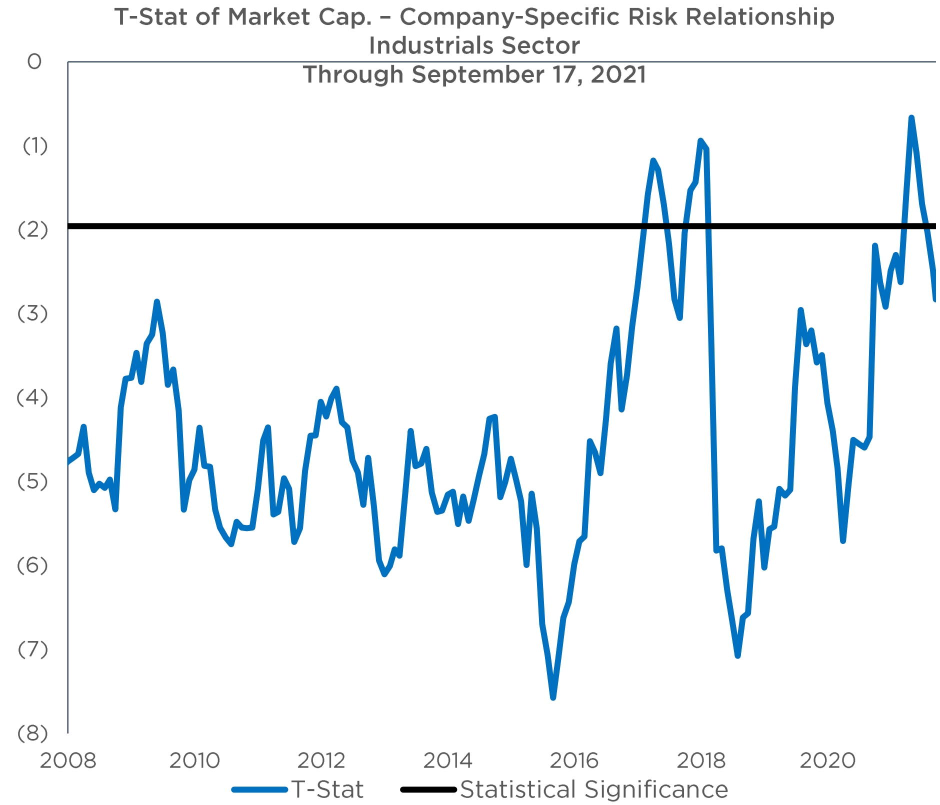
Company-Specific Risk
Through September 17, 2021



NEARLY 2/3 OF THE MARKET CAP IS NOT GROWTH OR VALUE

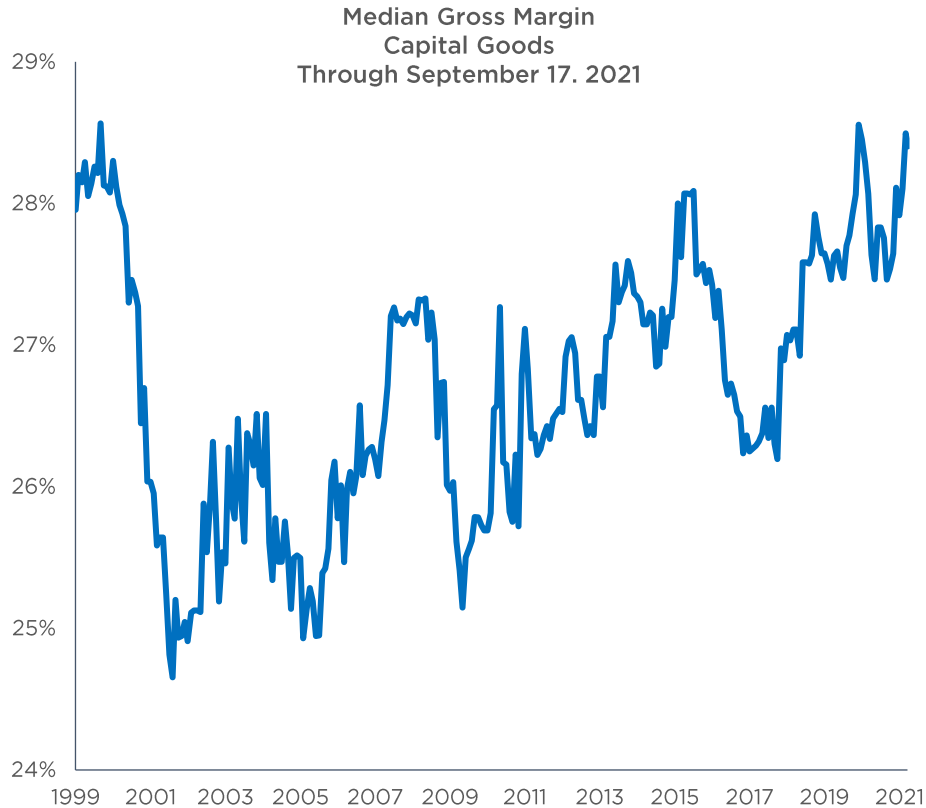
Over 60% of the industrials market cap is neither growth nor value (left chart). So even if current macro "roll-over" reverses and improves, making estimates more achievable, it is hard to find growth or value stocks in the group and beat the average. Smaller industrials companies are generally more idiosyncratic (right chart) – but finding large capitalization, idiosyncratic ideas is difficult

