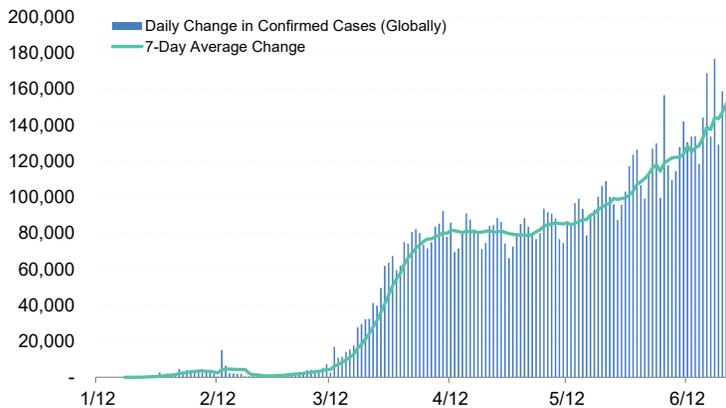


Lockdown

As we feared in our Winter Outlook, the first half of the year provided another great example of how unforeseen forces can surprise investors in the most unconventional manner. The Covid-19 breakout created an economic and market shock unlike any other crisis which has now, officially, pushed the U.S. economy into recession according to the National Bureau of Economic Research. There is no doubt much has changed over the past several months as we are suddenly presented with the most uncertain investment environment in modern history. When you experience a crisis of this speed and magnitude, people tend to get their priorities straight pretty quick. That said, the adjustments households, businesses and government entities have taken to successfully shelter in place during this “great lockdown” has been nothing short of amazing. In a few short weeks in March, across the globe, we were able to successfully implement distance-based

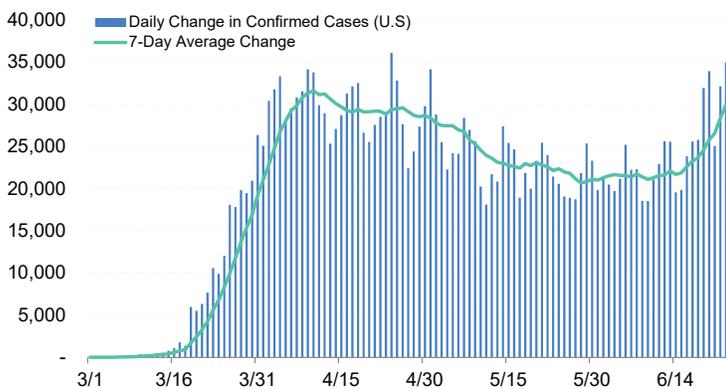
learning, move to distributed working arrangements and shutter non-critical economic activity to fight the Covid-19 pandemic and, thus far, flatten the infection curve. The response certainly reflects the best of who we are and is a great reflection of our collective ability to adapt and survive. Unfortunately, the impact of the pandemic has subsequently exposed social gaps that reflect the worst of our shared history and constrain potential economic growth. Importantly, the hard stop to the global economy and capital markets were distinctly different than past crises. The concussive force of the crash has resulted in blunt economic trauma for the health of the global economy which, in our view, will take an extended time to heal. The challenges the economy and capital markets face are multi-dimensional and evolving. Importantly, while our team believes the challenges of the pandemic can be managed, the resultant economic and social risks we are experiencing are distinct.

