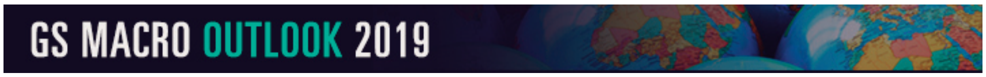
2019 US Equity Outlook: The Return of Risk



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- **A higher US equity market, a lower recommended allocation to stocks, and a shift to higher quality companies summarizes our forecast for 2019.** We forecast S&P 500 will generate a modest single-digit absolute return in 2019. The risk-adjusted return will be less than half the long-term average. Cash will represent a competitive asset class to stocks for the first time in many years.
- **Base Case (50% probability):** S&P 500 closes 2018 at 2850, and then climbs by 5% to reach 3000 at year-end 2019. We forecast EPS will grow by 6% to $173 in 2019 and by 4% to $181 in 2020. Consensus growth equals 8% and 10%. P/E multiple will remain stable at 16x. Valuation has already declined by 12% YTD.
- **Downside Case (30% probability):** As 2019 progresses, investors may become increasingly concerned about the risk of a recession in 2020. Earnings estimates are slashed, the P/E contracts to 14x, and S&P 500 ends 2019 at 2500.
- **Upside Case (20% probability):** Economic growth remains stronger for longer than investors expect. Consensus 2020 EPS estimates are trimmed only slightly and P/E multiple returns to its recent high of 18x. S&P 500 ends 2019 at 3400.
- **US equities will post a higher 2019 absolute total return (7%) than cash (T-Bills, 3%) and 10-year US Treasuries (1%).** However, the risk-adjusted return for stocks will be less than half the long-term average (0.5 vs. 1.1).
- **Mixed asset investors should maintain equity exposure but lift cash allocations.** Households, mutual funds, pension funds, and foreign investors have equity allocations ranking in the 89th percentile vs. history but have cash allocations at just the 1st percentile.
- **Increase portfolio defensiveness.** Overweight Info Tech, Communication Services, and Utilities. Underweight Cyclicals. Focus on "High Quality" stocks (Ticker: GSTHQUAL) using five metrics: strong balance sheets, stable sales growth, low EBIT deviation, high ROE, and low drawdown experience.

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The return of risk

All good things eventually come to an end. But when? Answering this question represents the fundamental 2019 investment challenge for portfolio managers. For equity investors, risk is high and the margin of safety is low because stock valuations are elevated compared with history. Our baseline assumption is that both economic and profit growth will be positive in 2019 but decelerate from the robust levels of 2018. We forecast the S&P 500 index will generate a modest single-digit absolute return in 2019. Perhaps more important, the prospective risk-adjusted return to equities will be less than one-half the long-term average and cash will represent a competitive asset class to stocks for the first time in many years.

Both the US economy and stock market have been expanding for nearly a decade. If GDP growth continues for another 8 months, in July it will mark the longest US economic expansion since 1850 — before the Civil War. Similarly, the current bull market in US equities started in March 2009 and will reach its 10th anniversary in four months. Since the bottom of the financial crisis, the S&P 500 index has gained 304% (16% annualized) and generated a total return including dividends of 396% (18% annualized). Importantly, earnings growth explains 82% of the index appreciation since the market bottomed while valuation expansion accounts for only 18%. The relative contributions of earnings growth and multiple expansion are roughly in line with previous bull markets and also consistent with the idea that earnings drive stocks over time.

We expect the current bull market in US equities will continue in 2019. Our baseline forecast is the S&P 500 index closes 2018 at 2850, and then climbs by 5% next year to reach 3000 at year-end 2019. The 2019 total return including dividends will equal 7%. Consensus bottom-up EPS estimates will decline by 4% from current levels and the forward P/E multiple will remain stable at 16x. Valuation has already declined by 12% since the start of 2018. Put simply, stocks have already started to price in the risk of an economic slowdown. We assign a 50% likelihood that our baseline 2019 return scenario is realized (see Exhibit 1).

From a downside perspective, as 2019 progresses, investors will become increasingly concerned about the risk of a recession in 2020. In fact, many fund managers already have that expectation. The rise in uncertainty could translate into stocks trading a lower valuation at the end of the 2019 than at the beginning. In this scenario we assume consensus earnings estimates are slashed by 7%, the P/E multiple contracts by 14% to 14x, and the S&P 500 ends next year at 2500, a level 12% below our 2850 forecast for the end of this year. Of course, in past valuation cycles, multiples continued to contract and did not trough until six months after the recession had started, at which time multiples were typically 25% below their peaks. At 14x the forward P/E multiple would be 23% below the January 2018 peak of 18x. We view the downside scenario as having a 30% probability of occurring.

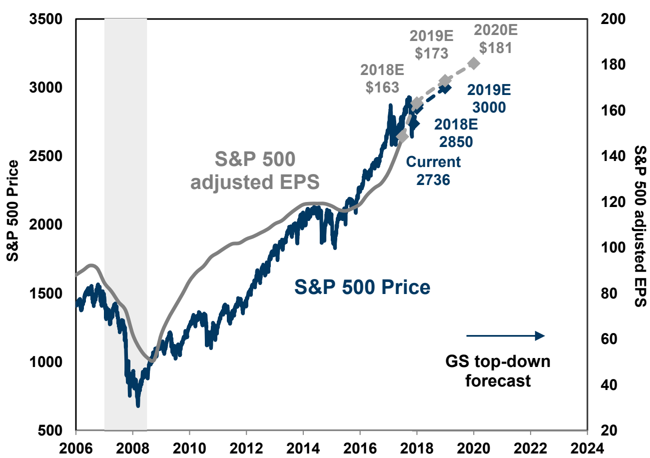
From an upside perspective, economic and earnings growth could remain stronger for longer than most investors currently believe, driving higher equity returns than our baseline forecast. The risk of a recession in 2020 may be overstated. If bottom-up consensus estimates for 2020 EPS experience a modest 2% downward revision through next year and the P/E multiple returns to its recent cycle high of 18x, S&P 500 would trade at 3400 at year-end 2019, representing a nearly 20% gain from our year-end 2018 estimate of 2850. We view this bullish outcome as our lowest-probability scenario with a 20% likelihood of occurring.

Exhibit 1: S&P 500 index return scenarios for 2019
as of November 16, 2018

	Downside case (30% probability)	Base case (50% probability)	Upside case (20% probability)
Index level			
S&P 500 level at year-end 2019	2,500	3,000	3,400
Price change versus year-end 2018 forecast of 2850	*(12)%*	*5 %*	*19 %*
	Market prices risk of impending US recession	*US economic growth decelerates, but not into recession*	*Market prices reacceleration in US economic growth*
Earnings			
Consensus 2020 EPS at year-end 2019	$180	$187	$190
Revision during 2019 to current consensus 2020E EPS of $195	*(7)%*	*(4)%*	*(2)%*
	Revision consistent with pattern ahead of recession	*Typical annual revision*	*Revision less negative than historical pattern*
Valuation			
Forward P/E at year-end 2019	14 x	16 x	18 x
Change in forward P/E from current level of 16x	*(14)%*	*0 %*	*13 %*
	P/E contracts consistent with pattern ahead of recession	*P/E unchanged amid slowing growth, higher interest rates*	*P/E expands towards cycle high in early 2018*

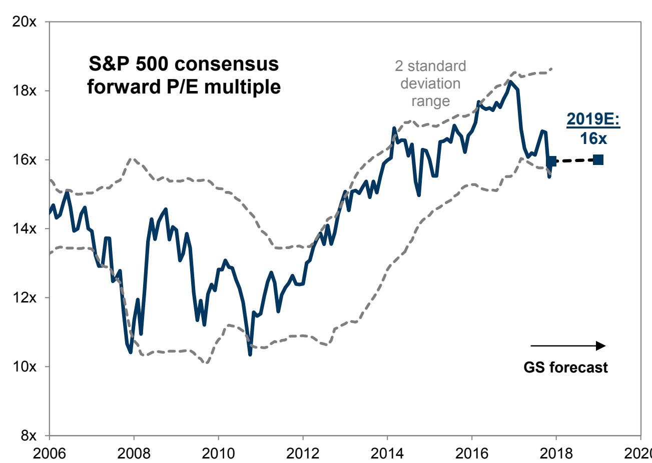
Source: Goldman Sachs Global Investment Research

Exhibit 2: Path of S&P 500 price and EPS
as of November 16, 2018



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 3: Path of S&P 500 valuation
as of November 16, 2018



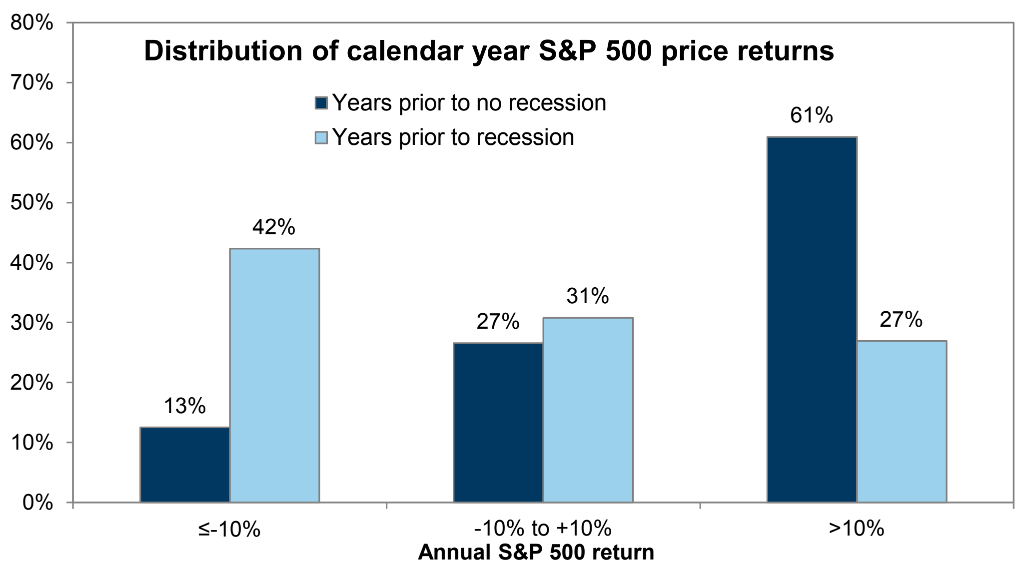
Source: FactSet, Goldman Sachs Global Investment Research

Goldman Sachs US Economics forecasts GDP growth will continue for the next several years. Average annual growth will decelerate to 2.5% in 2019, 1.6% in 2020, and 1.5% in 2021. The forecast assumes no recession, although the probability of an economic downturn rises from 10% during the next 12 months, to 26% during the next two years, and 43% during the next three years. Investors should note that in the previous three cycles, each time the probability of a recession during the subsequent three years reached 40%, the economy began to contract within 18-24 months. In the current cycle, that time period would encompass the second half of 2020.

The timing of a potential recession has implications for prospective stock market returns. In years prior to no recession, S&P 500 returned more than 10% during roughly 60% of the years since 1928 and fell by 10% or more just 13% of the time. In contrast, in years prior to a recession, the S&P 500 index returned more than 10% about 25% of the time but dropped by 10%+ more than 40% of the time (see Exhibit 4).

Our economists believe the expansion will continue for an extended period and the Fed will engineer the proverbial soft landing. Reasons include the healthy consumer and private sector financial balances and well-anchored inflation expectations (see _Landing the Plane_, November 14, 2018). However, various risks threaten the longevity of the current expansion including aggravated global trade tensions and tariffs, geopolitics from Brexit to the Korean peninsula, domestic political discord, rising short-term and long-term interest rates, and ballooning debt service on federal borrowings as maturing debt is refinanced at higher interest rates.

Exhibit 4: Equity returns can vary widely depending on when a recession starts
Annual data since 1928



Source: Goldman Sachs Global Investment Research

Earnings typically grow absent a recession. After a tax reform-assisted 23% jump in EPS to $163 in 2018, our top-down model forecasts S&P 500 EPS will grow by 6% to $173 in 2019 and by 4% to $181 in 2020. Consensus bottom-up estimates of $176 (+8%) and $195 (+10%) are currently 2% and 7% above our top-down forecasts, respectively. Corporate revenue growth generally follows the path of nominal GDP. We estimate S&P 500 sales will rise by 5.1% next year and 3.8% in 2020. Our model forecasts margins will plateau at 11.2% for the next several years. History suggests that margin contraction is unlikely without a recession or negative sales growth. Information

Technology company margins are double the S&P 500 (22% vs. 11%) and the large weight of the sector should mathematically support high margins for the S&P 500 index. Since the market trough in 2009, just ten stocks have been responsible for half of the S&P 500 index margin expansion, with Apple alone contributing 14% to the margin improvement.

Exhibit 5: Summary of Goldman Sachs US Portfolio Strategy Forecasts
as of November 16, 2018

	ex. Financials and Utilities		Adjusted EPS		Dividends			Valuation			
	Sales growth	Profit margin	Level	Growth	Level	Growth	Payout ratio	P/E (NTM)	Dividend yield	Year-end price	Total return
2016	2.1 %	9.5 %	$119	1 %	$45.70	5%	38%	16.8x	2.2%	2239	**12 %**
2017	6.9	10.1	133	12	48.92	7	37	16.4	2.2	2674	**22**
2018E	10.3	11.1	163	23	54.55	12	33	16.5	2.0	2850	**9**
2019E	5.1	11.2	173	6	57.85	6	33	16.6	2.0	3000	**7**
2020E	3.8	11.2	181	4	59.98	4	33				

Source: Compustat, Factset, Goldman Sachs Global Investment Research

Our baseline forecast implies US equities will post a higher 2019 absolute total return (7%) than cash (T-Bills, 3%) and 10-year US Treasuries (1%). However, the risk-adjusted return for stocks in 2019 will be less than half the long-term average (0.5 vs. 1.1). Goldman Sachs economists expect the Fed will raise policy rates every quarter in 2019. The funds rate will reach 3.25%-3.5% by the end of next year and 3-month T-Bills will return 2.9%. Our economists forecast the 10-year US Treasury note yield will end 2018 at 3.2% and rise to 3.5% in the second half of next year, generating a total return of 1.0%. US Treasury notes have returned -3% YTD. The 2s-10s portion of the Treasury yield curve is projected to invert during 2H of 2019.

Exhibit 6: GS 2019 return forecasts by asset type
as of November 16, 2018

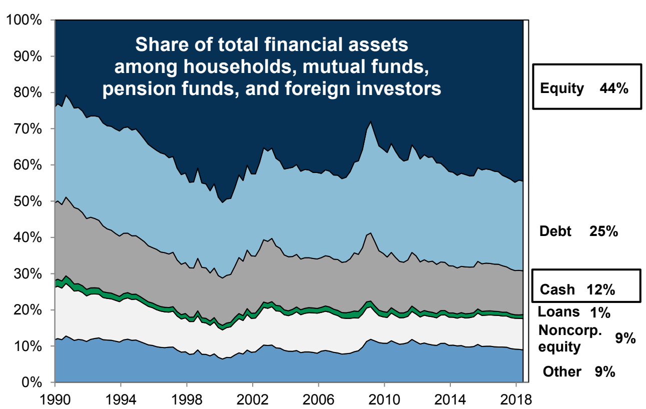
Asset class	Measure	YTD return	2019 total return forecast	Realized vol (12-month) 30-yr avg	2019 forecast risk-adj. return using 30-yr. avg. realized vol
Equity	*S&P 500*	4.1 %	**7.3%**	15.6	0.5
Cash	*3-month US T-Bills*	1.4	**2.9**	0.2	NM
Bonds	*10-year UST note*	(3.4)	**1.0**	7.0	0.1

2019 total return assumes year-end 2018 starting point of:
2850 (S&P 500), 3.2% (Treasury note), and 2.5% (T-Bill)

Source: Haver Analytics, FactSet, Goldman Sachs Global Investment Research

We recommend mixed-asset investors recalibrate their portfolios by reducing equity holdings and lifting cash allocations. Households, mutual funds, pension funds, and foreign investors have notably overweight equity exposure in their portfolios relative to history (see Exhibit 7). In aggregate, these entities have equity allocations ranking in the 89th percentile vs. the past 30 years. At the same time, these investors have cash allocations at the very bottom of their historical allocations, often ranking below the 1st percentile (see Exhibit 8). The 2019 money flow olympics will witness a tug-of-war between disinvestment in equities by the ownership categories above and strong demand by corporations to repurchase their own stock (see *Flow of Funds: Outlook for US equity demand in 2019*, November 1, 2018). We forecast next year S&P 500 companies will increase cash spent on buybacks by 22% to a record $940 billion. Authorizations announced this year are on pace to exceed $1 trillion and much of the executions should take place next year.

Exhibit 7: Asset allocation of major investor categories
as of 2Q 2018



Source: Federal Reserve Board, Goldman Sachs Global Investment Research

Exhibit 8: Allocation to equities high vs. last 30 years
as of 2Q 2018

	EQUITY		DEBT		CASH	
	% of total assets		% of total assets		% of total assets	
Holder	Start of 3Q 2018	%-ile since '90	Start of 3Q 2018	%-ile since '90	Start of 3Q 2018	%-ile since '90
Pension funds	54 %	68 %	26 %	**24 %**	2 %	0 %
Households	39	89	19	**27**	15	8
Foreign investors	46	90	41	**29**	8	0
Mutual funds	58	96	25	**50**	15	0
Total	**44 %**	**89 %**	**25 %**	**34 %**	**12 %**	**0 %**

Source: Federal Reserve Board, Goldman Sachs Global Investment Research

In terms of sectors, we recommend overweight positions in Information Technology, Communication Services, and Utilities. We remain overweight Information Technology and Communication Services given their low macro sensitivity and idiosyncratic growth profiles, high profit margins, and reasonable valuations relative to history. However, several of these firms face potential regulatory risks from US and European government investigations. We raise Utilities to overweight given the sector's track record of notable outperformance during decelerating GDP growth environments and a low historical beta to S&P 500.

We recommend underweighting Consumer Discretionary, Industrials, Materials, and Real Estate. All four sectors will likely lag the market as the pace of economic growth slows. The sectors trade with high betas to S&P 500, suggesting heightened potential downside risk in the event of a market decline. Consumer Discretionary and Industrials have the largest vulnerability to rising wage inflation. The Consumer Discretionary sector also trades at a high valuation relative to the past 30 years. However, one risk to our underweight Consumer Discretionary recommendation is that Amazon accounts for 29% of the sector's capitalization. The shares have plunged by more than 20% during the past two months and our equity analyst forecasts a 38% potential upside to the stock price during the next 12 months.

We have a neutral view of Consumer Staples, Financials, Energy, and Health Care. Consumer Staples exhibits many of the same macro qualities as Utilities, but a host of secular challenges prevent us from adopting a more positive outlook on the sector. We lower our recommendation on Financials to neutral to reflect the typical underperformance alongside decelerating economic growth and limited further upside to interest rates. We remain neutral weighted on the Energy sector. Although Energy stocks trade at an attractive valuation relative to the past decade, they are unlikely to have sustained upside. Goldman Sachs commodity strategists forecast Brent Crude prices will rise to $75/bbl by the end of 2018 (+12%) before fading to $65/bbl by the end of 2019 (3% lower than current levels). Our neutral weight on Health Care reflects a combination of several factors. Although the sector typically outperforms alongside decelerating economic growth, it currently trades at a high valuation relative to history. Additionally, the potential for drug pricing regulation poses a key risk to the sector's performance given that Pharmaceuticals represents 33% of the sector's market cap.

