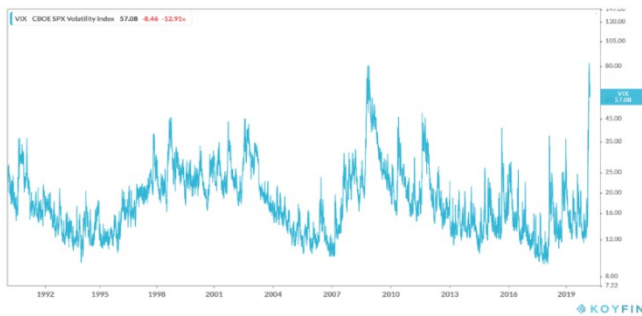


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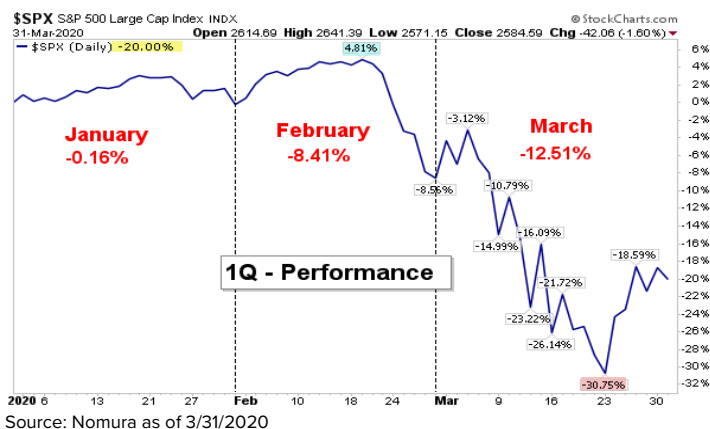
unprecedented levels of market liquidity to help prop up asset prices, the upcoming health and economic data will be key to navigating portfolios. Initial unemployment claims in the US rose by more than 3mn last week as shown by Exhibit 1- this is 5X new unemployment claims that had ever been filed in a single week. As we face the second quarter, we obviously are expecting further dismal economic realities to start coming through in the data. Given the immediate halt of business and consumption, we expect the data to be worse than the depths of the GFC (Great Financial Crisis). Carlyle Group, a well-respected private equity firm, recently provided an economic contraction rate somewhere between -10 and -20%, annualized. Given that they operate a variety of private portfolio companies ~277 underlying companies, their proprietary data sets provide a realistic look-through into which sectors of the economy are seeing the most pain and gain. According to Carlyle, strength in grocery and medical equipment has kept U.S. manufacturing orders relatively stable as of now, but this will change given the expected declines in business spending and the collapse in energy prices. Their data sets suggest overall business spending has begun to contract at a -15% to -20% annual rate, as businesses continue to juggle liquidity. Furthermore, industrial orders to the energy sector appear to be declining at a -37% annualized rate due to falling energy prices and the poor demand outlook.

These macroeconomic data sets will always lag the real time picture. The cumulative effects are not captured and felt until each input runs through the obstacle course: gross receipts stop and slow down, payrolls decrease, wages are cut, CapEx plans are scaled back, and loan and lease delinquencies rise, which eventually unfolds into winners and losers. As necessary as it is to remain optimistic about the future, we will also remain just as objective when looking at the data. This is just the beginning, and it is incredibly difficult to see a quick snap back from this unprecedented economic pause. The ultimate cost endured by businesses and consumers will depend on **three critical factors** *(1) the duration of the quarantine measures (2) the success of fiscal and monetary policies to provide enough lifeline to employers and households and (3) the flip in consumer psychology to revert back to pre-Corona behavior, something that is unlikely to turn back on like a light switch. One economist suggested that it will be more like a dimmer switch when we start turning the lights back on.*

Exhibits 2: VIX Index (Volatility Index) and Equity Index Returns



Source: Koyfin, 1/2/1990-3/31/2020



Source: Nomura as of 3/31/2020

Equities:

As markets came to a close in the first quarter of 2020, generally all risk assets posted a negative return. The S&P 500 Index posted a -20% for the quarter, its largest quarterly decline since 2008. The Dow Industrials Index posted a -23%, the worse decline recorded since 1987. The spike in equity volatility during the quarter was the greatest we had ever seen. We reached the highest levels recorded on March 16th, closing at 82.69. To put this into context, over the past five years, the CBOE VIX index has averaged 15.3. Over the past four weeks, it has not closed below 25. This type of spike was indicative of deleveraging and panic selling.

When you dissect how various segments of the market performed, you can see that investors bought growth, and dumped “risk-on” assets like value, and small caps. This is reflected by the



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dichotomy of bids across various markets, sectors, and styles. For example, see Exhibits 3 and 4. The QQQ's, (which meaningfully hold more software, internet retail, interactive media, and various other technology facing sectors) outperformed broad market equity

Exhibits 4: Equity Style Returns and Sector Returns:

Style		1st Qtr
VXX	Volatility	↑ 205.89%
IWF	Large Growth	↓ -14.36%
MTUM	Momentum	↓ -15.20%
PFF	Preferred Stocks	↓ -15.30%
FFT	IBD 50	↓ -19.41%
SPLV	Low Volatility	↓ -19.57%
IWP	Mid Growth	↓ -20.31%
VTI	Total Stock Market	↓ -21.21%
IWO	Small Growth	↓ -26.16%
IWD	Large Value	↓ -27.33%
RSP	Equal Weight S&P	↓ -27.39%
PKW	Buybacks	↓ -29.75%
DVY	Dividends	↓ -30.40%
IWS	Mid Value	↓ -32.37%
IWN	Small Value	↓ -36.20%
PSP	Private Equity	↓ -36.45%
SPHB	High Beta	↓ -37.37%
AMPL	MLP	↓ -59.53%

Sectors		1st Qtr
XLK	Technology	↓ -12.33%
XLV	HealthCare	↓ -13.04%
XLP	Consumer Staples	↓ -13.51%
XLU	Utilities	↓ -14.25%
XLC	Communication Svcs	↓ -17.51%
XLRE	Real Estate	↓ -19.83%
XLY	Consumer Dscr	↓ -21.80%
XLB	Materials	↓ -26.67%
XLI	Industrials	↓ -27.57%
XLF	Financials	↓ -32.36%
XLE	Energy	↓ -51.60%

Source: Nomura as of 3/31/2020

Exhibits 3: Equity Style Returns and Sector Returns:

1st Quarter, 2020

US Markets		1st Qtr
QQQ	NDX 100	↓ -10.45%
OEF	S&P 100 Large Cap	↓ -17.68%
SPY	S&P 500	↓ -19.92%
DIA	DJIA	↓ -23.10%
MDY	S&P Mid-Cap	↓ -29.97%
IWM	Russell 2000	↓ -30.91%
IWC	Micro-Cap	↓ -32.63%

Source: Nomura as of 3/31/2020

exposures as measured by the S&P500 Index, and especially more value, cyclical areas of the market represented by the Dow Jones Index by nearly 10% and 13%, respectively. This makes sense given that these are areas of the market that have typically shown higher growth rates but are also perceived as sectors that are less sensitive to the forced behavioral changes caused by the global pandemic. For example, two of the largest holdings of the QQQ's are Microsoft and Amazon. Both stocks are in the black YTD through 3/30/2020.

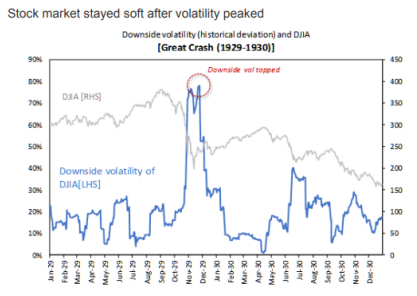
From the lows of Q1 2020, equities have rallied significantly. The peak volatility levels are probably past us for now given the massive deleveraging cycle we saw in Mid-March. What we've likely seen is a mix of some fundamental buyers stepping into the market, large institutional players like pensions hitting the rebalance button (selling bonds and buying equities to get back to strategic weights), and short covering. But I want to caution our readers to wait for some clarity and data before jumping right back into risk on mode.

According to Nomura Bank, history shows that rebounds from pessimism (of the sort we are seeing now) does not mean large drawdowns for stocks are out of sight. They show that using downside volatility (downside deviation) in the DJIA as a quantitative way of pinpointing when "peak pessimism" occurs, and then looking at how downside volatility in the DJIA compared to the DJIA itself at the time of the Great Crash of 1929-30 and at the time of the GFC in 2008-09, showing that even after volatility peaks, the DJIA remained unstable and continued to test fresh lows. See Exhibit 5. Two key points to draw on from this type of relationship:

- 1) Using DJIA is one good proxy for resumption of risk on sentiment, because this is where more cyclical stocks live.

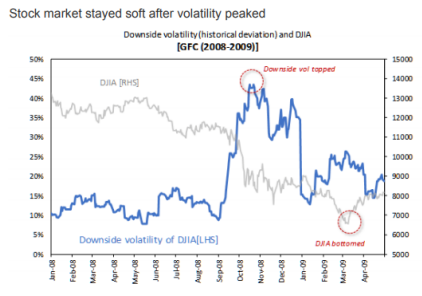
Exhibit 5: Potential Volatility and Dow Jones Industrial Average Index Drawdown Relationship:

Fig. 13: DJIA downside volatility vs. the DJIA (Great Crash of 1929-30)



Source: Nomura

Fig. 14: DJIA downside volatility vs. the DJIA (GFC of 2008-09)



Source: Nomura

2. It's intuitive. Peak volatility is approached because levered players in the market have to unload their risk, putting massive selling pressure into the market and ultimately sends volatility and illiquidity through the roof. After the cleanse, stocks prices trade down because the market begins to digest the secondary real-life economic data.



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It's our view that allocators should show some love to active management looking forward. No one knows what the outlook will be for earnings with any decent grasp. The uncertainty is tremendous, and volatility levels will likely remain high. The dispersion seen in valuations across sectors and styles provide those investment managers that take off benchmark bets enormous opportunity. As we work through this recession and move into a new expansion, active managers will be able to showcase their skill and remind the broader audience that alpha does exist. Later in the commentary, we touch on how long short equity strategies can capitalize on such an environment.