DAILY CHANGE IN CONFIRMED GLOBAL COVID CASES



Source: Bloomberg and PMA Asset Management

DAILY CHANGE IN CONFIRMED U.S. COVID CASES

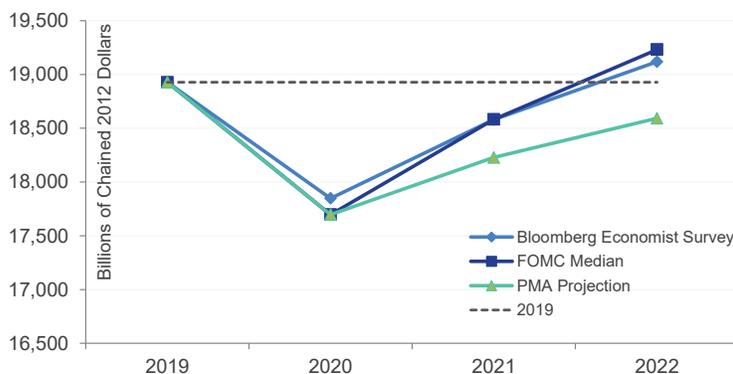


Source: Bloomberg, www.federalreserve.gov, and PMA asset Management

First, we are grappling with a global health crisis while we are dealing with a global recession. The pandemic doesn't respect geographical boundaries and, while the curves have flattened in most developed countries, cases and deaths continue to mount at record numbers globally. This is a shared pain and is being felt by everyone everywhere. There remains so much we do not know about the virus and the potential for a second wave or other risks are a distinct possibility. The virus has impacted our routines, our behavior as well as our individual and collective outlook on life. In our view, the virus will be a continued source of anxiety and volatility in the year ahead for spending, earnings, the economy and the return potential across most asset classes. The second key difference about the current crisis is that it is a global economic crisis impacting all sectors of the economy. In general, past recessions were caused by identifiable economic excesses that were allowed to build over time (e.g., the tech bubble, the housing bubble) and were mostly contained to specific sectors and economic geographies. Today, certain sectors of the economy are facing a potential death spiral and corporate defaults and personal bankruptcies could escalate to record levels in the next year. S&P recently projected the speculative grade corporate default rate will likely reach 12.5% by March of 2021. Credit weakness will also be felt at the consumer level as we anticipate unemployment levels will remain elevated and debt levels increase. While the US has thus far been able to flatten the curve relatively effectively, global confirmed cases continue to escalate. (See graphs at left.) The prospect of a second wave of infection will remain an overhang over the markets for the foreseeable future.

While legislators and global central banks have rightly provided stimulus to replace lost organic demand, reversion to pre-crisis trend growth rates in the next few years seems optimistic in our view. Importantly, we can measure the trillions in stimulus injected into the real economy over the past several months which effectively replaces anticipated declines in GDP. It's extremely difficult to measure the resting heartbeat of the economy given the extraordinary stimulus measures put in place over the past two recessions. Bearing that in mind, we have seen some positive economic signs as lots of people came back to work in May following the furlough. Certain high frequency data indicators are also showing surprising resilience despite the economic headwinds. Pent up demand should be a positive tailwind for consumption levels in the second half of the year. PMA's research team is not overly concerned with the shape of the recovery but, rather, the ability of the recovery to sustain itself at levels enjoyed before the pandemic. The fundamental question is where will real growth end up once we successfully flatten the curve and have a vaccine? We think it's likely below the 2% growth rates we enjoyed last year as the confidence to invest and consume will remain constrained. We were still synthesizing unprecedented global policy accommodations put in place during the last crisis before the virus emerged. Given the scale and unprecedented scope of current policies being put in place here in the United States and elsewhere, we won't get a good picture on the fundamental health of the economy for quite some time yet. Another concern is that global problems need coordinated global leadership which is somewhat challenged from our perspective. Policy has been purposefully trending toward isolation for the past several years (e.g., trade wars) which is now further complicated by the economic dislocations (e.g., supply chain problems) forced by the pandemic. To get the global economy back toward pre-crisis trend levels, we will need global leaders to thread the proverbial economic needle which will likely prove difficult. Just as the last expansion was the longest in modern economic history, this bear market may prove longer than many currently predict. Similarly, as the rate of growth during the recent expansion was lower than what we typically evidenced, so too could economic growth disappoint versus historical recessions. (See graph below.)

U.S. GDP



Source: Bloomberg and PMA Asset Management

We expect the global economy to rebound with a large initial bounce in the quarters ahead and a slower trajectory of growth to follow. The potential for further economic volatility remains high as countries and specific locales revert to lockdown following new spikes in infection rates. High frequency economic data have been showing some surprising green shoots during May which indicate economic growth in the current quarter may be higher than the market is currently anticipating. We would expect consumption to rebound with some pent up demand and greater mobility, but anticipate consumption will settle in at lower levels hamstrung by persistently higher unemployment rates. A rejuvenated jobs market is the single most important factor in determining the length of the current recession in our view. Given consumption represents 70% of longer term economic output, employment gains will prove critical in buoying consumer confidence and corresponding GDP growth. We don't know what the impact from the current experience will have on consumer confidence and the economic choices individuals will make going forward. While we are experiencing a common threat from the virus, individual experience can vary significantly based on our unique circumstances. Are you a first responder or have you turned into a laptop jockey like me? Are you sequestered alone in your apartment for the past three months or are you overwhelmed by a house full of angry college kids like me? The virus has impacted real emotions ranging from fear and dislocation to the intensity of love. Priorities for consumers could be different going forward and the choices we make will be impacted by our unique and shared experience and the confidence to move forward in a more uncertain world.