Exhibit 9: Goldman Sachs US Portfolio Strategy sector recommendations
as of November 16, 2018

	Existing sector	Sector Weightings: Goldman Sachs recommended sector weightings	Sector Weightings: Current S&P 500 Weight	YTD Return	Consensus bottom-up 2019E growth: Sales	Consensus bottom-up 2019E growth: EPS	NTM P/E	Dividend Yield
	Information Technology	Overweight	20 %	12 %	5 %	5 %	17 x	1.6 %
	Communication Services		10	(1)	11	3	17	1.5
↑	Utilities		3	6	NM	6	17	3.4
	Health Care	Neutral	15 %	12 %	8 %	7 %	16 x	1.7 %
↓	Financials		14	(3)	NM	10	12	2.1
↑	Consumer Staples		7	0	0	5	19	3.0
	Energy		6	(6)	13	25	14	3.3
	Consumer Discretionary	Underweight	10 %	11 %	6 %	10 %	21 x	1.4 %
↓	Industrials		9	(4)	5	10	16	2.1
	Real Estate		3	3	NM	4	19	3.5
↓	Materials		3	(8)	6	4	15	2.2
	S&P 500		**100 %**	**4 %**	**7 %**	**8 %**	**16 x**	**2.0 %**

Source: FactSet, Goldman Sachs Global Investment Research

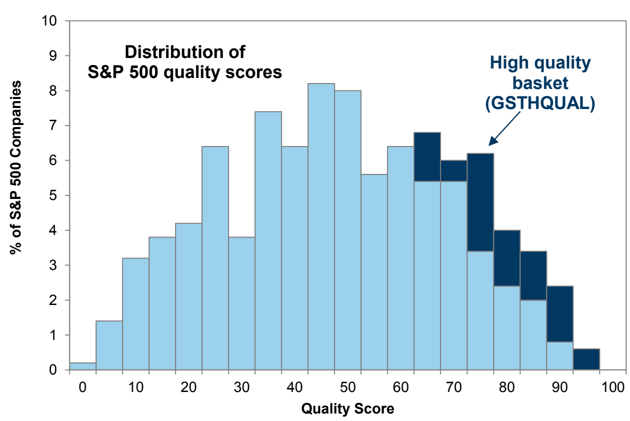
From a thematic perspective, investors should embrace "quality" by shifting holdings towards companies with stable business models and high recurring revenue. As Howard Marks, founder and Chairman of the asset management firm Oaktree Capital Management, notes in his new book, *Mastering the Market Cycle: Getting the Odds on your Side,* "the greatest way to optimize the positioning of a portfolio at a given point in time is through deciding what balance it should strike between aggressiveness and defensiveness."

Quality is Job #1. Ford Motor Company used this tagline as the centerpiece of its advertising campaign for nearly 20 years and the slogan perfectly captures our overall strategy recommendation for 2019. Definitions of quality can vary widely. Our approach emphasizes balance sheet strength and stable growth. Originally introduced in 2011 and rebalanced annually since then, our High Quality basket (ticker: GSTHQUAL) combines five metrics: (1) strong balance sheets; (2) stable sales growth; (3) low EBIT deviation; (4) high ROE; and (5) low stock drawdown experience.

Our 50-stock sector-neutral portfolio has outperformed the S&P 500 YTD by 700 bp (11% vs. 4%). Relative to the typical S&P 500 stock, the median constituent in our newly-rebalanced High Quality basket has a larger cap ($31 billion vs. $19 billion), a stronger balance sheet (Altman Z-score of 4.5 vs. 3.5), faster expected sales growth (6% vs. 5%) and earnings growth (10% vs. 9%), a higher ROE (19% vs. 14%), exhibited less variability in sales and earnings during the past decade, and a similar magnitude of share price drawdown. The basket trades at a modestly higher valuation than the typical stock (forward P/E of 19x vs. 17x). Exhibit 10 shows how constituents of our basket compare with the distribution of quality scores for all S&P 500 stocks. Exhibit 11 shows the basket's performance relative to the S&P 500. See Appendix A for a list of constituents.

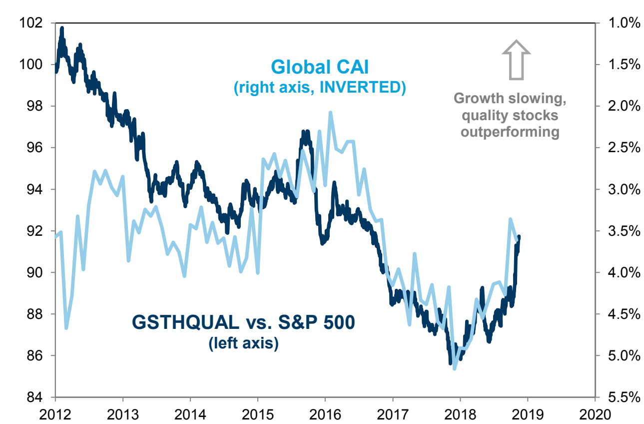
We also highlight an investment strategy that focuses on the specific "quality" stock attribute of balance sheet strength. Strong balance sheet stocks have historically outperformed weak balance sheet stocks during environments of rising leverage. Earlier in the cycle investors were unconcerned with the sharp rise in leverage given historically accommodative monetary policy and healthy interest coverage. However, since the start of 2017, our sector-neutral strong balance sheet basket (ticker: GSTHSBAL) has outpaced weak balance sheet stocks (GSTHWBAL) by 19 pp (31% vs. 12%). We expect this trend will persist in 2019 given elevated leverage and tightening financial conditions. A potential risk to this trade is the high relative valuation of strong vs. weak balance sheet stocks. See Appendix B for the constituents of our newly-rebalanced Strong and Weak Balance Sheet baskets.

Exhibit 10: Distribution of S&P 500 quality scores
as of November 16, 2018



Source: Goldman Sachs Global Investment Research

Exhibit 11: Our quality basket has outperformed alongside slowing global growth
as of November 14, 2018



Source: Goldman Sachs Global Investment Research

Decelerating S&P 500 EPS growth through 2020

We forecast S&P 500 adjusted EPS will grow by 6% in 2019 (to $173) and by 4% in 2020 (to $181). Our 2018 estimate of $163 represents 23% annual growth and benefits from the reduced effective corporate tax rate. Our S&P 500 EPS forecasts are 2% and 7% below consensus estimates of $176 (+8% growth) in 2019 and $195 (+10% growth) in 2020 (see *Decelerating S&P 500 EPS growth through 2020*, Nov 7, 2018).

Exhibit 12: Goldman Sachs US Portfolio Strategy S&P 500 forecasts
as of November 16, 2018

		GS top-down			Consensus bottom-up		
	2017	2018E	2019E	2020E	2018E	2019E	2020E
S&P 500 ex-Financials, Utilities, Real Estate							
Sales Per Share	$1016	$1120	$1177	$1222	$1120	$1195	$1251
Year/Year growth	*7 %*	*10 %*	*5 %*	*4 %*	*10 %*	*7 %*	*5 %*
Profit Margin	**10.0%**	**11.1%**	**11.2%**	**11.2%**	**11.1%**	**11.2%**	**11.9%**
Year/Year growth	*56 bp*	*109 bp*	*5 bp*	*(2)bp*	*110 bp*	*10 bp*	*69 bp*
S&P 500 adjusted EPS	**$133**	**$163**	**$173**	**$181**	**$163**	**$176**	**$195**
Year/Year growth	*12 %*	*23 %*	*6 %*	*4 %*	*23 %*	*8 %*	*10 %*

Source: FactSet, Goldman Sachs Global Investment Research

S&P 500 EPS is most sensitive to margins and US economic growth. Every 50 bp increase in S&P 500 margins adds roughly $6 to S&P 500 EPS. Higher interest rates and oil prices provide a boost to Financials and Energy EPS, respectively, but weigh on the profitability of companies outside of these sectors. We estimate that every 100 bp increase in core CPI inflation lifts S&P 500 nominal EPS by just $1 as the boost to nominal sales growth offsets the margin headwind. Tariffs represent a downside risk to our EPS forecasts but the impact is difficult to quantify given the uncertainty surrounding the US-China trade negotiations. If the full 25% tariffs are levied on all imports from China the earnings impact could be significant, potentially eliminating any profit growth next year. However, firms are likely to respond by shifting their supply chains and raising prices, which would reduce the maximum impact on sales and margins.

Exhibit 13: Sensitivity of our 2019 top-down S&P 500 EPS estimates

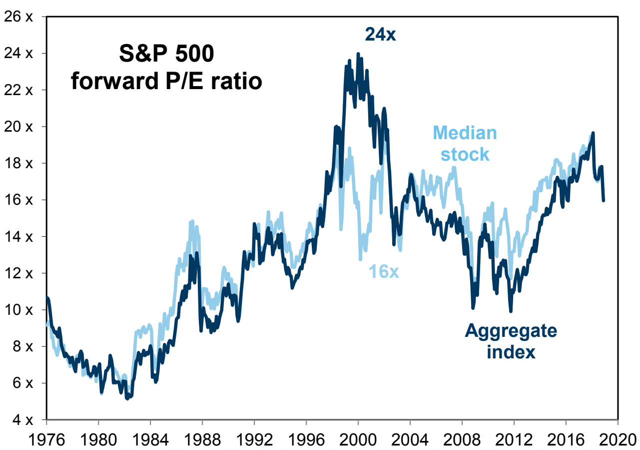
	Baseline	Sensitivity	
Variable	**2019E**	**Chg from baseline**	**S&P 500 EPS impact**
US GDP	2.6 %	+100 bp	+$5
World GDP	3.8 %	+100 bp	+2
Core CPI inflation	2.5 %	+100 bp	+1
Brent crude oil	$77	+$10	+1
10-year UST yield	3.3 %	+100 bp	+0.5
Trade-weighted US dollar	(1.3)%	+10 pp	-3
S&P 500 net margins	11.2 %	+50 bp	+6
S&P 500 EPS	**$173**		

Source: Goldman Sachs Global Investment Research

Macro environment suggests flat S&P 500 valuation through 2019

S&P 500 index valuation is elevated relative to history, but below the recent January 2018 high. Using a variety of metrics, the current aggregate index multiple ranks in the 83rd percentile since 1976 and the median stock trades at the 95th percentile. Most valuation metrics send the same message, with the notable exception of Free Cash Flow (FCF) yield. The decline in capex as a share of cash flow from operations (CFO) explains the valuation difference between CFO yield (89th percentile vs. history) and the FCF yield (36th percentile).

Exhibit 14: S&P 500 forward P/E is high vs. history
as of November 16, 2018



Source: Compustat, Goldman Sachs Global Investment Research

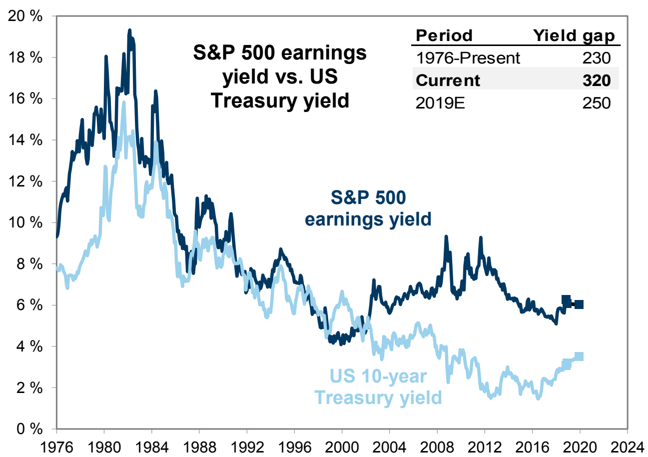
Exhibit 15: S&P 500 historical valuation
as of November 16, 2018

S&P 500 valuation metric	Aggregate index: Current	Aggregate index: Historical %ile	Median stock: Current	Median stock: Historical %ile
US market cap / GDP	185 %	97 %	NA	NA
EV / Sales	2.3 x	93	2.7 x	95
Cash flow yield (CFO)	6.9 %	89	6.7 %	99
Cyclically adjusted P/E (CAPE)	27.1 x	88	NA	NA
Price / Book	3.3 x	85	3.3 x	96
EV / EBITDA	11.2 x	83	11.7 x	95
Forward P/E	16.0 x	75	16.5 x	74
Free cash flow yield	4.5 %	36	4.2 %	56
S&P 500 yield gap	319 bp	32	NA	NA
Median metric		**83 %**		**95 %**

Source: Compustat, Goldman Sachs Global Investment Research

Stretched equity valuation has been supported by historically low interest rates and extremely high profitability. The yield gap compares the S&P 500 earnings yield (inverse of forward P/E) with the 10-year US Treasury yield. The gap currently equals 320 bp. If the yield gap converges toward the 40-year average of 230 bp and bond yields rise to 3.5%, the implied S&P 500 valuation would support our year-end 2019 target of 3000 (see Exhibit 17). Furthermore, S&P 500 margins stand at 11% and return on equity ex-Financials equals 21%, both record highs since 1975. High profitability has historically been associated with high valuation multiples.

Exhibit 16: We expect the yield gap will narrow in 2019
as of November 16, 2018



Source: Compustat, Goldman Sachs Global Investment Research

Exhibit 17: Sensitivity of S&P 500 index to yield gap
as of November 16, 2018

S&P 500 Price Level

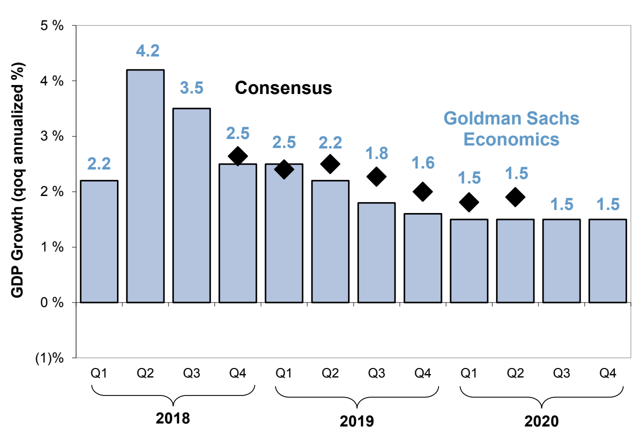
Yield gap (S&P 500 EPS yield - 10Y UST yield)	US 10-Year Treasury yield 3.1 %	3.3 %	3.5 %	3.7 %	3.9 %
350 bp	2725	2650	2575	2500	2450
300 bp	2950	2875	2775	2700	2625
250 bp	3225	3125	3000	2925	2825
200 bp	3550	3400	3275	3175	3050
150 bp	3925	3750	3600	3475	3350

Source: Goldman Sachs Global Investment Research

Looking forward, three competing macro factors will determine the S&P 500 valuation multiple in 2019.

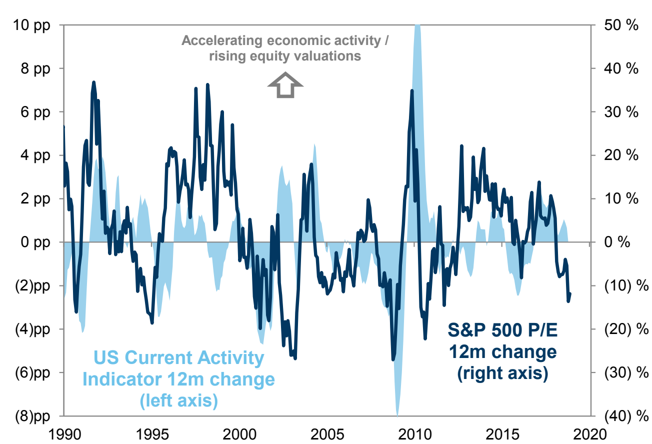
(1) Decelerating US economic and earnings growth: Our US economists expect US GDP growth will gradually decelerate from a peak of 4.2% in 2Q 2018 to 1.6% in 4Q 2019 and 1.5% in 4Q 2020, as the boosts from fiscal policy and financial conditions fade. Historically, decelerating economic and earnings growth has been associated with contracting equity valuations. The S&P 500 forward P/E has already declined by 12% during the past 12 months. Some of the contraction in P/E multiple reflects the boost to EPS from the cut in the corporate tax rate. However, even metrics such as EV/EBITDA that adjust for taxes show the equity market has experienced a valuation compression YTD. Looking forward, a growth-driven P/E multiple expansion looks unlikely in 2019.

Exhibit 18: US GDP growth to decelerate
as of November 16, 2018; q/q annualized growth



Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 19: Decelerating growth and falling equity valuations
as of November 16, 2018

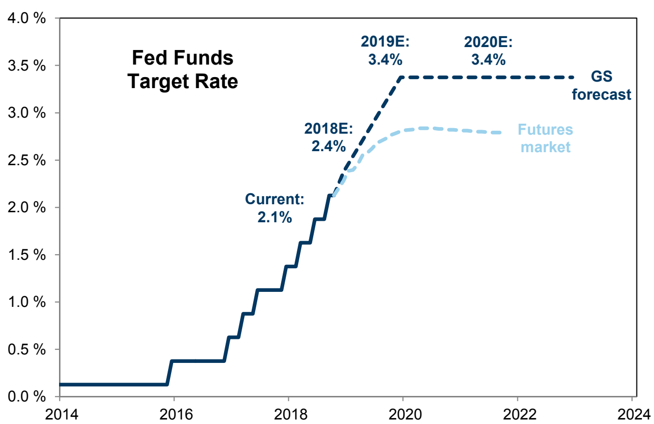


Source: Compustat, Goldman Sachs Global Investment Research

(2) Rising interest rates: Our US economics team forecasts five Fed hikes through year-end 2019. The Fed has achieved its dual mandate of full employment and stable pricing. Unemployment stands at 3.7%, the lowest rate since the late 1960s, and is well below the estimated natural rate of unemployment of 4.6%. Goldman Sachs economics forecasts the unemployment rate will continue to fall further, reaching 3.1% in 2019 and 3.0% in 2020. Core PCE inflation is at the Fed's 2% target and projected to rise to 2.3% in 2019. The S&P 500 forward P/E typically contracts during Fed tightening cycles as financial conditions tighten and growth slows. The current cycle was an anomaly for several years as the forward P/E multiple actually *expanded* by 13% between December 2015 and January 2018, until a contraction finally occurred this year.

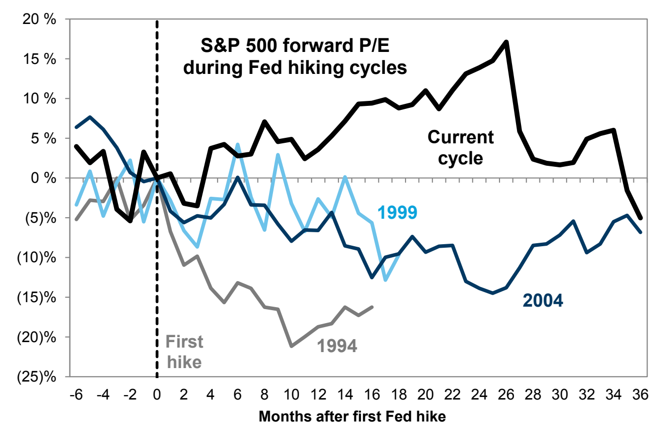
We forecast the P/E multiple will likely remain flat as investors move toward our baseline forecast of five Fed hikes by year-end 2019. Forward market pricing currently implies only three more Fed hikes. In addition, our economists forecast the 10-year US Treasury yield will rise from 3.1% today to 3.5% by year-end 2019 before declining to 3.3% in 2020 (see Exhibit 22). Our economists forecast the 2s-10s portion of the yield curve will invert during 2H 2019 and the full curve will be inverted by the end of 2020.

