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# COVID-19 Induced Market Dislocation, Credit Defaults, and Bankruptcies

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<b>COVID-19 Induced Market Dislocation, Credit Defaults, and Bankruptcies – The Key Moving Parts and a List of “Sources Relied On”</b> .....	2
THE COVID-19 CRISIS AND ITS EFFECTS ON THE U.S. ECONOMY .....	3
Industries Immediately Impacted by the COVID-19 Crisis .....	4
The Overall Employment Outlook Has Turned Decidedly Bearish.....	5
The Effect of Elevated Unemployment on Likely Credit Defaults and Bankruptcies .....	6
Government Intervention in the Face of the COVID-19 Crisis .....	7
THE OUTLOOK FOR CREDIT DEFAULTS AND BANKRUPTCIES .....	8
The Length of the COVID-19 Crisis Will Likely Impact the Magnitude of Credit Defaults and Bankruptcies .....	9
The Financial Markets – When Will the Credit & Equity Markets Reopen for Business? .....	10
The Impact of the COVID-19 Crisis on Municipal and Corporate Credit .....	12
The Impact of Credit Rating Downgrades, Defaults, and Bankruptcies on Holders of Financial Assets .....	13
RISKS TO PRIVATE EQUITY AND HEDGE FUNDS POSED BY THE COVID-19 CRISIS.....	15
Those Investors with “Dry Powder” may be Poised to Benefit from New Investments.....	16
SUPPLEMENT TO LETTER – TESTING, TREATMENT, AND A POSSIBLE VACCINE .....	17
SUPPLEMENT TO LETTER – TOP-OF-MIND ISSUES.....	20
<b>Postscript – Information Resources</b> .....	22

# COVID-19 Induced Market Dislocation, Credit Defaults, and Bankruptcies – The Key Moving Parts and a List of “Sources Relied On”<sup>1</sup>

As recently as a few weeks ago the United States continued to enjoy the longest economic expansion in its history, with the economy entering its 11<sup>th</sup> consecutive year of growth.<sup>2</sup> Experienced market participants in the credit space noted that the expansionary period was “long in the tooth” and that perhaps the credit markets were overdue for a correction, but there did not appear to be a clearly identifiable catalyst. The sentiment was however, that if conditions were to turn, the effect on credit defaults and bankruptcies that would ensue could be ferocious, due to the sizable growth in the issuance of speculative grade leveraged loans and bonds, combined with a general relaxation in debt covenant standards over the past few years.

In a matter of weeks, it now seems clear that the record-breaking period of economic expansion in the U.S. has ended abruptly, as a result of the COVID-19 crisis (the “COVID-19 Crisis”). The situation is fast-moving, with the outlook thus far oscillating between hope and fear on any given day.<sup>3</sup> One thing is clear: in addition to the human tragedy unfolding, there has been significant damage done to the economy. This damage is not only related to the industry’s most immediately affected, but also to the underlying health of the credit markets, as well as the market for equity capital, traditionally provided through venture capital, private equity, and the

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<sup>1</sup> Thanks to my Brattle colleagues Dan Grana and Julia Zhu for their contribution to this work. The opinions expressed are those of the author(s) and do not necessarily reflect the views of the firm or its clients. This article is for general information purposes and is not intended to be and should not be taken as legal advice.

<sup>2</sup> John Marotta, Forbes, “Longest Economic Expansion in United States History” January 21, 2020, <https://www.forbes.com/sites/davidmarotta/2020/01/21/longest-economic-expansion-in-united-states-history/#1eb918c362a2>

<sup>3</sup> The amount of available information can, at times, seem overwhelming. I have provided some recommended information resources relating to various topics of interest – ranging from the current status of the COVID-19 Crisis from a health perspective, to its impact on credit quality and the credit markets, as well as other topics. This list is ever-evolving and is not yet 100% complete, but should provide a foundation. My hope is that readers will be able to create a real time, customized “news feed” for themselves, relating to the issues most relevant to them. See Supplement to Letter – Testing, Treatment, and a Possible Vaccine and Postscript – Information Resources for further information.

market for initial public offerings (“IPOs”). These are vital markets that companies rely on to provide the capital so critical to their success and growth. The dislocation in these capital markets will have profound effects on credit defaults and bankruptcies over the next twelve months. It will impact susceptible companies operating in the most affected industries, with the effects rippling outward to other companies and industries as time progresses. In turn, elevated risk levels relating to potential credit defaults and bankruptcies will also impact holders of financial assets more generally.

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## THE COVID-19 CRISIS AND ITS EFFECTS ON THE U.S. ECONOMY

The COVID-19 Crisis is placing unprecedented strains on the U.S. economy, across a wide range of industries. There is little visibility with respect to the duration of the crisis, and how long it will take before the economy can adjust to a “new normal” state. Some believe that overall business activity can rebound later this year in the third or fourth quarter, but others predict it may be a year or more before businesses will be in a position to optimize their operations again, and adjust to whatever their “new normal” may be. In the meantime, the shock to the domestic economy has been, and will continue to be, dramatic, with estimates for real GDP performance in the second quarter of 2020 in a range of minus 14% to minus 30%.<sup>4</sup> Worldwide, real GDP is now expected to contract for the full year.<sup>5</sup>

The value of most real and financial assets has declined as a result of the COVID-19 Crisis, the downside to financial leverage has once again reared its ugly head, and it is likely that there will be heavy “mark-to-market” losses for holders of financial assets reported in the days and weeks to come, as the first quarter of 2020 comes to a close.

