INVESTMENT STRATEGY RESEARCH

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Strategy Spotlight

Lessons from Last Recessions; Updating Our S&P 500 Targets

The big things you need to know: We review trends in S&P 500 performance, EPS, valuations, sectors, and factors in past recessions, addressing questions that we have received over the last week. We also make a second set of adjustments to our S&P 500 forecasts. For S&P 500 EPS, we lower our full-year 2020 forecast to $139 from $165 and re-instate our 2021 forecast of $158 (last week, we suspended our last published forecast of $184). We also reduce our YE 2020 S&P 500 price target from 3,279 to 2,750. Our new forecasts anticipate a 16% drop in EPS and a 15% drop in price for the year as a whole. We do not have a mid-year 2020 S&P 500 price target but see potential downside to 1,725 if the index closes below 2,300 and continues to trade along the path it took in September/October 2008, as has been the case since 2/19/20.

Details on our new EPS outlook: The 16% drop implied by our new $139 EPS forecast is close to the median decline in S&P 500 EPS in years associated with the last three recessions (17%). The biggest driver of the change in our 2020 view is that we are now using a model that assumes a recession will take place in 2Q and 3Q, with recovery starting in 4Q. Our previous forecast of $165 assumed economic contraction in 2Q with stabilization starting in 3Q. Important changes to our 2020 recession EPS model vs. the last update on this stress test (which called for $149) are: (1) we have made our GDP, IP, and margin assumptions a bit more conservative; (2) we have removed all buyback cushion; and (3) we have adjusted our interest rate assumptions due to the Fed's emergency cuts. We are penciling in $158 for 2021 EPS, a 14% rebound over 2020 but below 2019's level of $165. For 2021, we assume that the economic recovery will continue into the new year, and we have also modeled a single Fed rate hike in 2Q21, a modest increase in the 10-year yield, a slight rebound in oil prices, modest margin expansion, and the return of share buybacks to a pace slightly below that of 4Q19.

Details on our new S&P 500 price target: Our new YE 2020 S&P 500 price target of 2,750 implies a 15% drop for the full year, as well as a 15% rebound from recent levels. Although we lower our target, we continue to believe that the bulk of the stock market impact from the coronavirus will be felt early in the year, with the bulk of the economic impact coming in the middle of the year, and a recovery trade taking hold later in the year. We base our 2,750 target on six scenarios that could reasonably explain S&P 500 returns for the year. Two of the more interesting ones are: (1) when the S&P 500 falls in any given year, its average drop has been 14.3%; and (2) the S&P 500 has fallen, on average, 16.3% in the worst years of prior recessions.

For Required Conflicts Disclosures, see Page 24.

Lessons from Past Recessions; Updating Our S&P 500 Targets

The Stock Market Is Now Pricing In a Recession

The Decline in the S&P 500 So Far Resembles Typical Recession

An important set of stats that we've been highlighting are the median and average peak to trough drops in the S&P 500 associated with recessions dating back to the 1930s, which are 24% and 32%, respectively. From the February 2020 peak, that kind of move takes the S&P 500 down into the 2,300–2,600 range, within which it's been trading this week.

On March 16, the S&P 500 closed at 2,386 (its low, based on the close, for the year), bringing it down a total of 29.5% since its 2/19/20 peak. With that kind of decline in place, the stock market has been signaling that it's baking in a recession.

The December 2018 low of 2,351 was tested on March 18 but held (in our view), as the index still closed at about its March 16th end-of-day level. We think it is extremely important to listen to what the stock market is trying to tell us over the next few days and weeks. If the S&P 500 breaks below 2,300 on the close, we think it will be signaling that stocks are anticipating something more severe than a recession.

Exhibit 1: S&P 500 Peak to Trough Around Recessions

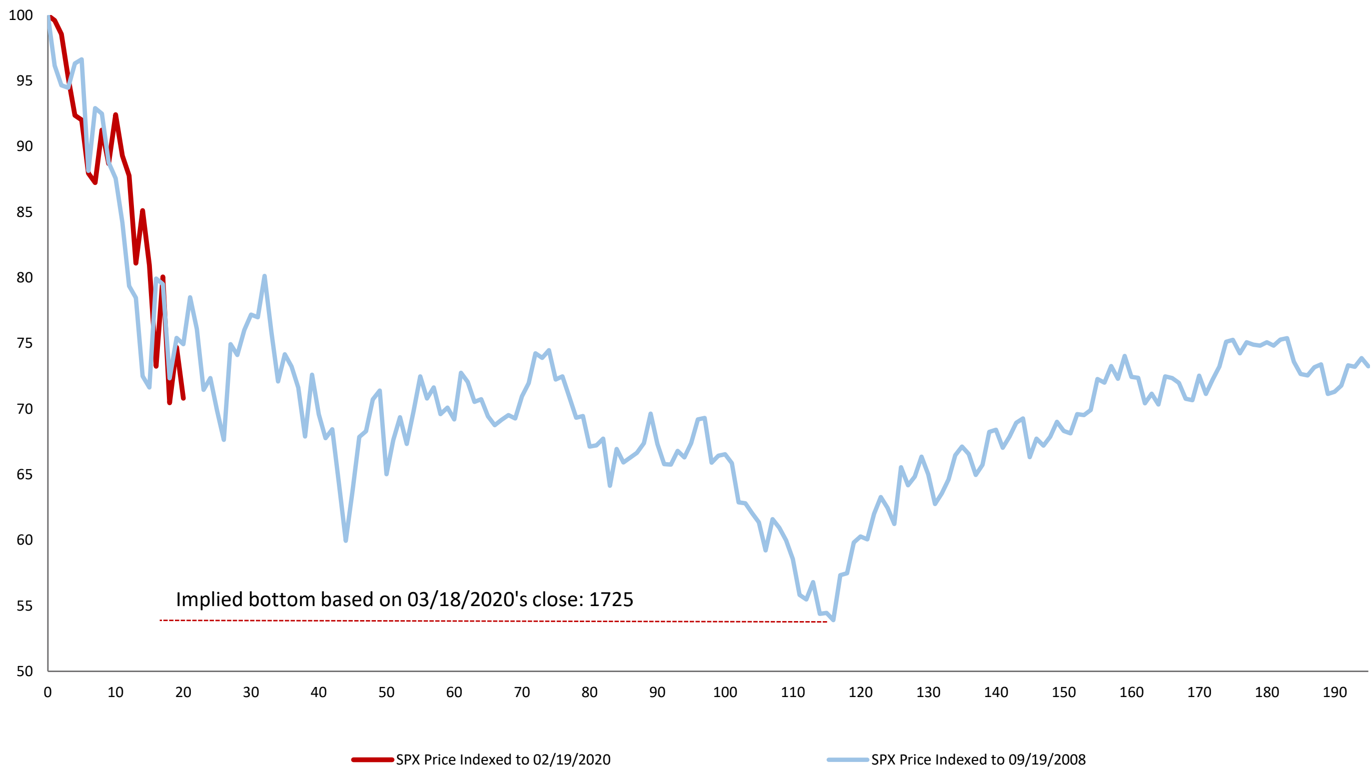
Recession Dates	S&P 500 Peak Date	S&P 500 Trough Date	S&P 500 Peak Level	S&P 500 Trough Level	S&P 500 Peak To Trough Decline (% Chg)	S&P Pullback Duration (# Calendar Days)
May 1937 - June 1938	03/10/1937	03/31/1938	19	9	-54%	386
Nov 1948 - Oct 1949	06/15/1948	06/13/1949	17	14	-21%	363
July 1953 - May 1954	01/05/1953	09/14/1953	27	23	-15%	252
Aug 1957 - April 1958	07/15/1957	10/22/1957	49	39	-21%	99
April 1960 - Feb 1961	08/03/1959	10/25/1960	61	52	-14%	449
Dec 1969 - Nov 1970	11/29/1968	05/26/1970	108	69	-36%	543
Nov 1973 - Mar 1975	01/11/1973	10/03/1974	120	62	-48%	630
Jan 1980 - July 1980	02/13/1980	03/27/1980	118	98	-17%	43
July 1981 - Nov 1982	11/28/1980	08/12/1982	141	102	-27%	622
July 1990 - Mar 1991	07/16/1990	10/11/1990	369	295	-20%	87
Mar 2001 - Nov 2001	03/24/2000	10/09/2002	1527	777	-49%	929
Dec 2007 - June 2009	10/09/2007	03/09/2009	1565	677	-57%	517
Average					**-32%**	**410**
Median					**-24%**	**418**

Source: RBC US Equity Strategy, Haver, S&P. We exclude the 1945 recession, as there was no clear stock market pullback around it. 2001 recession pullbacks stats are based on March 2000 peak/October 2002 low.

If 2,300 Doesn't Hold, Stocks Will Be Anticipating Something More Onerous

The recent price action in the S&P 500, as well as the Fed's aggressive moves and emergency call over the weekend, has reminded us of the worst days of the Financial Crisis. In the chart below, we index the S&P 500 to its September 19, 2008, close (right around the Lehman collapse, the AIG bailout, and the unveiling of TARP). We also index the S&P 500 to its February 2020 high. Plotting the daily moves after each of those starting points, we find that the path of the S&P 500 over the last month has been following the same path that it took in late September/early October 2018. If the S&P 500 were to continue down that road, it would bottom around 1,725.

Exhibit 2: S&P 500 Price Level Indexed to Day 0 Since Prior Peaks

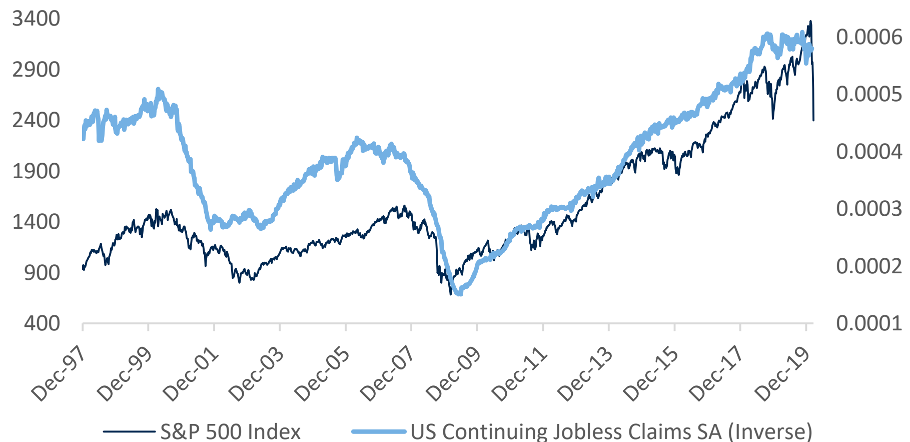


Source: RBC US Equity Strategy, FactSet

Stocks Anticipating a Sharp Rise in Unemployment Claims

The decline in the stock market has been anticipating a significant hit to the labor market. Over time, there has been a close relationship between trends in S&P 500 performance and continuing unemployment claims.