Exhibit 20: GS forecasts more hikes than the market
as of November 16, 2018



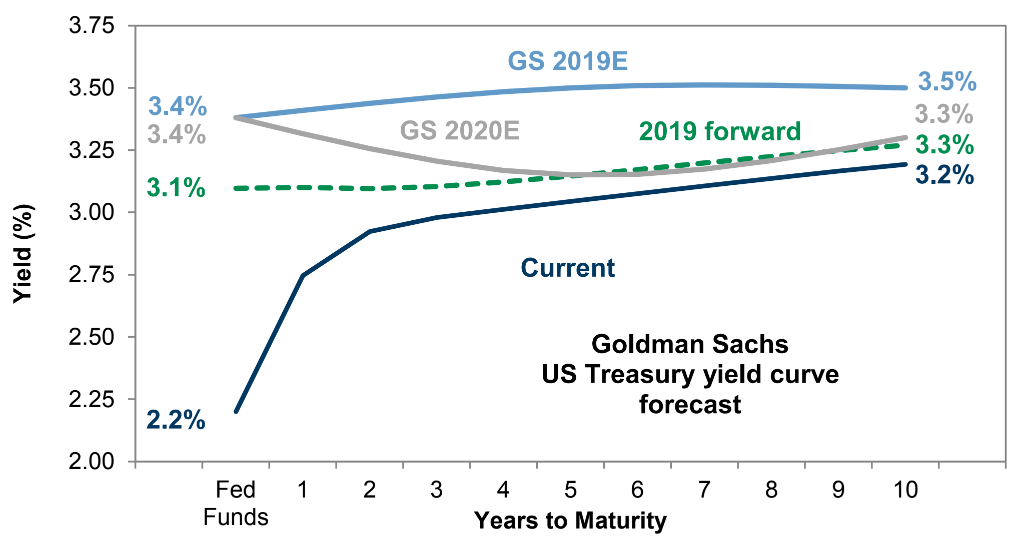
Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 21: P/E multiples contract during Fed tightening cycles
as of November 16, 2018



Source: Compustat, Goldman Sachs Global Investment Research

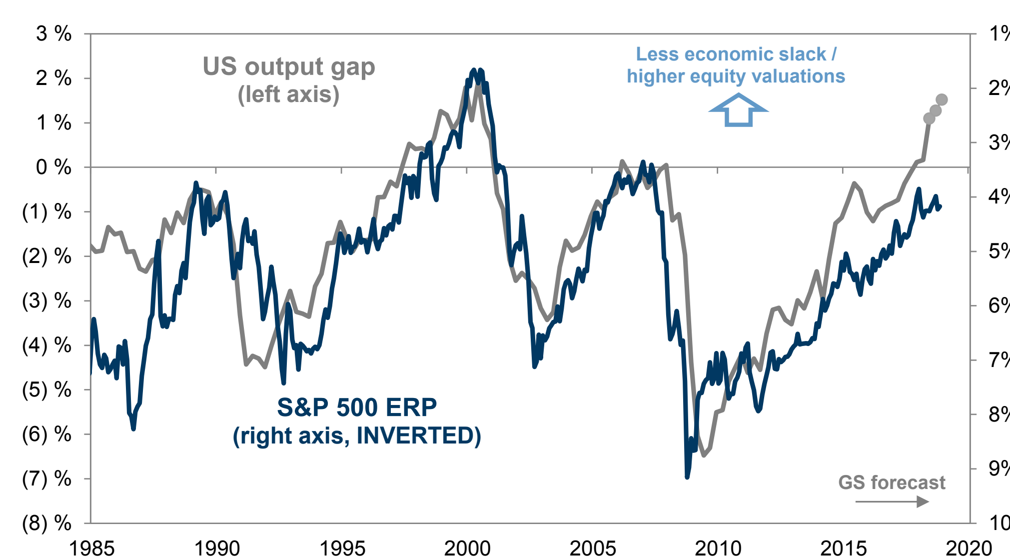
Exhibit 22: GS forecasts higher short-term and long-term rates relative to the forward market
as of November 15, 2018



Source: FRB, Goldman Sachs Global Investment Research

(3) Continuing US economic expansion: The equity risk premium (ERP) has historically tracked the output gap in the US economy. Stock valuations have historically climbed relative to bonds as long as economic growth remained above trend, even if the pace of growth was decelerating. Late in past cycles, investors have typically increased their risk appetites leading to higher valuations. Our US economists forecast a further narrowing of the output gap through 2020, which would correspond with a lower ERP. However, the impact on absolute equity valuations will ultimately depend on the path of interest rates changes (*Corporate Conundrums*, March 7, 2018).

Exhibit 23: US ERP typically falls late in the economic cycle
as of November 16, 2018



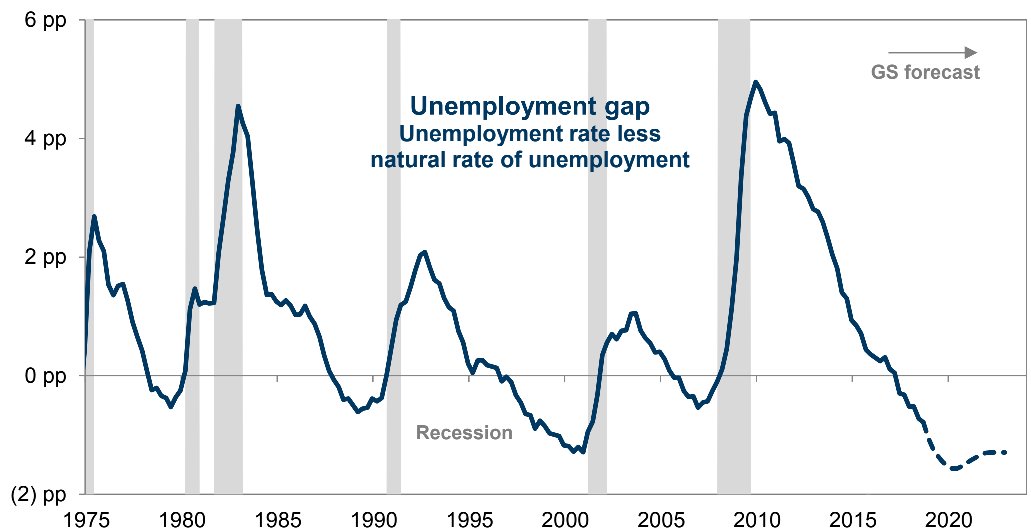
We estimate the equity risk premium (ERP) using our dividend discount model (DDM) framework to model expected future cash flows and the US 10-year term premium. Output gap reflects nominal US GDP and CBO's estimate of potential US GDP.

Source: FactSet, BEA, CBO, FRBNY, Goldman Sachs Global Investment Research

The downside case

Investors increasingly expect the US will enter a recession in 2020. US economic growth has been decelerating since 2Q and Goldman Sachs economics forecasts GDP growth will slip below trend in 2020, just as the Fed is anticipated to reach the end of its hiking cycle. The difference between the unemployment rate and the estimate of the natural rate of unemployment – which has historically been a strong indicator of the economic cycle – suggests that we are in the late stages of the economic expansion.

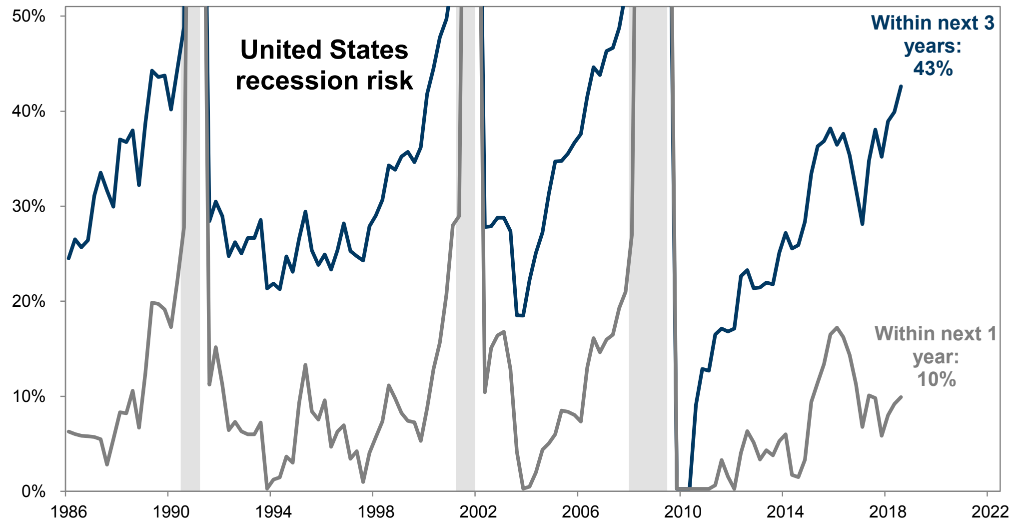
Exhibit 24: Unemployment rate is well below the estimated natural rate
as of October 2018



Source: BLS, CBO, Goldman Sachs Global Investment Research

Our economists' recession probability model shows a 10% likelihood of recession in the next year and a 43% probability of recession within the next three years. However, in the previous three cycles, each time the probability of a recession during the subsequent three years reached 40%, the economy began to contract within 6-8 quarters. This historical relationship, albeit with a limited sample, would suggest the next US recession will begin in the second half of 2020.

Exhibit 25: Probability of a US recession within the next 3 years has been growing
as of November 16, 2018



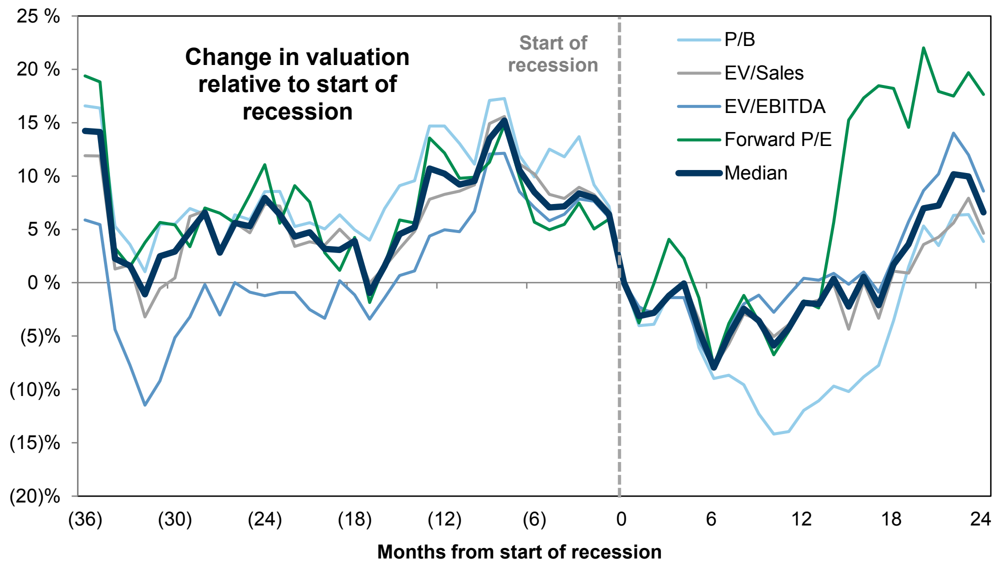
Our economists' model relies on cross-country data, using four domestic explanatory variables: (1) growth momentum, (2) slack, as measured by the output gap, (3) changes in financial conditions, and (4) levels of financial conditions.

Source: Goldman Sachs Global Investment Research

In our downside scenario, US equity investors will begin to price the risk of a 2020 recession by late 2019. We approximate the impact of a rapidly-approaching recession through changes in equity valuations and earnings estimates.

S&P 500 valuation multiples typically peak 6-9 months before a recession begins. Price/book, EV/sales, EV/EBITDA, and forward P/E all exhibit a consistent pattern during the months leading into recession (see Exhibit 26). If investors begin to expect a recession may occur in mid-2020, historical precedent suggests valuation multiples will peak in 2H 2019. Valuations usually continue to contract through the start of recession, reaching their trough approximately six months after the recession begins.

Exhibit 26: S&P 500 valuation around recessions
as of November 16, 2018

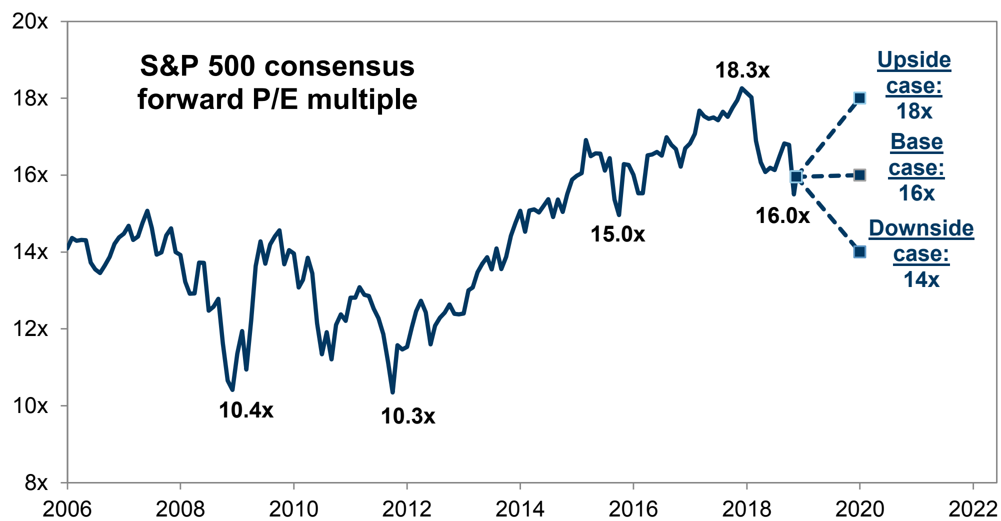


Analysis relies on four US recessions since 1980. Peak valuation identified using as 12-month look-back window.

Source: NBER, Compustat, Goldman Sachs Global Investment Research

History shows multiples contract by an average of 14% between pre-recession peak valuation and the start of recession. S&P 500 currently trades at 16x forward EPS. A typical valuation decline ahead of a recession implies a P/E of roughly 14x, below the valuation at the 2015 trough (15x) and the lowest forward P/E since 2013 (see Exhibit 27).

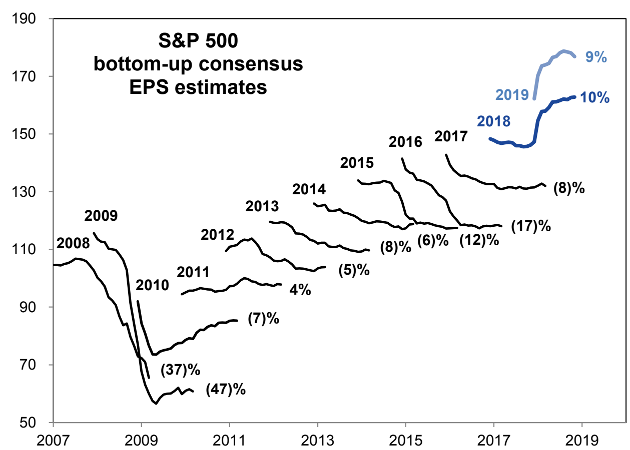
Exhibit 27: S&P 500 P/E of 14x would be the lowest since 2013
as of November 16, 2018



Source: FactSet, Goldman Sachs Global Investment Research

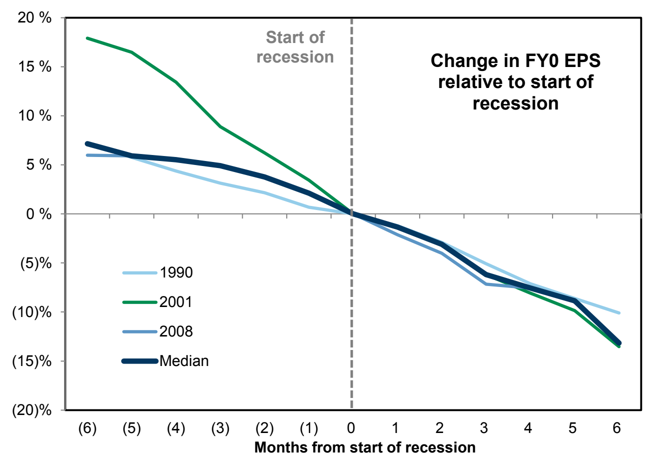
The path of earnings revisions in the lead-up to recessions varies widely. Consensus EPS estimates have been consistently too optimistic. EPS revisions typically average -8% over the earnings forecast period (Exhibit 28). However, leading up to the three recessions since 1985, earnings revisions typically moved slowly, falling by more after recession began than before. The typical revision to EPS during the 6-months prior to recession ranged from -6% to -18%, with a median of -7%.

Exhibit 28: Consensus EPS revisions typically fall by 8%
as of November 16, 2018



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 29: Earnings revisions around recessions
as of November 16, 2018



Source: FactSet, Goldman Sachs Global Investment Research

Combining the P/E change and earnings change, our downside scenario implies a S&P 500 index level of 2500 at year-end 2019. This scenario would result in the index trading 12% below our projected 2850 closing level for this year. This downside case is not our modal forecast, but we subjectively assign a 30% probability that it occurs. Importantly, S&P 500 valuation, earnings estimates, and price typically continue to fall during a recession.

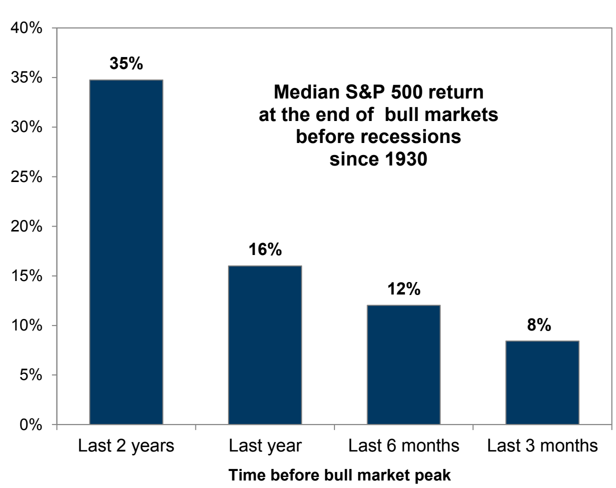
The upside case

The risk around our 2019 equity outlook is not just to the downside. Cycles do not die of old age. With no clear major financial imbalances or catalysts for recession, economic and earnings growth could remain stronger for longer than most investors currently believe, driving stronger equity returns than our baseline model forecast. In addition, even if economic growth slows as we expect, equity prices might rise sharply nonetheless.

Rather than slowly cresting, equity returns are typically strong at the end of bull markets: Since 1930, equities have posted a median return of 16% during the 12 months prior to their pre-recession peaks (see Exhibit 30). A rebound in economic activity following a period of deceleration has often been the catalyst for such rallies. Recently, fears of impending slowdown led investors to reduce length during most of 2018, cutting equity valuation multiples by more than 10%. In doing so, investors have also potentially set the stage for a repeat of the historical pattern should realized economic and earnings growth exceed expectations. If consensus estimates for 2020 S&P 500 EPS are trimmed by just 2% to $190 – one-half the typical annual downward revision of 4% – and the P/E multiple returns to its recent high of 18x, S&P 500 would trade at 3400 at year-end 2019, representing a gain of roughly 20% from our year-end 2018 target of 2850.

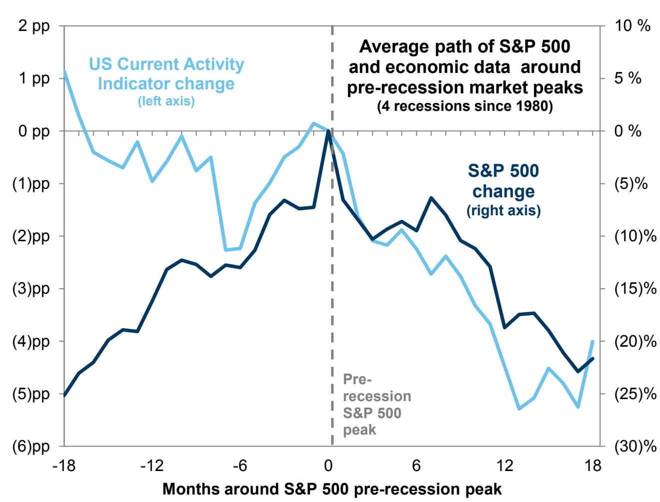
We view this bullish outcome as our lowest-probability scenario for 2019, and markets appear to agree. Since 1928, the S&P 500 has posted returns greater than 10% in 51% of calendar years, but just 27% of years prior to recession. For 2019, S&P 500 options imply roughly a 20% probability of such an outcome.

Exhibit 30: Equity returns are typically strong at the end of bull markets



Source: Goldman Sachs Global Investment Research

Exhibit 31: Equity prices and economic data around pre-recession peaks

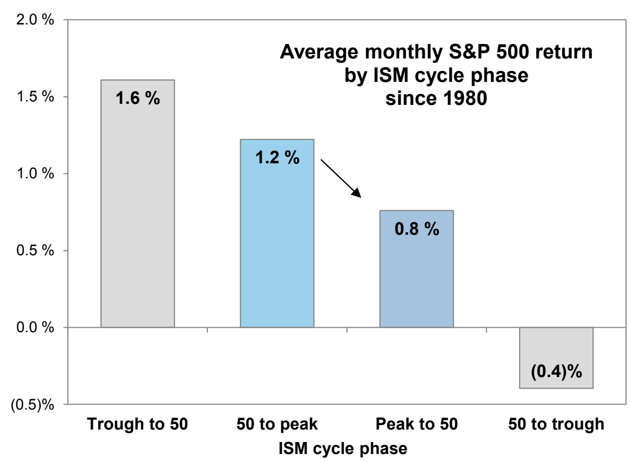


Source: Goldman Sachs Global Investment Research

Asset allocation: Stay invested in equities, but increase cash

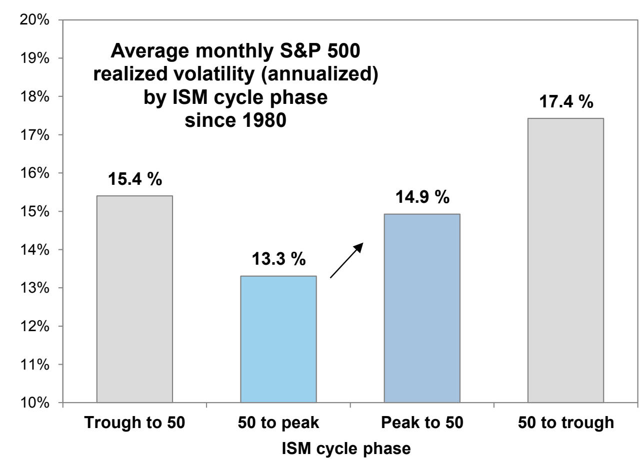
We expect rising equity market risks will drive significantly lower risk-adjusted stock returns in 2019 compared with recent years. S&P 500 returns are typically lower and realized volatility is typically higher late in the cycle. If our baseline equity return forecast is realized, and if 2019 S&P 500 volatility, as measured by the standard deviation of 12-month daily returns, reverts to its 30-year average (15.6), the risk-adjusted return will equal roughly one-half of the annual average during the past 30 years (0.5 vs. 1.1).