As occurred in the aftermath of the 2008 Financial Crisis, it is also probable that there will be a myriad of disputes of every variety arising, including as it relates to value destruction across numerous industries and asset classes, credit availability (or the withholding of same), bankruptcies, broken M&A transactions, unpaid obligations, the enforceability of contractual obligations, margin calls, trade execution, failed investment funds, and market manipulation. For investors and advisors, there may also be disputes relating to investment suitability or even allegations of fraud.

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<sup>4</sup> Simon Kennedy, Bloomberg, "Morgan Stanley, Goldman See Virus Causing Greater Economic Pain" March 22, 2020, <https://www.bloomberg.com/news/articles/2020-03-22/morgan-stanley-sees-u-s-economy-plunging-30-in-second-quarter>

<sup>5</sup> See Moody’s Investors Services, Global Marco Outlook 2020-2021, March 25, 2020. Moody’s expects both global and G-20 real GDP to contract 0.5% in 2020.

## Industries Immediately Impacted by the COVID-19 Crisis

Airlines, cruise ship operators, hotels, restaurants, leisure, gaming, brick and mortar retail, and the health and wellness industry have been among some of the first industries to feel the negative effects of the COVID-19 Crisis. In addition, adjacent businesses that rely on payment streams from affected industries in the normal course, such as commercial real estate that is dependent on retail tenants, or aircraft lessors that depend on lease payments from the airlines, are also likely to bear the brunt of recent events, as the ability of lessees to make regular payments may be severely curtailed. The construction and engineering industry may also be hard hit, as stop work orders are imposed on non-essential projects, and as demand slows more generally. It seems likely that some industries will receive substantial financial support from the federal government, with Boeing and the airlines most frequently mentioned as possible recipients. The benefits of those bailouts may flow to those company's creditors and shareholders, or may be for the benefit of the U.S. taxpayers, in whole or in part. Manufacturers and retailers have also been hurt as a result of supply chain disruptions in Asia and Europe, with 40% of CFOs reporting that they expect supply chain issues to last for three to six months, on average.<sup>6</sup> Industries reliant on consumer purchases of big ticket items such as the auto manufacturers and their downstream suppliers have also been negatively impacted.

Facilities-based healthcare is also expected to experience reduced profitability. At a time when hospitals are so critically needed on the front lines in the fight against COVID-19, the fact is that many are also likely to experience reduced profitability and cash flow issues, due to the curtailment of profitable elective surgeries. Continuous care retirement communities ("CCRCs") may also be affected, at least in the short- to medium-term. Unfortunately, CCRCs have proven to be a hotbed for the spread of contagious disease such as COVID-19, and, as a result, it may be more challenging to induce older adults to move in to independent living facilities generally which is part of the business model for CCRCs.

The energy industry, is experiencing increased distress, as a result of the oil price war that has broken out between Saudi Arabia and Russia. Prior to the COVID-19 Crisis, oil prices were in the \$50/bbl range, and have now fallen to below \$20/bbl,<sup>7</sup> thereby putting further pressure on the already stressed energy sector.

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<sup>6</sup> Barbara Booth, Eric Rosenbaum, CNBC, "Coronavirus impact: Once pandemic ends, businesses may take 6 months to get up and running normally, says CFO survey" March 23, 2020, <https://www.cnbc.com/2020/03/23/coronavirus-and-markets-business-wont-be-back-to-normal-for-months.html>

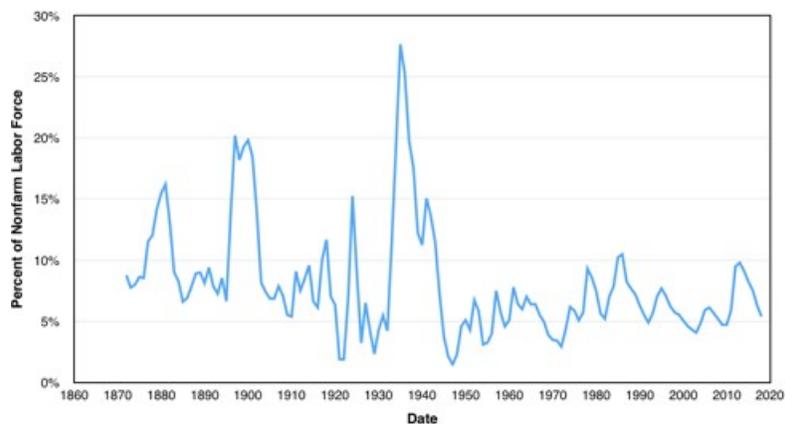
<sup>7</sup> All oil price quotes are for WTI. See <https://fred.stlouisfed.org/series/DCOILWTICO>.

## The Overall Employment Outlook Has Turned Decidedly Bearish

At this time, concerns that COVID-19 could lead to a worldwide recession (at a minimum) seem well-placed.<sup>8</sup> The question no longer seems to be whether there will be a recession, but rather how severe it will be and how long it will last.

The level of unemployment in the U.S. will be a key driver of how and when the economy will recover. Treasury Secretary Steven Mnuchin has estimated that, if left unchecked and unaddressed, the impact of the COVID-19 pandemic could result in the U.S. unemployment rate surging to the 20% range.<sup>9</sup> This level of unemployment has not been seen since the Great Depression, as shown in the chart in Table 1 below. As a result of the 2008 Financial Crisis, the unemployment rate reached approximately 10%, and the ensuing recession was relatively short-lived.