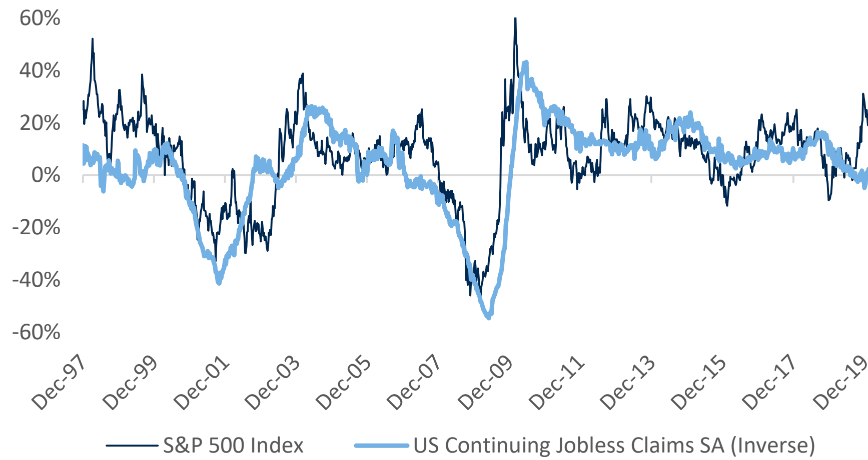
Exhibit 3: S&P 500 & Continuing Jobless Claims (Inverse)



Source: RBC US Equity Strategy, Bloomberg. Performance as of 03/18; Continuing Claims as of 02/28 inversed as (1/Continuing Claims)

We don't yet have data on what happened to claims in early and mid March, but what we do know is that part of the reason that the S&P 500 has fallen so sharply in March is anticipation of a major pick-up in layoff activity.

Exhibit 4: Weekly Yr/Yr Change: S&P 500 and Continuing Jobless Claims (Inverse)

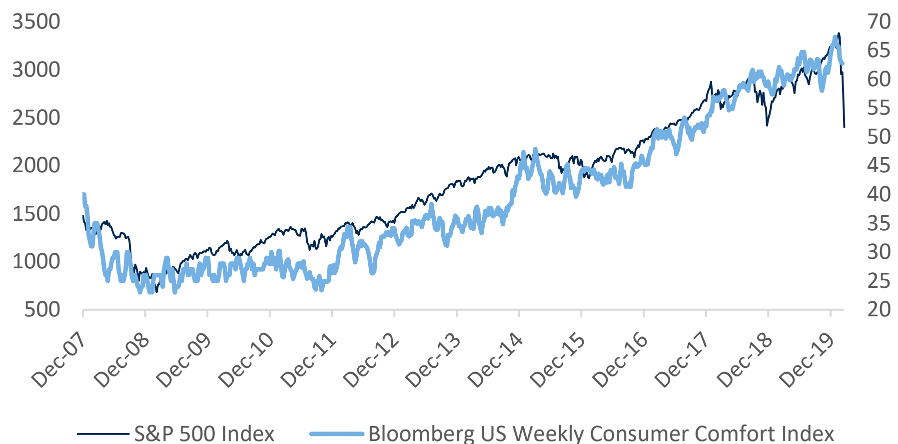


Source: RBC US Equity Strategy, Bloomberg. Performance as of 03/18; Continuing Claims as of 02/28 inversed as (1/Continuing Claims)

Stocks Also Discounting a Sharp Drop in Consumer Confidence

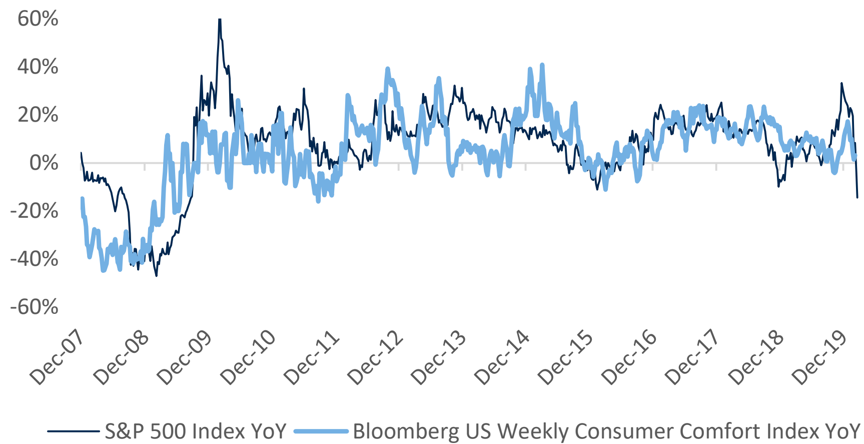
Since the Financial Crisis, the trend in the S&P 500 and the weekly Bloomberg Consumer Comfort index have moved in tandem with one another. With its sharp decline in March, the S&P 500 is already starting to discount a major deterioration in consumer sentiment that has not yet shown up in the data.

Exhibit 5: Bloomberg US Weekly Consumer Comfort vs. S&P 500 Index



Source: RBC US Equity Strategy, Bloomberg. S&P 500 performance as of 03/18; BBG Consumer Comfort Index as of 03/08

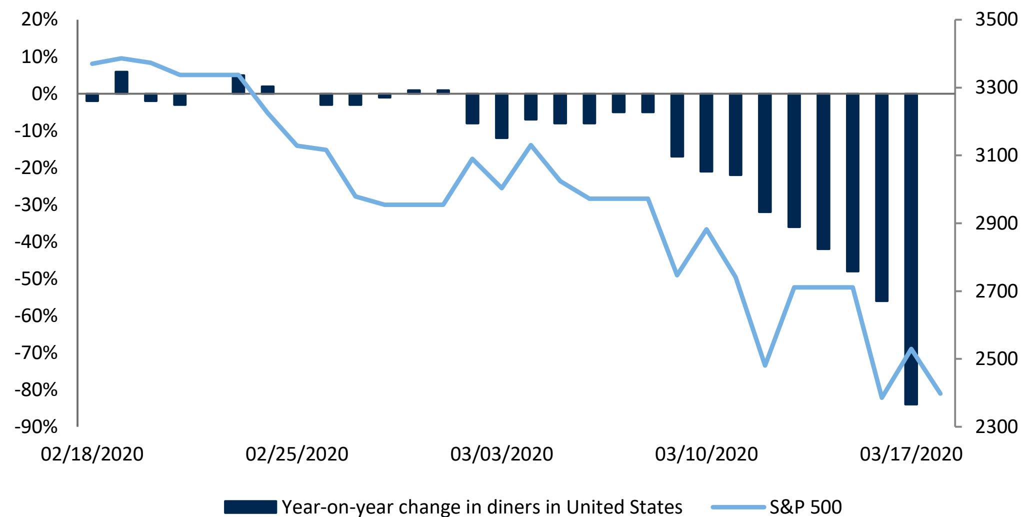
Exhibit 6: Yr/Yr Change: Bloomberg US Weekly Consumer Comfort vs. S&P 500 Index



Source: RBC US Equity Strategy, Bloomberg. S&P 500 performance as of 03/18; BBG Consumer Comfort Index as of 03/08

One indicator that provides an even better, real-time sense of how consumer behaviors and outlooks are changing is the year-over-year trend in seated diners at US restaurants. The precipitous decline in the S&P 500 over the last few weeks has occurred alongside an equally sharp drop in diners at restaurants that use OpenTable. This data point will be messy in coming weeks due to restaurant closures that are starting to occur in some of the biggest cities across the US. We think this data point will be important to monitor later in the year, when the consumer backdrop starts to return to normal and investors are looking for insight into whether consumer trends are improving.

Exhibit 7: S&P 500 Performance vs. YoY Change in Seated Diners (US Restaurants)



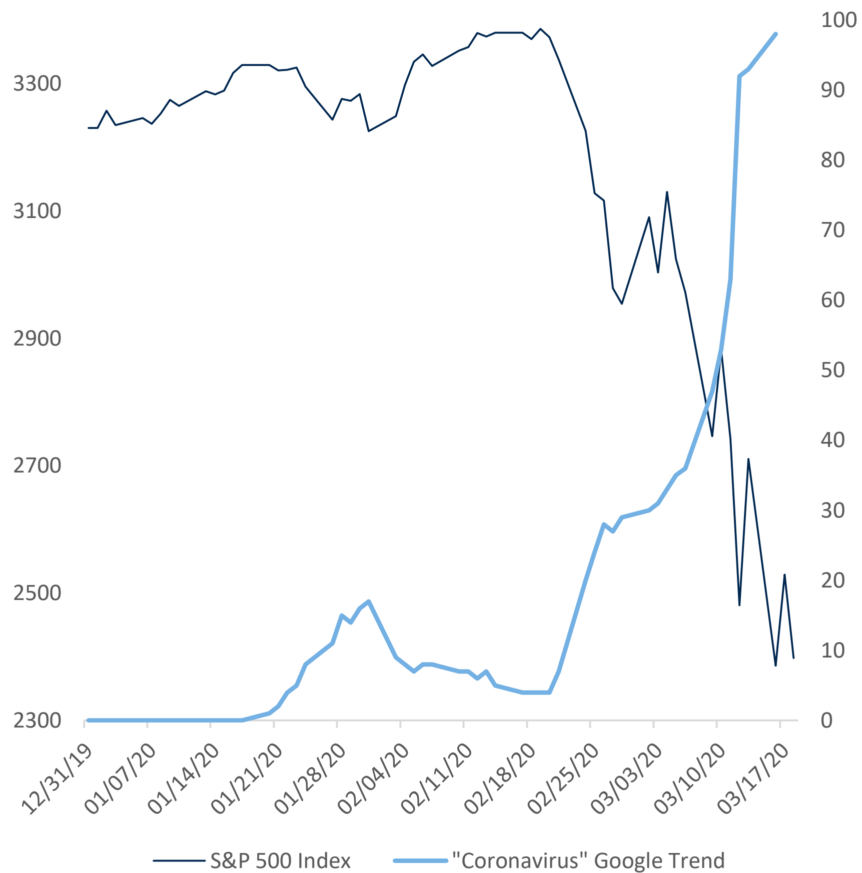
Source: RBC US Equity Strategy, OpenTable. Bars show year-over-year seated diners at restaurants on the OpenTable network across all channels (online reservations, phone reservations, and walk-ins); stock market performance as of March 18; dining data as of March 17

The Coronavirus Crisis Is Driving the Drawdown

If the US does indeed enter a recession this year, as many investors believe that it will, the coronavirus will be remembered as the external shock that triggered it. Stocks are pricing in a recession, job losses, and a deterioration in consumer outlooks and spending, but the degree

of uncertainty in the economic outlook is still extremely high due to the high degree of uncertainty around the coronavirus. Equity investors need to get a better handle on the path of the coronavirus and the government's plan of attack for the virus and fiscal response in order to gain more visibility into and confidence about the path of the economy.