Exhibits 6: Fixed Income Sector Spreads:

	Mar 25, 2020	Feb 21, 2020	End of 2019 ¹	End of 2018 ²	Feb. 11, 2016	10 Year Average
US Corporate	254	105	101	159	221	148
US High Yield	1011	366	360	533	887	492
Bank Loan	1004	411	423	468	668	460
1-3 Year US Corporate	381	48	50	93	147	92
1-3 Year AA US Corporate	246	25	26	63	77	56
1-3 Year Single-A US Corporate	293	37	40	76	112	80
1-3 Year BBB US Corporate	520	67	68	126	229	130
1-3 Year US Corporate Financial	370	46	50	93	131	102
US Agency MBS	103	56	42	45	32	35
Credit Card ABS	275	17	35	45	50	51
Automobile ABS	606	24	46	55	71	52
AAA US ABS	496	28	48	55	67	54
0-3 Year AAA US Fixed Rate CMBS	336	61	71	64	202	130
0-3 Year AAA US Fixed Rate ABS	892	72	42	53	66	49
AA-BBB US ABS	845	162	172	147	226	208

Credit Spreads - Day to Day Change

March 20 through March 30, 2020

	March 30	March 27	March 26	March 25	March 24	March 23	March 20
US Corporate	315	324	333	354	382	401	387
US High Yield	882	899	929	1011	1055	1067	1009
Bank Loan	879	902	905	1004	1066	1074	985
1-3 Year US Corporate	318	337	353	381	421	443	433
1-3 Year AA US Corporate	197	216	230	246	290	318	317
1-3 Year Single-A US Corporate	240	257	267	293	342	371	376
1-3 Year BBB US Corporate	442	463	486	520	551	559	530
1-3 Year US Corporate Financial	302	327	342	370	418	450	444
US Agency MBS	93	105	107	103	103	123	133
Credit Card ABS	218	274	317	375	377	390	331
Automobile ABS	284	340	438	506	547	499	439
AAA US ABS	281	343	424	496	512	475	425
0-3 Year AAA US Fixed Rate CMBS	264	266	295	336	327	312	285
0-3 Year AAA US Fixed Rate ABS	279	346	428	502	518	480	429
AA-BBB US ABS	600	681	773	845	782	679	619

Data provided for ICE Both Indices for all Ind Bank Loans, sourced from S&P LSTA
Source: Bloomberg, ICE, S&P, Annual Pioneer Analytics. As of March 30, 2020

Source: Pioneer as of 3/30/2020

Exhibit 7: Investment Grade Fund Flows Data:

Biggest IG Fund Outflows on Record

	Net flow
March 18, 2020	\$35.6B
March 11, 2020	7.3
Dec. 16, 2015	5.1
May 29, 2019	5.1
March 4, 2020	4.8

Source: Refinitiv Lipper

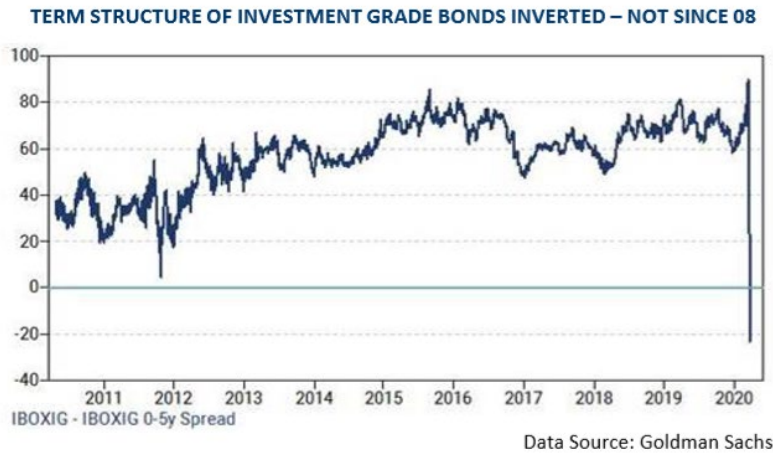
Fixed Income and Credit:

Where to begin on fixed income? The distortions seen across nearly all sectors of the fixed income market this quarter were astounding. As with any crisis period, liquidity is paramount to investors. And like all crisis episodes, it all but evaporated when the chaos ensued. Perhaps no better phrase captures this dynamic than the saying, "no one walks out of a burning building." Fixed income and credit sectors saw a tremendous amount of liquidity stress this quarter as indicated by the levels of spread widening shown in the tables below. The first table in Exhibit 6 gives you a look at just how much spreads widened relative to various points in history. The second table shows a glimpse into the liquidity improvement after the Fed rolled out its surprise purchase program which provided much needed ease. Spreads meaningfully closed within days.

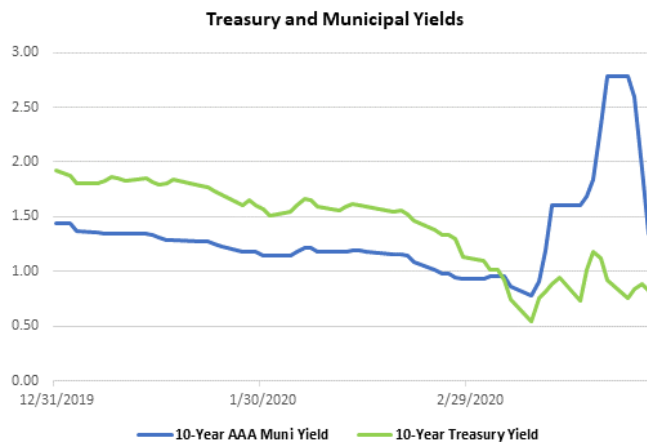
Prior to the Fed support, market depth and breadth disappeared due to the decline in liquidity and widening of bid/ask spreads on bonds across the entire fixed income market, including Treasuries, Credit, Mortgages and Short Duration. The buy up programs were necessary when you look at some of the redemption levels requested by investors across the mutual fund complex. There were countless examples of such liquidity driven air pockets. A stand out event was when investors redeemed an unprecedented amount of capital from investment grade mutual funds, commanding a weekly outflow of \$35.6 bn on March 18th, that's nearly 5X the prior week's redemptions, which at the time was a record!