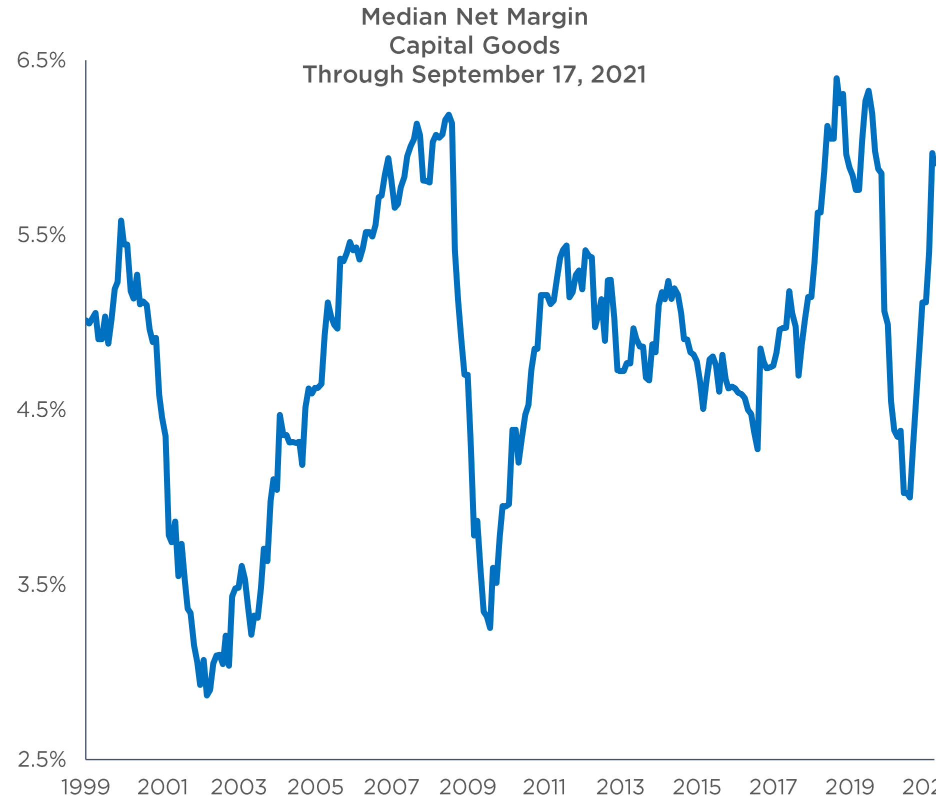




CAPITAL GOODS PROFITABILITY HAS RECOVERED

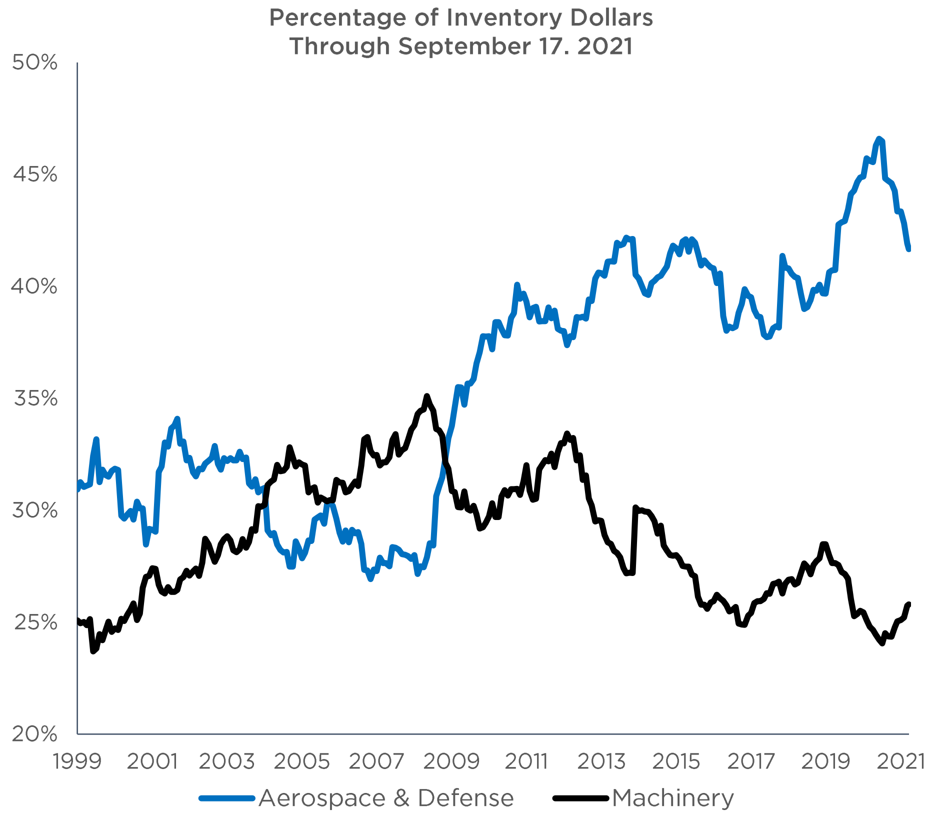
Within industrials, profitability (gross margin) has reached 20-year highs for the Capital Goods industry group, which makes up over 65% of industrials names with market capitalization over $1 billion (left chart). Net margins are also nearing peaks (right chart). With forward estimates for earnings growth strong even from these peak levels, it seems clear to us that stronger industrial activity and limited headwinds to future profitability will need to emerge for these forecast to be realized – and that does not seem likely to us

