Portfolio & Market Insights

BUILDING STRONGER PORTFOLIOS

April 2020

WELLSPRING FINANCIAL ADVISORS

LIVE WELL. SLEEP WELL.

Portfolio & Market Outlook Summary

1. The trajectory of COVID-19 is highly uncertain, requiring alternative scenarios to prepare for its eventual outcome. Unknowns include how long the virus will be active, the number infections, the fatality rate, and the extent hospital resources will be stretched.
2. We expect the U.S. economy will contract 20 to 30% in the second quarter and 4 to 6% for the full year before staging a slow recovery in 2021.
3. Over the past 3-weeks, the Federal Reserve has initiated six separate lending facilities providing billions of dollars to distressed corporations, municipalities, investors, investment companies, and money market funds.
4. Fiscal measures introduced are projected to fall short of what will ultimately be needed to address shortfalls in cash for individuals and small businesses. We expect additional fiscal and monetary measures to be introduced over the course of 2020.
5. Moody's Analytics expects Fed interventions will be enough to reduce liquidity concerns and stabilize markets. Moody's also expects corporate defaults and bankruptcies will peak about 11% in 2020 vs. 14.5% during the Global Financial Crisis (GFC).
6. At its current level, the S&P 500 has already priced in a 20% year-over-year decline in corporate profits. Corporate earnings are a lagging indicator that usually adjust after stocks have already corrected.
7. A large percentage of the U.S. oil infrastructure is not profitable under $30/barrel. Analysts expect significant declines in shale oil and E&P activity over the next year. This will add to U.S. economic pressures.
8. Alternative assets and private equity provide a reliable source of non-correlated returns. In a low rate environment, a diversified portfolio that includes alternative assets, will help in dampening volatility.

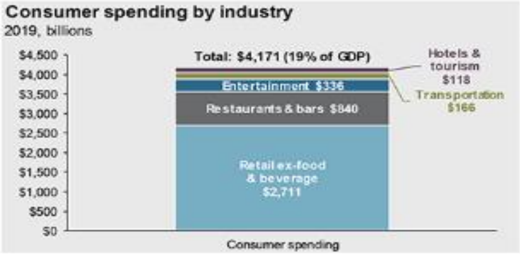
COVID-19
Cases, Fatalities, Hospital Capacity

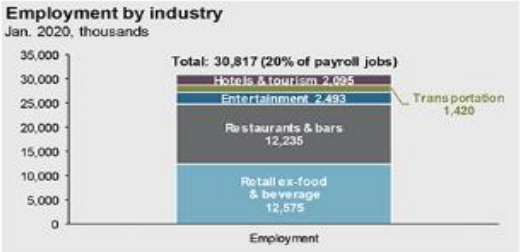
Epidemiological Assumptions

COVID-19 S1 Scenario	COVID-19 Baseline Forecast	COVID-19 S3 Scenario
• 1-2 mil confirmed U.S. infections • New infections peak in April • 1.0% case fatality rate • 8% hospitalization rate • Infections abate by June • 31% excess capacity of hospital beds • 27% excess capacity of ICU beds • 30% excess capacity of ventilators	• 3-8 mil confirmed U.S. infections • New infections peak in May • 1.5% case fatality rate • 10% hospitalization rate • Infections abate by July • 19% excess capacity of hospital beds • 4% excess capacity of ICU beds • 17% excess capacity of ventilators	• 9-15 mil confirmed U.S. infections • New infections peak in June • 4.5% case fatality rate • 20% hospitalization rate • Infections abate by September • 47% capacity deficit of hospital beds • 125% capacity deficit of ICU beds • 56% capacity deficit of ventilators

The US medical community has done an excellent job responding to COVID-19. On this page, Moody's Analytics highlights three potential outcomes for the COVID-19 outbreak as of April 1st. The base case represents a composite of information from various sources. The key assumption is that infection rates level off in July, at which point new infections are handled relatively quickly and are no longer re-generating. ICU beds and ventilators come close to capacity but are not overwhelmed. There are concerns about distributions of medical equipment, especially in New York and New Orleans, but nationally, hospitals are well prepared. The S1 scenario reflects an outcome that is 10% better than the base case and considered likely if we're able to bend the infection curve. The S3 scenario reflects the possibility the outcome could be 10% worse than the base case. Each of these scenarios is designed to be at different points in the distribution and determined by the risks prevalent at the time. We believe recent data reflects an outcome trending between scenarios S1 and S2, which really are not that different.