Exhibit 32: Average S&P 500 return during ISM phases
as of October 2018



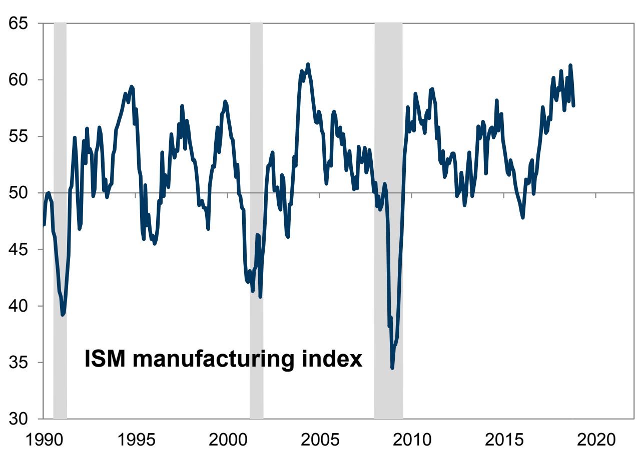
Source: Goldman Sachs Global Investment Research

Exhibit 33: Average S&P 500 volatility during ISM phases
as of October 2018



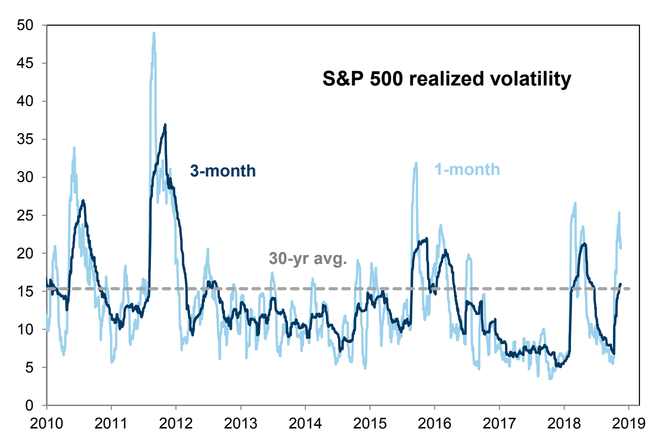
Source: Goldman Sachs Global Investment Research

Exhibit 34: ISM manufacturing index has likely peaked
as of October 2018



Source: Goldman Sachs Global Investment Research

Exhibit 35: S&P 500 volatility has moved higher
as of November 16, 2018

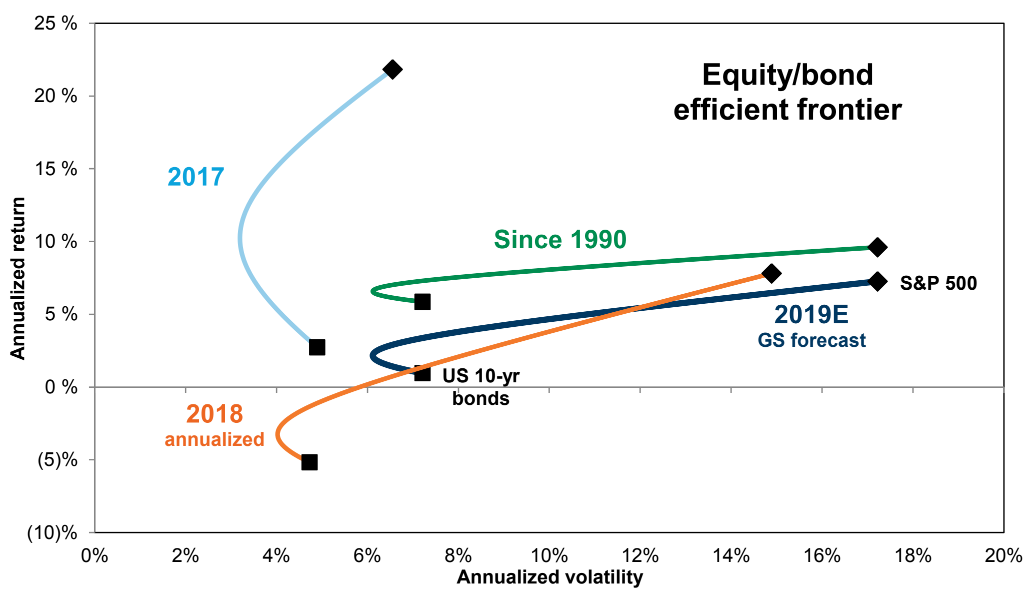


Source: Goldman Sachs Global Investment Research

A portfolio comprising 10-year US Treasury notes and the S&P 500 will likely have a lower efficient frontier of returns in 2019 than the 30-year average. Our 2019 forecast efficient frontier uses our total return forecasts for the S&P 500 (7%) and Treasuries (1%) and assumes that asset volatilities and correlations are in line with averages during the past 30 years. Our economists forecast modest risk-adjusted bond returns in 2019. Interest rate volatility should remain low because most of the rise in rates has already occurred, and we expect the impact of the ongoing Fed balance sheet runoff will be limited.

Cash returns (3-month T-Bills) will steadily improve next year. Our economists forecast that cash, which exhibits almost no volatility, will generate around a 3% total return through year-end 2019 as the Fed tightens five times and lifts the funds rate to 3.25%-3.5% by the end of 2019.

Exhibit 36: An equity/bond portfolio will likely deliver lower risk-adjusted returns in 2019 compared with the historical average
as of November 16, 2018



Source: Goldman Sachs Global Investment Research

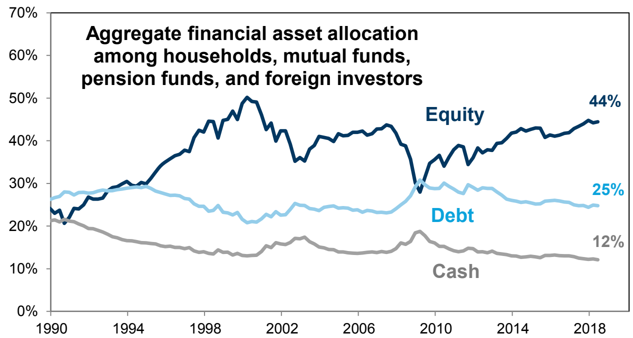
Exhibit 37: Rising cash returns appear attractive in an environment of below-average equity and bond risk-adjusted returns
as of November 16, 2018

Asset class	Measure	Forecast level YE 2018	Forecast level YE 2019	Total return forecast YE 2019	Realized vol (12-month) 30-yr avg	Average annual risk-adj. return last 30 years	2019 forecast risk-adj. return using 30-yr. avg. realized vol
Equity	*S&P 500*	2850	3000	**7.3%**	15.6	**1.1**	**0.5**
Cash	*3-month US T-Bills*	2.5	3.5	**2.9**	0.2	NM	NM
Bonds	*10-year UST note*	3.2	3.5	**1.0**	7.0	1.1	0.1

Source: FactSet, Goldman Sachs Global Investment Research

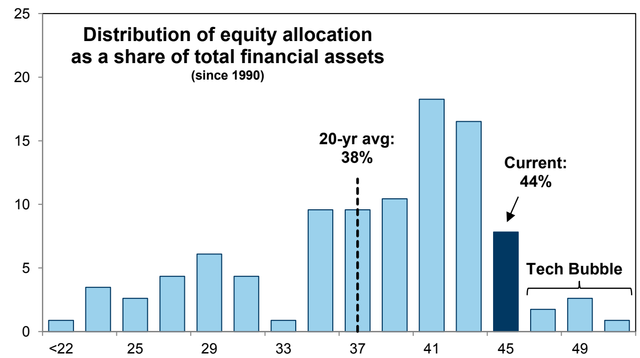
We recommend investors continue to hold equities but trim their elevated equity allocations in favor of cash. At 44%, equity holdings as a share of total financial assets owned by households, mutual funds, foreign investors, and pension funds ranks at the 89th percentile versus history. The only time it was higher was during the Tech bubble. These four investor categories hold 90% of all equities.

Exhibit 38: Equity, debt, and cash allocation over time
as of 2Q 2018



Source: Federal Reserve Board, Goldman Sachs Global Investment Research

Exhibit 39: Equity allocation is highest outside of the Tech Bubble in the past 30 years
as of 2Q 2018



Source: Federal Reserve Board, Goldman Sachs Global Investment Research

Exhibit 40: Allocation to equities is elevated while allocation to cash is lowest in 30 years
as of 2Q 2018

	EQUITY % of total assets		DEBT % of total assets		CASH % of total assets	
Holder	**Start of 3Q 2018**	**Percentile since '90**	**Start of 3Q 2018**	**Percentile since '90**	**Start of 3Q 2018**	**Percentile since '90**
Pension funds	54 %	68 %	26 %	24 %	2 %	0 %
Households	39	89	19	27	15	8
Foreign investors	46	90	41	29	8	0
Mutual funds	58	96	25	50	15	0
Total	**44 %**	**89 %**	**25 %**	**34 %**	**12 %**	**0 %**

Source: Federal Reserve Board, Goldman Sachs Global Investment Research

In contrast, the 12% allocation to cash is the lowest in 30 years. In an environment of rising equity market risks, single-digit stock returns, and improving cash returns, we recommend investors reduce portfolio risk by raising their allocation to cash relative to stocks. However, given the low probability of recession in 2019, investors should continue to hold stocks within their portfolios next year (see GOAL – Global Strategy Paper: The Balanced Bear- Part 2, October 2, 2018).

We forecast mutual funds, households, and pension funds will be net sellers of equities in 2019. Prior episodes of a flattening yield curve have usually preceded a re-allocation away from equities. Investor outflows from active mutual funds will continue to weigh on mutual fund equity demand. Pension funds and households generally sell equities during periods of rising interest rates and decelerating economic growth (see Flow of Funds: Outlook for US equity demand in 2019, November 1, 2018).

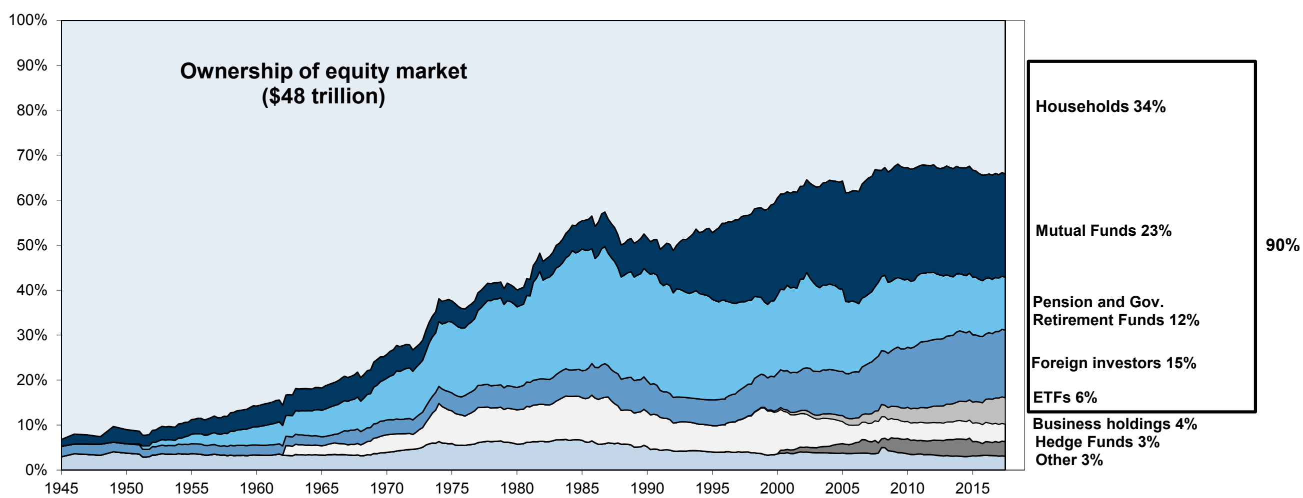
Corporations will continue to be the largest net buyer of stocks with some demand coming from foreign investors. We expect corporate demand for US stocks will rise by 17% next year driven by share buybacks and M&A, offset somewhat by an expected surge in IPOs. Foreign investors will likely be net buyers of US stocks given a modestly weakening US dollar. The secular shift to passive funds should persist in a rising equity market and flows into equity ETFs will also be positive (see How companies will prioritize $3 trillion of cash spending in 2019 and investment strategies for portfolio managers, October 4, 2018).

Exhibit 41: Goldman Sachs forecasts of 2018 and 2019 US equity demand
as of November 19, 2018

	Net US equity demand ($ billions)						
Category	**2013**	**2014**	**2015**	**2016**	**2017**	**2018E**	**2019E**
Corporations	$ 376	$ 442	$ 506	$ 675	$ 275	**$ 600**	**$ 700**
Foreign Investors	(56)	115	(191)	(188)	132	**200**	**100**
Pension Funds	(425)	(272)	(7)	(217)	(174)	**(150)**	**(100)**
Mutual Funds	197	94	57	(116)	(136)	**(100)**	**(125)**
Households	177	96	(134)	(126)	225	**(175)**	**(175)**
Life Insurance	(13)	(5)	31	98	(17)	**-**	**-**
Other	13	12	(7)	(10)	(16)	**-**	**-**
less							
Foreign equities purchased by US investors	287	432	197	22	167	**300**	**350**
Credit ETFs	(17)	50	57	96	123	**75**	**50**
Included among holders above are:							
Equity ETF purchases	$ 197	$ 191	$ 174	$ 188	$ 347	**200**	**300**

Source: Federal Reserve Board, Goldman Sachs Global Investment Research

Exhibit 42: Ownership of corporate equity market since 1945
as of 2Q 2018



Source: Federal Reserve Board, Goldman Sachs Global Investment Research

Sector allocation: Favor defensive sectors as GDP growth slows

We recommend investors make several sector rotations heading into 2019. We upgrade Utilities to overweight given the sector's notable historical outperformance during decelerating GDP growth environments, a low beta to S&P 500, and our forecast for limited further upside to interest rates. Consumer Staples exhibits many of these same qualities, leading us to upgrade the sector to neutral, but a host of secular challenges prevent a more optimistic outlook. We remain overweight Info Tech and Communication Services given low macro sensitivities, idiosyncratic growth profiles, high profit margins, and reasonable valuations compared with history. Potential government investigations and regulations represent a non-trivial risk to several stocks in Communication Services.

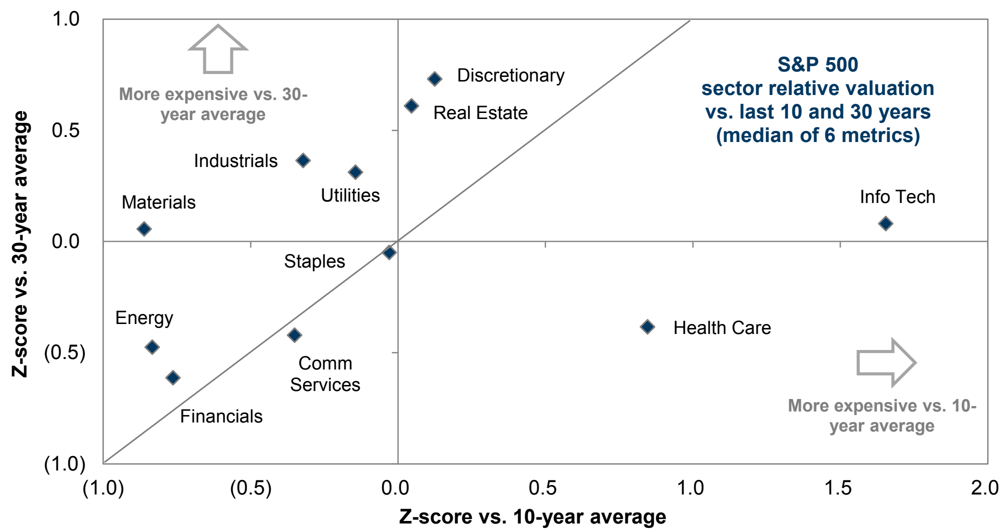
We downgrade several cyclical sectors that have higher market betas and are likely to lag as the pace of economic growth slows. We lower Financials (to neutral) and Industrials and Materials (both to underweight). We remain neutral on the Energy sector, which trades at an attractive valuation relative to the past 10 years but is unlikely to benefit given likely modest upside to oil prices. In Health Care, our neutral recommendation is based on the fact that, although the sector typically outperforms alongside decelerating economic growth, potential drug pricing regulations pose an important political risk to the sector's performance. We also remain underweight the Consumer Discretionary sector given its sensitivity to slowing economic growth, high valuations, and vulnerability to rising US wages.

Exhibit 43: Goldman Sachs recommended sector weightings
as of November 16, 2018

		Sector Weightings			Consensus bottom-up 2019E growth			
	Existing sector	Goldman Sachs recommended sector weightings	Current S&P 500 Weight	YTD Return	Sales	EPS	NTM P/E	Dividend Yield
	Information Technology	Overweight	20 %	12 %	5 %	5 %	17 x	1.6 %
	Communication Services	Overweight	10	(1)	11	3	17	1.5
↑	Utilities	Overweight	3	6	NM	6	17	3.4
	Health Care	Neutral	15 %	12 %	8 %	7 %	16 x	1.7 %
↓	Financials	Neutral	14	(3)	NM	10	12	2.1
↑	Consumer Staples	Neutral	7	0	0	5	19	3.0
	Energy	Neutral	6	(6)	13	25	14	3.3
	Consumer Discretionary	Underweight	10 %	11 %	6 %	10 %	21 x	1.4 %
↓	Industrials	Underweight	9	(4)	5	10	16	2.1
	Real Estate	Underweight	3	3	NM	4	19	3.5
↓	Materials	Underweight	3	(8)	6	4	15	2.2
	S&P 500		**100 %**	**4 %**	**7 %**	**8 %**	**16 x**	**2.0 %**

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 44: Sector relative valuation vs. history
as of November 16, 2018

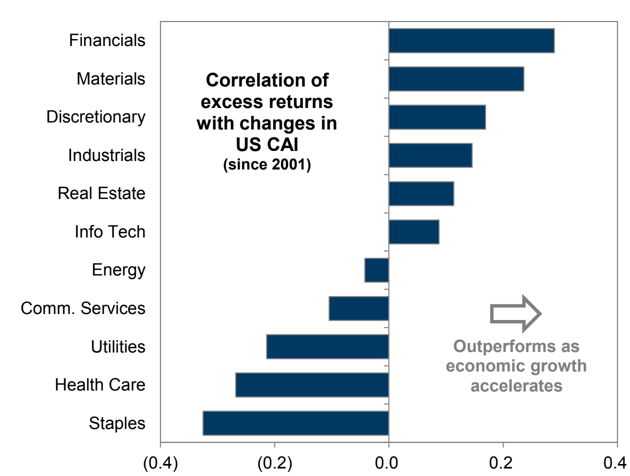


Relative valuation Z-scores represent a median of EV/sales, EV/EBITDA, price/book, FCF yield, PEG ratio, and forward P/E

Source: Compustat, FactSet, Goldman Sachs Global Investment Research

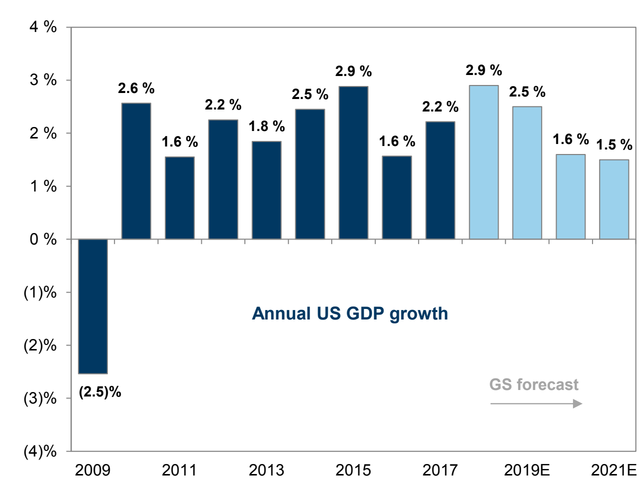
The likelihood of decelerating GDP growth in 2019 suggests that investors should favor sectors with defensive or idiosyncratic growth profiles rather than cyclicals levered to the pace of economic growth. The relationship between changes in our economists' Current Activity Indicator (CAI) and sector excess returns indicates that Financials, Materials, Consumer Discretionary, and Industrials stocks are likely to come under pressure as the pace of GDP growth continues to slow. The defensive Consumer Staples and Utilities sectors as well as the more idiosyncratic Health Care, Communication Services, and Info Tech sectors will likely be more insulated from a slowing economy.