Exhibit 8: Worldwide Google Trend for Term "Coronavirus" vs. S&P 500



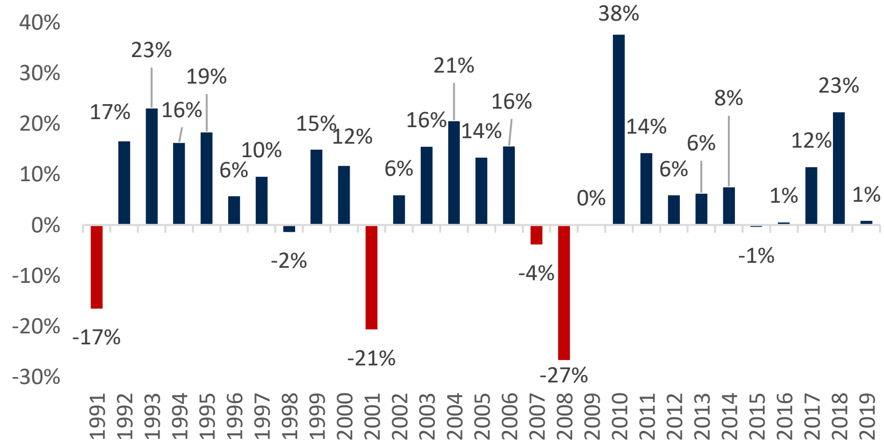
Source: RBC US Equity Strategy, Google, Bloomberg. Google Trend as of 03/16; performance as of 03/18

S&P 500 EPS: Lowering Our 2020 EPS Forecast to $139

In Recent Recessions, S&P 500 EPS Has Seen a Median Contraction of 17%

The S&P 500's annual EPS has grown at 7.8% on average and 9.8% on a median basis since 1991. Throughout this period, there have been five years associated with economic recessions (1991, 2001, 2007, 2008, and 2009). During these periods, EPS has contracted by an average of 14% and a median of 17%. In 2001, a year after the Tech bubble burst when the 9/11 terrorist attacks occurred, and 2008, the heart of the Financial Crisis, the declines were worse, coming in at -21% and -27%, respectively.

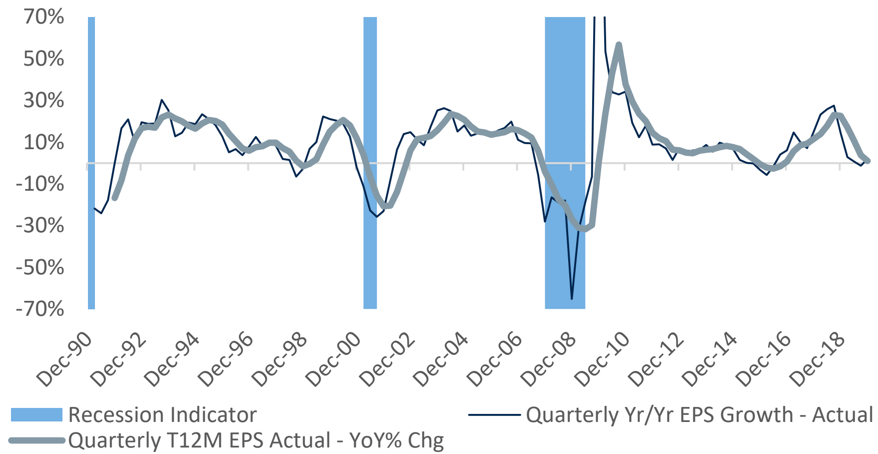
Exhibit 9: S&P 500 Annual EPS Growth Yr /Yr with Recession Years Highlighted



Source: RBC US Equity Strategy, FactSet/Thomson

On a quarterly basis, the worst year-over-year decline in S&P 500 EPS associated with a recession was 65%, a level seen in 4Q08 in the heart of the Financial Crisis.

Exhibit 10: S&P 500 Quarterly EPS Yr/Yr Growth

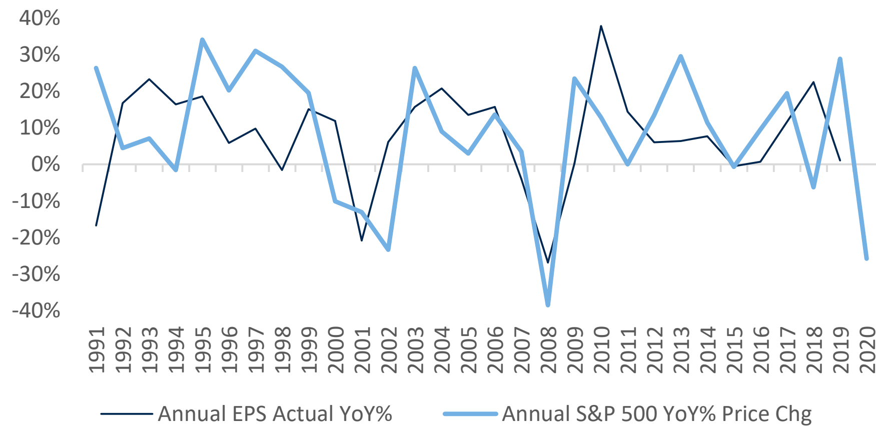


Source: RBC US Equity Strategy, FactSet/Thomson. As of 4Q19

Stock Prices Discounting a Big Hit to 2020 EPS

Over time, S&P 500 performance and EPS trends tend to mimic one another. As of March 18, the S&P 500 was down 26% year-to-date in terms of price performance, implying the anticipation of a substantial drop in S&P 500 EPS for the year—similar to the annual EPS declines that were seen during the worst years of the early 2000s and the Financial Crisis.

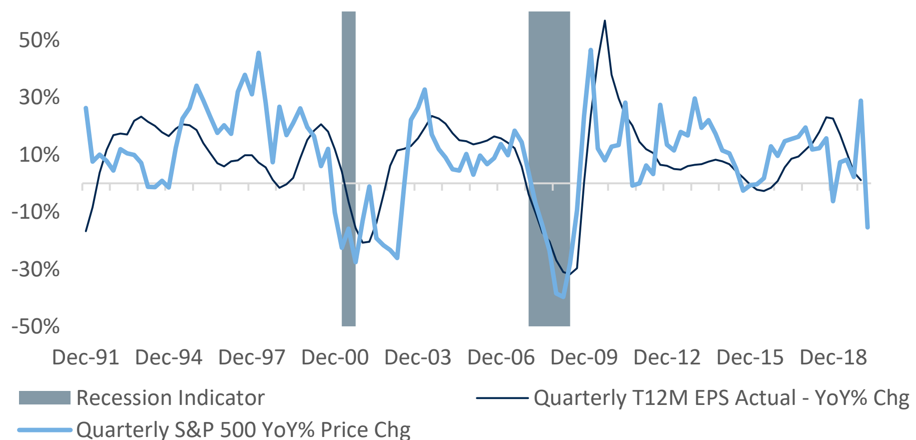
Exhibit 11: S&P 500 Annual EPS Growth Yr/Yr vs. S&P 500 Annual Performance



Source: RBC US Equity Strategy, Bloomberg, FactSet/Thomson. Performance as of 03/18; EPS as of 4Q19

Note that on both an annual and quarterly basis, stocks tend to overshoot earnings slightly to the downside.

Exhibit 12: S&P 500 Quarterly EPS Yr/Yr Growth vs. S&P 500 Quarterly Yr/Yr Returns



Source: RBC US Equity Strategy, Bloomberg, FactSet/Thomson. Performance as of 03/18; EPS as of 4Q19

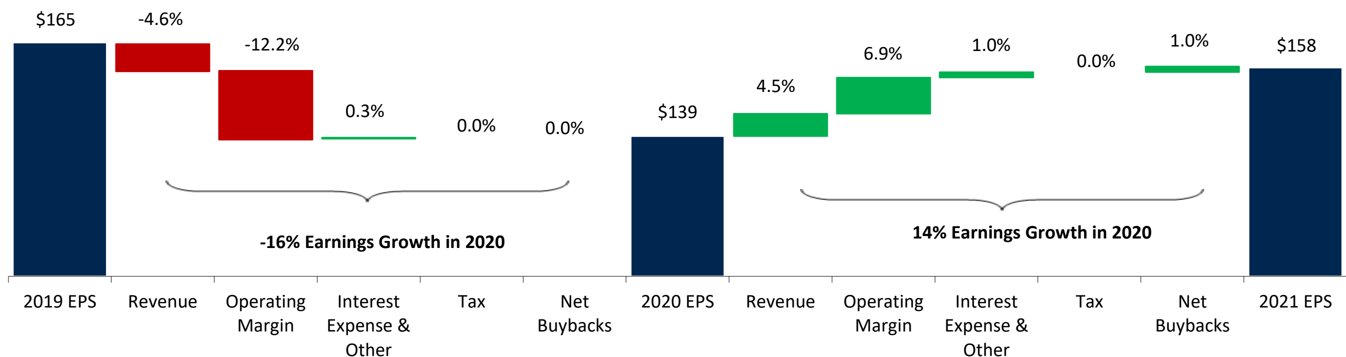
Updated RBC Recession Scenario Now Driving Our 2020 and 2021 EPS Forecasts

The stock market has recently started to tell us that investors believe a recession is under way. As a result, for our S&P 500 EPS forecast we are shifting to an updated version of our coronavirus recession scenario.

Our new 2020 S&P 500 EPS forecast is $139, a 16% decline from 2019 and close to the median hit that EPS growth has taken in years associated with the three recessions dating back to 1990–91.

Margins are the biggest driver of the decline in our model, followed by revenues.

Exhibit 13: Contribution to 2020 and 2021 EPS Growth by Component for Our Recession EPS Scenario



Source: RBC US Equity Strategy

We highlight the full set of macro assumptions that go into our new forecast in Exhibit 14. Since our last recession stress test (which was $149 for 2020), we've made our GDP, industrial production, and margin assumptions more conservative. We've also removed all buyback cushion. We've also adjusted our Fed Funds rate assumptions for this prior weekend's emergency cuts.

On 2020 margins, we are continuing to model in contraction that is less severe than what we saw during the Financial Crisis (200 bps for 2020 vs. 580 bps in 2008) and the 2001 recession (320 bps hit in 2001). We are assuming that IP takes a harder hit than what we saw in 2001.

Let us be clear, we know that trying to forecast 2020 EPS accurately today is a nearly impossible task. We acknowledge that reality, but it is our responsibility to put out the best numbers we can. Additionally, many investors are telling us that they are looking at 2021 EPS as a way to gauge what they want to buy today. We cannot model 2021 without taking a stab at what 2020 may look like.

For now, we are penciling in $158 for 2021 EPS, a 14% rebound over 2020 but a level that is still below 2019's level of $165. For 2021, we've modeled in an economic recovery that begins in 4Q20, a single Fed rate hike in 2Q21, a modest increase in the 10-year yield, a slight rebound in oil prices, modest margin expansion, and the return of share buybacks to a rate slightly below that of 4Q19.