TABLE 1. U.S. NONFARM UNEMPLOYMENT RATE, 1869-2018



Source: Brad DeLong, <https://www.bradford-delong.com/2019/05/historical-nonfarm-unemployment-statistics.html>

Preliminary reports of job losses from COVID-19 have been dramatic, as evidenced by the 3.28 million jobless benefits claims filed in the week ending March 21. These claims - quadruple the prior all-time high - imply an

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<sup>8</sup> With a recession defined as at least two consecutive quarters with negative real GDP growth. This is a benchmark definition commonly used in the financial press. See [https://www.nber.org/cycles/recessions\\_faq.html](https://www.nber.org/cycles/recessions_faq.html) for an expanded discussion of how the NBER determines recessions.

<sup>9</sup> Josh Wingrove, Saleha Mohsin, Jennifer Jacobs, Bloomberg, “Mnuchin Warns Virus Could Yield 20% Jobless Rate Without Action” March 17, 2020, <https://www.bloomberg.com/news/articles/2020-03-17/mnuchin-warns-virus-could-yield-20-jobless-rate-without-action-k7wheob8dan>

unemployment rate of approximately 5.5%.<sup>10</sup> The unemployment rate will likely rise further in the coming weeks, when additional data becomes available by April 3, by which time both jobless claims and unemployment claims numbers will have been updated. <sup>11</sup>

Job losses are anticipated to be particularly severe for small businesses, which employ close to half of all workers in the U.S.<sup>12</sup> Most small businesses do not have a substantial financial cushion to provide a buffer against lost orders, cancelled bookings/events, or declining demand that has already occurred and that is likely to continue. Anecdotal reports suggest that within approximately 30 days of COVID-19 hitting U.S. shores the effect on small business employment has been nothing short of devastating. It has been estimated that, in a good scenario, up to 30% of small businesses could fail.<sup>13</sup>

## **The Effect of Elevated Unemployment on Likely Credit Defaults and Bankruptcies**

If the U.S. unemployment rate were to reach a level approximating 20% or higher, the effect would be an overwhelming cascade of debt defaults and corporate bankruptcies, the likes of which would have the potential to overwhelm the legal and operational framework for bankruptcies and/or restructurings as it exists today.

To understand the impact that COVID-19 and projected unemployment increases might have on bankruptcies in the United States, it is important to note that consumer spending represents approximately 70% of GDP.<sup>14</sup> The outlook for consumer spending as a result of the COVID-19 Crisis is overwhelmingly negative, although there will be certain sectors, such as online shopping, household cleaning items, staples, medical supplies, home office equipment, video conferencing, distance learning, remote health and wellness, and certain sectors of telecom (given the increased importance of remote connectivity and streaming services), among others, that will surely see at least short-term benefits. Nonetheless, while consumers may have been rushing to the supermarkets and drugstores to stock up on essentials, the effect of this “shelter in place” spending will be dwarfed by the overall decline in consumer buying power and continuing restrictions on activities outside the home.

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<sup>10</sup> Reade Pickert, Bloomberg, "U.S. Jobless Claims Jump to 3.28 Million, Quadruple Prior Record" March 26, 2020,

<https://www.bloomberg.com/news/articles/2020-03-26/u-s-jobless-claims-surged-to-record-3-28-million-last-week?srnd=premium>

<sup>11</sup> See <https://www.marketwatch.com/tools/calendars/economic>

<sup>12</sup> See <https://sbecouncil.org/about-us/facts-and-data/>

<sup>13</sup> “Coronavirus ‘good scenario’ could be 20% of small businesses fail” YAHOO! Finance March 27, 2020

<sup>14</sup> U.S. Bureau of Economics Analysis, Federal Reserve Bank of St. Louis FRED, <https://fred.stlouisfed.org/series/DPCERE1Q156NBEA>

## Government Intervention in the Face of the COVID-19 Crisis

The effectiveness of government intervention at the federal, state, and local levels is likely to play a defining role in how the COVID-19 Crisis ultimately impacts credit defaults and bankruptcies.

State and local governments play a role because they are on the front lines with respect to implementing the effective delivery of healthcare, and because they formulate rules and regulations governing any restrictions on movement imposed on their respective populations.

The federal government can also play a role by undertaking efforts to stabilize the financial markets, by formulating plans for financial relief, and by stimulating economic activity and employment. Government intervention can come by way of both monetary and fiscal programs, from the Fed, from Congress, and from the executive branch.

On Monday March 23, the Fed stated that “It has become clear that our economy will face severe disruptions...Aggressive efforts must be taken across the public and private sectors to limit the losses to jobs and incomes and to promote a swift recovery once the disruptions abate.”<sup>15</sup>

The levers available to the Fed include fostering stability in the credit markets, by lowering interest rates, by creating special purpose vehicles to support liquidity in financial instruments, and by providing lending facilities. The Fed has taken steps to stabilize conditions in the credit markets by increasing purchases of U.S. treasury instruments and mortgage-backed securities, introducing credit facilities to large employers, and, for the first time, purchasing corporate credit through the Fed’s outright purchase of broad-market exchange-traded funds that invest in credit-related instruments (“ETFs”).<sup>16</sup>

The legislative and executive branches have also taken significant steps to soften the blow of the Covid-19 Crisis. In an effort to stabilize the economy, the largest stimulus bill in history was signed into law on March 27, 2020. The Covid-19 stimulus bill, referred to as the CARES Act, pledges \$2 trillion in economic aid for workers

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<sup>15</sup> Federal Reserve announces extensive new measures to support the economy March 23, 2020 Board of Governors of the Federal Reserve System Press Release

<sup>16</sup> See <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm> and <https://www.cnbc.com/2020/03/24/coronavirus-fed-bond-buying-stimulus-effect-on-etf-market.html>. The Fed is expected to purchase at most 20% of outstanding issuance of certain corporate bond ETFs from large issuers.