Exhibit 8: Investment Grade Term Structure Inversion:



Exhibits 9: 10 Year Municipal Yields and Treasury Yields and Muni/TSY Ratios:



Muni/TSY Ratios and Spreads on 3.24

Maturity	Muni/TSY Ratio		After-Tax Spread	
	12/31/2019	3/24/2020	12/31/2019	3/24/2020
2-Year	66%	665.78%	0.10%	2.27%
5-Year	64%	481.41%	0.09%	2.16%
10-Year	75%	320.91%	0.30%	2.18%
30-Year	87%	229.05%	0.68%	2.35%

Maturity	Munis	Treasuries
2-Year	2.49%	0.37%
5-Year	2.46%	0.51%
10-Year	2.67%	0.83%
30-Year	3.17%	1.38%

representative of this mismatch, iShares iBoxx \$ Investment Grade Corporate Bond ETF saw a discount of -

Abnormal dynamics pricing was literally everywhere. Funding markets started to see pressure with implied 3-month repo vs. Fed Fund rates at levels higher than peak '08 distress. A rare distortion was the inversion of credit term structure, something that had also not happened since 2008. Similar to how investors of longer dated T-bills demand a higher yield vs. shorter dated bonds, credit investors that reach out the curve in maturity also expect to earn premiums for extending their credit risk. As deleveraging and panic selling ensues, investors offload what is most liquid, which logically are their shorter dated securities. When enough volume hits the market, you have such distortions as highlighted in Exhibit 8. It shows the yield difference of a long dated credit index less a shorter dated index. A negative difference indicates the inversion.

Municipal bond yields showed similar dislocation opportunities during this selloff. Municipal bonds typically trade at lower yields given their tax-exempt status relative to treasury bonds, call it 60-70% of where a maturity matched treasury would trade. However, during the week of 3/18, we saw \$12.2bn in muni outflows, which is the highest single week outflow figure since Lipper began recording data in 1992. This selling pressure flipped this relationship on its head and blew out municipal bond spreads to incredibly attractive levels. Up and down the maturity spectrum, municipal bond yields were trading somewhere between 3-5X above treasuries, see chart directly to the left.

The last thing I will comment on regarding fixed income illiquidity was the massive discounts the NAVs (net asset values) of fixed income ETFs were showing. We have been skeptical of fixed income ETFs given our view that there is a large asset liability mismatch. ETF structures are designed for daily trading and execution, attempting to offer equity like liquidity to investors. However, fixed income assets do not share the same profile. Some product ETF vendors saw 2-3x average daily volume (ADV) across their complex of fixed income ETFs in U.S. Treasuries, U.S. investment grade/high yield corporates, emerging markets and municipals. As



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5.0% relative to its NAV on Mar. 12, iShares J.P. Morgan USD Emerging Markets Bond ETF -4.8% on Mar. 11 and iShares 20+ Year Treasury Bond ETF -5% on Mar. 11.

Alternatives:

The diversification benefits provided by alternative strategies were very additive during the recent drawdown. Alternatives added a tremendous amount of value relative to not only equities, but also versus credit centric areas of the fixed income market. Often times, alternative strategies are criticized for not keeping up with long only strategies from a return perspective- and while that may be generally true- the often hedged nature of these strategies shine in high volatility periods. The same critic that faults alternatives for their hedged nature during raging bull markets, must also acknowledge that passive long only exposures in equity and credit leave investors subject to much larger drawdowns. The velocity at which the current equity drawdown presented itself was certainly unprecedented, but the magnitude of the fall was not. We've seen this screenplay before, where risk assets fall north of -50%, and without fail, it always turns out to be sobering experience. After the Corona virus drawdown, historical annualized returns for equities have receded to more normal levels. If you used the MSCI World Index to represent global equity returns, annualized equity returns from 1/1/1999-2/13/2020 were roughly 11.25%. Fast forward to March 21st, 2020 while using the same start date, and the annualized returns now look much closer to their long term averages- they now reflect an annualized return of ~6%.

If you've been following our quarterly commentaries, then you are aware of our risk sourcing philosophy. In short, our alternatives allocation budget sources dollars/risk away from passive long-only equities and bonds. An alternative strategies' attributes from a return, volatility, and correlation perspective, will determine whether it serves as an equity substitute or a fixed income substitute. The rest of this commentary will walk you through a few examples of alternative strategies and illustrate how we have substituted these allocations in place of more traditional sources of risk. **Just a warning in advance, this is far more extensive than our usual commentaries. I am seizing the opportunity to share the reasons why we have such conviction in these types of strategies on an evergreen basis.** The following examples will hopefully illustrate how allocators can use alternative strategies as substitutes for both equities and fixed income allocations.