Exhibit 14: Key Economic Assumptions Driving Our 2020 and 2021 Recession EPS Scenario

Recession Scenario	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21
US Real GDP (% Q/Q SAAR)	0.5%	-2.0%	-1.5%	1.5%	2.0%	2.0%	2.0%	1.9%
US Nominal GDP (% Q/Q SAAR)	1.5%	-1.5%	-1.0%	3.5%	4.0%	4.2%	4.2%	4.1%
10 Year Yield	0.3%	0.3%	0.5%	1.0%	1.1%	1.2%	1.3%	1.4%
Fed Funds Target (upper)	0.25%	0.25%	0.25%	0.25%	0.25%	0.50%	0.50%	0.50%
Industrial Production (SA, Yr/Yr)	-3.0%	-9.0%	-9.0%	-3.0%	1.3%	1.7%	2.0%	2.0%
DXY (Yr/Yr)	0%	0%	0%	0%	0%	0%	0%	0%
WTI (Quarterly Average)	38	25	25	28	35	35	35	35
Yr/Yr EBIT Margin Expansion/Contraction	-200 bps	-200 bps	-200 bps	-200 bps	+100 bps	+100 bps	+100 bps	+100 bps
Interest Expense/Sales	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Effective Tax Rate	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%
Net Share Count Reduction	0.0%	0.0%	0.0%	0.0%	-1.0%	-1.0%	-1.0%	-1.0%

Source: RBC US Equity Strategy

Keeping an Eye on Our Shorter-Term/Significant Coronavirus EPS Scenario

Panic is unfolding in the investor community. We expect the weekly gauges of institutional and retail investor sentiment that we track to return to historical extremes within the next few weeks. We acknowledge that we are not immune to the emotions that have swung stocks wildly in recent weeks. In this context, we remain mindful of the possibility that the economic damage from the coronavirus may not be as bad as the stock market fears. We are continuing to update and monitor an alternative scenario, in which we model a shorter-term but still significant impact on the economy and earnings from the coronavirus.

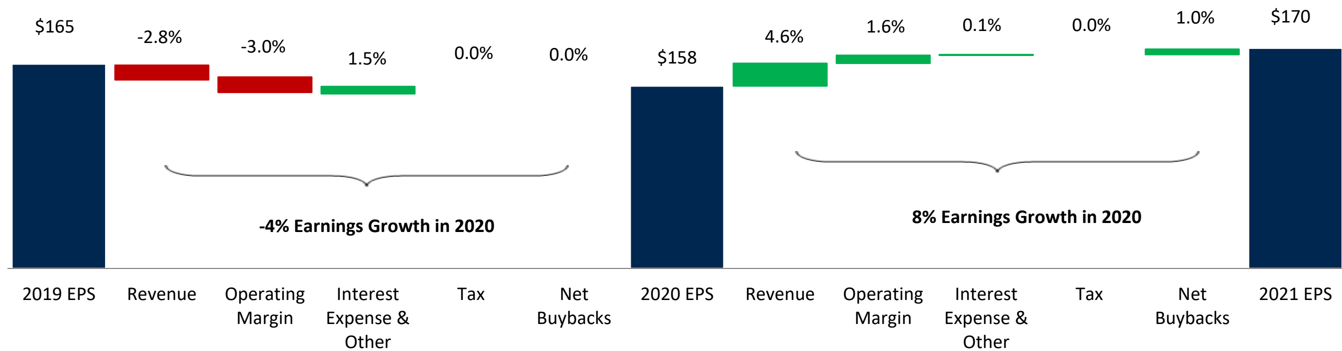
This version of our model anticipates S&P 500 EPS of $158 in 2020 (a 4% decline) and a rebound to $170 in 2021 (an 8% rebound). The drags on revenue and margins for 2020 are less severe in this version of the model than they are in our recession scenario.

We highlight the full set of macro assumptions that go into our new forecast in Exhibit 16. Since our last update for this stress test (which was $165 for 2020, and the basis for our prior 2020 EPS forecast), we've made our GDP, industrial production, WTI, and margin assumptions more conservative. As with our recession scenario, we've also removed all buyback cushion for 2020 while bringing modest buybacks back into the picture in 2021. We've also adjusted our Fed Funds rate assumptions for this weekend's emergency cuts and have a single rate hike occurring in 2Q21.

This version of our model is now baking in a little more margin contraction in 2020 (50 bps hit) than we saw in 2015 (30 bps hit). We also assume that IP takes a larger hit than what we saw in the 2015–16 period.

The main differences between this stress test and our recession scenario (which is now driving our official EPS forecasts) are that we anticipate far less of a hit to margins in the shorter-term scenario (only a 50 bps hit vs. a 200 bps hit in our recession scenario) and we have GDP starting to stabilize in 3Q20 rather than 4Q20. We also have the yr/yr decline in IP moderating in 3Q20 in the shorter-term scenario rather than 4Q20, and we are baking in slightly higher oil prices (average WTI of $36 vs. $29 in our recession scenario).

Exhibit 15: Contribution to 2020 and 2021 EPS Growth by Component for Our Short-Term/Significant Coronavirus Scenario



Source: RBC US Equity Strategy

Exhibit 16: Key Economic Assumptions Driving Our 2020/2021 Significant/Short Term Coronavirus EPS Scenarios

Significant/Short Term Coronavirus Scenario	**1Q20**	**2Q20**	**3Q20**	**4Q20**	**1Q21**	**2Q21**	**3Q21**	**4Q21**
US Real GDP (% Q/Q SAAR)	0.5%	-2.0%	0.0%	1.5%	2.0%	2.0%	2.0%	1.9%
US Nominal GDP (% Q/Q SAAR)	1.5%	-1.5%	1.0%	3.5%	4.0%	4.2%	4.2%	4.1%
10 Year Yield	0.3%	0.5%	0.8%	1.0%	1.1%	1.2%	1.3%	1.4%
Fed Funds Target (upper)	0.25%	0.25%	0.25%	0.25%	0.25%	0.50%	0.50%	0.50%
Industrial Production (SA, Yr/Yr)	-2.0%	-9.0%	-3.0%	-1.0%	1.3%	1.7%	2.0%	2.0%
DXY (Yr/Yr)	0%	0%	0%	0%	0%	0%	0%	0%
WTI (Quarterly Average)	40	32	34	37	42	42	42	42
Yr/Yr EBIT Margin Expansion/Contraction	-50 bps	-50 bps	-50 bps	-50 bps	+25 bps	+25 bps	+25 bps	+25 bps
Interest Expense/Sales	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Effective Tax Rate	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%
Net Share Count Reduction	0.0%	0.0%	0.0%	0.0%	-1.0%	-1.0%	-1.0%	-1.0%

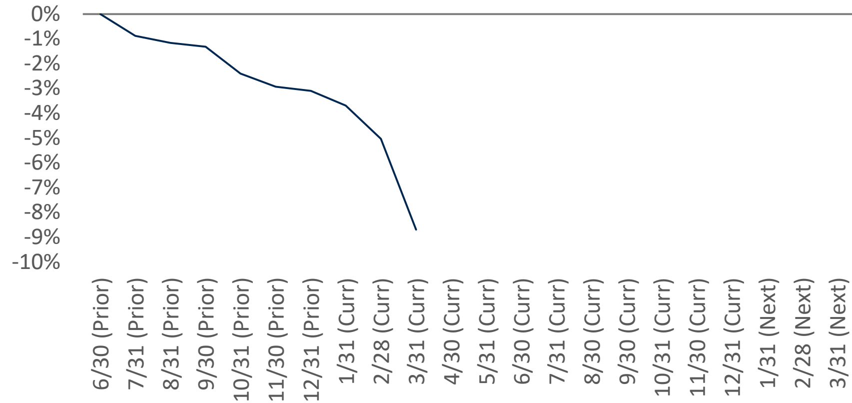
Source: RBC US Equity Strategy

Visibility on Earnings Needed for the Stock Market to Stabilize

In addition to an improvement in trends around the virus itself and confidence in the federal government's ability to manage the health crisis, history suggests that the equity market needs some visibility into the earnings outlook in order to stabilize.

Consensus 2020 EPS forecasts have finally started to decline, and are in free fall. Since the end of February, the bottom-up 2020 EPS forecast has fallen from $175 to $169, a change in the implied year-over-year growth rate from 6.4% to 2.7%.

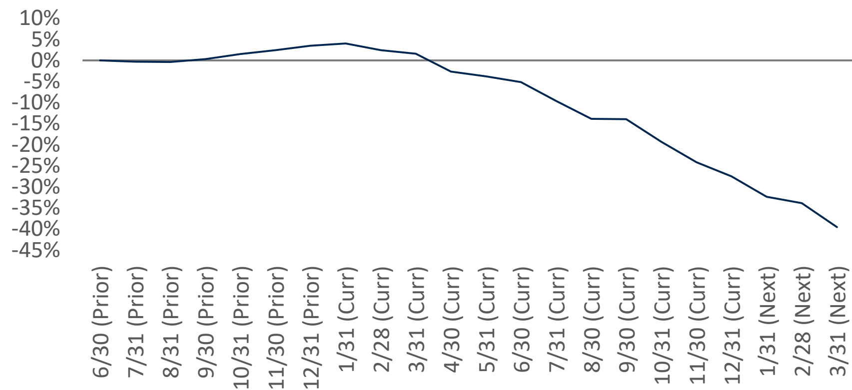
Exhibit 17: Shift in 2020 EPS Growth Estimate Over Time (Indexed at 6/30/19 = 0)



Source: RBC US Equity Strategy, FactSet/Thomson

In 2008, the sell-side community never got a handle on earnings for the year. Estimates of EPS growth for the year started falling in January 2008 and were cut throughout the forecast period until they were final. Not surprisingly, the S&P 500 failed to put in a lasting bottom that year. The 2008 low achieved in November didn't stick and was breached in March 2009, when the Financial Crisis low was finally made.

Exhibit 18: Shift in 2008 EPS Growth Estimate Over Time (Indexed at 6/30/07 = 0)



Source: RBC US Equity Strategy, FactSet/Thomson

Interestingly, 2009 EPS forecasts stabilized in May of that year, shortly after the Financial Crisis low in the market was put into place on March 9. That stabilization in expectations helped the market put in what would prove to be the ultimate bottom.