(including direct payments), support for small businesses, hospitals and health care providers, and up to \$500 billion in loans for companies in distressed industries.<sup>17</sup>

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## THE OUTLOOK FOR CREDIT DEFAULTS AND BANKRUPTCIES

The general impact of the COVID-19 Crisis on U.S. corporate credit default rates and bankruptcies could be historic. Prior to the COVID-19 Crisis, and according to a baseline forecast, Moody's had projected that default rates globally would reach 3.3% in 2020.<sup>18</sup> It goes without saying that forecasts created before the impact of COVID-19 was more widely known no longer reflect current conditions. Moody's has more recently estimated that trailing twelve-month speculative-grade defaults could rise to between 6.8-20.8% one year from now.<sup>19</sup>

It would not be surprising to see speculative grade default rates at or above the levels reached in the last three prior default rate peaks – potentially hitting a level that could well exceed 10% as has been reached in or following other periods of economic contraction, shown in the chart in Table 2 below:

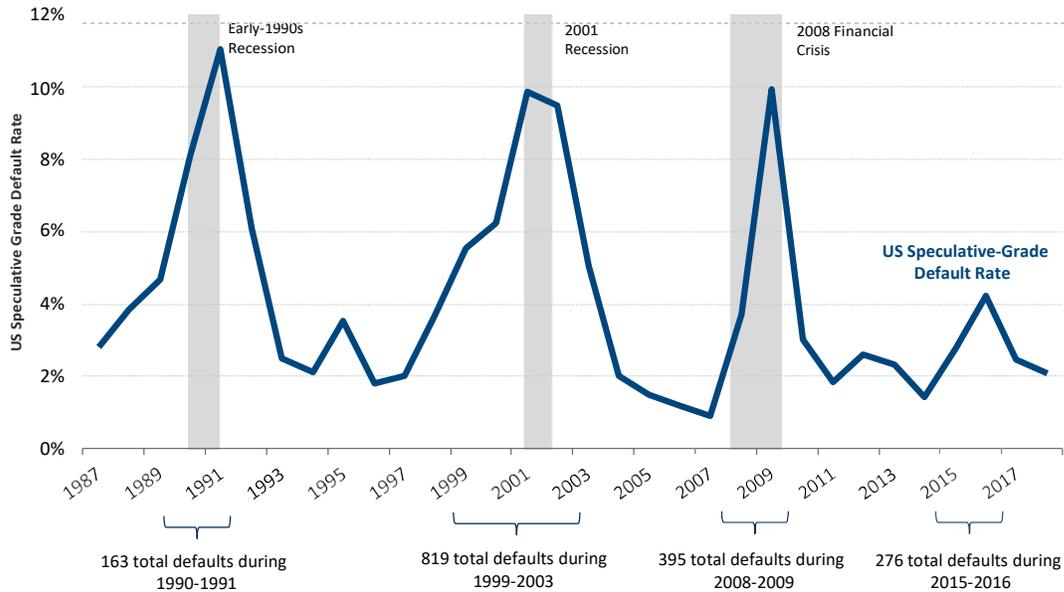
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<sup>17</sup> “Trump signs \$2 trillion coronavirus relief bill as the US tries to prevent economic devastation” CNBC March 28, 2020 and “Trump signs historic \$2 trillion stimulus after Congress passes it on Friday” CNN March 27, 2020

<sup>18</sup> Annual default study: Defaults globally will edge higher in 2020 Moody's January 30, 2020

<sup>19</sup> Default Trends-Global: Default scenarios as coronavirus induced economic turmoil intensifies. Moody's March 27, 2020

TABLE 2. HISTORICAL DEFAULT RATES AND U.S. RECESSIONARY PERIODS



Source: S&P Global

Month-to-date through March 26, 18 businesses have filed for bankruptcy, as compared to 16 filings in each of January and February.<sup>20</sup> It would not be surprising to see the number of bankruptcy filings accelerate dramatically in the weeks and months ahead. As companies file, there will be a ripple effect that is likely to cause widespread collateral damage to the bankrupt companies’ suppliers and other creditor counterparties.

In the end, the actual impact of the COVID-19 Crisis on credit defaults and bankruptcies will depend on a number of moving parts with many of the most critical being in the hands of the U.S. federal government. The steps that our lawmakers choose to take - or conversely choose not to take – will either dampen the impact of the COVID-19 Crisis on credit defaults and corporate bankruptcies, or conversely, could make matters worse, which could unfortunately lead to widespread value destruction in the U.S.

## The Length of the COVID-19 Crisis Will Likely Impact the Magnitude of Credit Defaults and Bankruptcies

In evaluating the likely duration of the COVID-19 Crisis in the U.S., it is instructive to study the disruptions and the early signs of recovery in China’s economy, which may provide insights on what could happen in the U.S. The

<sup>20</sup>Debtwire restructuring database/cases

COVID-19 outbreak led to record declines in economic activity in China during the first two months of 2020. In February, China's services PMI, adjusted for seasonal factors including the Chinese New Year, fell to 26.5, from 51.8 in January, with a reading below 50 signaling contraction.<sup>21</sup> This was the sharpest decline since the index was constructed 14 years ago, and largely resulted from travel restrictions and business closures induced by the spread of COVID-19 and the government's drastic measures to contain the spread.