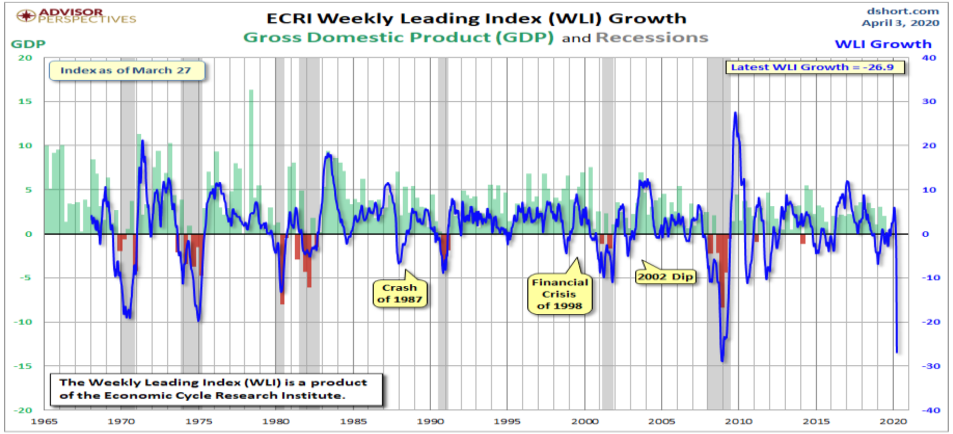
Social Distancing Vulnerability





Social distancing will impact industries in various ways. The chart on the top left considers industries expected to see the largest impact from the decline in consumer spending and the government's decree to stay home. The chart on the bottom left looks at those industries expected to see the largest uptick in unemployment, and the chart on the right considers the potential impact on S&P 500 earnings. Industries directly impacted by COVID-19 account for about 20% of U.S. GDP and 20% of payrolls or about 30 million jobs. But they account for just 7% of the S&P500's operating earnings. The highest unemployment rate in the U.S. since the Great Depression was 10.8%, which occurred in November 1982. In 1933, the U.S. unemployment rate reached 24.9%. The unemployment rate over the next three months is projected to eclipse the November 1982 level, with economists projecting 15-20% of the workforce to be without a paycheck. The CARES Act is intended to keep the economy from sliding more than it otherwise would have given the decree to stay home. The goal of the CARES act is to allow companies and individuals to tread water while the virus is brought under control.

ERCI’s Weekly Leading Index of Economic Indicators shows the US has entered a deep recession



In the chart above, the Economic Research Cycle Institute (ERCI) highlights the 4-week moving average of the year-over-year growth of its Weekly Leading Index (WLI). The WLI index is a broad measure of the U.S. economy, tracking production, employment, income, and sales. The index anticipates cyclical turns in U.S. economic activity by 2-3 quarters. As of March 27th, the WLI YoY change was -14.77%, suggesting Q2’2020 GDP could decline by as much as much as 20 to 30% annualized QoQ. The effect of the lockdown on consumers will be severe. Unemployment claims are already at record levels. Retail, hospitality, and travel were the first to be impacted, but social distancing is expected to multiply the effects well beyond these industries. By how much is anyone’s guess. For those who are betting on a ‘V’ or short ‘U-shape’ recovery, it’s helpful to consider China’s experience, who is two months ahead of the U.S. China has lifted their lock-down and is encouraging people to return to work, but life is no where near normal. Manufacturing companies are operating, but major issues with supply chains and demand for their products persist, as the rest of the world remains quarantined. You may find it interesting to check out the Snap Chat app on your phone and focus in on Wuhan, China. Restaurants are re-opened, but they are empty. The buses are running, but there are few passengers. Many Chinese are still worried about social contact and many are reluctant to spend.

Federal stimulus to hold economy is suspended animation

Program	Amount ($B)
Direct Payments/Rebates	$301
Unemployment Insurance	$250
Impacted Industries	$500
Airlines and Cargo	$29
National Defense	$17
Federal Reserve 13(3)	$454
Tax Benefits	$221
Small Business Administration	$377
Payroll Protection Loans	$349
Loan Subsidies	$17
Other	$11
Direct Spending	$340
Airline wage support	$32
State/Tribal Funding	$150
Estimated Total	$2,171

Increases duration of benefits from 26 weeks to 39 weeks. Also provides 16 weeks of $600 per week in addition to normal benefits ($385 per week average)

$454 billion levered 10x = ~$4.5 TRILLION in lending capacity

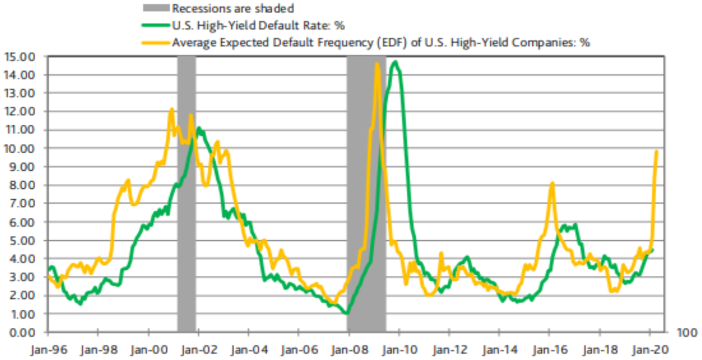
Sources: Politico, WSJ, Library of Congress, Compass Point, Notes: (1) Estimated totals, (2) ESF = Exchange Stabilization Fund; and (3) Direct spending including funds for states, hospitals, public transit, etc

MOODY'S ANALYTICS March 2020 16

The fiscal stimulus package totals about $2.4 trillion, which is more than 10% of GDP. For context, the Recovery Act passed in February 2009 totaled about $800 billion or 4.5% of GDP. There was additional stimulus injected into the system in 2008-09, eventually totaling 10% of GDP. But this took two years to pass. This time, the government passed a stimulus package in less than two weeks, totaling 10% of GDP. The stimulus has been designed to cushion the blow of the collapse in 2Q demand. Rather than GDP contracting by 50pct, economists expect it to contract by 20-30% sequentially. The objective of the package is to reduce the tail risk associated with the virus and hold the U.S. economy in suspended animation. Given the severity of the decline, the risk is that something else breaks, creating a domino effect. The likelihood of that happening is higher if the economy contracts by a half vs. one that contracts by 30%. The stimulus targets the second quarter specifically and puts cash directly in the hands of lower-income individuals and small businesses. But it's also expected to fade quickly. Therefore, we're likely to see a 5th and 6th round of stimulus in the third or fourth quarter and even more in 2021. Remember, a 30.0% annualized decline in output is the equivalent of a 7.5% real decline (30% divided by 4 reflects the actual change in domestic output), meaning the economy is still producing at a 92.5% level of what it produced in the prior quarter. This is far better than the 30% hit that some might assume from the headline number. It also ignores the bounce in activity we're likely to see in 2021.