CONTRIBUTIONS TO % CHANGE IN REAL GDP



Source: Bloomberg and PMA Asset Management

As always, confidence will prove critical for business investment growth. While business fixed investment showed signs of improvement in 2018, this important component of positive economic growth disappointed in 2019 through the first quarter of 2020. (See graph above.) We anticipate business investment to remain constrained with lower aggregate demand and higher uncertainty regarding the trajectory of economic growth. Potential change in policy, based on the outcome of the current US Presidential election, will likely restrict business investment in the near term as well.

Certain sectors of the economy sniffed annihilation during April as credit markets stopped working and equity prices plunged. Industries most sensitive to the pandemic's potential weight on demand (e.g., entertainment, retail, travel) were the hardest hit by the virus. At the same time, the energy industry, due to technical issues largely unrelated to the crisis, was facing its own existential challenges. Changing behaviors due to the pandemic have also significantly weakened certain areas of the commercial real estate sector, specifically retail and office properties. Without the myriad sources of government and central bank stimulus provided during the past few months, the economic situation wouldn't likely have been able to recover so quickly. While we believe these sectors should remain under significant pressure over the next several years, the capital markets have supported new debt to provide liquidity which is a good sign. In addition, the Fed has adopted new quantitative easing policies including the purchasing of investment grade and high yield corporate bonds on to their balance sheet which has effectively provided a floor to valuations. Positively, banks are much better capitalized heading into this crisis and monetary policy is helping to moderate the threat of loan losses and corresponding negative impact on the economy. However, the rate and economic environment should remain a headwind for both banks and insurance companies in the years ahead.

Global and domestic inflation should remain well contained in our estimation given the sudden economic shock and associated deflationary forces. We would expect the Federal Reserve and other global central banks to keep levels of stimulus high in order to help the economy get back on its feet. As a result, rates will remain low for years as the Fed anchors policy near zero similar to past crisis. Yet in our opinion other policies will remain quite fluid. The breadth, scale and speed with which accommodation has been put in place by the Fed are precedent setting and potentially over reaching. As an example, just this past week the Fed announced they were expanding their \$750B corporate bond buying program with the expressed goal to keep cash flowing in the market and support credit for large employers. As we understand it, the strategy being employed is slightly different than what was previously communicated wherein the Fed was only going to purchase securities issued by companies that approached the Fed directly. Now the Fed will buy bonds of all eligible companies whether they ask or not. The Fed is building more of a new economic road versus an economic bridge. Regardless of our view of the veracity of the Fed's current strategy, we question whether the act of buying securities is actually necessary given the current state of the credit markets which have been working almost too perfectly for the past several months. Importantly, this is only one example of new and bold Fed strategies that are being put in place which are beyond their traditional dual mandate of full employment and stable prices. Time will tell if the scope, amount and oversight of these policy initiatives were sufficient or overly accommodative. While accommodative policies are no doubt appropriate given the depth and speed of the current recession, there is a high likelihood for negative externalities and unforeseen consequences

of these virtually untested policies that have limited oversight. It would be impossible to write this outlook without addressing the recent killing of George Floyd while in police custody, not just because I live in Minneapolis where the brutal murder occurred, but because the killing has inspired weeks of global protests. The tragedy provides yet another profound example of how unforeseen actions can surprise investors in the most unconventional manner. While the riots and looting highlight the justifiable frustration minorities feel about police brutality, the protests also gathered support from a broad group of disaffected citizens who are unhappy with the social and economic status quo. Having lived through 9/11, the Great Recession and now a global pandemic, many people, specifically young adults, are understandably pessimistic about what the future holds for them. We see this with the growing influence of ideologies at the political extremes. We need this generation to believe in their economic potential if free market capitalism remains successful. More importantly, the protesters' message highlights concerns regarding the long term impact of economic inequality. Research indicates systemic racism may be holding the economy back from its true potential. According to a recent study published by McKinsey & Company, real GDP could be 4-6% higher by 2028 if we can successfully close the racial wealth gap. We mustn't waste this opportunity to explore policy that can close the wealth gap, stabilize our communities and propel the markets further ahead.