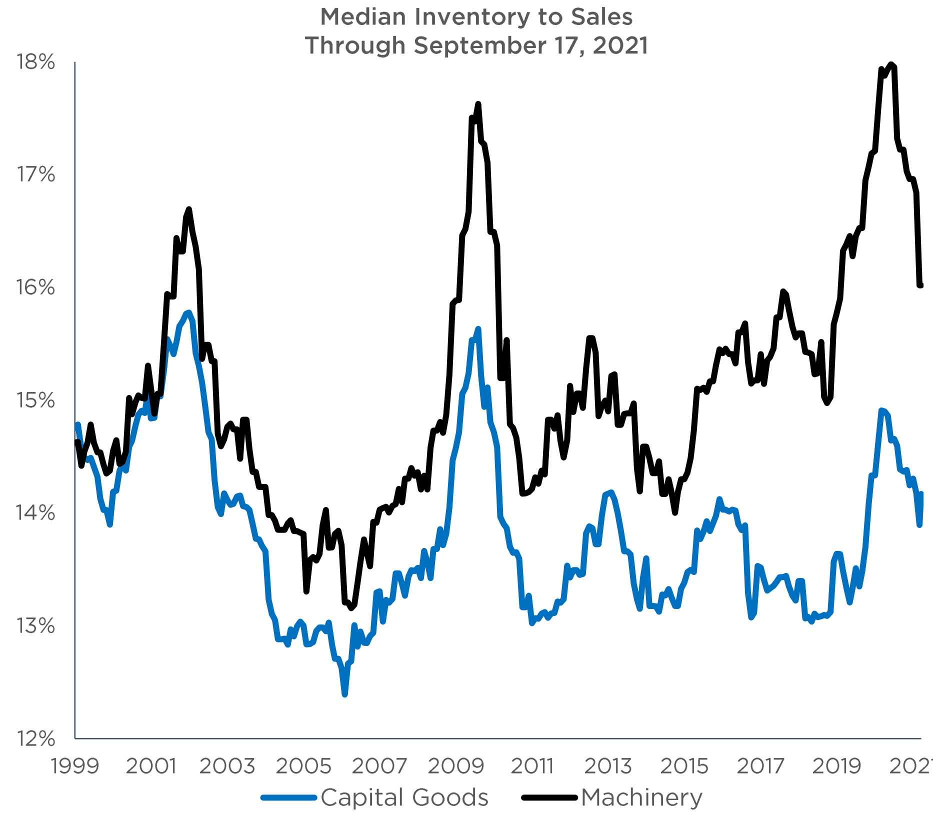




MACHINERY AND CAPITAL GOODS INVENTORY IS NOT LEAN

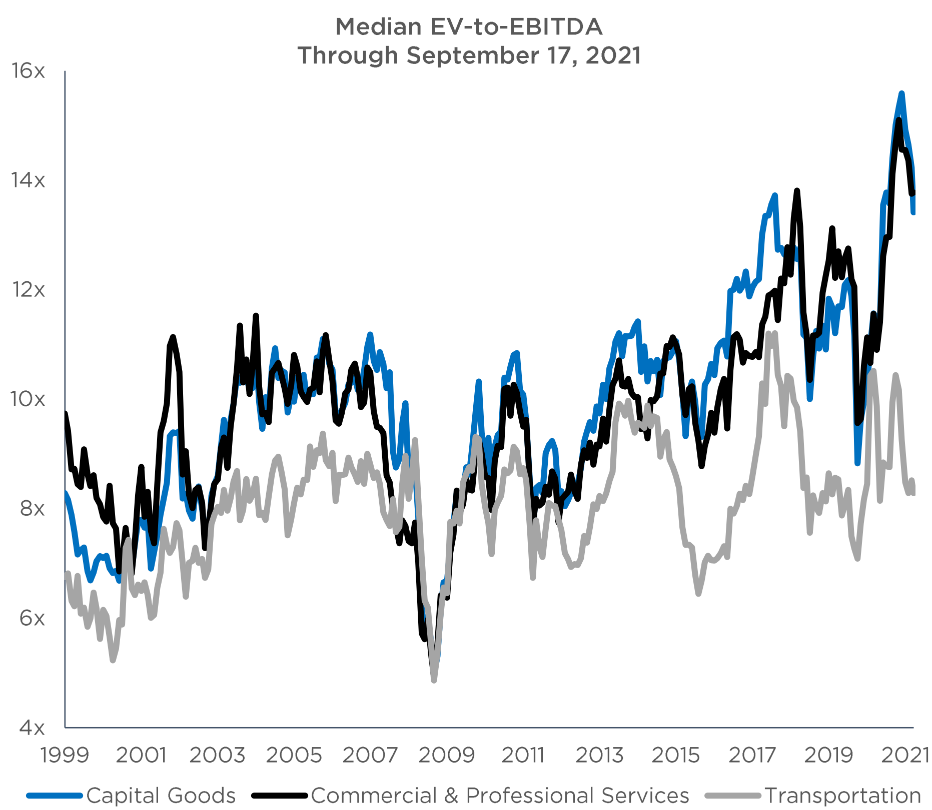
Margin expansion can be helped if inventory levels are low. However, it is not obvious to us that rising factory utilization will drive better cost absorption from here. Aerospace and defense (A&D) alone make up over 40% of the industrials sector inventory dollars (left chart), making sector-level aggregation of inventory dollars misleading. Capital goods and machinery inventory levels are above pre-COVID levels, even if they've declined recently (right chart)





VALUATIONS HAVE EXPANDED FOR INDUSTRIALS

While other cyclicals like materials and energy have seen sharp multiple contraction as there is a view that they are over-earning, that is not the case for industrials, with elevated EV-to-EBITDA (left chart) multiples across capital goods and professional services. Conglomerates, commercial and professional services, machinery, and electrical equipment have rarely, if ever, been more expensive (right chart). Airlines are the lone exception