More recently, as new domestic infections dropped to zero or near-zero for over a week, travel restrictions and shutdowns were being lifted across the country with the exception of Wuhan.<sup>22</sup> Bloomberg has estimated that 85% of economic activity has resumed in regions outside of Hubei.<sup>23</sup> According to China's Ministry of Commerce, almost 70% of key export and import firms have resumed over 70% of their production capacity, in regions excluding Hubei.<sup>24</sup> Early signals seem to indicate that the Chinese economy may be bottoming out.<sup>25</sup> However, as the global economy is headed toward recession, the early rebound in China is very much in flux. Concerns of a second wave of COVID-19 cases in China, largely resulting from infections introduced by overseas visitors, are also growing.

## **The Financial Markets – When Will the Credit & Equity Markets Reopen for Business?**

In order for the U.S. economy to function properly, and for widespread corporate default and business bankruptcies to be averted, the capital markets must find a level – wherever that level may ultimately be – and be open for business so that companies can raise debt and issue equity. For that to occur, there will necessarily need to be reasonable stability in the pricing of financial assets, as well as reasonably well functioning, liquid trading markets.

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<sup>21</sup> <https://www.caixinglobal.com/2020-03-10/caixin-china-general-services-pmi-february-2020-101526616.html>.

<sup>22</sup> <https://www.theguardian.com/world/2020/mar/25/chinas-premier-warns-local-officials-not-to-cover-up-new-covid-19-cases-as-hubei-reopens>.

<sup>23</sup> <https://www.bloomberg.com/news/articles/2020-03-22/china-talks-up-post-virus-rebound-as-world-economy-shuts-down>.

<sup>24</sup> <https://www.dbs.com.sg/sme/aics/templatedata/article/generic/data/en/CIO/032020/200323asia.xml>.

<sup>25</sup> <https://www.bloomberg.com/news/articles/2020-03-26/positive-signs-for-china-s-economy-emerge-as-world-enters-slump>.

At present, for the most part, the public and private credit markets appear to be closed to the majority of issuers, particularly those in industries that have been negatively impacted by the COVID-19 Crisis.<sup>26</sup> If left unaddressed, widespread closure of the credit markets will be highly problematic.

Going forward, the best-case scenario would be that stability will quickly return to the markets because market participants will view the COVID-19 Crisis as containable and manageable in a reasonable period of time, and because government intervention proves to be effective. A more negative scenario would include an extended duration of the COVID-19 Crisis, with the potential for a second wave of illness down the road. In the downside scenario there could be an even deeper decline in the value of financial assets, as parties resort to “fire-sales” of assets to raise cash.

No matter whether one subscribes to the upside or downside scenario, there is already evidence that the dislocation in the financial markets to date is beginning to have serious repercussions. Financial institutions are beginning to make margin calls, which could be followed by auctions and/or sales of collateral at fire sale prices. Disputes over margin calls have already commenced, including in the case of a mortgage REIT that has initiated litigation against a bank counterparty relating to a threatened margin call.<sup>27</sup>

There are certain observable metrics that provide insight into the overall health of the credit markets. One of those metrics is the required return that investors demand to invest in corporate debt, as measured by spreads over treasuries.<sup>28</sup> The chart in Table 3 below shows that corporate debt spreads have spiked to levels not seen since the 2008 Financial Crisis. The increase in corporate debt spreads is evidenced of heightened concerns about increased defaults and losses.

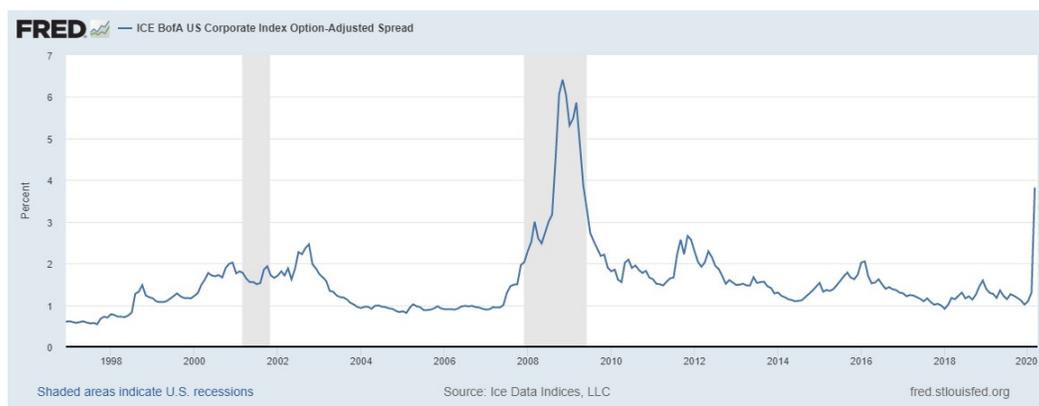
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<sup>26</sup> There are exceptions to the general rule, and stronger companies with less leverage and less impacted business models may be able to access the markets to a certain extent.