Corporate Defaults Expected to Rise to Over 10%

Figure 4: Average High-Yield Expected Default Frequency (EDF) Metric Now Favors an 8.6% Midpoint for December 2020's Default Rate
sources: Moody's Investors Service, NBER, Moody's Analytics



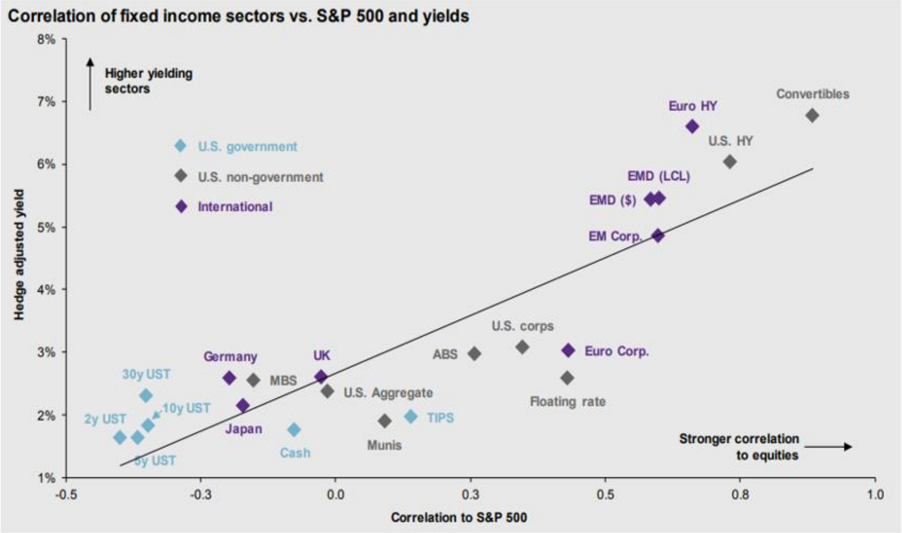
Global trailing 12-month speculative-grade default rates and macroeconomic indicators

	Actual			Scenario		
Time period/ Scenario	2001-02	2008-09	As of Feb 2020	Sharp, short downturn	Similar to 2008	Severe recession
Default rate (actual peak/12mon forecast)	9.6	13.4	3.1	6.8	16.1	20.8
US unemployment rate (peak)	6.0	10.0	3.5	6.1	10.0	15.0
US HY spread (peak)	1,014	1,833	500	1,060	1,833	2,500
Europe unemployment rate (peak)	9.1	10.3	8.3	9.7	12.5	15.0
Europe HY spread (peak)	1,373	1,949	419	1,014	1,949	2,500

Default rates and unemployment rates are in percent. HY spreads are in basis points. In the "Similar to 2008 scenario", we use the peak unemployment rate for Europe, which did not occur during 2008/09.
Source: Moody's Investors Service and Moody's Analytics

Corporate defaults are expected to increase as a result of 25pct of the country's businesses being shutdown. To address the question of expected default rates, Moody's Analytics considered three scenarios of increasing severity (the table on the right). According to Moody's, default rates over the 12 months will depend on the length and severity of the downturn, as well as sector and firm-level effects. Moody expects default rates could increase to 6.8% in one year in a sharp but brief recession, to 16.1% under conditions like the Global Financial Crisis and 20.8% in a worst-case scenario. Moody's high yield Expected Default Frequency (EDF) backed off its highs of mid-March. Despite forecasts for a 25-30% annualized contraction in second quarter GDP and a 20% to 30% peak in unemployment, Moody's EDF increases to just 10.62%. After averaging 11.05% in November and December of 2008, the EDF climbed to 12.15% in January 2009 before peaking in Feb 2009 at 14.58%. Last week's five-day moving average of the index predicts an 8.6% midpoint for December 2020's default. Moody's calculates its EDF estimate based on the probability of a default over the next 12 months. Default probability depends on many factors including expected volatility of a company's business assets and the projected market value of the company.

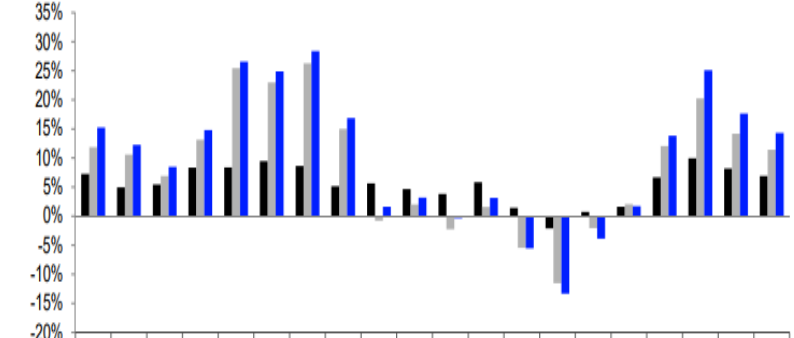
Fixed Income Yields &
Correlation to the equity market



This page shows the hedge adjusted yield and correlation to S&P 500 of various fixed income asset classes. Riskier fixed income securities tends to offer more yield, but also have a strong correlation to the S&P 500. Therefore, if the equity markets fall, fixed income sectors up and to the right on the chart will provide less protection. Alternatively, fixed income sectors on the lower left-hand side of the chart, offer lower yields, but have diversification benefits when equity markets come under pressure. Wellspring has no positions in high yield or emerging market debt and prefers fixed income securities that provide ballast to portfolios when markets become choppy. Higher quality fixed income has a lower sensitivity to equities. We expect the Fed to be active in the investment grade part of the fixed income market, which should also provide support.