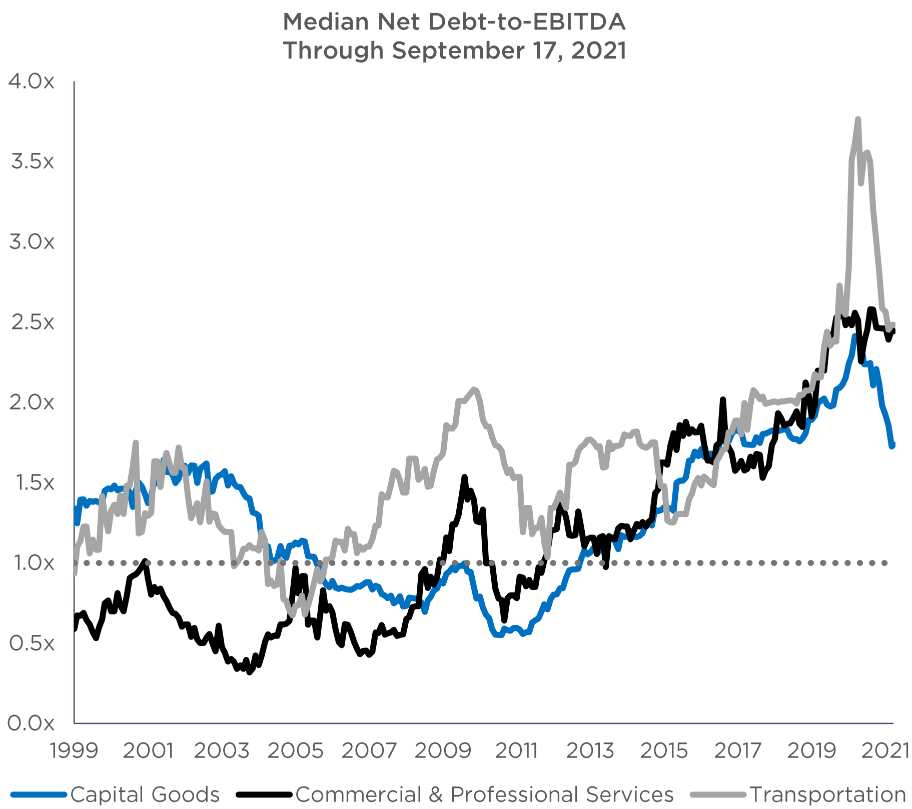


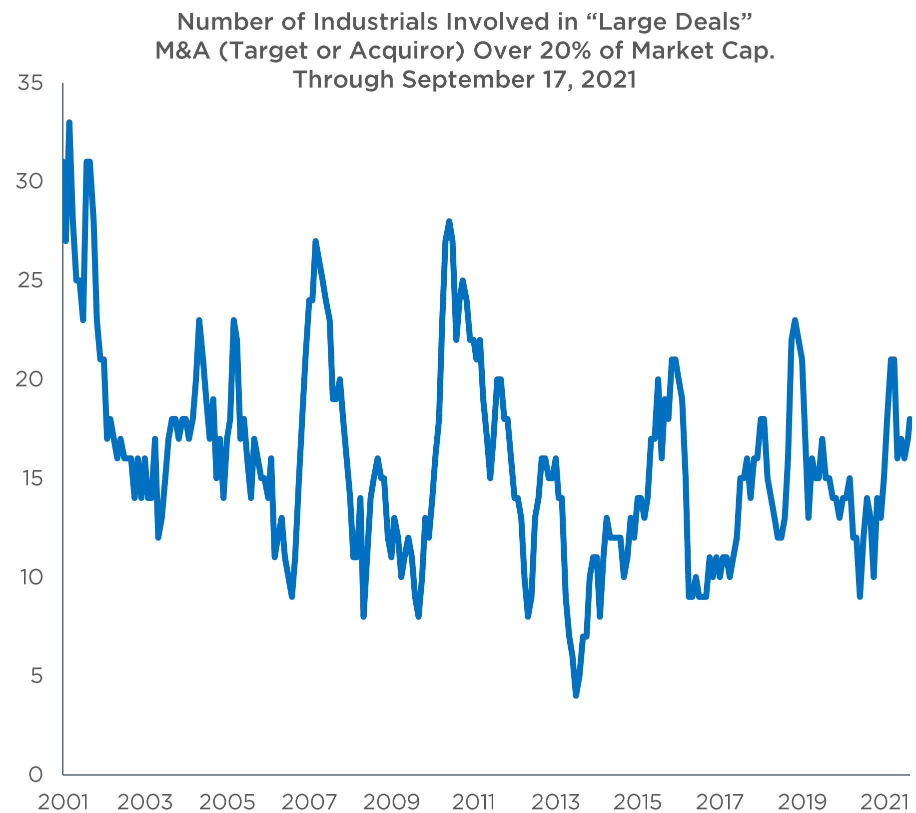
Median EV-to-EBITDA
Percentile Rank vs. History
September 17, 2021