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Exhibit 19: Shift in 2009 EPS Growth Estimate Over Time (Indexed at 6/30/08 = 0)

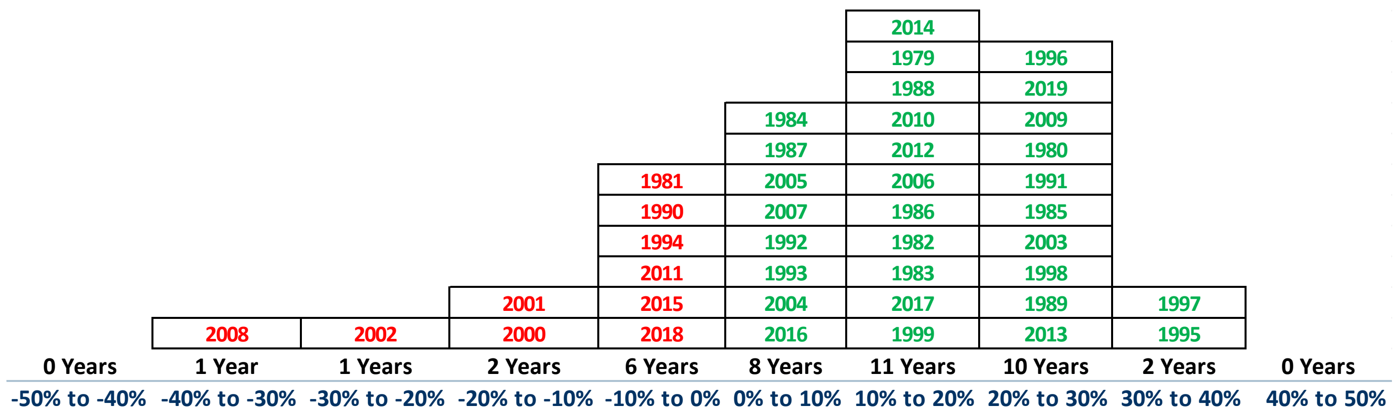
Source: RBC US Equity Strategy, FactSet/Thomson

S&P 500 Price: Lowering Our YE2020 Forecast to 2,750

Down Years in the S&P 500 Are Rare; Involve Crises, Recessions, Growth Scares

Since 1979, the S&P 500 has experienced 31 years of positive returns and just 10 years of negative returns. In only four instances since 1979 has the S&P 500 experienced annual calendar losses of greater than -10%. All of those instances were associated with the Tech bubble or the Financial Crisis. Other down years have been in the 0 to -10% range. Most of those were also associated with growth scares or recessions, usually the first year that the market began to express concern about the economy.

Exhibit 20: S&P 500 Return Distributions Since 1979

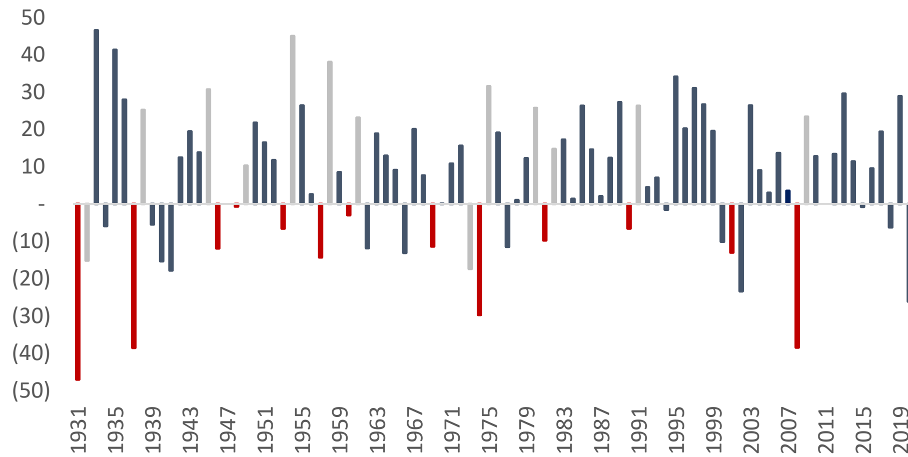


Source: RBC US Equity Strategy, RBC Wealth Management, Bloomberg

S&P 500 Annual Performance During Recessions

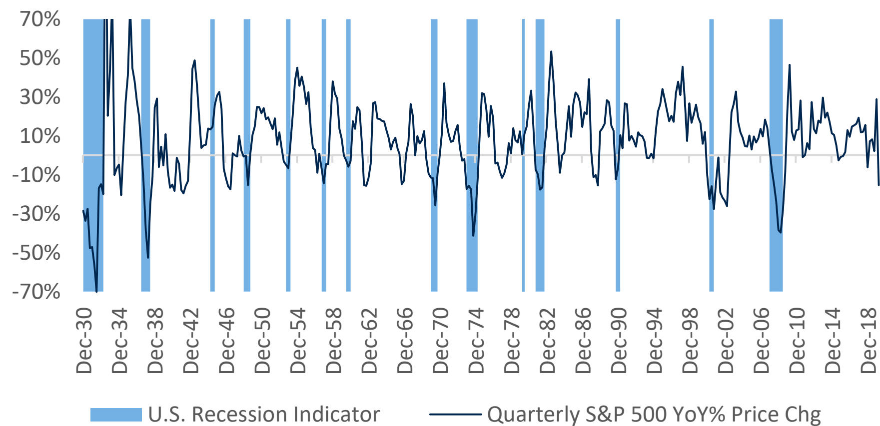
Looking back to the 1930s, we find that S&P 500 performance in years associated with recessions tends to be uneven. The YTD drop in 2020 that has been seen so far is as bad as or worse than in many of those years.

Exhibit 21: Annual S&P 500 Yr/Yr Price Change with Recession Years Highlighted



Source: RBC US Equity Strategy, Bloomberg. Performance as of 03/18/20; grey bars represent years associated with recessions; red bars are worst annual returns in years associated with particular recessions

Exhibit 22: Quarterly S&P 500 Price Yr/Yr Change



Source: RBC US Equity Strategy, Bloomberg. Performance as of 03/18

Cutting Our 2020 S&P 500 Price Target to 2,750 from 3,279

A week ago, we lowered our year-end 2020 S&P 500 price target from 3,460 to 3,279 and our 2020 EPS forecast from $174 to $165. This week, we make another revision to our numbers.

As noted earlier, we lower our 2020 S&P 500 EPS forecast to $139 as we shift to a version of our earnings model that assumes a recession will occur in 2Q and 3Q of this year, with stabilization starting in 4Q. Previously, we employed a model that anticipated economic contraction in 2Q with stabilization beginning in 3Q.

To arrive at our new year-end 2020 price target, we adjusted the scenarios that we rely on, removing our dividend yield test and trend return analysis and replacing them with analysis of how far the S&P 500 typically falls in down years and in the worst years associated with recessions. We also adjusted one of our valuation tests for our new EPS forecasts and included

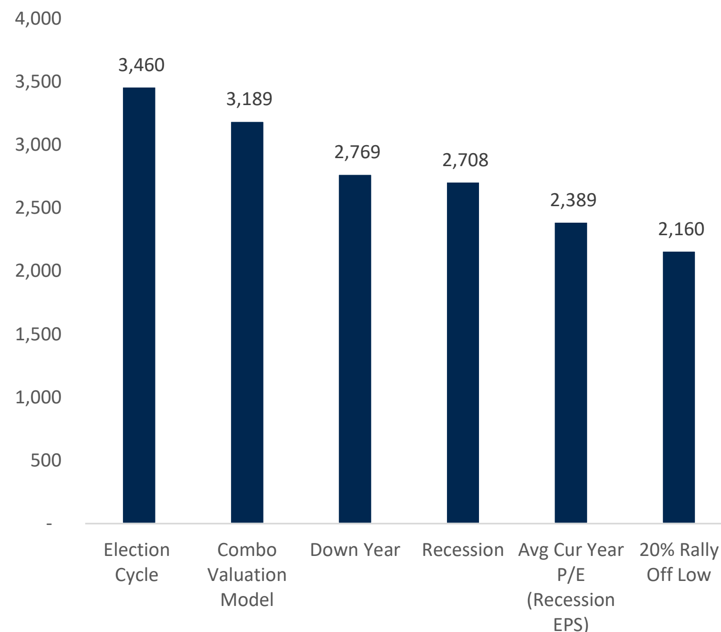
a new test that looks at where the index may end up if it falls further from here and then stages a strong rebound.

Specifics on the scenarios we used are shown below. The average outcome was 2,764, and the median outcome was 2,738. Our new 2,750 target splits the difference between the two.

Scenarios used are:

- *Election Cycle:* The average return for the S&P 500 in a Presidential election year.
- *Combo Valuation Model:* The average 12-month forward return in the S&P 500 when our multifactor, bottom-up S&P 500 valuation model is +1.5 standard deviations above its long-term average, as was the case at the end of 2019.
- *Down Year:* The average annual return in the S&P 500 in years where the S&P 500 is down, since 1931.
- *Recession:* The average annual return in the S&P 500 in the first or worst years for the stock market in years associated with recessions, dating back to 1931.
- *Average Current Year P/E:* The implied level/return on the S&P 500 assuming a 17.2x P/E at year-end (the average since 2013) and our new $139 2020 S&P 500 EPS forecast.
- *20% Rally:* We assume that the S&P 500 would stage a 20% rebound off a low of 1,725—a level that we think is in play if the 2,300 level doesn't hold. As discussed earlier, 1,725 is the implied low in the index in the months ahead if the index continues to follow the late-2008 path that it appears to be on. After the S&P 500 made a bottoming attempt in November 2008, it was up roughly 20% by the end of that year and nine months later, as stocks continued to chop around until a bottom was finally put in place in March 2009.

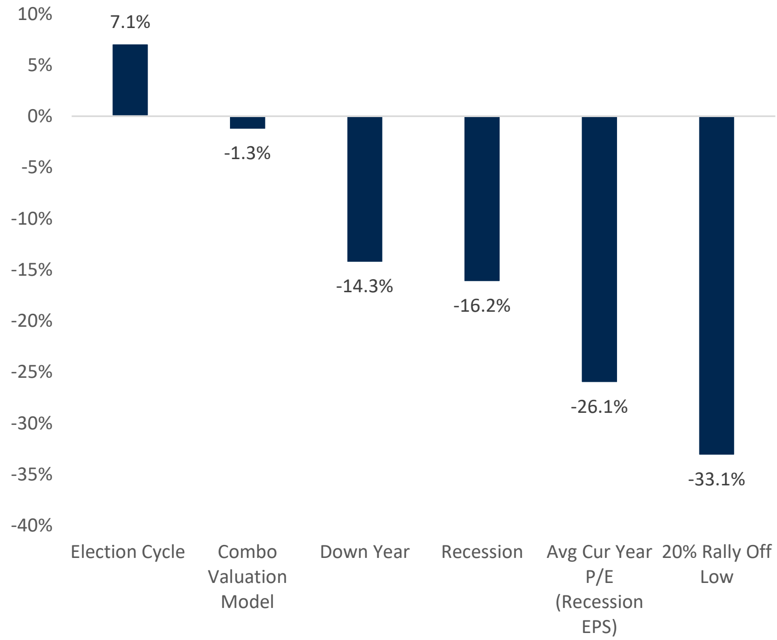
Exhibit 23: Scenarios Used to Derive Our Revised 2020 S&P 500 Price Target – Implied Levels