Exhibit 45: Sector correlation with changes in economic growth
as of October 31, 2018



Source: Compustat, FactSet, Goldman Sachs Global Investment Research

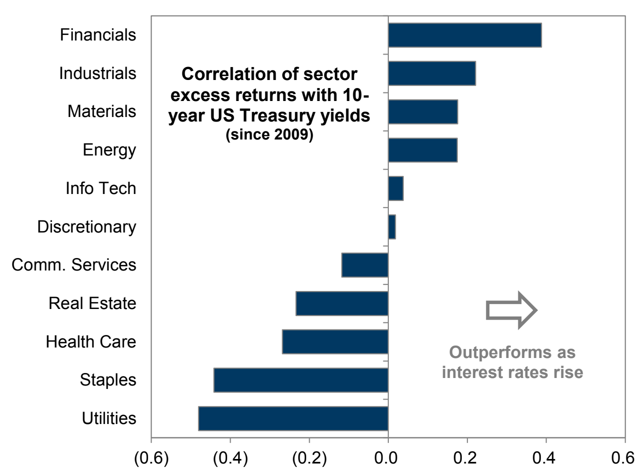
Exhibit 46: US GDP growth to decelerate from rapid 2018 pace
as of November 19, 2018



Source: BEA, Goldman Sachs Global Investment Research

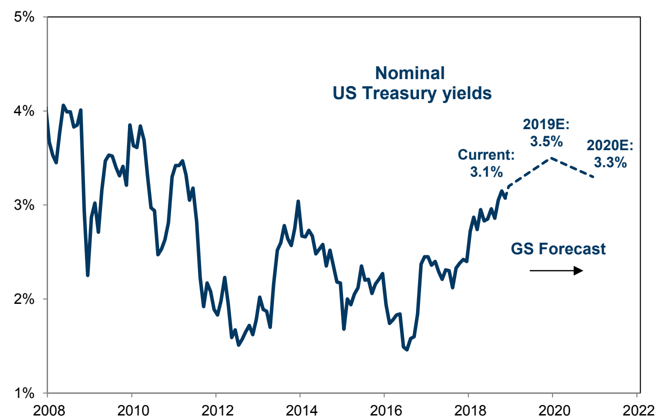
Interest rate correlations imply investors should continue to favor cyclical sectors, but we believe the pace of economic growth is likely to be a more important driver of sector returns than rising interest rates for two key reasons. First, recent interest rate changes have been driven more by a tightening Federal Reserve than changes in growth expectations. Ten-year US Treasury yields have risen YTD by 66 bp to 3.1% despite the CAI slowing to 3.2% from 3.7%. Second, our interest rate strategists expect 10-year US Treasury yields to rise by roughly 40 bp to 3.5% by the end of 2019. While the team anticipates further upside to bond yields, their forecast rise in interest rates next year is less extreme than the nearly 70 bp YTD surge in 10-year Treasury yields.

Exhibit 47: Correlation of sector returns with interest rate changes
as of November 13, 2018



Source: Compustat, FactSet, Goldman Sachs Global Investment Research

Exhibit 48: Our economists expect US 10-year yields will peak at 3.5% this cycle
as of November 16, 2018



Source: Federal Reserve Board, FactSet, Goldman Sachs Global Investment Research

Defensive and idiosyncratic sectors outperform not only as the pace of economic growth slows but also during market corrections. Since 1976, the Utilities sector has outperformed S&P 500 by a median of 11 pp from peak to trough during 18 S&P 500 corrections of at least 10%, posting a 100% hit rate of outperformance. The Communication Services and Consumer Staples sectors have also performed strongly during market corrections given lower betas to S&P 500. Although lower market betas imply defensive sectors are less likely to benefit from continued market upside, our base case forecast for a relatively flat trajectory for S&P 500 returns coupled with the above-average likelihood of substantial market downside suggests the opportunity cost of defensiveness should be limited.

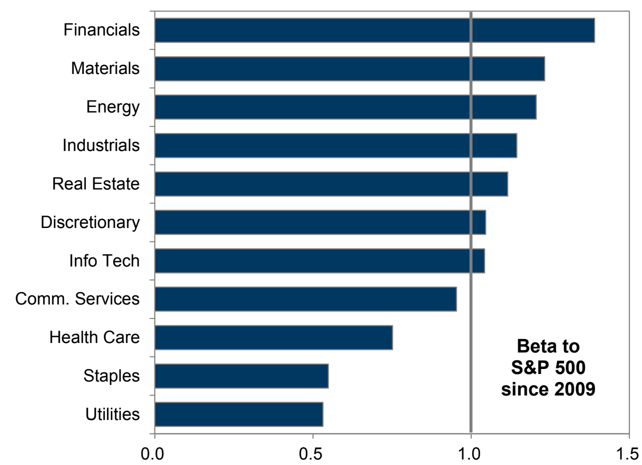
Exhibit 49: Sector performance during market corrections
as of November 19, 2018

Sector performance during 18 S&P 500 corrections since 1976

Sector	Median excess return	% of episodes outperf. S&P 500
Utilities	11 pp	100 %
Comm. Services	5	83
Cons. Staples	4	94
Energy	3	61
Health Care	3	78
Cons. Discretionary	(1)	44
Industrials	(1)	33
Info Tech	(1)	33
Real Estate	(1)	50
Materials	(2)	22
Financials	(3)	28

Source: Compustat, FactSet, Goldman Sachs Global Investment Research

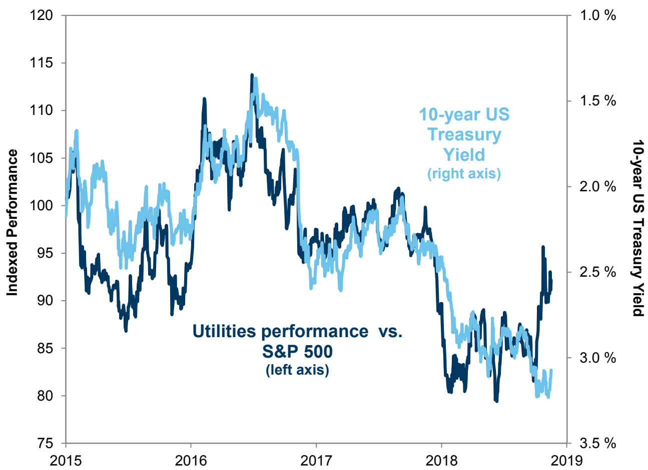
Exhibit 50: Beta of sector returns to S&P 500
as of November 12, 2018



Source: Compustat, FactSet, Goldman Sachs Global Investment Research

Both the Utilities and Consumer Staples sectors are likely to benefit from decelerating economic growth and elevated market volatility, but the Utilities sector is particularly attractive. Utilities has lagged its historical relationship with changes in US economic growth during the past 12 months. The sector has underperformed S&P 500 by 6 pp during the past 12 months despite the US Current Activity Indicator decelerating by 1 pp to 3.2%. Both the Utilities and Consumer Staples sectors trade with low market betas and should be relatively insulated from heightened equity risk in 2019. However, the Consumer Staples sector faces a number of secular headwinds that portend a less optimistic outlook, namely rising margin pressures, erosion in brand power, and the continued shift toward E-commerce (see Where is the pricing power and where is it mis-priced? Americas Food & HPC coverage view to Cautious, July 17, 2018). Tactically, short interest relative to float is elevated in both sectors, suggesting potential for sharp outperformance if investors move to cover their short positions.

Exhibit 51: Utilities have outperformed relationship with rates alongside growth concerns
as of November 16, 2018



Source: FactSet, Goldman Sachs Global Investment Research

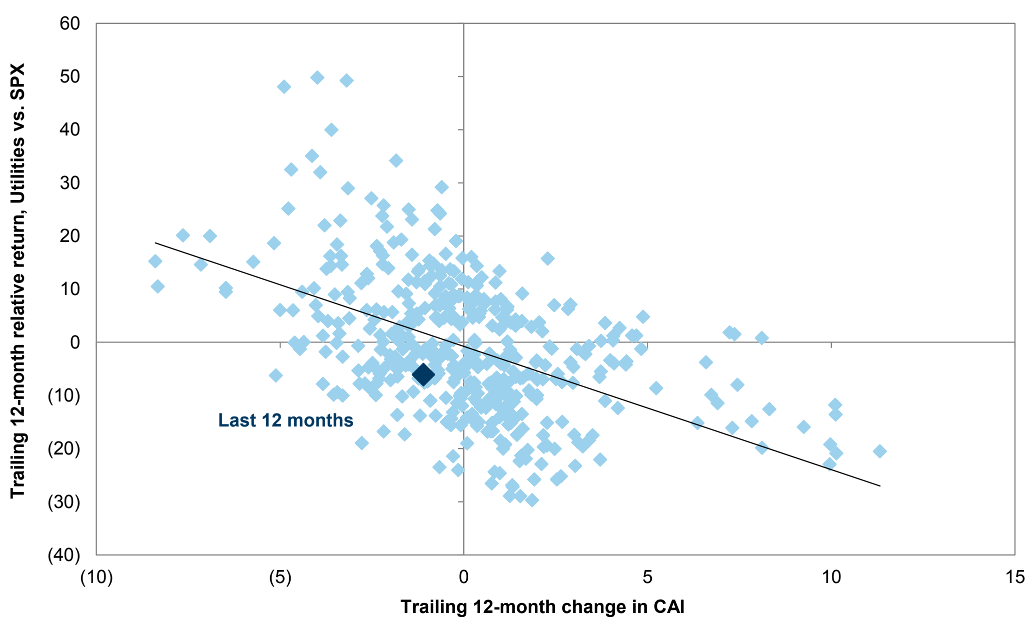
Exhibit 52: Short interest relative to float is elevated in Consumer Staples and Utilities
as of November 16, 2018

Short interest relative to float

Sector	Current	%ile rank vs. last 5 years	%ile rank vs. last 10 years
Consumer Staples	3.6%	84%	92%
Utilities	2.9	63	78
Total Market	**3.9**	**48**	**69**
Energy	4.4	19	60
Health Care	5.0	13	56
Consumer Discretionary	5.8	38	53
Real Estate	3.9	73	48
Information Technology	3.6	15	40
Materials	3.1	17	34
Industrials	3.3	15	18
Telecom Services	3.1	0	15
Financials	2.1	19	9

Source: Bloomberg, Goldman Sachs Global Investment Research

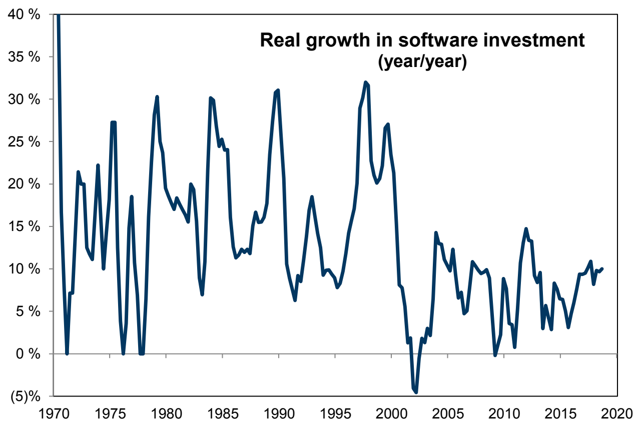
Exhibit 53: Utilities have lagged their historical relationship with US economic growth deceleration
as of November 16, 2018; monthly observations since 1982



Source: FactSet, Goldman Sachs Global Investment Research

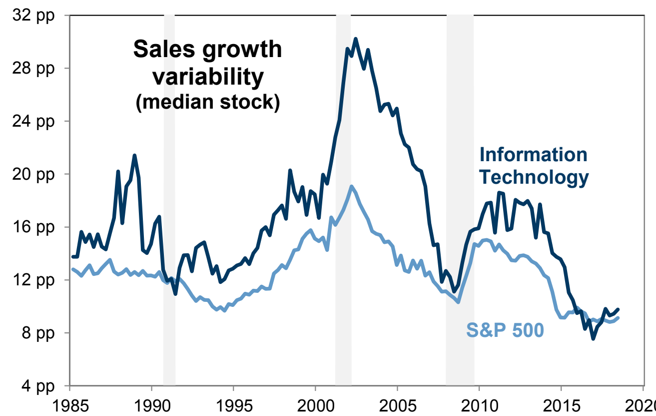
We also continue to recommend investors overweight the Information Technology sector. The sector's betas to S&P 500, economic growth, and interest rates have declined, although Semiconductors stocks remain particularly cyclical. One reason for Info Tech's declining sensitivity to macro variables is that sector constituents have transitioned toward recurring revenue models that have decreased the volatility of sales growth. Real growth in software investment has been positive for nearly 50 years, with the exception of four quarters during the early 2000s. The sector also offers profit margins that are more than 2x the rest of the index, leading to strong cash flow generation that will allow companies to return cash to shareholders or continue to invest for future growth (see A Portfolio Strategy view of how to navigate the Information Technology sector, October 17, 2018).

Exhibit 54: Positive real growth in software spending for 50 years
as of 3Q 2018



Source: BEA, Goldman Sachs Global Investment Research

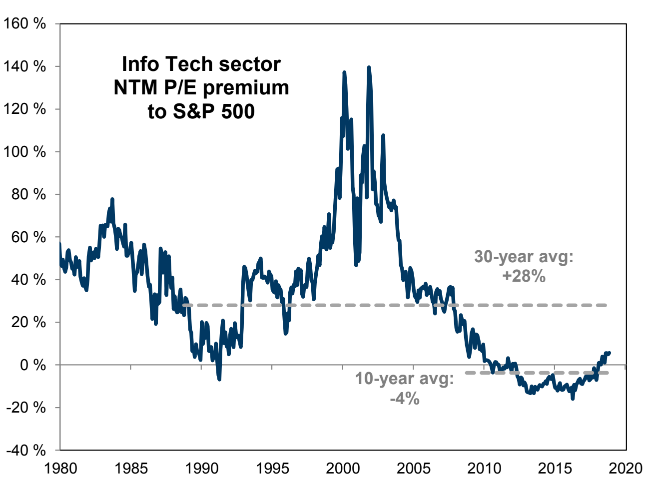
Exhibit 55: Variability of Info Tech sales growth has declined
as of 2Q 2018



Source: Compustat, Goldman Sachs Global Investment Research

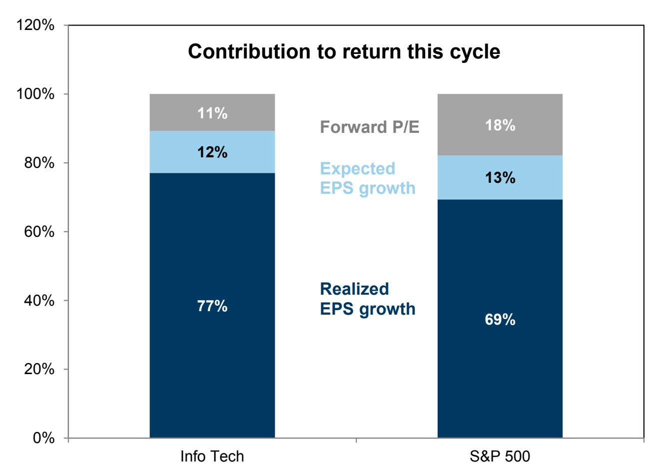
Legacy Info Tech (excluding firms shifted to Communications Services in September 2018) has outperformed S&P 500 by an annualized 4 pp since the 2009 low and 12 pp since the start of 2017, leading some investors to question whether the sector is expensive relative to history. Info Tech trades nearly 2 standard deviations expensive vs. the past 10 years on a variety of metrics, but valuations are much less extreme on a longer-term basis. The sector currently trades at a 6% P/E premium to S&P 500, well below the 30-year average of 28%. Nearly 90% of the sector's return this cycle has been driven by profit growth rather than a potentially unsustainable rise in valuations as was the case in the Tech bubble of the late 1990s.

Exhibit 56: Info Tech P/E premium is low relative to 30-year average
as of November 16, 2018



Source: Compustat, FactSet, Goldman Sachs Global Investment Research

Exhibit 57: Info Tech returns have been driven by EPS growth
March 9, 2009 to November 16, 2018

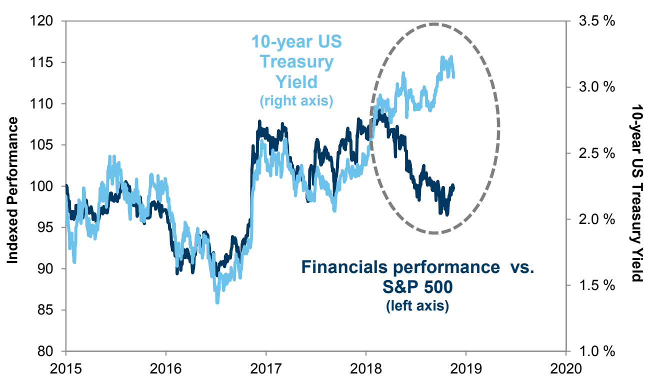


Source: Compustat, FactSet, Goldman Sachs Global Investment Research

Communication Services also offers a combination of idiosyncratic growth and defensiveness, and we continue to believe investors should overweight the sector. Goldman Sachs equity analysts expect sector constituents GOOGL, FB, and NFLX to deliver >20% sales growth in 2019, and the companies have business models that should be less sensitive to deceleration in the pace of economic growth. However, the business practices of several of these firms face potential regulatory risks from US and European government investigations. Other constituents, such as those in the Telecom Services industry, offer less compelling growth prospects but give the sector an appealing defensive tilt.

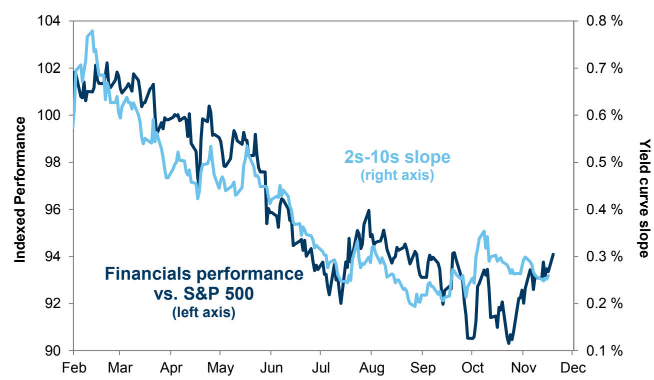
We downgrade the Financials sector to neutral given our economists' forecast for limited further upside to 10-year US Treasury yields, a flattening yield curve, and decelerating economic growth. As noted above, our colleagues expect 10-year US Treasury yields to finish 2019 at 3.5% and for the 2s-10s slope to modestly invert at -5 bp. Historically, the Financials sector's relative performance vs. S&P 500 has closely tracked the level of 10-year US Treasury yields. However, the sector has lagged S&P 500 by 8 pp since February despite a continued climb in interest rates. During this period, Financials traded in line with the slope of the yield curve, closely tracking the difference between 10-year and 2-year US Treasury yields. Financials stocks have closely tracked the level of global GDP growth since the start of 2015, highlighting the extent to which interest rate increases in 2018 were driven by a tightening Fed rather than an improvement in economic growth.