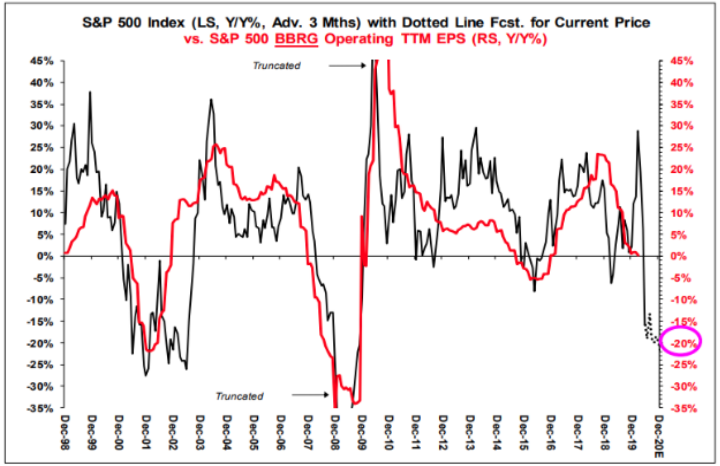
Corporate earnings are expected to decline 13.3% in Q2’2020 but the market is already pricing in 20-30% correction in earnings

Exhibit 5. S&P 500 YoY Growth Rates



	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2	21Q3	21Q4
Revenue	7.3%	5.0%	5.5%	8.3%	8.4%	9.5%	8.6%	5.1%	5.7%	4.7%	3.9%	5.8%	1.4%	-2.1%	0.7%	1.6%	6.7%	10.0%	8.2%	6.9%
Net Income	11.9%	10.6%	6.9%	13.1%	25.4%	23.0%	26.3%	15.0%	-0.8%	2.0%	-2.3%	1.6%	-5.5%	-11.5%	-2.1%	2.1%	12.1%	20.2%	14.2%	11.4%
Earnings	15.3%	12.3%	8.5%	14.8%	26.6%	24.9%	28.4%	16.9%	1.6%	3.2%	-0.3%	3.1%	-5.5%	-13.3%	-3.8%	1.7%	13.8%	25.1%	17.6%	14.3%

Source: I/B/E/S data from Refinitiv



Source: Bloomberg data, Stifel format.

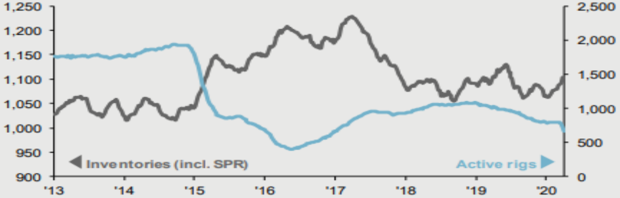
Corporate earnings have been trending lower since the third quarter of 2018, registering just a 3.6% YOY growth rate for the full year ($157.11 in 2019 vs. $151.60 in 2018). For 2020, analysts now expect operating earnings to decline between 20% to 30%. To put this in perspective, the average decline in corporate profitability since 1950 during an economic recession has been about 17%. Where earnings ultimately end up in 2020 is important, but perhaps more important is the trajectory of corporate profits coming out of recession. If the pace of earnings growth is slow, then stocks will also be slow to recover. If, however, earnings snap back quickly, as they did in 2009, then the recovery in stocks could also be strong. Over time, the price of the S&P 500 has been a reasonably accurate predictor of forward EPS (the chart on the right). At 2,400, the S&P 500 has already priced in at least a 20% year-over-year decline in corporate profits.

Oil Markets

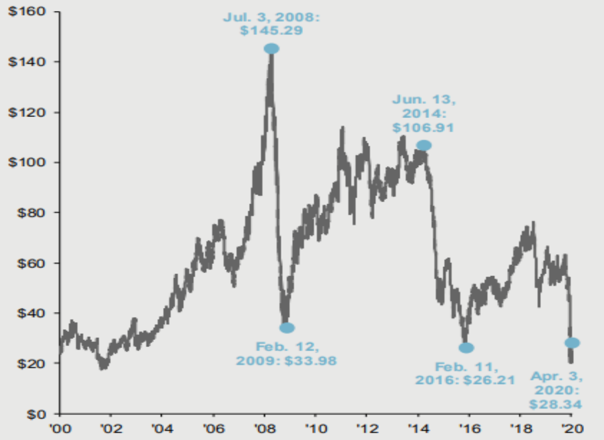
Change in production and consumption of liquid fuels
Production, consumption and inventories, millions of barrels per day

Production	2017	2018	2019	2020*	2021*	Growth since '17
U.S.	15.7	17.9	19.5	20.9	20.8	32.8%
OPEC	37.4	37.3	35.2	34.2	34.5	-7.8%
Russia	11.2	11.4	11.5	11.6	11.5	2.8%
Global	**98.1**	**100.8**	**100.6**	**102.1**	**102.4**	**4.4%**
Consumption						
U.S.	20.0	20.5	20.5	20.5	20.7	3.8%
China	13.6	14.0	14.5	14.6	15.4	13.4%
Global	**98.7**	**100.0**	**100.8**	**101.1**	**102.9**	**4.2%**
Inventory Change	-0.6	0.8	-0.2	1.0	-0.4	

U.S. crude oil inventories and rig count**
Million barrels, number of active rigs



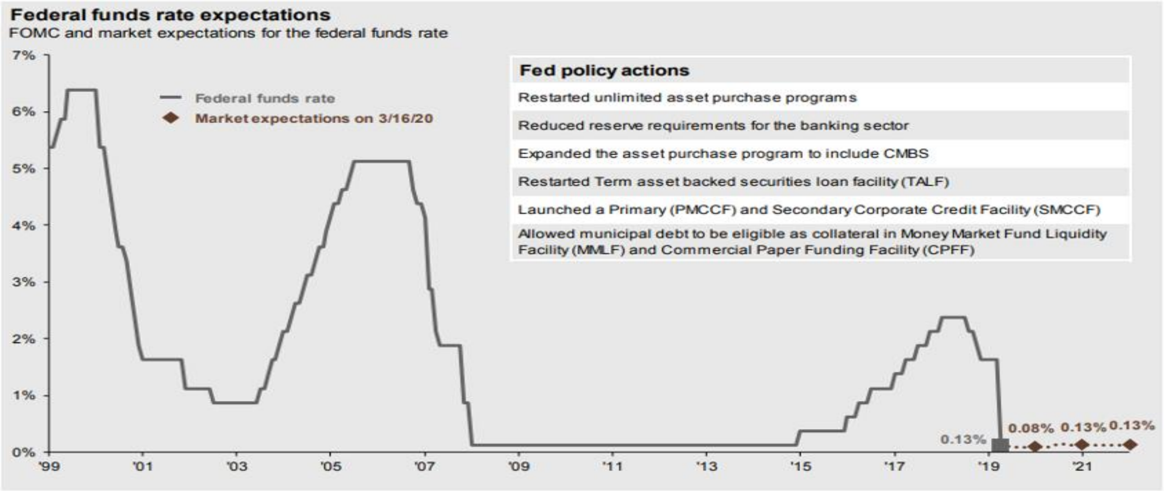
Price of oil
WTI crude, nominal prices, USD/barrel