Industrials GICS Industry	Rank
Industrial Conglomerates	100%
Trading Companies & Distributors	99%
Transportation Infrastructure	98%
Commercial Services & Supplies	97%
Professional Services	96%
Machinery	96%
Electrical Equipment	94%
Building Products	87%
Construction & Engineering	85%
Aerospace & Defense	84%
Air Freight & Logistics	75%
Road & Rail	63%
Marine	60%
Airlines	2%

LEVERAGE HAS MODESTLY PICKED UP, M&A NOT PARTICULARLY ACTIVE

Elevated valuations can be at least partially justified if balance sheets have massively improved, or if there has been an outsized amount of M&A in a sector. But that is not the case. Companies on average have higher leverage than they did in previous cycles (left chart) and the current number of industrial-sector deals is roughly at a 20-year average (right chart), meaning there is not sector-related euphoria about a rash of imminent deals





SHORT IDEAS: IT ALL COMES DOWN TO MARGIN EXPECTATIONS

Our conclusion therefore is to short non-growth industrials with near-record profit margins that are forecasted to have improved profitability next year despite the industrial activity roll-over (left chart), or those with high incremental gross margin expectations that screen badly in our quantitative models (right chart). We think these are good places to search for short ideas

High 2022 Incremental Margin Forecasts and Already At / Near Record Profitability
September 17, 2021

Ticker	Company	Industry Group	Market Cap. (US$ Bil.)
HON	Honeywell International Inc.	Industrial Conglomerates	150.85
ITW	Illinois Tool Works Inc.	Machinery	68.00
ROP	Roper Technologies, Inc.	Industrial Conglomerates	49.20
PH	Parker-Hannifin Corporation	Machinery	37.13
PNR	Pentair plc	Machinery	12.64
AGCO	AGCO Corporation	Machinery	9.51
SITE	SiteOne Landscape Supply, Inc.	Trading Companies & Distributors	8.89
RXN	Rexnord Corporation	Machinery	7.45
CFX	Colfax Corporation	Machinery	6.44
CR	Crane Co.	Machinery	5.36
AIMC	Altra Industrial Motion Corp.	Machinery	3.56
AIT	Applied Industrial Technologies, Inc.	Trading Companies & Distributors	3.22
TEX	Terex Corporation	Machinery	3.13

High Forecasted Incremental Margins vs. Current Gross Margins
Bottom Half of Trivariate Quantitative Model
September 17, 2021

Ticker	Company	Industry Group	Market Cap. (US$ Bil.)
GE	General Electric Company	Industrial Conglomerates	110.28
CAT	Caterpillar Inc.	Machinery	109.36
TT	Trane Technologies plc	Building Products	43.67
SWK	Stanley Black & Decker, Inc.	Machinery	30.35
IR	Ingersoll Rand Inc.	Machinery	22.81
MAS	Masco Corporation	Building Products	14.15
FBHS	Fortune Brands Home & Security, Inc.	Building Products	13.06
GGG	Graco Inc.	Machinery	12.76
PNR	Pentair plc	Machinery	12.64
LII	Lennox International Inc.	Building Products	11.37
AOS	A. O. Smith Corporation	Building Products	10.39
CSL	Carlisle Companies Incorporated	Building Products	10.37

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