Source: RBC US Equity Strategy

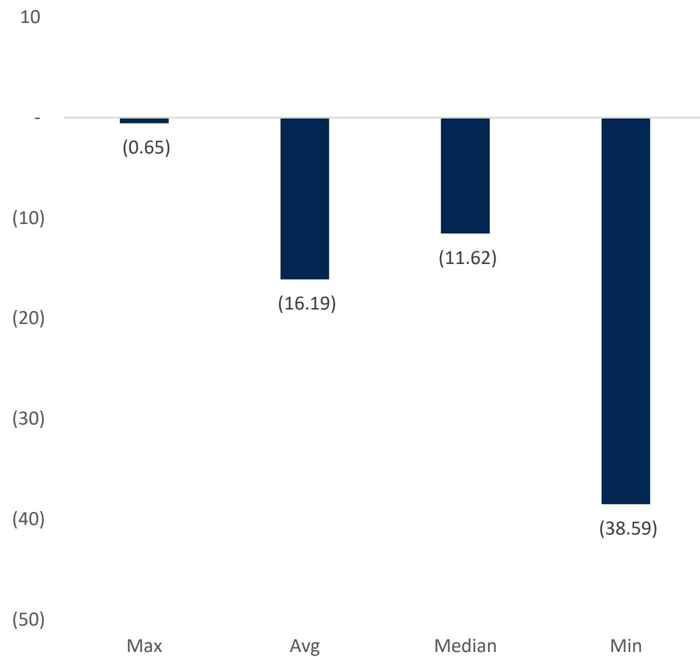
Capital Markets

Exhibit 24: Scenarios Used to Derive Our Revised 2020 S&P 500 Price Target – Returns



Source: RBC US Equity Strategy

Exhibit 25: Annual Percentage Change in the S&P – First or Worst Years of Recessions



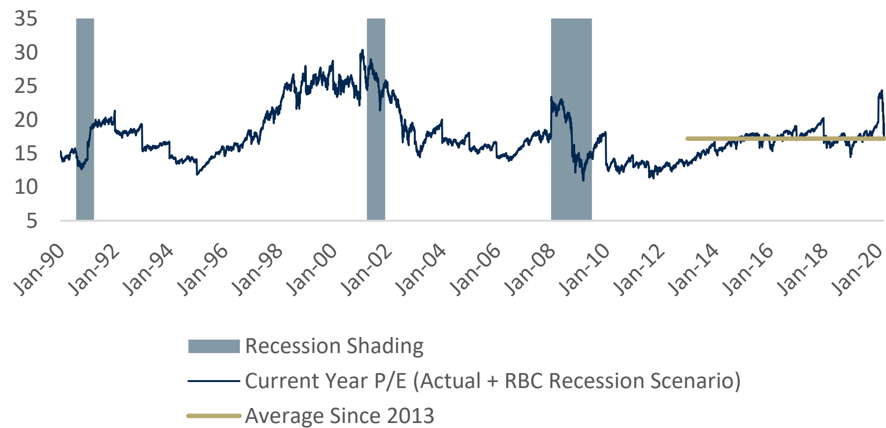
Source: RBC US Equity Strategy, Haver. Based on data since 1931 and NBER recession dates

What Jumps Out About S&P 500 Valuations During Recessions

If a recession does occur, and our $139 EPS forecast is in the right neighborhood, the S&P 500 would be fairly valued in the 2,300–2,600 range. Since 2013, the S&P 500's average P/E on current year EPS has been 17.2x. On $139 EPS, the S&P 500 should end up around 2,389, based on our math.

If the S&P 500 P/E were to return to its 1990 low of 12.6x, the index level would return to ~1,750, in line with where our analysis of the trading path of late 2008 could take it.

Exhibit 26: S&P 500 Current Year P/E (Based on RBC Recession Scenario EPS)



Source: RBC US Equity Strategy, Bloomberg, Factset/Thomson

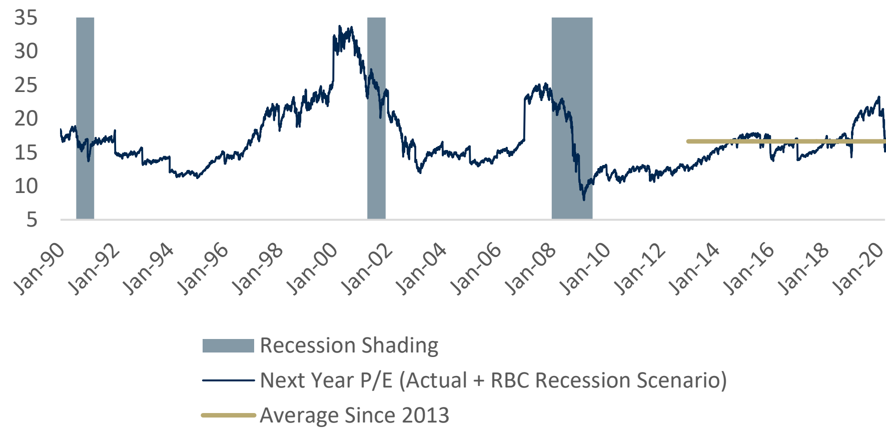
Exhibit 27: S&P 500 Implied Price Levels Based on Current Year P/E Levels and EPS Forecast

S&P 500 Implied Price Levels: Based On Current Year P/E Levels & Current Year EPS Scenarios	Current Year P/E Level	Recession Scenario of $139
Average Since 1990	17.7	2463
Average Since 2013	17.2	2389
Max Since 1990	30.4	4223
Max Since 2013	24.4	3386
Min Since 1990	10.9	1516
Min Since 2013	13.2	1835
Peak Near 1990-1991 Recession (as of July 16th, 1990)	15.8	2190
Peak Near 2001 Recession (as of Jan 30th, 2001)	30.4	4223
Peak Near 2008-2009 Recession (as of Jan 2nd, 2008)	23.4	3252
Peak Near 2015-2016 Growth Scare (as of May 21st, 2015)	18.0	2506
Peak Near 2018 Growth Scare (as of Sept 20th, 2018)	18.0	2501
Low During 1990-1991 Recession (as of Oct 11th, 1990)	12.6	1754
Low During 2001 Recession (as of Sept 21st, 2001)	21.4	2969
2007-2009 Recession Low (as of March 9th, 2009)	10.9	1516
2015-2016 Growth Scare Low (as of Feb 11th, 2016)	15.4	2135
2018 Growth Score Low (as of Dec 24th, 2018)	14.4	2006

Source: RBC US Equity Strategy, Bloomberg, FactSet/Thomson

We've heard from a number of investors that, to the extent they are looking at valuations, they are looking ahead to 2021. Using our $158 forecast, we find that the S&P 500 has been trading around a 15.2x P/E, a bit below its average of 16.7x. If $158 is in the right neighborhood, fair value for the index is around 2,600 on this basis.

Exhibit 28: S&P 500 Next Year P/E (Based on RBC Recession Scenario EPS)



Source: RBC US Equity Strategy, Bloomberg, Factset/Thomson

Exhibit 29: S&P 500 Implied Price Levels Based on Next-Year P/E Levels and EPS Forecast

S&P 500 Implied Price Levels: Based On Next Year P/E Levels & Next Year EPS Scenarios	Next Year P/E Level	Recession Scenario of $158
Average Since 1990	16.9	2669
Average Since 2013	16.7	2632
Max Since 1990	33.8	5337
Max Since 2013	23.3	3683
Min Since 1990	7.9	1250
Min Since 2013	12.3	1937
Peak Near 1990-1991 Recession (as of July 16th, 1990)	18.9	2989
Peak Near 2001 Recession (as of March 24th, 2000)	33.8	5337
Peak Near 2008-2009 Recession (as of Oct 9th, 2007)	25.3	3998
Peak Near 2015-2016 Growth Scare (as of May 21st, 2015)	17.9	2827
Peak Near 2018 Growth Scare (as of Sept 20th, 2018)	17.8	2813
Low During 1990-1991 Recession (as of Jan 9th, 1991)	13.7	2161
Low During 2001 Recession (as of Sept 21st, 2001)	20.1	3180
2007-2009 Recession Low (as of March 9th, 2009)	7.9	1250
2015-2016 Growth Scare Low (as of Feb 11th, 2016)	13.8	2174
2018 Growth Score Low (as of Dec 24th, 2018)	14.3	2257

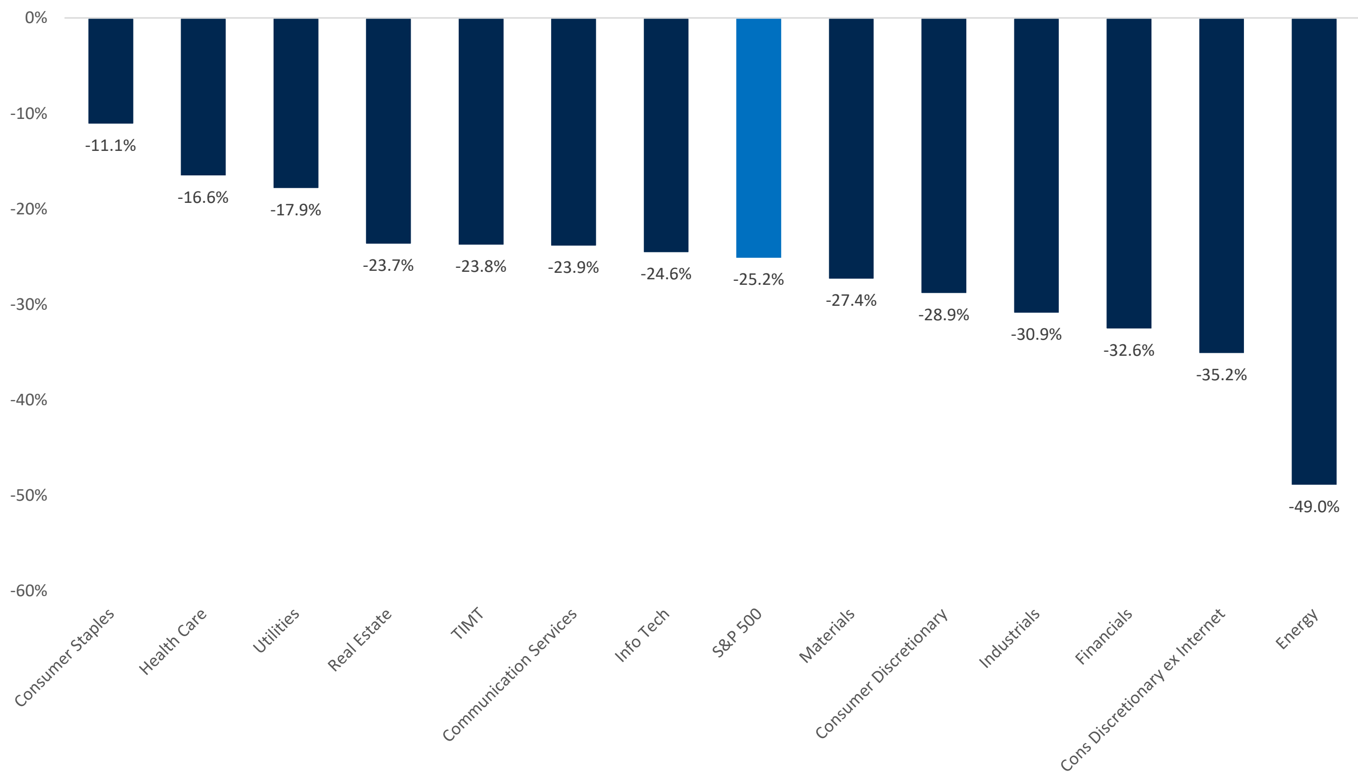
Source: RBC US Equity Strategy, Bloomberg, FactSet/Thomson