Exhibit 58: Financials returns have decoupled from the level of interest rates...
as of November 16, 2018



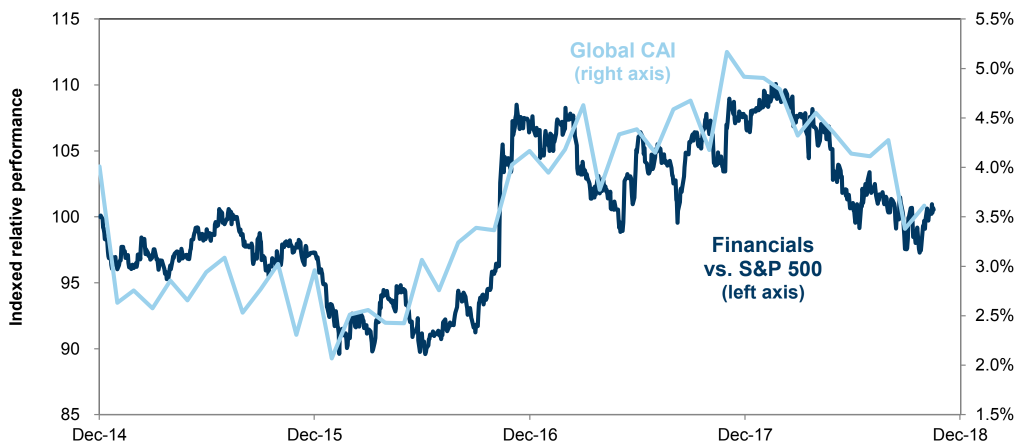
Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 59: ... and have traded with the slope of the yield curve
as of November 16, 2018



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 60: Financials relative performance has closely tracked global economic growth
as of November 16, 2018

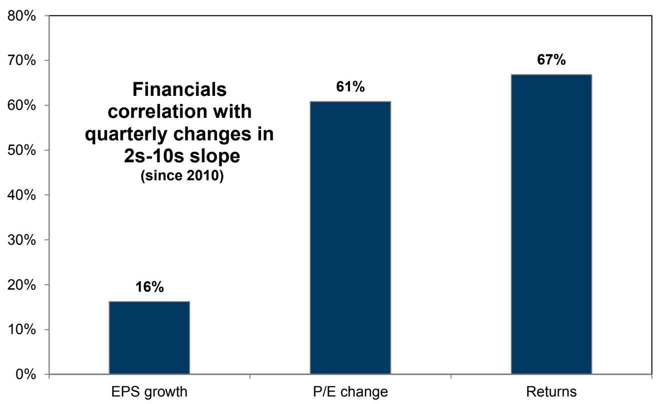


Source: FactSet, Goldman Sachs Global Investment Research

Importantly, we find little evidence that Financials sector fundamentals are driven by changes in yield curve slope. During the last five years there has been only a modest positive correlation between changes in the 2s-10s slope and Financials sector year/year EPS growth. This fact may surprise many investors. Traditional bank lending is a product of maturity transformation. Many investors believe that a flattening yield curve will increase funding costs relative to asset yields and depress net interest margins, but a significant portion of bank assets actually price off of the short-end of the yield curve. As a result, both asset yields and funding costs increase when short-term interest rates rise.

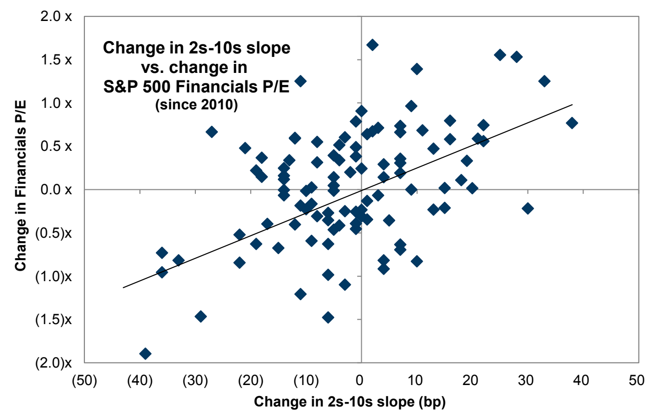
But the slope of the yield curve matters for the valuation of Financials. The sector typically underperforms in a flattening yield curve environment as waning investor optimism about the strength of the economy leads to compression in multiples. While sector valuations have de-rated considerably during 2018, we expect a flat yield curve by the end of next year and concerns about the durability of the current expansion will continue to put pressure on valuations in 2019. Looking forward, we see few catalysts that are likely to cause investors to reconsider their valuation of the sector. Additionally, our Washington, DC-based economists believe the recent midterm election results modestly reduce the likelihood of new deregulation measures.

Exhibit 61: Financials EPS is little affected by yield curve slope...
as of 2Q 2018



Source: FactSet, Goldman Sachs Global Investment Research

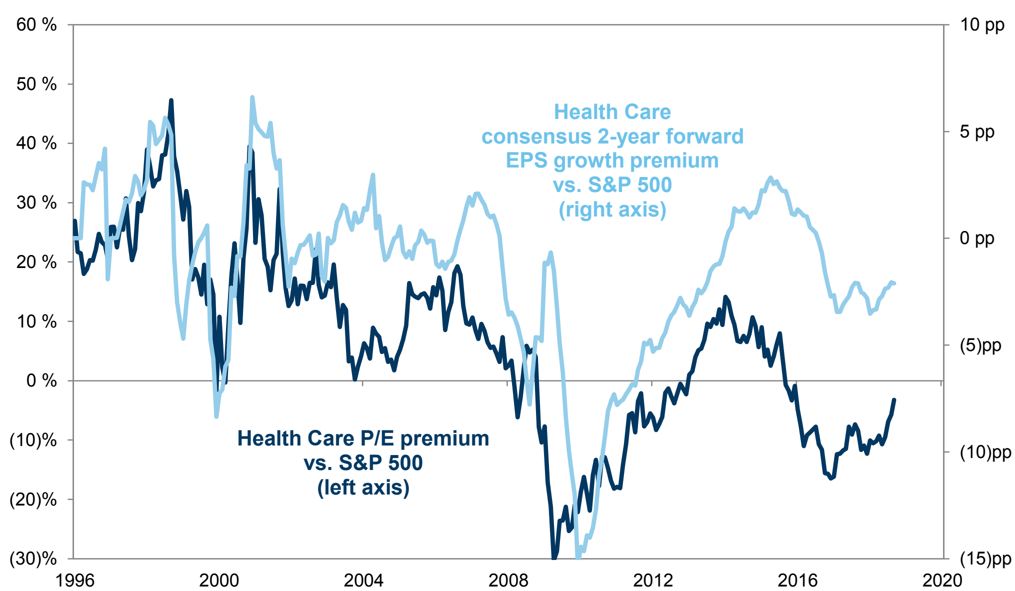
Exhibit 62: ...but sector valuations are sensitive to 2s-10s spread
as of October 31, 2018



Source: Compustat, Goldman Sachs Global Investment Research

We also remain neutral on the Health Care sector. The sector typically outperforms as the pace of GDP growth decelerates, but potential drug pricing reform represents a meaningful risk to sector performance. Our political economists recently noted that 42% of midterm election voters cited healthcare reform as a top issue in exit polling, the most of any issue. Since 1996, the Health Care sector's relative valuation vs. S&P 500 has closely tracked its forward EPS growth premium/discount. However, in recent years the sector has traded at a lower relative P/E than is justified by its relative growth, likely a result of investor concerns about potential regulation. The Pharmaceutical industry accounts for 33% of the Health Care sector capitalization.

Exhibit 63: Health Care relative valuations are lower than justified by relative growth
as of October 31, 2018



Source: Compustat, FactSet, Goldman Sachs Global Investment Research

We reiterate our underweight recommendation in Consumer Discretionary. The sector trades with the third highest positive correlation of returns with changes in our Current Activity Indicator and is most expensive of any sector relative to the past 30 years. In addition to risks posed by decelerating economic growth and lofty valuations, the sector is highly vulnerable to rising US wages. We estimate that a 100 bp acceleration in labor inflation would reduce sector EPS by 1.1%, second only to the Industrials sector (-1.6%). One risk to our underweight Consumer Discretionary sector recommendation is that the Goldman Sachs equity analyst forecasts 38% upside to Amazon's stock price during the next 12 months. With an equity capitalization of roughly $780 billion, Amazon accounts for 29% of the sector's capitalization. The shares have plunged by more than 20% during the past two months.

Themes: Return of risk means high quality stocks should outperform

The return of risk means a more uncertain investment environment compared with recent years. By focusing on "high quality" stocks we seek to reduce the likelihood and magnitude of a negative event harming equity portfolio returns. Definitions of quality can vary widely. We focus on a set of characteristics tilted toward stability and safety.

Our newly rebalanced High Quality Stock basket (ticker: GSTHQUAL) provides investors with a combination of balance sheet strength and stable growth. Originally introduced in 2011 and rebalanced annually since then, the sector-neutral strategy combines five metrics to identify stocks that are less likely to experience negative credit or growth shocks: (1) strong balance sheets; (2) stable sales growth; (3) low EBIT deviation; (4) low stock drawdown risk; and (5) ROE above peers. In addition, we restrict our focus to companies with market caps above $10 billion, as a proxy for liquidity and access to public financing markets. 16 new stocks have entered the 50-stock basket. See Appendix A for a full list of constituents.

Balance sheet strength is the first factor in our quality screen. We use an Altman Z-score to assess risk and only firms deemed to have safe balance sheets (score above 2.67) were eligible for inclusion. Exceptions were made for Financials and Utilities.

Revenue growth stability is the second metric. The Sortino ratio of sales growth measures the rate of expansion (based on CAGR over the past 40 quarters) and stability of growth (by incorporating the downside variability of that growth). Each company's ratio is then measured against sector peers. This metric identifies businesses that are growing faster than (and potentially taking market share from) peers without sacrificing stability. Quality stocks have lower sales variability as well as higher growth than peers.

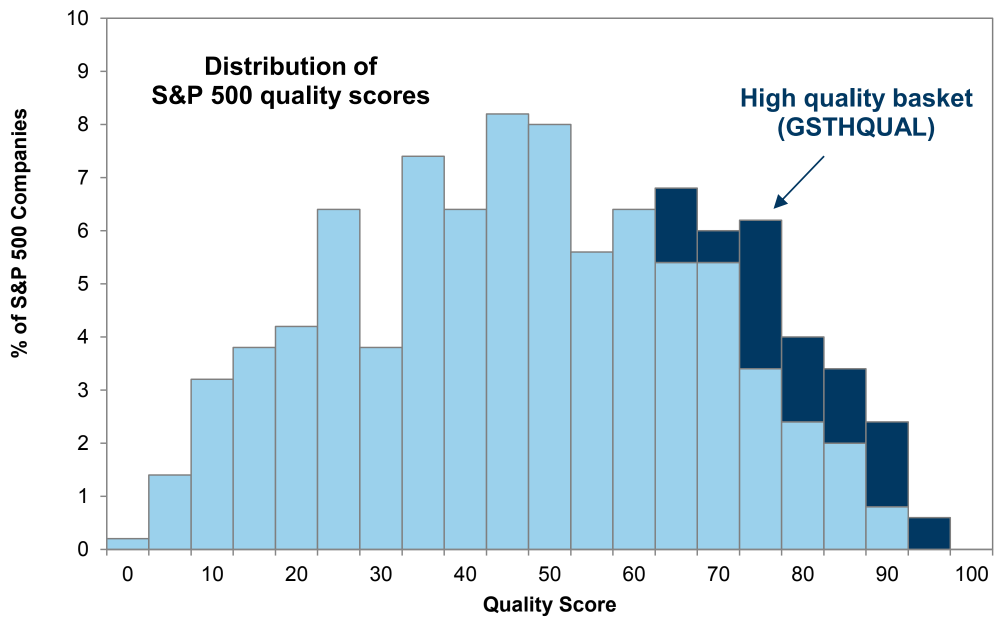
The downside deviation of EBIT identifies stocks that have avoided large negative earnings growth in the past. In combination with revenue growth stability this metric selects companies that are consistently growing the size of their business without sacrificing margin performance.

The magnitude of historical drawdown in share price is meant to capture non-fundamental aspects of a company. Examples include management quality, legal/compliance issues, operational risk, and product cycles. Clearly this is not a direct proxy for any of these risks, but short-term underperformance relative to sector peers is likely to be driven by unexpected idiosyncratic developments. To estimate drawdown we calculate the 5^{th} percentile of monthly performance relative to sector peers.

ROE measures a company's efficiency in deploying shareholders' equity to generate earnings. Admittedly, companies with strong sales growth, safe balance sheets, and positive earnings growth should also generate attractive ROE. We measure the average of that ROE over the past decade relative to peers. Each stocks' ROE is compared with the sector average to account for significant differences in sector ROE over time.

We create a quality score for each S&P 500 company based on the metrics above. The score is a weighted average of each stock's percentile rank vs. peers for: EBIT downside deviation (40%); sales Sortino ratio (40%); 5th percentile drawdown (10%); and average ROE (10%). The top stocks by this metric constitute our sector-neutral basket.

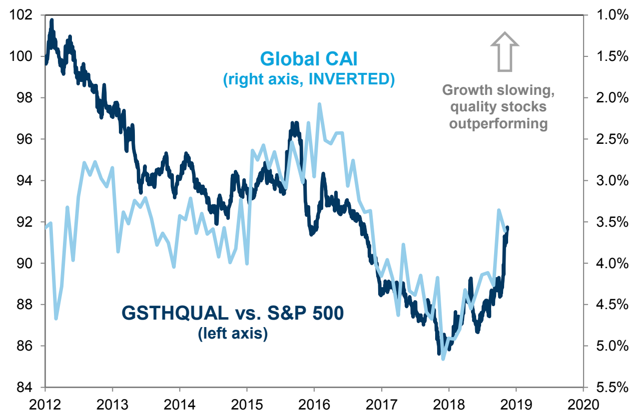
Exhibit 64: Distribution of S&P 500 quality scores
as of November 18, 2018



Source: Goldman Sachs Global Investment Research

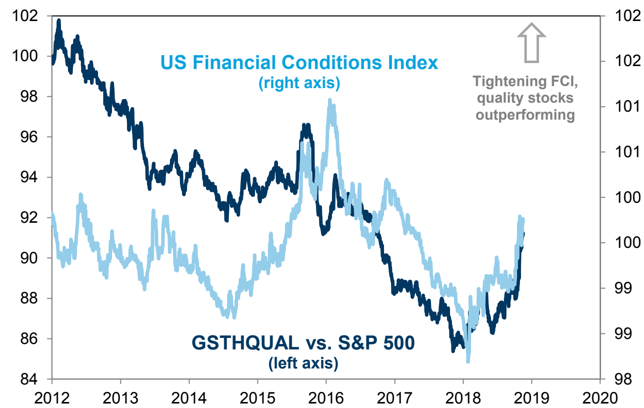
The basket has outperformed the S&P 500 by 700 bp YTD (11% vs. 4%) alongside slowing economic growth (see Exhibit 65). Red Hat (RHT), which has rallied sharply following the October 28 announcement of its acquisition by IBM, has accounted for around 9% (~85 bp) of the basket's total return this year.

Exhibit 65: Investors rewarded "quality" stock traits as growth slowed...
as of November 14, 2018



Source: Goldman Sachs Global Investment Research

Exhibit 66: ...and US financials conditions tightened
as of November 14, 2018



Source: Goldman Sachs Global Investment Research

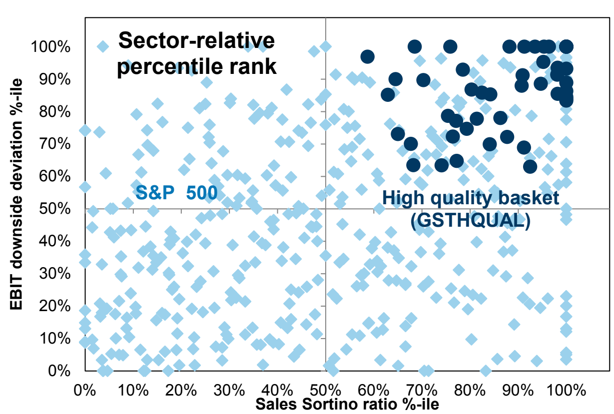
We expect the stable growth and strong balance sheet tilts of our high quality basket will continue to support its outperformance in 2019. Stable growth stocks have generally outperformed during periods of decelerating economic growth (see Exhibit 67). We expect strong balance sheet stocks will remain most insulated from rising interest costs and provide relative safety from a broad-based increase in leverage (net debt/EBITDA is at the 93rd percentile for the median S&P 500 stock). Although elevated relative to the past 30 years, interest coverage has also declined to its lowest level since 2010.

Stronger-than-expected equity market returns represents a key risk to our recommendation. A rebound in economic growth – which has historically been the catalyst for a late-cycle bull market rally – would likely hurt defensive strategies such as our High Quality basket. However, a bullish outcome is our lowest probability scenario in 2019. On the other hand, our high quality basket should outperform even if equity returns are weaker than we expect given that stocks included in the basket have low historical drawdown experience. Since its initiation in 2011, the strategy has outperformed the S&P 500 by a median of 50 bp in months when the S&P 500 has declined.

Exhibit 67: Stable growth stocks outperform as growth decelerates
as of October 31, 2018

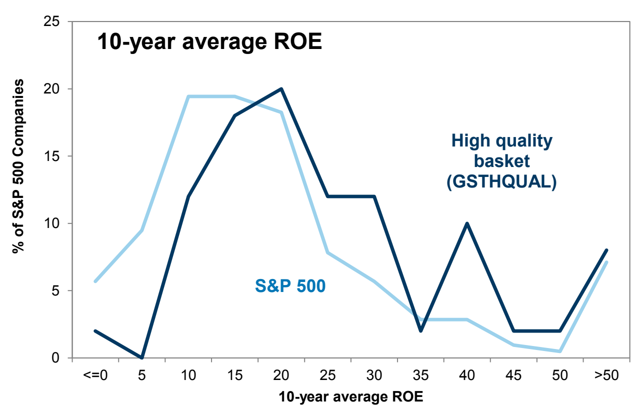
Source: Goldman Sachs Global Investment Research

Exhibit 68: Sales and EBIT stability of Quality stocks vs. the S&P 500
as of November 18, 2018



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 69: Distributions of 10-year average ROE
as of November 18, 2018



Source: FactSet, Goldman Sachs Global Investment Research

Higher quality stocks trade at a valuation premium. Relative to the S&P 500, the median constituent in our High Quality basket has a larger cap ($31 billion vs. $19 billion), a stronger balance sheet (Altman Z-score of 4.5 vs. 3.5), faster expected growth, a higher ROE (19% vs. 14%), less variability in sales and earnings during the past decade, and a similar magnitude of share price drawdown. However, the basket trades at a modestly higher valuation (forward P/E of 19x vs. 17x).

Exhibit 70: "Quality" attributes of the median stock within GSTHQUAL vs. S&P 500
as of November 18, 2018

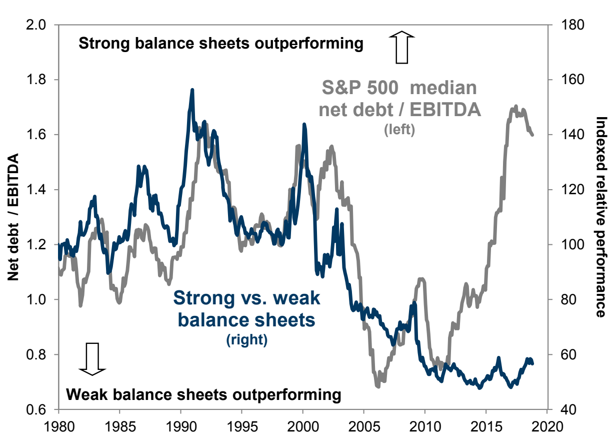
	Quality Criteria						
			10-Year Historical				
Median stock	Market Cap ($B)	Altman Z-Score	EBIT Deviation	Sales Sortino	5th Pctl Drawdown	Average ROE	Quality Score
Quality basket (GSTHQUAL)	**$31**	**4.5**	**1**	**8**	**(9)%**	**19 %**	**81**
S&P 500	19	3.5	10	1	(9)	14	51

	Growth & Valuation						
	YTD	Beta	Sales growth		EPS growth		NTM
	Return	to SPX	2019	2020	2019	2020	P/E
Quality basket (GSTHQUAL)	**16 %**	**0.9**	**6 %**	**5 %**	**10 %**	**11 %**	**19 x**
S&P 500	2	1.0	5	5	9	10	17

Source: FactSet, Goldman Sachs Global Investment Research

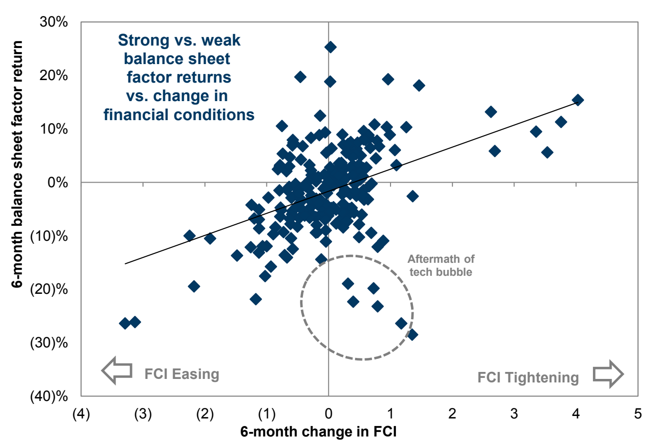
We also highlight an investment strategy that focuses on the specific "quality" stock trait of balance sheet strength. Strong balance sheet stocks have historically outperformed weak balance sheet stocks during environments of rising leverage and tightening financial conditions. Earlier in the cycle investors were unconcerned with the sharp rise in leverage given historically accommodative monetary policy and healthy interest coverage. However, since the start of 2017, our sector-neutral strong balance sheet basket (GSTHSBAL) has outpaced weak balance sheet stocks (GSTHWBAL) by 19 pp (31% vs. 12%). We expect this trend will persist in 2019 given elevated leverage and tightening financial conditions. A potential risk to this trade is the high relative valuation of strong vs. weak balance sheet stocks. See Appendix B for the constituents of our newly-rebalanced Strong and Weak Balance Sheet baskets.