<sup>27</sup> Royal Bank of Canada Sued by REIT over CMBS Margin Calls Bloomberg March 25, 2020

<sup>28</sup> <https://fred.stlouisfed.org/series/WORAL> and <https://fred.stlouisfed.org/series/BAMLCOA0CM>

TABLE 3. CORPORATE BOND INDEX SPREAD



Source: ICE BofA, Federal Reserve Bank of St. Louis FRED, <https://fred.stlouisfed.org/series/BAMLC0A0CM>

## The Impact of the COVID-19 Crisis on Municipal and Corporate Credit

It is highly likely that the COVID-19 Crisis, and the resulting impact on business activity will markedly increase credit rating downgrades and debt default rates. Ratings downgrades reflecting an expected increase in default risk have already commenced, and are likely to accelerate, as the credit ratings agencies digest and process what is likely to be a backlog of issuer reviews for municipal and corporate issuers. Thus far, S&P has already issued hundreds of COVID-19 related downgrades.<sup>29</sup> Sovereign credit ratings are also at risk – on March 27, Moody’s downgraded South Africa’s credit rating into junk territory, and the country may now have to approach the International Monetary Fund to assist with liquidity requirements.<sup>30</sup>

Municipalities will also likely be subject to credit downgrades, due to lower cash generation, increases in underfunded pension liabilities, and limited access to the capital markets. New York City’s MTA, for example, has recently experienced drastic declines in ridership which has affected its ability to generate cash. Subway ridership is down a reported 60%, and commuter railway traffic is down a reported 90%.<sup>31</sup>

Corporations will also be affected, due to reduced cash flow generation, and an inability to access the capital markets. The balance sheets, business outlook, and forward liquidity forecasts for these companies will be closely scrutinized by the ratings agencies.

<sup>29</sup> Cezary Podkul and Gunjan Banerji, The Wall Street Journal, "Bond Downgrades Begin Amid Coronavirus Slowdown" March 24, 2020, <https://www.wsj.com/articles/bond-downgrades-begin-amid-coronavirus-slowdown-11585045800>

<sup>30</sup> "Unknowns Await Emerging Markets After Wildest Moves Since 2008" Bloomberg March 29, 2020

<sup>31</sup> M.T.A., Citing Huge Drop in Riders, Seeks \$4 billion Virus Bailout. New York Times March 17, 2020

## The Impact of Credit Rating Downgrades, Defaults, and Bankruptcies on Holders of Financial Assets

Credit downgrades (and potential defaults) will have a knock-on effect for investors who invest in credit instruments as part of an overall investment portfolio. Credit instruments can be divided into, among other potential categories, investment grade, high yield, and structured credit (including debt issued that is backed by real estate assets like Residential Mortgage-Backed Securities (“RMBs”), Commercial Mortgage-Backed Securities (“CMBs”), debt that is backed by corporate credit (typically speculative grade) such as Collateralized Debt Obligations (“CDOs”) and Collateralized Loan Obligations (“CLOs”), as well as aircraft lease, student loan, and auto loan securitizations.

There continues to be significant market dislocation and illiquidity in the market for financial assets, including for equities, fixed income bonds, leveraged loans, and various forms of structured credit. The value of structured credit is particularly susceptible to the potential ill effects from the COVID-19 Crisis because of its structural leverage, and because the payment streams paid to investors are tied to payment streams received by others in the chain. For example, the cash flows that investors expect from CMBS rely on cash flow streams paid by property owners who, in turn, rely on tenants to lease space and pay rent. Depending on the CMBs, the tenant roster may include retail tenants, commercial office space tenants, or corporate tenants all of which could be negatively impacted by the COVID-19 Crisis.

CLOs are also particularly susceptible to the ill effects from the COVID-19 Crisis. CLOs are only permitted to own a certain amount of the lowest rated speculative grade loans, and may be forced sellers of those loans as the loans are downgraded. This could create losses for investors in the riskier tranches of the CLO’s debt and equity structure. Business development companies (“BDCs”), which are publicly traded entities that largely invest in loans and other forms of debt issued by speculative-grade issuers are also likely to be negatively impacted by the depressed pricing environment for speculative-grade credit, including for leveraged loans.

Insurance company portfolios are also exposed and will likely lose value, which may put pressure on the insurance industry. The insurance industry may experience increased claims relating to the COVID-19 Crisis at precisely the time the value of their investment portfolios is experiencing steep declines. Fitch Ratings, a rating agency active in the insurance industry, believes that the greatest risk in the insurance sector is with life and health insurers.<sup>32</sup>

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<sup>32</sup> FitchRatings: Assessing Global Financial Institutions’ Vulnerability to Coronavirus Events

Table 4 below provides metrics that illustrate the dramatic negative impact that the COVID-19 Crisis has had on the value of selected financial assets thus far month-to-date through March 26:

TABLE 4. KEY MARKET METRICS THROUGH MARCH 26

	March 1	March 26	Change
S&P 500	2,954	2,630	-11%
VIX	40.1	61.0	+52%
S&P/LSTA U.S. Leveraged Loan Index	2,234	1,980	-11%
Investment Grade Spread	1.30	3.33	+156%
High Yield Spread	5.06	9.29	+84%
MBS Spread	0.76	1.22	+61%
CMBS Spread	0.73	2.44	+234%
Muni Yield % of 10-Year Treasury	84.96	206.48	+143%

Sources: S&P for S&P500, Leveraged Loan Index, and MBS spread; CBOE for VIX, BAML for Investment Grade and High Yield index spreads; Bloomberg for CMBS (LUCMOAS) and Muni (MUNSMT10) indexes.

As Table 4 indicates, there have been dramatic negative movements in the value of a wide variety of financial assets, with a spike in the yields and spreads that investors require. For example, the yield on municipal bonds, which had been at 85% of the 10-year Treasury yield as recently as March 1 had risen to 207% as of March 26.<sup>33</sup> An index that tracks the performance of leveraged loans is down approximately 11% in March. Likewise, the spread to treasuries for high yield bonds increased from approximately 500 basis points as of March 1 to a whopping 929 basis points as of March 26. To put this in perspective, the traditional definition of a distressed high yield bond is a bond that trades 1,000 basis points or more over a treasury instrument with a like maturity. The fact that the entire high yield market has been trading close to 1,000 basis points over treasuries implies that the entire high yield market is distressed.