An Illustration of an Equity Substitute:

To get equity exposure, an investor like yourself may buy a basket of individual stocks, or more simply, you may just buy a long only mutual fund that is professionally managed to some mandate or style: growth stocks, value stocks, small cap stocks etc. When you invest a \$1 into a long only fund, you are instructing the manager to put all of your capital at risk into the market. However, an alternative way of getting exposure to equities is investing in a long-short equity strategy. This type of approach involves buying equities that are expected to increase in value and selling short equities that are expected to decrease in value.

When you give a long short equity manager a \$1 of capital, you are also instructing this manager to put all of your money to work. However, the portfolio construction process is different. A manager that is implementing a long short equity strategy will put your entire \$1 to work in the market, while also borrowing against the \$1 portfolio of long stock positions in order to sell stocks short as well. They may short 0.40 cents against this \$1 long stock portfolio, and effectively the end investor is left with 0.60 cents of net dollar exposure to the stock market, while also getting \$1.40 of gross economic exposure to the stock market (net exposure ~ 1.0 (long portfolio) -0.40 (short portfolio) $= 0.60$ net long portfolio). In such a portfolio, the manager can theoretically make money on both the long \$1 portfolio, and short 0.40 portfolio.

By managing a portfolio in this format, you provide a manager two levers to pull on in order to generate money for you. It's not surprising that a short portfolio is incredibly valuable during drawdown episodes, but conversely, it may work as a headwind in up trending markets. Moving forward, it is our view that we are



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more likely, in the short term, to engage a market that trades sideways given that challenging economic data that is to come. There is vast number of earnings revisions analysts will make in the next several months, and winners and losers will emerge from the recent drawdown. A strategy like long-short equity is attractive during markets of great dislocation and dispersion, like the one that we are in today.

Now let's examine a real-life example utilized across our models, Manager A. First, let's fill you in on some details surrounding the underlying strategy. In brief summary, this is a long-short equity portfolio that seeks to long high quality stocks that exhibit attractive cash flows, and other fundamental attributes (high quality balance sheet metrics, strong earnings growth rates, etc.), while shorting stocks that exhibit poor fundamental characteristics (negative cash flow, poor balance sheet metrics, overvalued valuation metrics). However, the overall net dollar exposure over the life of this strategy has been low, on average the strategy has been managed to a net exposure of 25%, and a beta of around 0.25 to broad equity markets, with a correlation to broad equity markets of roughly 0.45. An allocation to a low net exposure manager was purposeful. We wanted some equity exposure, but given the late inning setting that we were in, we wanted a manager that could provide value if we walked into a drawdown. Manager A since inception data is below.

Exhibits 10: Manager A since Inception Returns and Risk Metrics and Growth of a

Time Range: 6/19/2017 - 3/27/2020				
Investment Name	Cumulative Return	Annualized Return	Annualized Volatility	Worst Drawdown
Manager A	6.86%	2.42%	7.63%	-16.48%
Russell 1000 Value	-9.08%	-3.43%	17.34%	-35.62%

Time Window: June 17th, 2017 – March 27th, 2020



Source: Koyfin, as of 3/27/2020

even more picky with benchmarking, we can obviously construct a number of different style and factor based benchmarks that would take this analysis into much more granular detail, but for the sake of this commentary, we will just use the index as a benchmark). But let's move on, I think the point I am trying to illustrate here should be clear. If you can get equity like returns without taking as much volatility, why wouldn't you? Giving Manager A some of the capital that would otherwise be sitting in your equity allocation makes a lot of sense in our opinion.

Again, we view it as an equity substitute with lower volatility, and lower correlation. These two points are critical. The lower volatility component is obvious and speaks directly to the drawdown aspect of the discussion. The worst drawdown by Manager A was -16.48%, while the Russell 1000 Value Index saw a -35.62% drawdown. To get back to pre-Corona Virus breakeven values, Manager A needs to generate

One may point out that there's obviously a style tilt here...the Russell 1000 Value Index doesn't represent broad market equities. Point well taken. I am asking that you not only assume that we wanted to take a value tilt, but also ask that you recognize using the Russell 1000 Value Index is appropriate here because it is in line with Manager A's investment style (if we wanted to get



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roughly 20%, while the Russell 1000 Value Index needs to post nearly 54% to get back to even, a far greater hurdle to overcome.