Exhibit 71: Low rates benefited weak balance sheets for most of this cycle
as of October 31, 2018



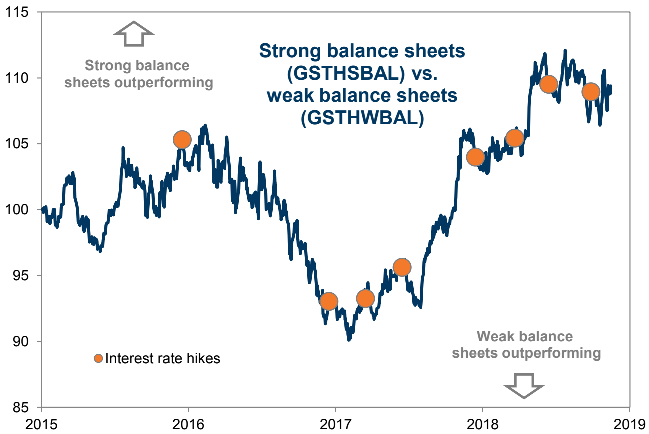
Source: Compustat, Goldman Sachs Global Investment Research

Exhibit 72: Strong balance sheets outperform when financial conditions tighten
as of October 31, 2018



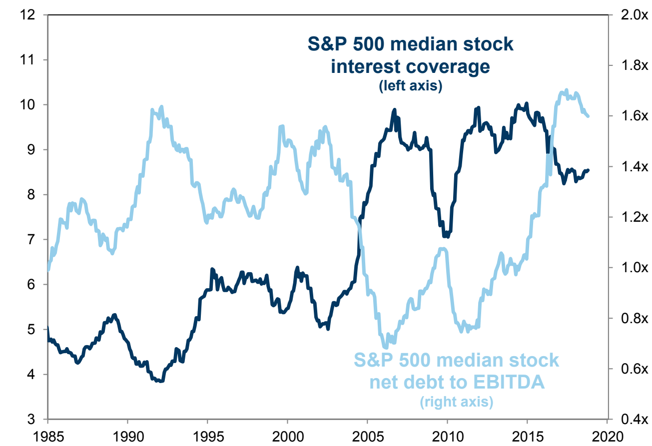
Source: Goldman Sachs Global Investment Research

Exhibit 73: Strong balance sheet stocks have outperformed since the start of 2017
as of November 13, 2018



Source: Goldman Sachs Global Investment Research

Exhibit 74: Net debt/EBITDA is near all-time highs and interest coverage has declined
as of October 31, 2018

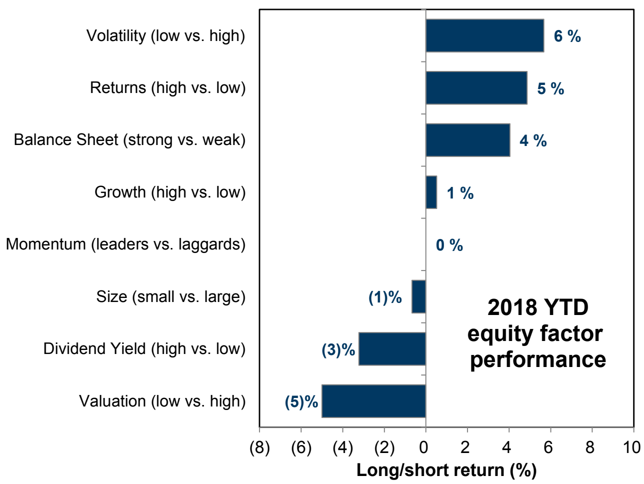


Source: Compustat, Goldman Sachs Global Investment Research

Factor strategy: Less favorable outlook for Growth, stick with quality

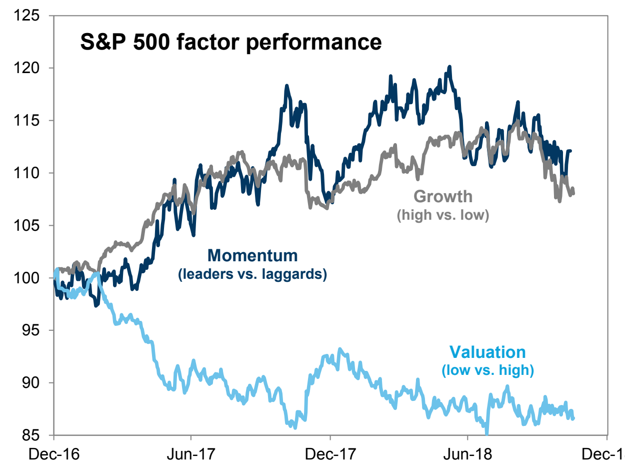
For many equity factors, performance in 2018 has been a tale of two halves. In 1H 2018, Growth and Momentum resumed the outperformance they exhibited during most of 2017, while Value stocks continued to underperform. Since mid-year, however, the trend has broken, with these factors exhibiting high volatility but little direction.

Exhibit 75: "Quality" factors have outperformed YTD while Value has lagged



Source: Goldman Sachs Global Investment Research

Exhibit 76: Momentum and Growth outperformance have stalled

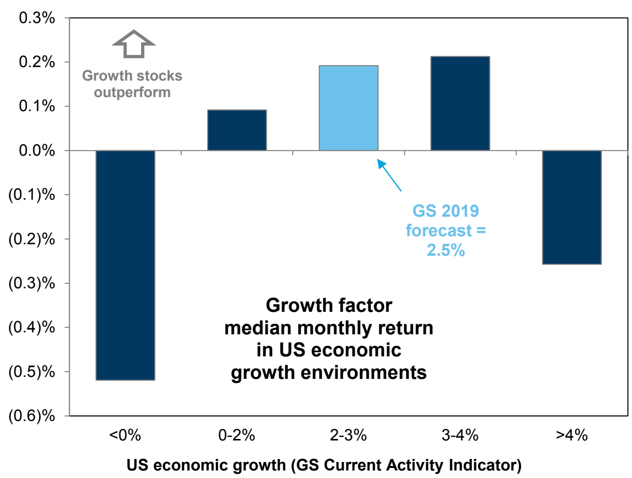


Source: Goldman Sachs Global Investment Research

In 2019, we expect the pattern of Growth vs. Value volatility will continue. In recent years we have consistently recommended that investors focus on firms with strong growth and deprioritize stock valuations in their selection processes. Growth stocks typically outperform during periods of moderate or decelerating economic growth as investors allocate a scarcity premium to firms able to generate strong growth on their own.

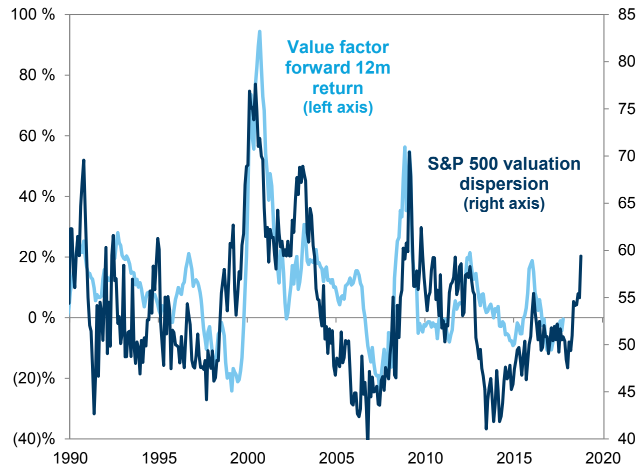
Our expectation of decelerating earnings growth would typically support further Growth stock outperformance. However, widening valuation dispersion, concentrated investor positioning, and recent weakness in earnings revisions complicate the picture. Valuation dispersion has historically been a good predictor of Growth vs. Value performance. When the distribution of stock valuation multiples is tight, returns are differentiated by growth and other fundamental qualities rather than differences in multiples. Tight dispersion has been a key driver of our preference for Growth stocks in recent years. However, the outperformance of Growth stocks during the past two years has sharply widened the dispersion of P/E multiples across the S&P 500, suggesting a more favorable backdrop for Value stocks during the next year.

Exhibit 77: Growth stocks typically outperform in modest GDP environments



Source: Goldman Sachs Global Investment Research

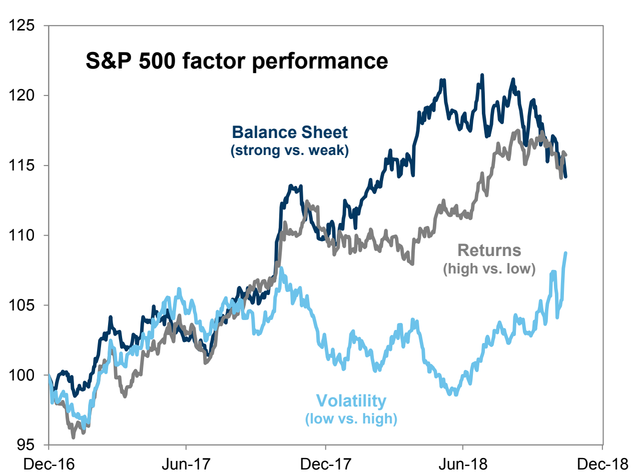
Exhibit 78: Valuation dispersion has widened sharply



Source: Compustat, I/B/E/S, FactSet, Goldman Sachs Global Investment Research

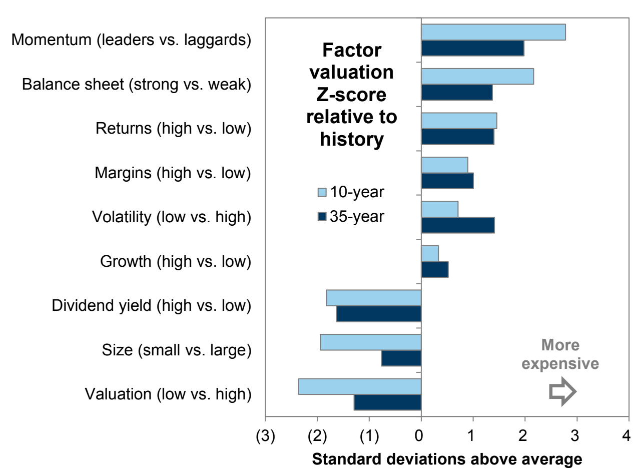
We expect "quality" factors like balance sheet strength and returns on capital will continue their 2018 outperformance into 2019. Rather than pure Growth or Value strategies, we believe the current environment supports a more selective approach. As economic and earnings growth slow and equity uncertainty rises, we recommend investors continue to tilt toward companies with steady secular growth as well as other "quality" attributes like strong balance sheets, high returns on capital, and strong pricing power. At the same time, investors should be wary of stocks with extremely elevated valuations, which often underperform sharply during the final stages of the economic cycle as GDP tips into recession.

Exhibit 79: "Quality" factors have outperformed in 2018



Source: Goldman Sachs Global Investment Research

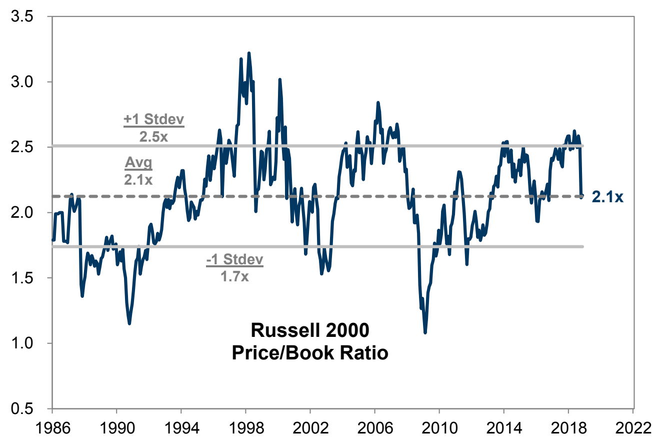
Exhibit 80: Equity factor valuations vs. history



Source: Goldman Sachs Global Investment Research

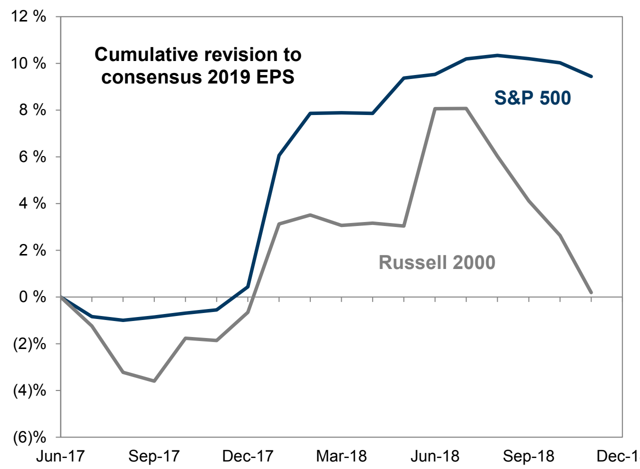
Our preferences for quality and "growth at a reasonable price" lead us to prefer large-caps relative to small-caps in 2019. As we have previously discussed, valuations and the pace of economic growth explain the majority of variation in the performance of the Russell 2000 small-cap index. The likelihood of decelerating GDP growth in 2019 creates an unfavorable backdrop for small-caps. Although small-cap valuations have declined in recent months, they remain at or above historical averages across most metrics. Earnings revisions for small-caps have also been particularly weak in recent months, and on "quality" measures such as balance sheet and margin strength small-caps generally screen worse than large-caps.

Exhibit 81: Small-cap valuations have declined but are not "cheap"



Source: Compustat, FactSet, FTSE Russell, Goldman Sachs Global Investment Research

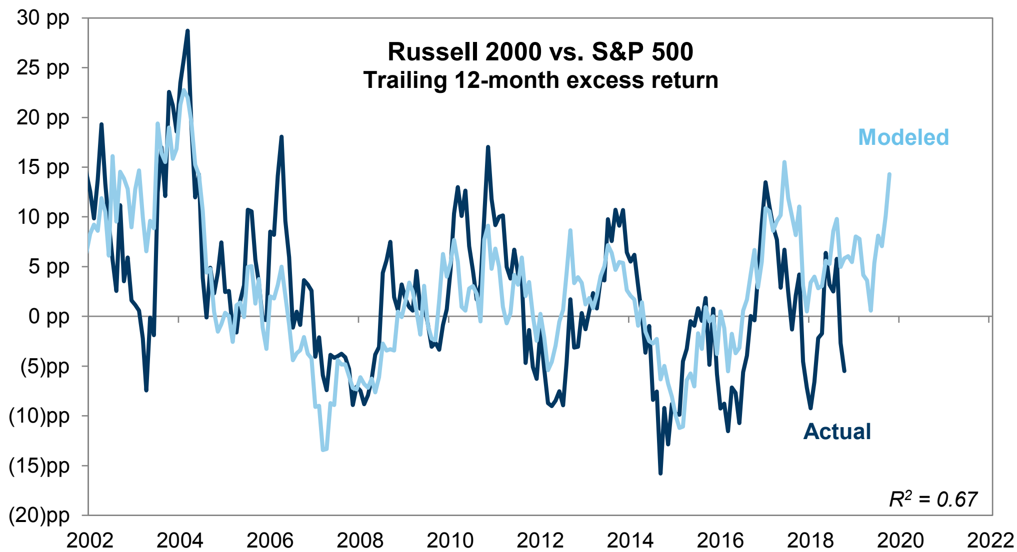
Exhibit 82: Small-cap EPS revisions have been particularly weak



Source: FactSet, Goldman Sachs Global Investment Research

Although we prefer large-caps from a strategic perspective, the recent underperformance of small-caps presents a tactical risk of near-term outperformance. The Russell 2000 has underperformed the S&P 500 by 640 basis points during the past 6 months (-4.9% vs. +1.5%). Although we believe the outlook for 2019 will continue to support large-cap outperformance, the recent return differential appears excessive relative to the macro fundamentals. In contrast to realized small-cap underperformance, our model based on growth and valuations suggests that the strong US economic environment should instead have driven modest small-cap outperformance in 2017 and 2018. As a result, the model predicts a sharp rebound in 2019, reflecting the short-term tactical risk of small-cap outperformance should investors realize they have been too pessimistic about the prospects for imminent economic slowdown.

Exhibit 83: Small-caps have performed worse than the economy and valuations would have implied



Source: Goldman Sachs Global Investment Research

Appendix A: High Quality Stock basket (GSTHQUAL)

Exhibit 84: High Quality Stock basket (GSTHQUAL)
as of November 16, 2018; bold indicates new constituent

			Quality Criteria						
					10-Year Historical				
Company	Ticker	Sector	Market Cap ($B)	Altman Z-Score (a)	EBIT Deviation	Sales Sortino (b)	5th Pctl Drawdown	Average ROE	Quality Score (c)
Alphabet Inc.	GOOGL	Communication Services	$646	10.5	0 %	Max	(9)%	16 %	94
Comcast Corp.	**CMCSA**	**Communication Services**	**176**	**1.9**	**0**	**25**	**(9)**	**14**	**89**
Discovery Inc.	**DISCA**	**Communication Services**	**15**	**1.3**	**2**	**67**	**(13)**	**11**	**83**
Charter Communications	**CHTR**	**Communication Services**	**59**	**0.8**	**4**	**Max**	**(10)**	**(103)**	**81**
CenturyLink Inc.	CTL	Communication Services	18	0.7	6	8	(9)	6	70
O'Reilly Automotive	ORLY	Consumer Discretionary	28	4.2	0	Max	(8)	39	96
Ross Stores Inc.	ROST	Consumer Discretionary	36	12.1	0	78	(7)	43	96
Booking Holdings	BKNG	Consumer Discretionary	88	6.0	0	Max	(11)	35	92
Dollar Tree Inc.	DLTR	Consumer Discretionary	20	3.7	0	232	(12)	28	91
TJX Companies Inc.	TJX	Consumer Discretionary	65	8.8	1	206	(7)	50	91
Church & Dwight	CHD	Consumer Staples	16	4.5	0	18	(5)	20	90
PepsiCo Inc.	PEP	Consumer Staples	167	3.6	1	2	(4)	36	79
Sysco Corp.	**SYY**	**Consumer Staples**	**32**	**5.8**	**3**	**2**	**(6)**	**28**	**67**
Hershey Co.	**HSY**	**Consumer Staples**	**15**	**4.7**	**4**	**4**	**(8)**	**70**	**67**
Halliburton	HAL	Energy	29	3.3	30	0	(9)	9	76
HollyFrontier Corp.	**HFC**	**Energy**	**10**	**4.0**	**37**	**1**	**(14)**	**16**	**71**
Marathon Petroleum	**MPC**	**Energy**	**44**	**3.1**	**23**	**0**	**(13)**	**21**	**70**
MSCI Inc.	**MSCI**	**Financials**	**14**	**NM**	**2**	**9**	**(9)**	**29**	**89**
BlackRock Inc.	BLK	Financials	51	NM	5	1	(8)	10	79
Aon plc	AON	Financials	40	NM	1	1	(7)	15	78
PNC Financial Svc. Grp	PNC	Financials	63	NM	7	1	(6)	9	76
Wells Fargo & Co.	WFC	Financials	229	NM	9	1	(8)	11	74
Aflac Inc.	AFL	Financials	34	NM	9	1	(8)	18	70
Charles Schwab	**SCHW**	**Financials**	**56**	**NM**	**12**	**1**	**(8)**	**14**	**67**
Biogen Inc.	BIIB	Health Care	65	5.9	1	257	(9)	24	89
Universal Health Svc.	**UHS**	**Health Care**	**11**	**3.2**	**0**	**Max**	**(10)**	**16**	**85**
ResMed Inc.	RMD	Health Care	15	9.4	1	Max	(10)	17	84
Edwards Lifesciences	EW	Health Care	33	9.6	1	Max	(13)	23	84
Express Scripts Holding	ESRX	Health Care	55	3.5	0	7	(10)	27	83
Henry Schein Inc.	HSIC	Health Care	13	4.2	0	6	(7)	16	81
IDEXX Laboratories	IDXX	Health Care	17	9.7	1	7	(9)	433	80
Cooper Companies	**COO**	**Health Care**	**13**	**4.1**	**1**	**21**	**(9)**	**9**	**78**
Verisk Analytics	VRSK	Industrials	20	4.5	0	11	(9)	98	91
Copart Inc.	**CPRT**	**Industrials**	**10**	**11.8**	**2**	**3**	**(9)**	**25**	**83**
C.H. Robinson Worldwide	CHRW	Industrials	13	8.4	3	1	(10)	38	78
Roper Technologies	ROP	Industrials	31	3.6	5	2	(6)	13	77
W.W. Grainger Inc.	**GWW**	**Industrials**	**14**	**7.4**	**6**	**1**	**(8)**	**26**	**70**
Mastercard Inc.	MA	Information Technology	182	10.8	0	34	(7)	48	95
Visa Inc.	V	Information Technology	249	5.7	0	Max	(7)	17	93
Cognizant Tech Solutions	CTSH	Information Technology	41	8.9	0	Max	(10)	21	91
ANSYS Inc.	ANSS	Information Technology	13	16.2	0	63	(9)	11	89
F5 Networks Inc.	**FFIV**	**Information Technology**	**11**	**7.6**	**1**	**15**	**(14)**	**23**	**81**
Paychex Inc.	PAYX	Information Technology	22	4.2	3	3	(7)	38	79
Apple Inc.	AAPL	Information Technology	888	4.0	5	7	(8)	37	79
Oracle Corp.	ORCL	Information Technology	145	2.7	4	3	(7)	22	77
Synopsys Inc.	SNPS	Information Technology	13	4.5	5	10	(7)	9	75
Skyworks Solutions	**SWKS**	**Information Technology**	**13**	**14.5**	**2**	**5**	**(14)**	**18**	**75**
Ecolab Inc.	ECL	Materials	41	3.8	1	3	(8)	18	89
American Tower	**AMT**	**Real Estate**	**72**	**NM**	**1**	**Max**	**(8)**	**13**	**85**
Eversource Energy	ES	Utilities	21	NM	1	1	(3)	9	80
Basket Median			**$31**	**4.5**	**1 %**	**8**	**(9)%**	**19 %**	**81**
S&P 500 median			19	3.5	10	1	(9)	14	51

a) Financials stocks screened on assets to equity relative to industry group; Utilities stocks screened on total debt to capitalization relative to sector (b) "MAX" indicates an infinite Sortino ratio with zero downside deviation in its denominator (c) Quality score is a weighted average of each stock's percentile rank vs. peers on these criteria: EBIT downside deviation (40%); sales Sortino ratio (40%); 5th percentile drawdown (10%); and average ROE (10%). An insufficient number of Communication Services stocks cleared all screens for inclusion; the stocks with the highest quality scores were included.