Market Outlook

In PMA's view, we have entered a bear market phase within the credit cycle and we fear it will last longer than many expect. Despite the lockdown, returns have rebounded quite impressively over the past two months as unprecedented stimulus created a floor to risk assets in general. Not surprising returns have been led by U.S. Treasury bonds earning close to 8% already year to date. Treasury performance has been higher than most investors expected but not surprising given the pandemic impact and their corresponding role as the global safe haven. The US Treasury index outperformed Treasury Inflation Protected Treasury index as breakeven levels came in with inflation expectations. Unfortunately, we don't expect the good times to continue as we forecast Treasury returns will be below 1% in the year ahead as rates remain anchored near zero and the yield curve steepens.

Overall, the broadest measure of the U.S. investment grade bond market, the Bloomberg Aggregate Bond index, has earned 5.7% YTD as spread sectors have significantly under-performed similar maturity Treasuries. Risk premiums widened significantly for investment grade corporations and much of the securitized market in March as investors headed for shelter with everyone else. Certainly investment grade credit and mortgage spreads have performed much better over the past few weeks after the Fed began more aggressive quantitative easing measures. High yield corporates have been the worst performing fixed income sector so far in 2020 down nearly 2.0% as of mid-June.

2015	2016	2017	2018	2019	2020 YTD
US Real Estate 2.4%	High Yield Corps 17.1%	EX US All Cap Equity 27.4%	US Tbill 1.8%	US All Cap Equity 30.8%	US Treasury 7.9%
Securitized 1.5%	US All Cap Equity 12.7%	US All Cap Equity 21.2%	Securitized 1.0%	US Real Estate 28.9%	Aggregate Bond 5.7%
US Treasury 0.8%	US Real Estate 8.6%	High Yield Corps 7.5%	US Treasury 0.9%	EX US All Cap Equity 21.8%	Inflation Protected TSY 5.0%
Aggregate Bond 0.5%	Inv Grade Corps 6.1%	Inv Grade Corps 6.4%	Aggregate Bond 0.0%	Inv Grade Corps 14.5%	Inv Grade Corps 4.7%
US All Cap Equity 0.4%	EX US All Cap Equity 4.7%	US Real Estate 4.9%	Inflation Protected TSY (1.3%)	High Yield Corps 14.3%	Securitized 3.6%
US Tbill 0.0%	Inflation Protected TSY 4.7%	Aggregate Bond 3.5%	High Yield Corps (2.1%)	Aggregate Bond 8.7%	US Tbill 0.5%
Inv Grade Corps (0.7%)	Aggregate Bond 2.6%	Inflation Protected TSY 3.0%	Inv Grade Corps (2.5%)	Inflation Protected TSY 8.4%	High Yield Corps (2.0%)
Inflation Protected TSY (1.4%)	Securitized 1.8%	Securitized 2.5%	US All Cap Equity (5.2%)	US Treasury 6.9%	US All Cap Equity (2.7%)
EX US All Cap Equity (4.3%)	US Treasury 1.0%	US Treasury 2.3%	US Real Estate (6.0%)	Securitized 6.4%	US Real Estate (9.5%)
High Yield Corps (4.5%)	US Tbill 0.3%	US Tbill 0.8%	EX US All Cap Equity (14.6%)	US Tbill 2.2%	EX US All Cap Equity (10.5%)

As of 6/17/20

Source: PMA Asset Management, LLC, Bloomberg

Investment grade supply has been at historic levels over the past several months as issuers have correctly drawn down their bank lines and tapped a markedly improved new issue market to build up their liquidity reserves. Our team believes supply will eventually slow down and credit spreads should gradually move tighter with patches of virus driven volatility. That said, there is a fundamental limit to spread tightening as investors consider the “rate-less risk” they are assuming at current low absolute yields for most investment grade issuers. Overall credit metrics will be challenged going forward as debt levels are materially higher than before the virus and earnings and free cash flow could easily disappoint in the year ahead. Certain industries, including much of the service, airline, hospitality and retail sector, faced total annihilation before Congress and the Fed stepped up so aggressively with support. Our team continues to favor higher quality companies in less economically sensitive areas of the economy including technology, health care and consumer staples.