The Historical Recession Playbook for Sectors and Factors

Staples, Health Care, and Utilities Outperforming in Current Drawdown

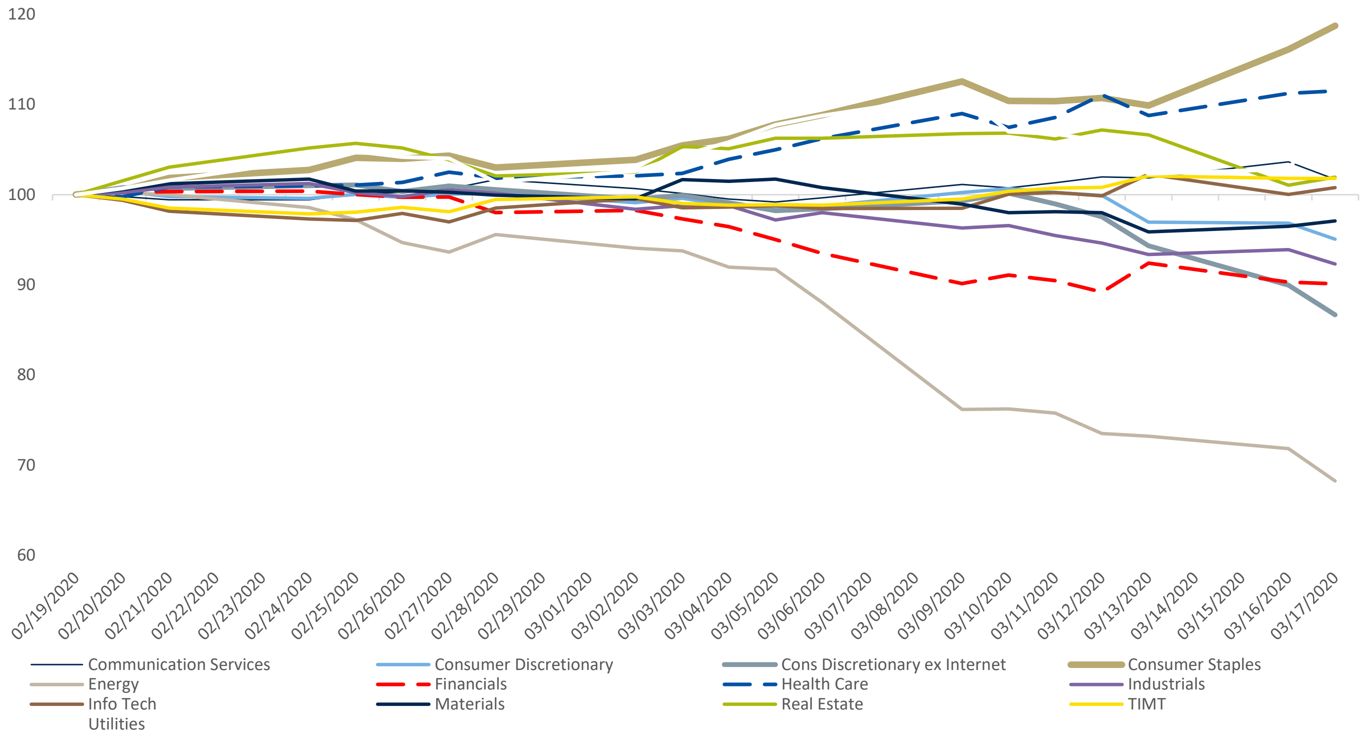
Since the February 19th peak in the stock market, absolute return by sector has ranged from down 11.1% to down 49.0%, with Energy, Consumer Discretionary ex Internet, Financials, and Industrials hit the hardest, and Consumer Staples, Health Care, and Utilities displaying the most resilience.

Exhibit 30: S&P 500 Sector Absolute Performance Since February 19, 2020



Source: RBC US Equity Strategy, ClariFi. As of 03/17/2020

Exhibit 31: S&P 500 Sector Performance Relative to S&P 500, Indexed to February 19, 2020



Source: RBC US Equity Strategy, ClariFi. As of 03/17/2020

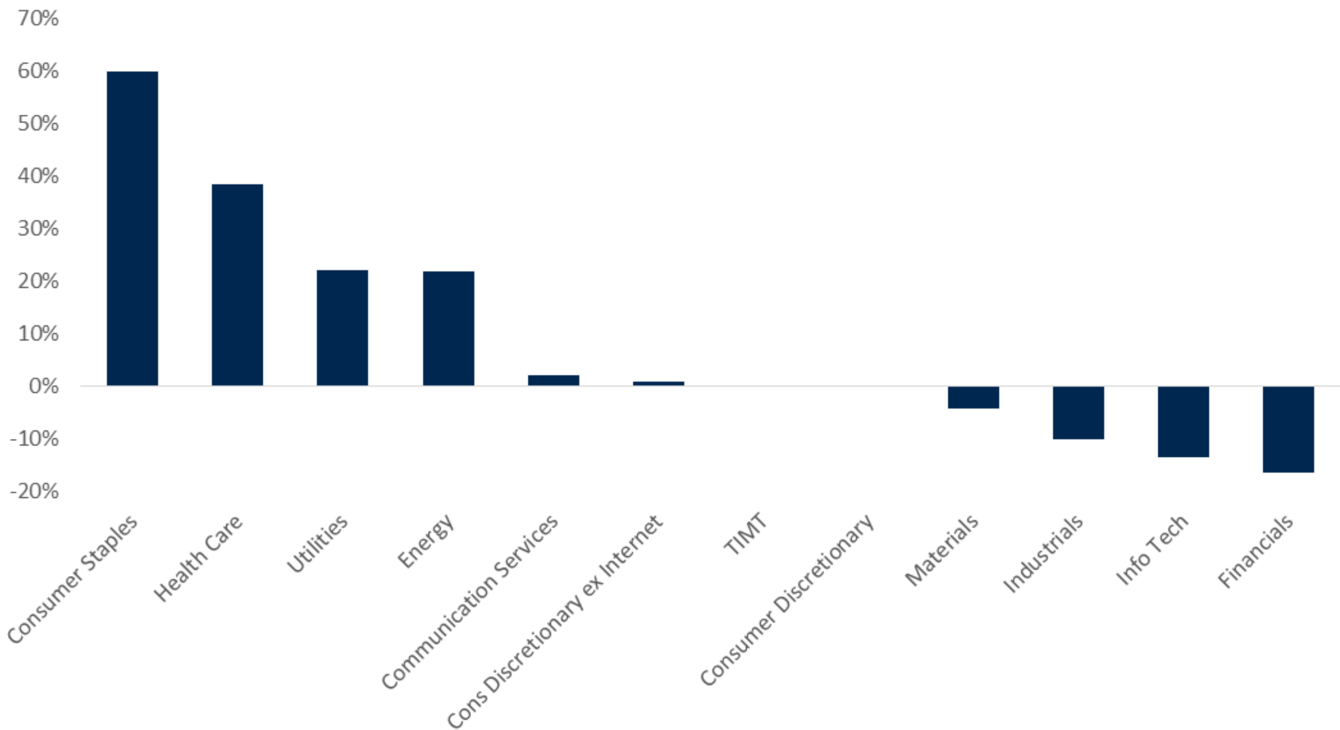
Staples, Health Care, and Utilities Have Outperformed the Most over Last Three Recessions within the S&P 500

Looking back over the last three recessions, we note that the three big classically defensive sectors—Consumer Staples, Health Care, and Utilities—have outperformed within the S&P 500. Their outperformance was consistent across all three economic contractions.

Energy was also a consistent outperformer in the last three contractions, but we don't believe history will repeat itself for this sector this time. In fact, Energy has been the worst-performing S&P 500 sector since the February 19th peak.

From a median perspective, Financials, Tech, Industrials, and Materials have underperformed the S&P 500 in the last three economic contractions, but trends were not consistent. Each of these sectors lagged in two of the last three economic contractions. Tech outperformed during the Financial Crisis while Financials, Industrials, and Materials outperformed in the recession associated with the Tech bubble. This is a reminder that each recession has had its own unique story and particular set of sectors that have been punished more than others. Amid the COVID-19 fears today, Consumer Discretionary ex Internet is getting hit harder than the historical playbook would suggest due to social distancing and store closures, along with Energy (where global demand fears have been compounded by the Saudi-Russia conflict). The underperformance of Financials and Industrials is more in line with the historical playbook, and also not surprising since these are the two sectors that have traded the most cyclically since the Financial Crisis.

Exhibit 32: Median Relative Sector Performance During S&P 500 Recessionary Pullbacks Since 1990



Source: RBC US Equity Strategy, ClariFi
Median taken from peak-to-trough performance relative to S&P 500 during recession pullbacks (07/16/1990 – 10/11/1990, 03/24/2000 –10/09/2002, 10/09/2007 – 03/09/2009)

Exhibit 33: Relative Large Cap Sector Performance During Recession Pullbacks

Sectors\Recession Period	July 1990 - Mar 1991	Mar 2001 - Nov 2001	Dec 2007 - June 2009	*Average*	*Median*
Consumer Staples	6.9%	148.1%	60.0%	***71.7%***	***60.0%***
Health Care	8.0%	82.3%	38.6%	***43.0%***	***38.6%***
Utilities	22.2%	8.2%	27.7%	***19.3%***	***22.2%***
Energy	18.9%	63.7%	22.1%	***34.9%***	***22.1%***
Comm Svcs	8.1%	-42.9%	2.2%	***-10.8%***	***2.2%***
Cons Disc ex Internet	-16.7%	40.4%	1.0%	***8.2%***	***1.0%***
TIMT	0.0%	-59.9%	5.7%	***-18.0%***	***0.0%***
Cons Disc	-16.7%	40.4%	-0.3%	***7.8%***	***-0.3%***
Materials	-4.4%	51.8%	-5.6%	***13.9%***	***-4.4%***
Industrials	-10.3%	21.9%	-18.6%	***-2.3%***	***-10.3%***
Info Tech	-13.8%	-65.9%	8.5%	***-23.7%***	***-13.8%***
Financials	-16.6%	49.2%	-60.2%	***-9.2%***	***-16.6%***
Real Estate	NA	NA	-34.8%	***NA***	***NA***
S&P 500	**-19.9%**	**-49.1%**	**-56.8%**	***-41.9%***	***-49.1%***