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 85: High Quality basket growth and valuation metrics
as of November 16, 2018

Company	Ticker	Sector	Growth & Valuation						
			YTD Return	Beta to SPX	Sales growth 2019	Sales growth 2020	EPS growth 2019	EPS growth 2020	NTM P/E
Alphabet Inc.	GOOGL	Communication Services	1 %	1.0	19 %	18 %	11 %	16 %	24 x
Comcast Corp.	**CMCSA**	**Communication Services**	**(2)**	**0.9**	**16**	**7**	**9**	**13**	**14**
Discovery Inc.	**DISCA**	**Communication Services**	**40**	**1.2**	**7**	**5**	**43**	**14**	**9**
Charter Communications	**CHTR**	**Communication Services**	**(2)**	**1.2**	**4**	**5**	**33**	**75**	**53**
CenturyLink Inc.	CTL	Communication Services	25	1.5	(2)	(1)	11	(0)	15
O'Reilly Automotive	ORLY	Consumer Discretionary	47	0.9	6	5	11	10	20
Ross Stores Inc.	ROST	Consumer Discretionary	20	0.9	6	7	11	11	22
Booking Holdings	BKNG	Consumer Discretionary	7	NM	11	11	13	12	19
Dollar Tree Inc.	DLTR	Consumer Discretionary	(22)	1.2	5	5	10	10	15
TJX Companies Inc.	TJX	Consumer Discretionary	37	0.9	6	7	2	18	22
Church & Dwight	CHD	Consumer Staples	32	0.9	3	3	8	9	27
PepsiCo Inc.	PEP	Consumer Staples	1	0.6	3	3	6	7	20
Sysco Corp.	**SYY**	**Consumer Staples**	**12**	**0.8**	**4**	**4**	**10**	**9**	**19**
Hershey Co.	**HSY**	**Consumer Staples**	**(2)**	**0.5**	**2**	**2**	**5**	**5**	**19**
Halliburton	HAL	Energy	(33)	1.3	6	13	14	49	18
HollyFrontier Corp.	**HFC**	**Energy**	**27**	**1.6**	**3**	**(7)**	**32**	**(9)**	**8**
Marathon Petroleum	**MPC**	**Energy**	**1**	**1.3**	**48**	**4**	**48**	**30**	**9**
MSCI Inc.	**MSCI**	**Financials**	**23**	**1.0**	**NM**	**NM**	**14**	**16**	**27**
BlackRock Inc.	BLK	Financials	(19)	1.1	NM	NM	1	10	15
Aon plc	AON	Financials	24	0.8	NM	NM	13	11	19
PNC Financial Svc. Grp	PNC	Financials	(3)	1.2	NM	NM	7	8	12
Wells Fargo & Co.	WFC	Financials	(10)	1.5	NM	NM	20	13	11
Aflac Inc.	AFL	Financials	3	0.8	NM	NM	2	4	11
Charles Schwab	**SCHW**	**Financials**	**(8)**	**1.2**	**NM**	**NM**	**18**	**10**	**17**
Biogen Inc.	BIIB	Health Care	2	1.3	3	2	8	4	12
Universal Health Svc.	**UHS**	**Health Care**	**18**	**0.9**	**5**	**5**	**6**	**9**	**14**
ResMed Inc.	RMD	Health Care	25	0.9	11	10	8	11	28
Edwards Lifesciences	EW	Health Care	38	1.1	10	9	11	12	31
Express Scripts Holding	ESRX	Health Care	31	1.0	3	(9)	5	(18)	10
Henry Schein Inc.	HSIC	Health Care	23	0.6	5	5	7	9	20
IDEXX Laboratories	IDXX	Health Care	29	1.0	9	10	12	15	45
Cooper Companies	**COO**	**Health Care**	**22**	**0.9**	**6**	**6**	**6**	**12**	**22**
Verisk Analytics	VRSK	Industrials	29	0.7	7	7	8	11	28
Copart Inc.	**CPRT**	**Industrials**	**18**	**0.8**	**9**	**10**	**17**	**17**	**24**
C.H. Robinson Worldwide	CHRW	Industrials	3	0.8	5	4	9	6	19
Roper Technologies	ROP	Industrials	16	0.9	4	6	4	5	25
W.W. Grainger Inc.	**GWW**	**Industrials**	**34**	**1.1**	**6**	**5**	**10**	**11**	**18**
Mastercard Inc.	MA	Information Technology	32	0.9	13	13	17	18	28
Visa Inc.	V	Information Technology	24	0.9	11	11	16	16	26
Cognizant Tech Solutions	CTSH	Information Technology	(0)	1.1	8	8	12	10	15
ANSYS Inc.	ANSS	Information Technology	7	1.0	10	9	5	10	29
F5 Networks Inc.	**FFIV**	**Information Technology**	**35**	**0.9**	**4**	**3**	**8**	**7**	**17**
Paychex Inc.	PAYX	Information Technology	5	0.8	6	5	10	8	24
Apple Inc.	AAPL	Information Technology	16	0.9	5	4	12	10	15
Oracle Corp.	ORCL	Information Technology	10	0.9	2	3	8	6	15
Synopsys Inc.	SNPS	Information Technology	6	0.8	6	5	9	11	23
Skyworks Solutions	**SWKS**	**Information Technology**	**(22)**	**1.2**	**3**	**8**	**5**	**13**	**10**
Ecolab Inc.	ECL	Materials	20	0.8	6	5	13	13	28
American Tower	**AMT**	**Real Estate**	**17**	**0.8**	**NM**	**NM**	**15**	**15**	**51**
Eversource Energy	ES	Utilities	9	0.6	NM	NM	6	6	20
Basket Median			**16 %**	**0.9**	**6 %**	**5 %**	**10 %**	**11 %**	**19 x**
S&P 500 median			2	1.0	5	5	9	10	17

Source: FactSet, Goldman Sachs Global Investment Research

Appendix B: Strong and Weak Balance Sheet baskets

Exhibit 86: Strong Balance Sheet basket (GSTHSBAL)

as of November 16, 2018

Company	Ticker	Market Cap ($bn)	YTD return	Cons. 2019E EPS growth	NTM P/E	Div Yield	Altman Z-Score
COMMUNICATION SERVICES (12% of the Basket)							
Facebook Inc.	FB	$337	(21)%	1 %	19 x	0.0 %	**20.8**
Alphabet Inc.	GOOGL	646	1	11	24	0.0	**10.5**
TripAdvisor Inc.	**TRIP**	**8**	**85**	**9**	**35**	**0.0**	**7.3**
Electronic Arts	EA	26	(18)	11	18	0.0	**6.6**
Twitter Inc.	**TWTR**	**26**	**40**	**19**	**42**	**0.0**	**6.3**
Netflix Inc.	**NFLX**	**125**	**49**	**56**	**85**	**0.0**	**5.6**
Basket Median							**7.0**
Sector Median							**1.9**
CONSUMER DISCRETIONARY (12% of the Basket)							
Chipotle Mexican Grill	CMG	$13	64 %	40 %	43 x	0.0 %	**15.3**
Ulta Beauty Inc.	ULTA	19	40	17	27	0.0	**13.2**
Ross Stores Inc.	ROST	36	20	11	22	0.9	**12.1**
Tractor Supply	TSCO	11	25	10	20	1.3	**9.0**
Garmin Ltd.	GRMN	12	13	2	19	3.2	**8.9**
TJX Companies Inc.	**TJX**	**65**	**37**	**2**	**22**	**1.5**	**8.8**
Basket Median							**10.5**
Sector Median							**3.5**
CONSUMER STAPLES (10% of the Basket)							
Monster Beverage	MNST	$31	(12)%	12 %	29 x	0.0 %	**23.1**
Hormel Foods Corp.	HRL	24	29	1	25	1.6	**8.8**
Colgate-Palmolive	CL	55	(14)	3	22	2.7	**6.7**
Costco Wholesale	COST	101	25	9	30	1.0	**6.4**
Sysco Corp.	SYY	35	12	10	19	2.3	**5.8**
Basket Median							**6.7**
Sector Median							**3.8**
ENERGY (6% of the Basket)							
Valero Energy Corp.	VLO	$36	(7)%	55 %	10 x	3.8 %	**4.1**
Cabot Oil & Gas	COG	11	(9)	49	16	1.1	**4.1**
HollyFrontier Corp.	**HFC**	**11**	**27**	**32**	**8**	**2.1**	**4.0**
Basket Median							**4.1**
Sector Median							**2.6**
HEALTH CARE (18% of the Basket)							
ABIOMED Inc.	**ABMD**	**$14**	**71 %**	**12 %**	**76 x**	**0.0 %**	**96.5**
Intuitive Surgical	ISRG	59	42	14	44	0.0	**37.3**
Align Technology	ALGN	18	1	21	42	0.0	**18.5**
Vertex Pharmaceuticals	VRTX	42	10	11	39	0.0	**16.0**
Incyte Corp.	INCY	14	(30)	69	37	0.0	**12.5**
Illumina Inc.	ILMN	47	46	11	53	0.0	**12.5**
Nektar Therapeutics	**NKTR**	**7**	**(36)**	**(147)**	**NM**	**0.0**	**10.7**
Regeneron Pharmaceuticals	REGN	37	(8)	5	16	0.0	**10.3**
IDEXX Laboratories	**IDXX**	**17**	**29**	**12**	**45**	**0.0**	**9.7**
Basket Median							**12.5**
Sector Median							**3.7**
INDUSTRIALS (12% of the Basket)							
Rollins Inc.	**ROL**	**$13**	**35 %**	**11 %**	**54 x**	**0.9 %**	**23.7**
Fastenal Co.	FAST	17	8	7	21	2.8	**15.9**
Copart Inc.	**CPRT**	**12**	**18**	**17**	**24**	**0.0**	**11.8**
Expeditors Intl	EXPD	13	15	4	22	1.2	**10.8**
Robert Half Intl	RHI	8	15	9	17	1.8	**10.0**
C.H. Robinson Worldwide	CHRW	13	3	9	19	2.0	**8.4**
Basket Median							**11.3**
Sector Median							**3.3**
INFORMATION TECHNOLOGY (26% of the Basket)							
NVIDIA Corp.	NVDA	$100	(15)%	3 %	25 x	0.4 %	**19.5**
ANSYS Inc.	ANSS	13	7	5	29	0.0	**16.2**
IPG Photonics Corp.	**IPGP**	**7**	**(35)**	**(1)**	**20**	**0.0**	**15.6**
Arista Networks	**ANET**	**18**	**2**	**14**	**28**	**0.0**	**15.1**
Intuit Inc.	INTU	55	35	14	33	0.9	**14.5**
Skyworks Solutions	SWKS	13	(22)	5	10	2.1	**14.5**
Adobe Inc.	ADBE	117	36	17	31	0.0	**13.5**
Texas Instruments	TXN	95	(4)	(1)	18	3.1	**12.9**
Jack Henry & Associates	**JKHY**	**11**	**20**	**8**	**37**	**1.1**	**11.8**
Mastercard Inc.	MA	204	32	17	28	0.5	**10.8**
Cognizant Tech Solutions	CTSH	41	(0)	12	15	1.1	**8.9**
Cadence Design Systems	CDNS	13	9	7	24	0.0	**7.9**
Accenture Plc	ACN	106	10	8	23	1.8	**7.8**
Basket Median							**13.5**
Sector Median							**4.2**
MATERIALS (4% of the Basket)							
Linde plc	**LIN**	**$87**	**4 %**	**16 %**	**27 x**	**2.1 %**	**5.4**
International Flav/Frag	IFF	15	(5)	4	23	2.0	**4.8**
Basket Median							**5.1**
Sector Median							**2.8**
Basket Median		**$22**	**11 %**	**11 %**	**24 x**	**0.4 %**	**10.8**
S&P 500 Median		**20**	**2**	**9**	**17**	**2.0**	**3.5**

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 87: Weak Balance Sheet basket (GSTHWBAL)
as of November 16, 2018

Company	Ticker	Market Cap ($bn)	YTD return	Cons. 2019E EPS growth	NTM P/E	Div Yield	Altman Z-Score
COMMUNICATION SERVICES (12% of the Basket)							
CBS Corp.	CBS	$19	(2)%	10 %	10 x	1.3 %	**0.6**
CenturyLink Inc.	CTL	21	25	11	15	11.3	**0.7**
Charter Communications	CHTR	76	(2)	33	53	0.0	**0.8**
DISH Network Corp.	DISH	8	(31)	(19)	13	0.0	**1.0**
AT&T Inc.	T	220	(17)	3	8	6.6	**1.1**
Discovery Inc.	**DISCA**	**15**	**40**	**43**	**9**	**0.0**	**1.3**
Basket Median							**0.9**
Sector Median							**1.9**
CONSUMER DISCRETIONARY (12% of the Basket)							
General Motors	GM	$50	(10)%	(8)%	6 x	4.3 %	**1.0**
MGM Resorts Intl	MGM	14	(19)	29	21	1.8	**1.0**
Ford Motor Co.	F	35	(22)	(3)	7	6.6	**1.0**
Newell Brands Inc.	NWL	10	(28)	(19)	10	4.2	**1.1**
Expedia Group Inc.	**EXPE**	**16**	**(1)**	**18**	**18**	**1.1**	**1.2**
Hilton Worldwide Hldgs	**HLT**	**22**	**(8)**	**17**	**24**	**0.8**	**1.2**
Basket Median							**1.0**
Sector Median							**3.5**
CONSUMER STAPLES (10% of the Basket)							
Coty Inc.	COTY	$7	(53)%	5 %	14 x	5.5 %	**0.7**
Kraft Heinz	KHC	63	(30)	5	14	4.8	**1.2**
Molson Coors Brewing	TAP	14	(20)	0	13	2.5	**1.3**
Mondelez Intl	MDLZ	65	5	4	18	2.3	**1.8**
J.M. Smucker	SJM	13	(6)	1	14	3.0	**1.8**
Basket Median							**1.3**
Sector Median							**3.8**
ENERGY (6% of the Basket)							
Williams Companies	WMB	$30	(14)%	39 %	23 x	5.4 %	**0.6**
Kinder Morgan Inc.	KMI	38	(0)	13	16	4.6	**0.7**
Baker Hughes, a GE	**BHGE**	**12**	**(24)**	**119**	**20**	**3.1**	**0.8**
Basket Median							**0.7**
Sector Median							**2.6**
HEALTH CARE (18% of the Basket)							
Allergan plc	AGN	$53	(2)%	(1)%	10 x	1.8 %	**1.2**
Mylan	MYL	18	(17)	11	7	0.0	**1.2**
Perrigo Plc	PRGO	9	(27)	4	14	1.2	**1.5**
IQVIA Holdings Inc.	IQV	24	22	14	20	0.0	**1.6**
Hologic Inc.	HOLX	11	(1)	8	18	0.0	**1.7**
DaVita Inc.	**DVA**	**10**	**(14)**	**38**	**14**	**0.0**	**1.9**
Becton, Dickinson	**BDX**	**66**	**16**	**11**	**20**	**1.2**	**2.1**
Zimmer Biomet Holdings	ZBH	24	(2)	3	15	0.8	**2.2**
DENTSPLY SIRONA	**XRAY**	**8**	**(43)**	**13**	**18**	**0.9**	**2.2**
Basket Median							**1.7**
Sector Median							**3.7**
INDUSTRIALS (12% of the Basket)							
American Airlines Group	AAL	$17	(29)%	18 %	7 x	1.1 %	**1.0**
Nielsen Holdings	NLSN	9	(27)	25	21	5.4	**1.0**
Arconic Inc.	ARNC	10	(25)	21	13	1.2	**1.4**
Delta Air Lines	DAL	39	2	15	9	2.5	**1.5**
TransDigm Group	TDG	18	27	(2)	21	0.0	**1.6**
United Continental Hldgs	UAL	25	37	18	10	0.0	**1.6**
Basket Median							**1.4**
Sector Median							**3.3**
INFORMATION TECHNOLOGY (26% of the Basket)							
VeriSign Inc.	VRSN	$19	36 %	12 %	30 x	0.0 %	**(5.3)**
Hewlett Packard Enterprise	HPE	22	8	4	10	3.0	**0.8**
Symantec Corp.	SYMC	14	(17)	9	15	1.3	**1.3**
Alliance Data Systems	ADS	11	(21)	9	8	1.2	**1.4**
Xerox Corp.	**XRX**	**7**	**(5)**	**4**	**8**	**3.7**	**1.6**
DXC Technology	DXC	18	(23)	9	7	1.2	**1.6**
Juniper Networks	JNPR	10	2	9	14	2.5	**1.8**
Global Payments	GPN	17	9	17	19	0.0	**1.8**
Microchip Technology	**MCHP**	**18**	**(13)**	**12**	**11**	**1.9**	**2.1**
FleetCor Technologies	**FLT**	**18**	**3**	**15**	**17**	**0.0**	**2.1**
Automatic Data Processing	ADP	64	27	17	27	2.2	**2.2**
Western Digital	WDC	14	(40)	(29)	7	4.3	**2.2**
Motorola Solutions	MSI	21	46	8	18	1.8	**2.3**
Basket Median							**1.8**
Sector Median							**4.2**
MATERIALS (4% of the Basket)							
Freeport-McMoRan	FCX	$17	(36)%	(47)%	14 x	1.7 %	**1.1**
CF Industries Holdings	CF	11	14	74	18	2.5	**1.5**
Basket Median							**1.3**
Sector Median							**2.8**
Basket Median		**$18**	**(7)%**	**10 %**	**14 x**	**1.7 %**	**1.3**
S&P 500 Median		**20**	**2**	**9**	**17**	**2.0**	**3.5**

Source: FactSet, Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

We, David J. Kostin, Ben Snider, Arjun Menon, CFA, Ryan Hammond, Cole Hunter, CFA and Nicholas Mulford, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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