Significantly lower interest rates have continued to support single family real estate, although the effects of a shaken consumer and 15% unemployment levels should ripple through this market in time. Not to worry the Fed has this covered too as the Federal Reserve currently owns approximately 30% of all agency residential mortgage backed securities (RMBS) and is on pace to own 40% by year end. As a result, we don't expect mortgage spreads to widen appreciably with such an overwhelming bid. We like RMBS as safe carry in an unsafe world and some tightening may occur as yield premiums abate as the rush to refinance lessens with time. Selection is especially important in

light of both speed and credit considerations in a premium laden market. Prepayments are likely to increase as low rates allow borrowers sufficient incentive to pursue refinancing opportunities. Technology has increased the efficiency of the origination machine, even in a COVID world. Increased delinquencies could increase prepayment risk. The commercial real estate market has its own problems as we discussed earlier in our outlook, most specifically the office, mall and senior housing segment. It is hard to contemplate work and shopping activity to normalize to past practices once the curves have been flattened and a vaccine is widely available.

Overall, market returns across most asset classes should remain constrained by weak economic and market fundamentals despite record stimulus and the expected near term boosts from a gradual reopening of the economy. Prospective U.S. fixed income market returns are limited due to already historic low interest rate levels, increasing credit risk and rising debt levels. Chairman Powell and the Federal Reserve have anchored rates at the zero lower bound with no forecasted changes in policy for several years. We don't expect changes to Fed policy over the next year although the form of accommodation (e.g., rate caps) may change to address evolving risks. We are not proponents of the Fed, or really any central bank, employing negative rate policies or trying to micromanage long term interest rates. Foreign central banks have pursued similar accommodative policies over the past decade and rates are already negative across much of developed Europe and Japan which has been largely ineffective at curing their economic woes. The capital markets and businesses don't

need lower rates so much as they want to see stable policies and leadership to provide the confidence to invest further.

Overall, while the resilience of the market has been impressive, fundamentals should prove more important in the year ahead. Debt continues to be the main tool to solve the world's economic problems and increasing leverage will prove challenging if growth doesn't emerge as hoped or if rates surprise and increase materially. Make no mistake; the market stopped functioning briefly for a few weeks in mid-March, not unlike the liquidity crisis experienced in the fall of 2008. Capitalism was again fundamentally challenged for the second time in the past decade. With the Fed stepping in to provide a net for the entire U.S. economy, the market has been allowed to heal very quickly and losses once again have been pushed further out in to the hands of our descendants. This has provided an incredible tail wind for the capital markets the past two months, most specifically the equity and credit markets. It has pushed investors of all stripes to drink from the Fed's punchbowl, take more risk and potentially create another policy inspired bubble. Like all crises, sometimes you have to hit rock bottom for things to improve but that bottom no longer exists in a predictably measurable way.

As prudent investors and fiduciaries, we remain consistent in our investment process and long term target allocation ranges across asset classes. However, given the rapid recovery in equity prices, equities will face ongoing return challenges in the year ahead with significantly limited upside potential during an election year. We would look to underweight long term equity targets consistent

with each client's return goals and risk appetite. Our base case calls for slightly weaker performance in equities in the near term as the economy reopens. In fact, a lot of optimism has already been priced into the market. Over the next year, equity returns will be more challenged as economic fundamentals will need to prove lofty current valuations. Without a substantial positive catalyst, fundamental forces should overwhelm positive technicals and push returns into negative territory over the next year. As always, active risk management and security selection will be critical to drive excess returns as positive technical tailwinds begin to fade. The fact that equities are currently valued at pre Covid-19 levels make fundamentally little sense in our view. But current valuations could persist should we discover an effective vaccine more rapidly than current expectations and consumption is buoyed by increased confidence levels.

I'd like to thank the great professional colleagues with whom I work every day here at PMA. They inspire me not only with their dedication to their craft but more importantly with the constant care they take in serving our clients. As always, please let us know if you have any questions or need help solving the challenges you face. Stay safe.



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