Source: J.P. Morgan Asset Management; (Top and bottom left) EIA; (Right) FactSet; (Bottom left) Baker Hughes.
*Forecasts are from the March 2020 EIA Short-Term Energy Outlook and start in 2020. **U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD.
Guide to the Markets – U.S. Data are as of April 3, 2020.

The chart on the right shows just how far the price of oil has already fallen. The table on the top left shows the growth in supply and demand for oil over the past few years. The increase in the supply of oil has been driven by the revolution in U.S. shale oil, shown by the steady increase in inventories on the bottom left chart (dark line). But shale oil is not profitable under $30/barrel, so we're likely to see further declines in shale oil activity over the next year. This will add to the intense pressure energy companies are already under. The U.S. has been spending over $100B annually in energy capex. This will be reduced if the price of oil remains below $30/bl. Analysts expect many E&P companies to struggle if demand destruction remains elevated. Low oil prices should drive industry consolidation.

The Fed & Interest Rates

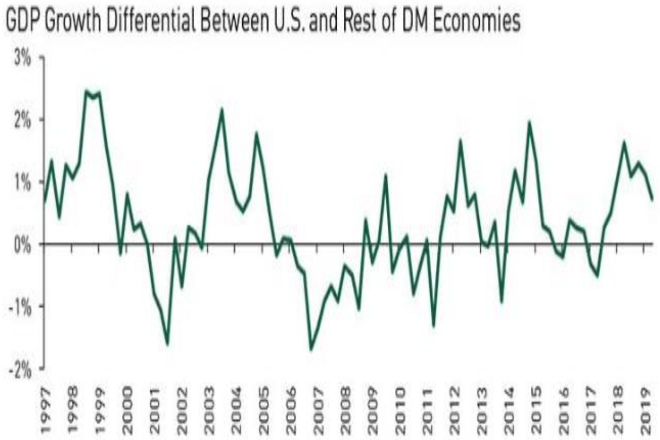


Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.
Market expectations are the federal funds rates priced into the fed futures market as of the following date of the March 15, 2020 emergency cut and are through December 2022.
Guide to the Markets – U.S. Data are as of March 31, 2020.

For the first time since 2008, the market and the Fed agree that interest rates are likely to remain at the Effective Lower Bound (ELB) for the foreseeable future. The Fed's response to shutting down a quarter of the global economy has been quicker and larger than most anticipated. Since the crisis broke, the Fed has successfully mitigated the tail risk associated with lack of liquidity in the market. Policy officials have designed specific facilities targeting at risk sectors of the market. Throughout the crisis, the Fed has shown a willingness and ability to dedicate every resource available to support the economy through this challenging period.

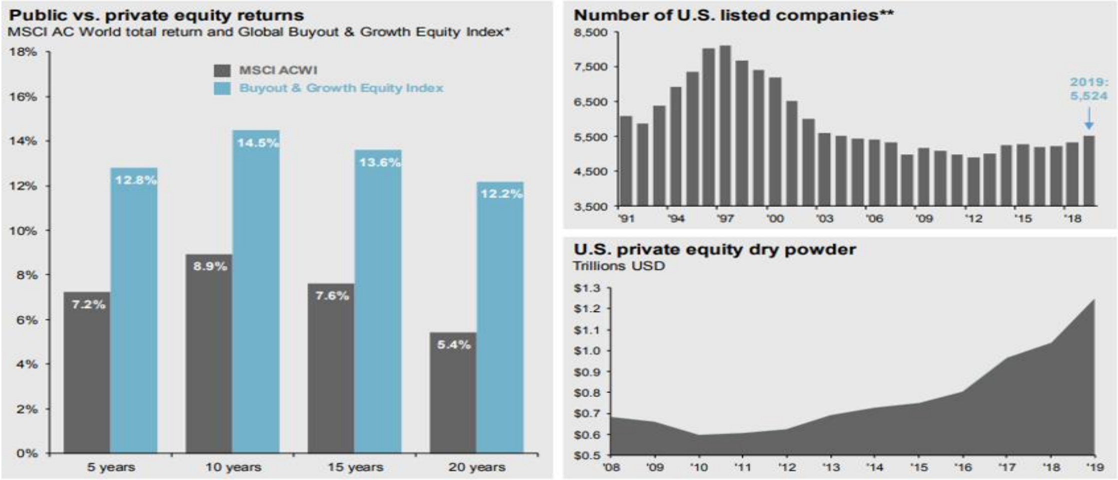
The Economic and Monetary Union (EMU) see its largest one month decline ever

EMU Sectors and Country Level Overall Sentiment							By Queue
EMU	Mar-20	Feb-20	Jan-20	Dec-19	Max	Min	Rank %
Overall Index	94.5	103.4	102.6	100.9	119	66	28.2%
Industrial	-11.0	-6.0	-7.0	-9.0	10	-38	23.4%
Consumer Confidence	-11.6	-6.6	-8.1	-8.1	-2	-24	39.8%
Retail	-8.0	0.0	0.0	1.0	6	-29	50.8%
Construction	3.0	5.0	6.0	6.0	9	-46	91.1%
Services	-2.0	11.0	11.0	11.0	33	-25	17.8%
	% M/M			Mar-20	Level		
EMU-18/19	-8.6%	0.8%	1.7%	94.5	119	66	28.2%
Germany	-9.6%	0.6%	2.1%	92.0	116	71	19.4%
France	-4.6%	1.5%	2.5%	100.6	121	68	48.4%
Italy	-17.4%	0.0%	-0.2%	83.7	124	68	10.8%
Spain	-3.3%	1.2%	-1.2%	99.3	117	65	38.4%