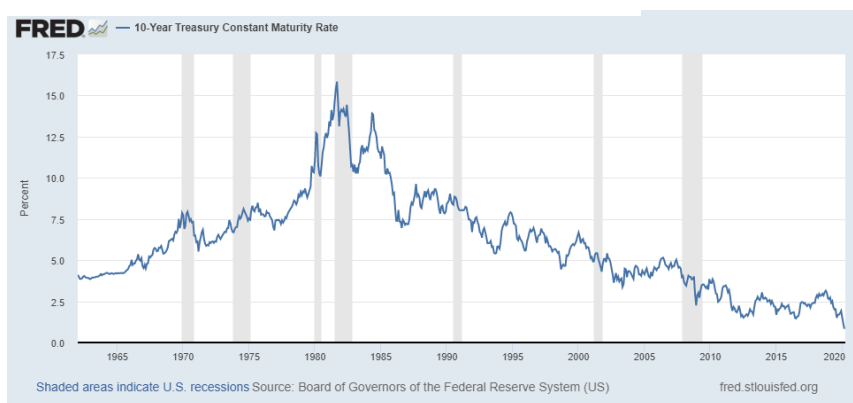
Now let me touch on the lower correlation aspect of the discussion- this is the part that most clients seem to forget quickly and often- and it's largely due to what I liken as FOMO syndrome (fear of missing out syndrome). A lower correlation profile means that Manager A will move less linearly to broad equity markets. Just for context, a zero-correlation relationship means that an asset or strategy ought to be completely unrelated to general market movements. A correlation of 1.0 means the two assets likely move in lock step. When you begin incorporating assets that exhibit these lower correlation attributes, you should not expect these assets to participate in massive equity rallies at every turn. Furthermore, because of the lower beta profile of these strategies, there will likely be times when you look at a long-short equity strategy and become frustrated with its capture ratio. But that is because such strategies are taking far less market risk. At times you may feel like your portfolio is incurring an opportunity cost by not being invested fully by owning a long only strategy. However, the Corona virus drawdown reminds us how quickly long only equity returns can evaporate. What good is chasing all that return when it can unexpectedly experience massive drawdowns? That is the fundamental reason why you want to own these types of assets alongside your equities, so that when equity markets are in a massive drawdown state, your less correlated assets are either drawing down less, are flat, or perhaps even making you money. We are not instructing that you take all long only equity risk off the table, but perhaps it makes sense to move some equity budget into alternatives. At the end of the day, aren't we all just trying to get to the same place? Alternative strategies simply provide us another route to get there.

An Illustration of a Duration Substitute:

To no surprise interest rates have moved down even further since our last publication. Exhibit 11 shows the 10-Year Treasury's downtrend in yield. The long bond and duration risk have delivered protection during this most recent volatility episode. In times of crisis, investors bid up high quality assets like US government bonds, and as their prices rise, yields fall. As I write this commentary, the US 10-Year treasury rate hovers just below +70bps. Intra quarter, this rate even reached as low as +40bps. We own some duration in our portfolios, however, if you've followed our allocation philosophy over the years, we've lightened our general weighting to this risk factor for two reasons:

- 1) It's expensive- as highlighted above, locking in sub 1% yield for 10 years is not an attractive proposition today.
- 2) Need for diversification: we believe we've successfully identified compelling duration and fixed income substitutes.

Exhibit 11: 10-Year Constant Maturity Rate:



Source: St. Louis Fed, FRED as of 3/27/2020

Manager B is an allocation we use across our portfolios in place of traditional bond managers. Manager B implements a multi-strategy approach that manages a variety of underlying sub-strategies to deliver a very lowly correlated return stream to that of both equities, and bond returns. Some of these underlying strategies include discretionary volatility trading, equity market neutral, global macro, and managed futures strategies.



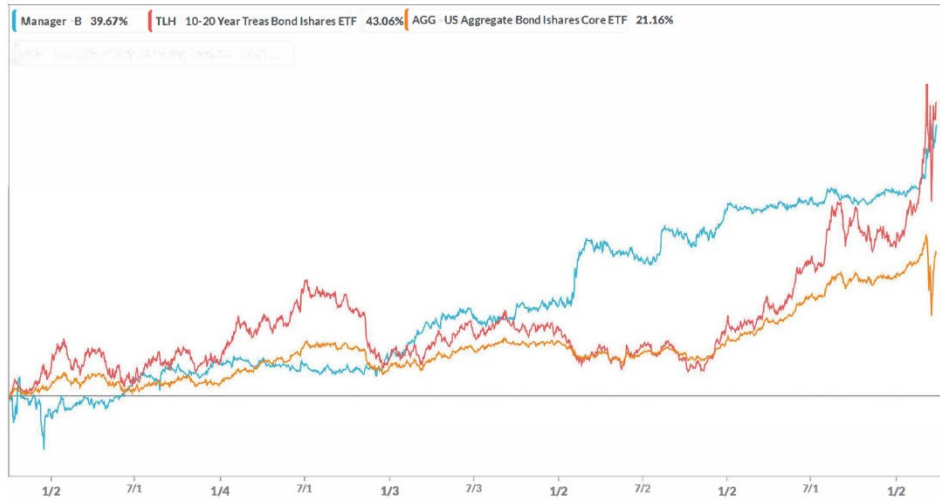
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- Volatility strategies: effectively taking long and short positions using derivative instruments. The strategy seeks to forecast realized volatility across various asset classes to exploit pricing mismatches
- Equity market neutral strategies: a long short equity strategy that runs a very low net and beta exposure to maintain a relatively alpha focused source of return
- Global macro: long and short positions across various currencies depending on relative value
- Managed futures: long and short positions using futures contracts across commodity markets

The combination of these strategies is attractive because we gain a broad exposure to a diverse set of return sources. In fact, the inception to date correlations of Manager B to the MSCI World Index (equities), the Bloomberg Barclays Aggregate Bond Index, and TLH (10-20 US Treasury Bonds) are -0.08, -0.11, and 0.0.

In our opinion, one of the most attractive attributes in addition to the low correlation profile of Manager B is the “duration” like bias it exhibits in true crisis periods. The strategy takes on such a defensive profile given the long volatility positioning found in its volatility sub-strategy. In various “risk-off” episodes throughout the life of the Fund, this strategy has delivered: Q1 2018, Q4 2018, and it is certainly doing so now.