Source: RBC US Equity Strategy, ClariFi
Data showing peak-to-trough performance relative to S&P 500 during recession pullbacks (07/16/1990 – 10/11/1990, 03/24/2000 – 10/09/2002, 10/09/2007 – 03/09/2009)
Green shading indicates outperforming S&P 500 (data > 0); red shading indicates underperforming S&P 500 (data < 0)

Exhibit 34: Relative Large Cap Industry Performance During Recession Pullbacks

Industry\Recession Period	July 1990 - Mar 1991	Mar 2001 - Nov 2001	Dec 2007 - June 2009	*Average*	*Median*
Tobacco	13.4%	251.2%	75.7%	*113.4%*	*75.7%*
Food & Staples Retailing	-1.2%	66.1%	67.7%	*44.2%*	*66.1%*
Beverages	5.5%	136.2%	59.0%	*66.9%*	*59.0%*
Water Utilities	3.0%	278.9%	53.1%	*111.7%*	*53.1%*
Food Products	9.9%	172.2%	52.8%	*78.3%*	*52.8%*
Household Products	1.3%	140.4%	48.6%	*63.4%*	*48.6%*
Pharmaceuticals	9.3%	59.4%	45.4%	*38.0%*	*45.4%*
Electric Utilities	21.6%	64.9%	33.4%	*40.0%*	*33.4%*
Health Care Equipment & Supplies	4.4%	77.4%	31.4%	*37.7%*	*31.4%*
Oil, Gas & Consumable Fuels	19.7%	79.4%	31.3%	*43.5%*	*31.3%*
Multi-Utilities	26.9%	-76.4%	43.0%	*-2.2%*	*26.9%*
Gas Utilities	24.8%	1.8%	19.7%	*15.4%*	*19.7%*
Diversified Telecommunication Services	13.5%	-46.2%	24.5%	*-2.7%*	*13.5%*
Road & Rail	-1.8%	131.3%	12.7%	*47.4%*	*12.7%*
Energy Equipment & Services	10.8%	25.7%	-18.8%	*5.9%*	*10.8%*
Chemicals	-5.6%	59.0%	10.4%	*21.3%*	*10.4%*
Commercial Services & Supplies	-14.1%	66.2%	6.9%	*19.7%*	*6.9%*
Hotels, Restaurants & Leisure	-21.7%	59.8%	6.9%	*15.0%*	*6.9%*
Trading Companies & Distributors	5.7%	99.3%	6.9%	*37.3%*	*6.9%*
Air Freight & Logistics	-11.3%	125.6%	5.2%	*39.8%*	*5.2%*
Health Care Providers & Services	1.6%	209.1%	4.2%	*71.6%*	*4.2%*
Specialty Retail	-28.0%	2.4%	16.6%	*-3.0%*	*2.4%*
Construction Materials	-7.8%	56.5%	1.7%	*16.8%*	*1.7%*
Biotechnology	0.8%	-3.9%	93.3%	*30.1%*	*0.8%*
Metals & Mining	-1.2%	27.9%	-26.7%	*0.0%*	*-1.2%*
Leisure Products	-1.5%	33.1%	-15.7%	*5.3%*	*-1.5%*
Aerospace & Defense	-2.0%	83.8%	-3.6%	*26.1%*	*-2.0%*
Personal Products	-2.0%	70.8%	-3.7%	*21.7%*	*-2.0%*
Containers & Packaging	-3.4%	32.0%	-8.2%	*6.8%*	*-3.4%*
Paper & Forest Products	-4.3%	41.6%	-55.9%	*-6.2%*	*-4.3%*
Electrical Equipment	-12.1%	10.9%	-4.3%	*-1.9%*	*-4.3%*
Industrial Conglomerates	-4.6%	-6.8%	-48.1%	*-19.8%*	*-6.8%*
Textiles, Apparel & Luxury Goods	-23.4%	96.5%	-8.8%	*21.4%*	*-8.8%*
Auto Components	-9.2%	32.8%	-49.2%	*-8.5%*	*-9.2%*
Insurance	-9.7%	72.4%	-43.8%	*6.3%*	*-9.7%*
Technology Hardware, Storage & Peripherals	-9.8%	-54.5%	13.4%	*-17.0%*	*-9.8%*
Household Durables	-11.8%	118.4%	-35.3%	*23.8%*	*-11.8%*
Multiline Retail	-15.1%	49.9%	-11.8%	*7.6%*	*-11.8%*
Building Products	-13.0%	70.6%	-42.1%	*5.1%*	*-13.0%*
REITs	-13.5%	135.1%	-36.2%	*28.5%*	*-13.5%*
Automobiles	-11.7%	-13.8%	-68.3%	*-31.3%*	*-13.8%*
Banks	-15.1%	98.9%	-52.5%	*10.4%*	*-15.1%*
Machinery	-15.6%	65.9%	-20.3%	*10.0%*	*-15.6%*
Software & IT Services	-17.2%	-50.7%	23.1%	*-14.9%*	*-17.2%*
Media	-5.4%	-17.7%	-18.3%	*-13.8%*	*-17.7%*
Entertainment	-8.4%	-41.4%	-18.2%	*-22.7%*	*-18.2%*
Construction & Engineering	-19.6%	-21.1%	-7.4%	*-16.1%*	*-19.6%*
Diversified Financial Services	-21.1%	26.0%	-67.3%	*-20.8%*	*-21.1%*
Electronic Equipment, Instruments & Components	-21.3%	-67.1%	-21.6%	*-36.7%*	*-21.6%*
Semiconductors & Semiconductor Equipment	-27.3%	-68.4%	-2.6%	*-32.8%*	*-27.3%*
Wireless Telecommunication Services	-31.5%	-77.0%	-27.0%	*-45.2%*	*-31.5%*
Communications Equipment	-31.9%	-83.0%	-2.0%	*-39.0%*	*-31.9%*
Airlines	-20.5%	-33.1%	-54.4%	*-36.0%*	*-33.1%*
Internet & Direct Marketing Retail	-34.8%	-65.8%	-14.1%	*-38.2%*	*-34.8%*
Russell 1000	**-19.7%**	**-47.3%**	**-55.4%**	**-40.8%**	**-47.3%**

Source: RBC US Equity Strategy, ClariFi
Data showing peak to trough performance relative to Russell 1000 during recession pullbacks (07/16/1990 – 10/11/1990, 04/07/2000 – 10/09/2002, 10/09/2007 – 03/09/2009)
Green shading indicates outperforming S&P 500 (data > 0); red shading indicates underperforming S&P 500 (data < 0)

Staples and Utilities Have Been Most Resilient in Past Recessions within Small Cap

Within the Russell 2000, sector performance trends were similar to what we observed within the S&P 500 over the last three recessions, though not identical. Utilities and Consumer Staples provided the most consistent leadership, and Health Care and Energy outperformed in two of the last three recessions. Communication Services has been the most consistent underperformer at the Small Cap sector level during past recessions.

Exhibit 35: Relative Small Cap Sector Performance During Recession Pullbacks

Sectors\Recession Period	July 1990 - Mar 1991	Mar 2001 - Nov 2001	Dec 2007 - June 2009	*Average*	*Median*
Utilities	36.9%	90.7%	68.1%	***65.3%***	***68.1%***
Consumer Staples	6.8%	122.6%	40.5%	***56.6%***	***40.5%***
Energy	34.8%	67.9%	-24.6%	***26.0%***	***34.8%***
Health Care	23.2%	-16.1%	36.8%	***14.6%***	***23.2%***
Info Tech	3.5%	-79.9%	-0.2%	***-25.5%***	***-0.2%***
Materials	-0.7%	59.8%	-7.2%	***17.3%***	***-0.7%***
Industrials	-1.9%	44.9%	-6.1%	***12.3%***	***-1.9%***
Real Estate	-2.1%	156.2%	-10.7%	***47.8%***	***-2.1%***
Financials	-15.5%	166.9%	-4.7%	***48.9%***	***-4.7%***
TIMT	-4.3%	-77.6%	-5.2%	***-29.0%***	***-5.2%***
Cons Disc	-16.9%	88.2%	-26.2%	***15.1%***	***-16.9%***
Cons Disc ex Internet	-16.9%	100.6%	-28.3%	***18.5%***	***-16.9%***
Comm Svcs	-27.8%	-65.1%	-32.7%	***-41.9%***	***-32.7%***
Russell 2000	**-34.0%**	**-46.1%**	**-59.9%**	***-46.7%***	***-46.1%***

Source: RBC US Equity Strategy, ClariFi
Data showing peak to trough performance relative to Russell 2000 during recession pullbacks (10/09/1989 – 10/31/1990, 03/09/2000 –10/09/2002, 07/13/2007 – 03/09/2009)
Green shading indicates outperforming Russell 2000 (data > 0); red shading indicates underperforming Russell 2000 (data < 0)

Quality and Buybacks Have Provided a Cushion within Large Cap

In terms of factors, two areas that have consistently outperformed in past recessions have been high quality (high ROE has outperformed low ROE) and buybacks (high buyback yield has outperformed companies that aren't paying buybacks). It has also paid off to avoid companies with high net debt and high short interest. Trends for the dividend factor have been mixed.

Exhibit 36: Large Cap Factor Performance During Recessionary Periods

	High ROE vs Low ROE	High Net Debt/Cap vs Low Net Debt to Cap	High Dividend Yield vs. No Dividends	High Buyback Yield vs No Buybacks	High Short Interest vs Low Short Interest	High Price Momentum vs Low Price Momentum
July 1990 - Mar 1991	*11.4%*	*-7.9%*	*-1.9%*	*1.9%*	*-2.2%*	*-8.8%*
Mar 2001 - Nov 2001	*23.7%*	*-6.5%*	*19.6%*	*8.8%*	*-11.3%*	*14.0%*
Dec 2007 - June 2009	*2.3%*	*-16.0%*	*-1.7%*	*9.4%*	*-26.2%*	*-28.1%*
Average	*12.4%*	*-10.1%*	*5.3%*	*6.7%*	*-13.2%*	*-7.6%*
Median	*11.4%*	*-7.9%*	*-1.7%*	*8.8%*	*-11.3%*	*-8.8%*

Source: RBC US Equity Strategy, S&P Capital IQ/ClariFi. Large Cap Universe is Russell 1000

Required disclosures

Conflicts disclosures

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors, including total revenues of the member companies of RBC Capital Markets and its affiliates, a portion of which are or have been generated by investment banking activities of the member companies of RBC Capital Markets and its affiliates.

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Distribution of ratings
RBC Capital Markets, Equity Research
As of 31-Dec-2019

			Investment Banking Serv./Past 12 Mos.	
Rating	**Count**	**Percent**	**Count**	**Percent**
BUY [Top Pick & Outperform]	**765**	**51.97**	**225**	**29.41**
HOLD [Sector Perform]	**625**	**42.46**	**127**	**20.32**
SELL [Underperform]	**82**	**5.57**	**5**	**6.10**

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