The EMU experienced one of the largest declines in economic activity on record with each of its five main sectors declining. Italy and Germany economic activity dropped into the bottom 20% of historical ranges. Like the U.S., there is no sense for how long the lockdown will be in place. Every country will implement a different policy, with each monitoring its borders closely. So far, the virus has been reported in 177 countries and except for China, it was introduced by someone traveling to that country. Although both U.S. and international economies will struggle in the aftermath of the recession, we believe the U.S. will emerge sooner and recover quicker than international economies. With few exceptions, the U.S. economy has shown to be more resilient than developed EU and Asian economies (the chart on the right). Outperformance has been driven by a higher percentage of faster growing technology and healthcare stocks domiciled in the U.S. (19.4% & 14.3%, respectively) relative to the international market (8.9% & 10.5%, respectively). Secondly, U.S. markets operate at higher Returns on Assets (ROA) and Returns on Equity (ROE). Third, more favorable U.S. regulatory environment and corporate tax policy have played an important role, although this may change after the November elections. (source: Haver Analytics)

Private Equity



Sources: Cambridge Associates, Prequin, Standard & Poor's, World Federation of Exchanges, J.P. Morgan Asset Management.
*Global Buyout & Growth Equity and MSCI AC World total return data are as of September 30, 2019. **Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ.
Guide to the Markets – U.S. Data are as of March 31, 2020.

The graph on the left contrasts the returns on global buy-out and growth equity funds over the past 5, 10, 15 and 20 years to that of the MSCI All Country World Index. The graph on the top right shows the number of publicly listed companies in the U.S., and in the bottom right the amount of dry powder waiting to be deployed. First, investors in private assets have historically been rewarded with superior returns for locking up capital over a longer periods. Second, the opportunity set for PE has expanded as companies are choosing to remain private longer. For companies deciding to go public, they often command higher valuations when they finally exit. At least in the near term, however, we expect PE fund raising to be challenged as opportunities in the public market appear greater than those in the private market. We also expect the time-to-exit will be lengthened as GPs hold onto companies longer and are required to inject more capital.

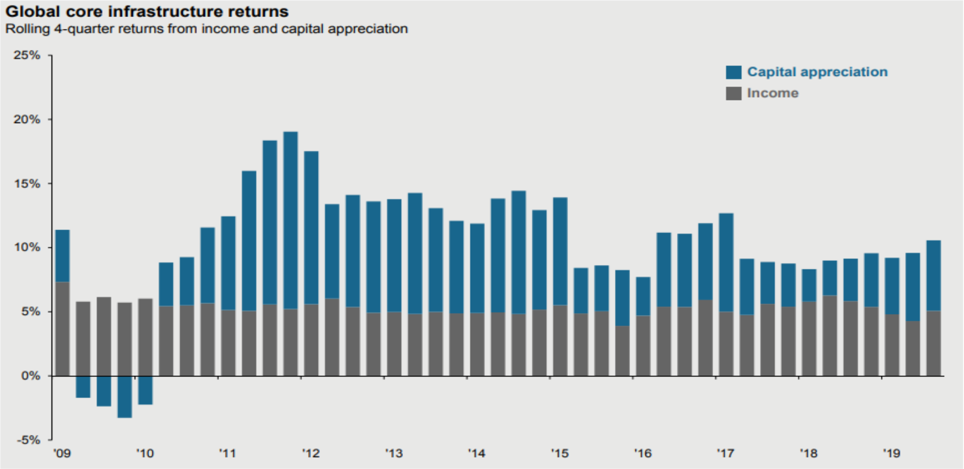
U.S. REITs Sector Returns

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010-2019 Ann.	2010-2019 Vol.
Apartments 47.0%	Self Storage 35.2%	Industrial 31.3%	Mfgd. Homes 10.5%	Mfgd. Homes 46.2%	Self Storage 40.6%	Industrial 30.7%	Mfgd. Homes 24.9%	Mfgd. Homes 11.4%	Mfgd. Homes 49.1%	Mfgd. Homes 22.9%	Industrial 20.9%
Regional Malls 34.6%	Regional Malls 22.0%	Regional Malls 28.2%	Self Storage 9.5%	Apartments 39.6%	Mfgd. Homes 25.6%	Mfgd. Homes 14.2%	Industrial 20.6%	Health Care 7.6%	Industrial 48.7%	Self Storage 16.8%	Shopping Centers 17.9%
Shopping Centers 30.8%	Mfgd. Homes 20.4%	Shopping Centers 25.0%	Industrial 7.4%	Health Care 33.3%	Apartments 16.5%	Office 13.2%	All Equity 8.7%	Apartments 3.7%	Office 31.4%	Industrial 16.3%	Regional Malls 16.8%
Self Storage 29.3%	Apartments 15.1%	Health Care 20.4%	Office 5.6%	Regional Malls 32.6%	Shopping Centers 4.7%	All Equity 8.6%	Office 5.2%	Self Storage 2.9%	All Equity 28.7%	Apartments 14.4%	Health Care 16.1%
All Equity 27.9%	Health Care 13.6%	Self Storage 19.9%	Shopping Centers 5.0%	Self Storage 31.4%	Regional Malls 4.2%	Health Care 6.4%	Self Storage 3.7%	Industrial -2.5%	Apartments 26.3%	All Equity 12.6%	Self Storage 16.0%
Mfgd. Homes 27.0%	All Equity 8.3%	All Equity 19.7%	All Equity 2.9%	Shopping Centers 30.0%	All Equity 2.8%	Shopping Centers 3.7%	Apartments 3.7%	All Equity -4.0%	Shopping Centers 25.0%	Health Care 10.1%	Office 15.2%
Health Care 19.2%	Shopping Centers -0.7%	Office 14.2%	Regional Malls -1.0%	All Equity 28.0%	Industrial 2.6%	Apartments 2.9%	Health Care 0.9%	Regional Malls -7.0%	Health Care 21.2%	Office 9.1%	Mfgd. Homes 14.1%
Industrial 18.9%	Office -0.8%	Mfgd. Homes 7.1%	Apartments -6.2%	Office 25.9%	Office 0.3%	Regional Malls -5.2%	Regional Malls -2.7%	Office -14.5%	Self Storage 13.7%	Shopping Centers 8.6%	All Equity 13.4%
Office 18.4%	Industrial -5.2%	Apartments 6.9%	Health Care -7.1%	Industrial 21.0%	Health Care -7.2%	Self Storage -8.1%	Shopping Centers -11.4%	Shopping Centers -14.5%	Regional Malls -9.1%	Regional Malls 8.4%	Apartments 13.3%