Exhibit 12: Manager B since Inception Returns and Risk Metrics and Growth of a \$1:



Source: Koyfin, as of 3/27/2020

You will find a since inception risk and return summary of Manager B below. Most allocators use the Bloomberg Barclays Aggregate Bond Index to serve as the benchmark for their fixed income allocations. However, I also added the TLH ETF (iShares 10-20 Year Treasury Bond ETF, which largely tracks the returns of 10-20 US

Treasury Bonds) which is likely a better measure of the duration risk factor, to illustrate Manager B vs. duration sourced returns. With a low correlation profile to traditional assets, you can see Manager B returns higher absolute returns vs. the Barclays Agg. Bond Index, while also maintaining a lower volatility than that of TLH.

YTD through 3/27/2020, Manager B has delivered +761bps while the Bloomberg Barclays Agg. Bond Index delivered 2.67%. In a world of low yields, we strive to find fixed income substitutes that can not only deliver the returns of fixed income, but also possess defensive fixed income like behavior during risk off periods.

Time Range: 9/30/2014 - 3/27/2020, Source: Morningstar			
Investment Name	Cumulative Return	Annualized Return	Annualized Volatility
Manager B	38.69%	6.14%	5.29%
BBgBarc US Agg Bond TR USD	21.33%	3.58%	2.96%
iShares 10-20 Year Treasury Bond ETF	44.48%	6.93%	7.42%

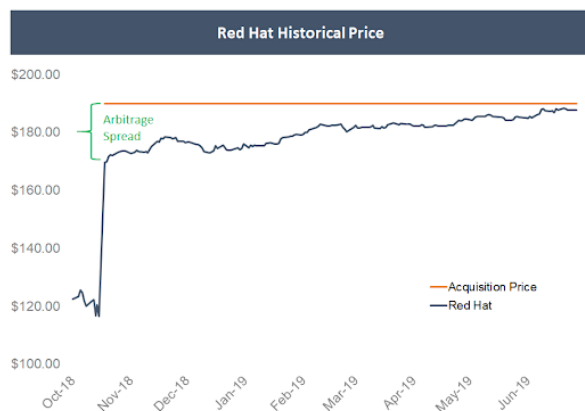


Illustration of a Credit Substitute:

Basically, anything that had some sort of embedded equity or credit risk did not work. We've used merger arbitrage as a credit substitute in our portfolios. During this period, such strategies saw drawdowns that were less than that of equities and long only credit exposures like investment corporate credit, high yield and structured credit.

Manager C runs a merger arbitrage strategy. Merger arbitrage is an event driven strategy that seeks to profit from the completion of mergers and acquisitions. There is a spread to be earned between a company's current share price and deal price paid for the acquisition in the context of an announced merger

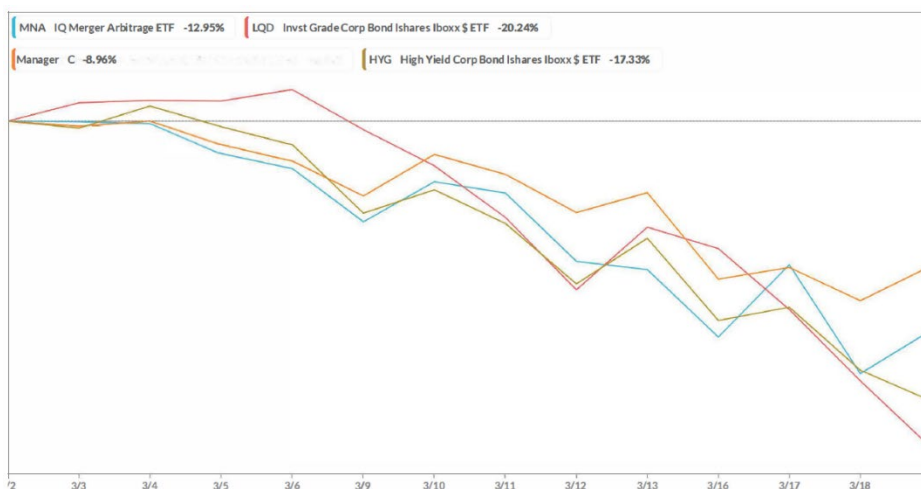
Exhibit 13: Example of Merger Arbitrage Trade:



transaction. The spread represents the uncertainty that the deal does not close. Managers that implement such strategies will generally be long the target, and short the acquirer. Such positioning leaves you theoretically market hedged and exposed to mostly "deal" risk. The beauty is that each deal also shows low correlation to general markets, and to each other. Put enough of these deals together and you have a compelling portfolio that is well diversified, less correlated to broad market movements, and an exposure, that in our opinion, provides a compelling substitute for high yield and investment grade like credit risk with **far less duration exposure**.

Exhibits 14: Manager C Peak to Trough in March 2020:

As of 3/27/2020	Ticker	Total Ret YTD	Total Ret 1 Yr	Total Ret Annlzd 3 Yr	Total Ret Annlzd 5 Yr	Std Dev 1 Yr	Std Dev 3 Yr	Std Dev 5 Yr
Manager C		-4.95	-0.27	3.65	3.49	1.86	3.09	3.65
iShares iBoxx \$ Invmt Grade Corp Bd ETF	LQD	-5.05	4.60	4.24	3.28	4.88	4.72	4.85
iShares Interest Rate Hedged Corp Bd ETF	LQDH	-14.11	-8.95	-1.07	0.08	5.36	4.30	4.27



Source: Koyfin and Morningstar, as of 3/27/2020

Manager C is invested in move towards completion, they should recoup the negative marks experienced thus far, even in an environment of continued market weakness.