It is true that the United States has experienced periods of market dislocation before, for example, during the October 1987 Stock Market Crash, the bankruptcy of Drexel Burnham in 1990, the Russia Debt Crisis in 1998, the 2000-2001 bursting of the dot-com bubble, the 2001 9/11 terrorist attacks (with the accompanying tragic loss of life), and the 2008 Financial Crisis. Each of these periods had its unique characteristics and effects, however, what makes the COVID-19 Crisis unique is that none of these other crises resulted in such a widespread cessation of economic activity in the U.S. as the COVID-19 Crisis has to-date.

<sup>33</sup> <https://fred.stlouisfed.org/series/DGS10>. Because of their tax attributes, municipal bonds typically yield less than taxable instruments

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## RISKS TO PRIVATE EQUITY AND HEDGE FUNDS POSED BY THE COVID-19 CRISIS

Private equity firms invest their funds in operating companies across a wide range of industries. Some of the portfolio companies held by private equity funds will undoubtedly be hurt in the COVID-19 Crisis, while others, due to their business and financial model, might be less affected or could even benefit. Depending on the nature of the private equity fund's portfolio companies, and any industry concentrations, private equity funds may be subject to substantial "mark-to-market" risk when they are required to mark their portfolios to fair value as of the end of the first quarter of 2020. Because that is only a "mark-to-market" exercise, it may not represent a permanent impairment. However, to the extent that the value of any portfolio company held by a private equity fund is permanently impaired due to its business model, then the overall effect on the private equity fund and its investors could be more pronounced.

Private equity funds could also be impacted to the extent that portfolio companies become increasingly liquidity constrained and are unable obtain the necessary funding for their operations. Such a circumstance could result due to the amount of leverage that is typically employed in private equity investing, and increased risk aversion among credit providers who are witnessing increased credit defaults and bankruptcies generally. There is some anecdotal evidence that portfolio companies of private equity firms have been drawing down on available lines of credit to maximize liquidity, in order to help ensure sustained operations over the course of the COVID-19 Crisis.

Exit strategies for portfolio companies that had been planned may also be more difficult to achieve at attractive valuations in what is likely to be a more hostile deal environment. It may also prove more difficult for private equity fund sponsors to maximize their carried interest compensation in a variety of circumstances, including for funds approaching the end of their contractual life. Private equity investors may also find it more difficult to monetize their private equity fund interests, as access to the secondary market for such interests will likely be constrained.

Hedge funds will be affected by "mark-to-market" losses on portfolio investments with losses potentially amplified through the use of financial leverage. Hedge funds tend to "mark-to-market" on a weekly or monthly basis, and may be subject to redemptions by investors seeking liquidity. In turn, as portfolio investments must be sold, it could put further downward pressure on pricing levels for a range of financial assets. Some funds may have had portfolio hedges in place, designed to profit during periods of market dislocation. These types of hedges could include selling securities short, or investing in derivatives products such as credit default swaps ("CDS") that allow investors to take a negative position on the credit quality of a particular issuer or an index such as, for example, a high yield index or a structured credit index.

## **Those Investors with “Dry Powder” may be Poised to Benefit from New Investments**

For those with a longer term view, to the extent that private equity and hedge fund firms have “dry powder” to invest, there may be opportunities for the strategic deployment of fresh capital into stressed and distressed situations, as occurred during, and in the aftermath of, the 2008 Financial Crisis. If and when the economic landscape becomes more hospitable, these investments may prove to be very profitable and could offset potentially lower returns or losses from legacy investments. Businesses, creditors, and investors alike will be focused on how long the COVID-19 Crisis will be with us, and how best to adjust business models and capital structures to what is likely to be a “new normal” for the U.S. economy.

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## SUPPLEMENT TO LETTER – TESTING, TREATMENT, AND A POSSIBLE VACCINE

Understanding the extent to which the COVID -19 Crisis is likely to impact credit defaults and bankruptcies requires some basic layperson’s analysis of the general health threat we are facing. COVID-19 has proved to be highly infectious, and as a result, steps have been introduced to halt its spread, including mandatory stay-at-home orders, and the shutdown of non-essential businesses.<sup>34</sup> Containing the spread of COVID-19 will be key to mitigating its ultimate impact on the U.S. economy, and the outlook for credit defaults and bankruptcies. It is not clear how long it is going to take to get COVID-19 under control in the U.S. – estimates range from mere weeks to perhaps a year or more. It is also possible that the virus could be brought under control only to return in another cycle, as occurred with the 1918 Spanish Flu, which proved to be more deadly when it re-occurred than it was initially.<sup>35</sup>

Controlling the spread of COVID-19 will be key to mitigating its ultimate impact on the U.S. economy, and the outlook for credit defaults and bankruptcies.

The sooner COVID-19 can be contained, the sooner people can return to their normal life patterns, and the economy can begin to fight its way back towards some semblance of balance and recovery, as the population returns to work, school, shopping, dining, and travelling. In turn, the sooner life returns to something resembling normalcy, the more likely it will be that the effects of the COVID-19 Crisis on debt default rates and corporate bankruptcies will be muted.

Unfortunately, there seems to be a great deal about COVID-19 that is still unknown, and there is seemingly contradictory information being provided to the public.<sup>36</sup> However, it appears clear that containing its spread,

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<sup>34</sup> One of the dynamics that is occurring is that companies are seeking to determine whether their businesses qualify as essential so that they are able to remain open.