Sources: FTSE NAREIT, FactSet, J.P. Morgan Asset Management.
All indices are from FTSE NAREIT. Mfgd. Homes represents manufactured homes.
Data is based on availability as of February 29, 2020.

Given the shutdown in the global economy, real estate values have also been affected. While select sectors in real estate will be impacted severely, such as hospitality and malls, others are expected to benefit. Real estate is not a short-term portfolio trade, but rather a strategic allocation that provides non-correlated cash flow to a portfolio. The Vanguard Real Estate ETF tracks an index that captures much of the U.S. real estate market. Low-interest rates and high domestic exposure are expected to benefit U.S. REITs in the years ahead. Investors generally look to the relative safety of real estate when the growth outlook for the economy deteriorates, and interest rates decline. VNQ derives less than 20% of its sales from outside the U.S. (vs. 30% for the S&P 500) and has limited exposure to global supply chain disruption. Its relative valuation is higher than what is implied by the level of interest rates, suggesting room for upside. VNQ's yield of 3.35% compares favorably to that of the 10-year U.S. Treasury yield of 0.67 %, an advantage of 2.68%.

Sources of Global Infrastructure Returns



Source: MSCI, J.P. Morgan Asset Management.

Infrastructure returns represented by the "low risk" category of the MSCI Global Quarterly Infrastructure Asset Index. Data show rolling one-year returns from income and capital appreciation. The chart shows the full index history, beginning in the first quarter of 2009.

Infrastructure offers an opportunity to play both offense and defense and complements an allocation to real estate. Infrastructure provides above average dividend growth and earnings stability from companies that derive most of their revenue and earnings from investments in essential-use properties. Since infrastructure contracts tend to be for extended terms, revenue and earnings predictability are above average. Infrastructure include investments in airports and shipping companies (17% of the index), cell towers and wireless communications infrastructure (19%), clean energy providers and electric grid companies (36%), and pipelines and natural gas providers (20%). The fund we invest in provides non-correlated returns and diversification to the equity market and an above-average dividend yield of 2.80%. The chart above breaks down infrastructure's return into income and capital appreciation and shows that income (grey bars) tends to be steady (defensive) while capital appreciation (blue bars) rises and fall with growth in the economy (offensive).

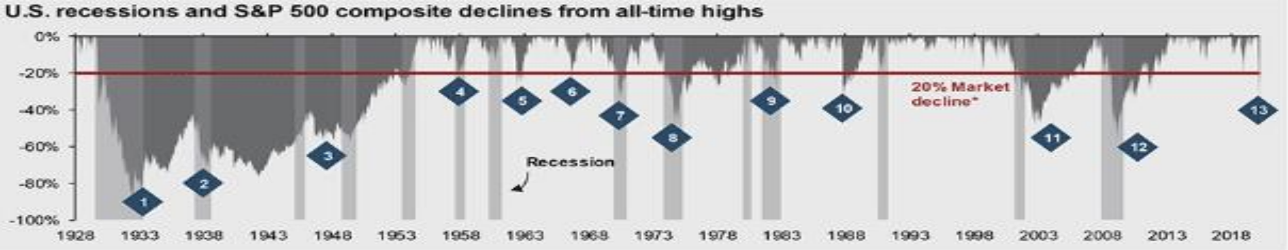
Public & Private Market Correlations

Public and private market correlations
10-years, quarterly returns

	2009 - 2019	Global Bonds	Global Equities	U.S. Core RE	Europe Core RE	APAC Core RE	Global Core Infra	Direct Lending	Venture Capital	Private Equity	Equity Long/Short	Relative Value	Macro
Financial assets	Global Bonds	1.0											
	Global Equities	0.3	1.0										
Global real estate	U.S. Core RE	-0.3	-0.5	1.0									
	Europe Core RE (Continental Europe)	-0.4	-0.3	0.6	1.0								
	APAC Core RE	-0.3	-0.4	0.8	0.7	1.0							
Other real assets	Global Core Infra	-0.2	-0.4	0.4	0.1	0.2	1.0						
Private markets	Direct Lending	0.1	0.5	-0.1	-0.3	-0.3	0.1	1.0					
	Venture Capital	-0.2	0.2	0.2	0.4	0.1	0.1	0.2	1.0				
	Private Equity	0.2	0.8	-0.3	-0.1	-0.2	-0.1	0.6	0.5	1.0			
Hedge funds	Equity Long/Short	0.2	1.0	-0.4	-0.3	-0.4	-0.3	0.6	0.3	0.9	1.0		
	Relative Value	0.3	0.9	-0.6	-0.5	-0.6	-0.3	0.7	0.1	0.7	0.9	1.0	
	Macro	0.3	0.5	-0.2	0.0	-0.2	-0.3	0.2	0.1	0.3	0.5	0.4	1.0

Most of the return associated with alternative assets is generated from stable income to the tune of 60%–90%. Since many alternatives tilt toward higher-quality, they tend to dampen the volatility of the portfolio. Moreover, since cash flow is the primary source of their returns, they tend to show low correlations to equities. Non-correlation to equity is essential in a low-rate, low-growth environment where a large percentage of the risk resides in equity beta. Furthermore, with bonds yielding close to zero, the potential to achieve high income through low beta alternatives is also attractive as a means of de-risking portfolios and enhancing income-driven returns.