Despite being subject to the corona virus volatility, we were generally comfortable with overall performance because 1) the detraction was explainable, 2) detraction was likely not permanent. In the depths

meaningfully disconnected from their transactional risk. These should be viewed as temporary breaks, and when the deals in which

In theory, deal spread uncertainty should have little to do with default risk in credit markets, or equity risk during generally healthy markets. Obviously, the volatility and uncertainty we witnessed this quarter spared no one. Spreads indiscriminately widened out across the board, in both high-quality and low quality-transactions. In crisis periods, such as this, spreads tend to widen as investors offload risk, and embedded risk premiums on all investments including alternative investments, will increase. Like most asset prices in stress periods, particularly merger deals in our opinion, spreads become



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of the crisis (Feb 29-March 18th), Manager C drawdown ~ -9%, vs. MNA ETF (consider this a beta product for M&A deals) of ~-13%. Investment grade corporate credit (represented by LQD) and high yield bonds (represented by HYG) were down ~ -20% and ~-17%, respectively. See Exhibit 14 above for drawdown comparisons.

In summary, even a strategy that withstood the volatility of Q4 2018 with positive returns fell to the global virus pandemic. However, we stress that partnering with a high quality manager in times of crisis is imperative. All deals are not going to get done, but a skilled manager will pivot and reweight positioning to appropriately manage risk. At the depths of the widening, merger spreads widened out to almost 25% annualized return potential on a deal basis, with some more highly probably deals even reflecting ~ 50% annualized returns. Obviously, spreads have compressed a good bit since the risk on rally last week, but merger spreads remain abnormally wide. We maintain strong conviction in the strategy and view this current dislocation as an opportunity.

Our Concerns Looking Forward:

Our investment committee has stayed busy conducting Zoom meetings and are constantly monitoring every exposure across our book. For now, our playbook focuses on defense, while play higher quality-oriented offense. That means buying into higher grade credit that has dislocated, playing equities in a hedged manager via active managers, and sizing up strategies that we've already done the homework on opportunistically. When we have more clarity and data on our side, we will look to increase risk in a more aggressive manner, but now is not that time. As we look forward, economic and public health data are obviously centers of focus, but there is another area of the market that we have long had concerns about- the corporate credit market.

The Fed has sought avoiding a financial crisis at all cost by injecting more and more liquidity into risk asset markets, but that obviously won't fix everything. Talks of the corporate credit bubble have been widely discussed on this forum, and the virus outbreak is the kicker. The amount of non-financial corporate credit has expanded rapidly over the last decade, far greater than household debt. As a percent of GDP, non-financial corporate credit currently sits at its historical high. Shadow banking (non-financial corp lending) and private credit is a risk to watch out for in the months ahead for us. Defaults have yet to properly make their way into the data, and Uncle Sam and the Fed can't possibly bail everyone out. If there ever was a distressed cycle to deploy into, this is it.

We can probably go another 10 pages worth of content given what has happened this quarter, but I will end it here. During this strange time of quarantine, every one of us should be keeping our minds and bodies healthy. I have been trying my best to keep a positive outlook, and you obviously know this has meant occasionally blasting Grateful Dead music through my apartment to find some words of assurance. This whole mess is just a touch of grey in a much longer journey...WE WILL GET BY, WE WILL SURVIVE! As always, thank you for your confidence and trust.

Best,



Johann Lee, CFA
Director of Research



Appendix:

Barclays Capital US Aggregate Bond Index: The index consists of approximately 17,000 bonds. The index represents a wide range of securities, from investment grade and public to fixed income.

ICE BoAML HY Index: The index is a commonly used benchmark index for high-yield corporate bonds. It tracks the performance of US dollar denominated below investment grade rated corporate debt publically issued in the US domestic market.

Russell 3000 Index: The Russell 3000 Index is a market-capitalization-weighted equity index maintained by the FTSE Russell that provides exposure to the entire U.S. stock market. The index tracks the performance of the 3,000 largest U.S.-traded stocks which represent about 98% of all U.S incorporated equity securities.

MSCI ACWI (All Country World) Index: The MSCI ACWI is a market capitalization weighted index designed to provide a broad measure of equity-market performance throughout the world. The MSCI ACWI Index is comprised of stocks from both developed and emerging markets.

S&P 500 Index: S&P 500 index is a float-adjusted market-cap weighted index, largely reflecting the large-cap US equities. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.

Purchasing Managers' Index (PMI): PMI Index is an indicator of economic health for manufacturing and service sectors. The purpose of the PMI is to provide information about current business conditions to company decision makers, analysts and purchasing managers.

ISM Manufacturing Index: The ISM Manufacturing Index is a widely-watched indicator of recent U.S. economic activity. The index is often referred to as the Purchasing Manager's Index (PMI).

CBOE Volatility Index (VIX Index): The VIX Index is a real-time market index used to measure the market's expectation of future volatility. Being a forward-looking index, it is constructed using the implied volatilities on S&P 500 index options (SPX) and represents the market's expectation of 30-day future volatility of the S&P 500 index which is considered the leading indicator of the broad U.S. stock market.



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