Bear Markets & Subsequent Bull Runs



Characteristics of bull and bear markets

	Market correction	Bear Market: Market peak	Bear Market: Bear return*	Bear Market: Duration (months)*	Macro environment: Recession	Macro environment: Commodity Spike	Macro environment: Aggressive Fed	Macro environment: Extreme Valuation	Bull markets: Bull begin date	Bull markets: Bull return	Bull markets: Duration (months)
1	Crash of 1929 - Excessive leverage, irrational exuberance	Sep 1929	-86%	32	◆			◆	Jul 1926	152%	37
2	1937 Fed Tightening - Premature policy tightening	Mar 1937	-60%	61	◆		◆		Mar 1935	129%	23
3	Post WWII Crash - Post-war demobilization, recession fears	May 1946	-30%	36	◆			◆	Apr 1942	158%	49
4	Eisenhower Recession - Worldwide recession	Aug 1956	-22%	14	◆		◆	◆	Jun 1949	267%	86
5	Flash Crash of 1962 - Flash crash, Cuban Missile Crisis	Dec 1961	-28%	6				◆	Oct 1960	39%	13
6	1966 Financial Crisis - Credit crunch	Feb 1966	-22%	7			◆	◆	Oct 1962	76%	39
7	Tech Crash of 1970 - Economic overheating, civil unrest	Nov 1968	-36%	17	◆	◆	◆		Oct 1966	48%	25
8	Stagflation - OPEC oil embargo	Jan 1973	-48%	20	◆	◆			May 1970	74%	31
9	Volcker Tightening - Whip Inflation Now	Nov 1980	-27%	20	◆	◆	◆		Mar 1978	62%	32
10	1987 Crash - Program trading, overheating markets	Aug 1987	-34%	3				◆	Aug 1982	229%	60
11	Tech Bubble - Extreme valuations, .com boom/bust	Mar 2000	-49%	30	◆			◆	Oct 1990	417%	113
12	Global Financial Crisis - Leverage/housing, Lehman collapse	Oct 2007	-57%	17	◆	◆	◆		Oct 2002	101%	60
13	Global Slowdown - COVID-19, oil price war	Feb 2020	-24%	1	◆				Mar 2009	401%	132
	Averages	-	-42%	22					-	166%	54

Source: FactSet, NBER, Robert Shiller, Standard & Poor's, J.P. Morgan Asset Management.
*A bear market is defined as a 20% or more decline from the previous market high. The related market return is the peak to trough return over the cycle. Periods of "Recession" are defined using NBER business cycle dates. "Commodity spikes" are defined as movement in oil prices of over 100% over an 18-month period. Periods of "Extreme Valuations" are those where S&P 500 last 12 months' P/E levels were approximately two standard deviations above long-run averages, or time periods where equity market valuations appeared expensive given the broader macroeconomic environment. "Aggressive Fed Tightening" is defined as Federal Reserve monetary tightening that was unexpected and/or significant in magnitude. Bear and Bull returns are price returns.
Guide to the Markets – U.S. Data are as of March 31, 2020.

J.P.Morgan
Asset Management

This chart shows historical recessions, their corresponding bear markets (a 20% market decline from the previous all-time high), what caused them, and the magnitude of the drawdown. This is meant to illustrate that lofty valuations are not predictors of bear markets, but rather, bear markets are caused by external factors such as geopolitical conflict, monetary policy action, recessions and global pandemics.

Behavioral Bias

Bias	Description
Anchoring	The tendency to be over-influenced by the earliest information presented to us when making decisions, thus allowing oneself to be driven to a decision or conclusion that is biased towards that initial piece of information (the "anchor")
Loss Aversion	The tendency to strongly prefer decisions that allow us to avoid losses over those that allow us to acquire gains; shows that the human perception of a loss is as much twice as powerful as that of an equal gain
Endowment Effect	The tendency to place greater value on a good that we own than that which we place on an identical good that we do not own
Framing Effect	The tendency to react to, judge, or interpret the exact same information in distinctly different ways depending on how it is presented to us, or "framed"
Confirmation Bias	The tendency to overweight, seek out, or more readily recall information in a way that confirms our preconceived beliefs, while simultaneously undervaluing or ignoring information that disproves our preconceived beliefs
Hindsight Bias	The inclination, after an event has occurred, to see the event as having been predictable, even if there had been little to no objective basis for predicting it
Availability Heuristic	A common mental shortcut that causes individuals to rely on immediate information or examples that come to mind first when evaluating a specific topic, concept, method or decision
Sunk Cost Fallacy	The tendency to irrationally include sunk costs (costs that have already been incurred and are irrecoverable) as a factor in our forward decision making
Gambler's Fallacy	The tendency to believe that, if something happens more frequently than "normal" during a period of time, it must happen less frequently in the future, or vice versa
Hot-Hand Fallacy	The mistaken belief that an individual who has experienced success with a random event has a greater chance of continuing that success in subsequent attempts
Money Illusion	The tendency to think of currency in nominal terms rather than in real terms (i.e. consider only nominal value instead of real purchasing power)

Research into behavioral finance continues to grow, finding examples where investors systematically make poor decisions due to behavioral biases. Poor decisions are especially relevant to investing – for both individuals and professionals – and have the potential of negatively impacting success and long-term returns. Behavioral finance helps clients better understand why they make certain decisions, after which we can adjust our behaviors to avoid or mitigate the financial impact.