<sup>35</sup> “Why we should stop comparing the COVID-19 coronavirus outbreak to the 1918 Spanish flu,” Vox, March 9, 2020

<sup>36</sup> For instance, some experts believe that once an individual has had COVID-19 that the individual will have immunity for some period of time. Yet other public figures will cite anecdotal evidence that the answer to that is as yet unknown.

and allowing the U.S. population to return to its normal life patterns may very well depend, among other things, on advancing both the testing protocols and the availability of testing that is currently generally available.

There are two types of testing that appear to be necessary – the first is to determine if an individual has COVID-19. The experts tell us that individuals can be carriers of COVID-19, be asymptomatic, and still be infecting others via what is referred to as “shedding” of the virus. Current thinking appears to be that an individual could be contagious for three weeks after the initial onset of symptoms. As a result, in order to be effective in identifying carriers, any testing protocol would necessarily need to be widely available, easily administered, provide results quickly, and not just be limited to patients whose condition is so advanced that they end up at a hospital or testing facility.

In other parts of the world, there are tests available for COVID-19 that are referred to as “point-of care” tests, meaning that the test can be administered without the need to send the test to a lab before obtaining the result. These tests can be administered, and results available, within 15 minutes. “Point of care” tests have been used in China, South Korea, and in Europe, and they are reportedly going to be introduced in the U.S. imminently.<sup>37</sup>

The second type of testing would determine who has already recovered from COVID-19 and carries the antibody for it. Having the antibody presumably would make it safe for those individuals to return to work. Most experts believe that once an individual has had COVID-19, he/she will have immunity for some extended period of time.<sup>38</sup>

Without these tests, there is considerable risk that continued waves of COVID-19 exposure will continue. It may be instructive to look to other countries that were ahead of us in the struggle with COVID-19 - for example, China, South Korea, Italy, Iran – for clues relating to best practices for how to contain the virus. This, of course, would depend on the reliability of the data coming from each country.

The scientific community is hard at work on testing protocols, as well as on developing drugs and vaccines to fight COVID-19. One of the proposed treatments is to provide COVID-19 patients with plasma from individuals who have already recovered from COVID-19.

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<sup>37</sup>The Tip of the Iceberg: Virologist David Ho (BS '74) Speaks About COVID-19 March 20, 2020. See also Abbott Launches 5-Minute Virus Test for Use Almost Anywhere Bloomberg March 27, 2020

<sup>38</sup>The Tip of the Iceberg: Virologist David Ho (BS '74) Speaks About COVID-19 March 20, 2020. See also “Fauci said he’s ‘willing to bet anything’ that people who recover from the new coronavirus are ‘really protected from reinfection’” Business Insider March 28, 2020

It is highly uncertain when there will be better and more widely available testing, as well as proven treatments, and a vaccine for COVID-19. In the meantime, containing the spread of the virus will be key so as to avoid overwhelming the capacity of existing medical resources in the U.S. With time, there is hope that the scientific community will have an opportunity to develop a better arsenal to fight COVID-19 through enhanced testing, effective drugs, and a vaccine.

*For information about the health aspect of COVID-19 generally, please see:*<sup>39</sup>

- World Health Organization:  
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen> and [@WHO](#)
- Centers for Disease Control:  
<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html> and [@CDCgov](#)
- National Institute of Allergy and Infectious Diseases (NIAID) [@NIAIDNews](#)
- Johns Hopkins Bloomberg School of Public Health [@JohnsHopkinsSPH](#)
- Harvard Global Health Institute [www.globalhealth.harvard.edu](http://www.globalhealth.harvard.edu) and [@HarvardGH](#)
- Caltech – The Tip of the Iceberg – Virologist David Ho:  
<https://www.caltech.edu/about/news/tip-iceberg-virologist-david-ho-bs-74-speaks-about-COVID-19>
- [Anticipated Issues Arising out of the COVID-19 Crisis for Large and Mid-Market Companies, Capital Providers, Investors, and Credit Market Participants](#)

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<sup>39</sup>The @ prefix denotes a twitter account holder

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## SUPPLEMENT TO LETTER – TOP-OF-MIND ISSUES

### For Large- and Mid-Market Companies

- Assessing the health and well-being of Employees, including C-Suite executives
- Managing potential headcount reductions
- Appropriately exercising the board of directors' fiduciary duty to stakeholders
- Assessing the company's immediate liquidity position, including 13-week cash flow forecasting, payables/receivables management, and evaluating available options for liquidity management, including maximizing cash on the balance sheet by drawing down on available lines of credit, or potentially monetizing assets (likely at distressed prices)
- Evaluating force majeure provisions in contracts that could impact the company's business
- Managing the ripple effects resulting from credit downgrades
- Identifying new sources of capital, if necessary, and negotiating cash infusions
- Managing communications strategies
- Assessing the degree of flexibility available to adjust business models in light of the COVID-19 Crisis, including with respect to supply chains, the continued shift to online purchases and new work-from-home protocols
- Adjusting operations to be in compliance with new government regulations with respect to essential and non-essential businesses
- Understanding and obtaining the maximum benefit from government programs that may be made available to both companies and their employees
- Bankruptcy avoidance, negotiating forbearances, and pursuing other avenues to extend optionality
- If bankruptcy becomes unavoidable, identification of a viable exit strategy

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### For Capital Providers

- Managing liquidity
- Assessing the credit provider's obligation to fund, including as it could relate to material adverse event provisions, events of default – payment, covenant, or other.
- Evaluating new investment opportunities that will likely present as a result of the impact of the COVID-19 Crisis
- The appropriateness of broker-dealer/bank margin calls

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### For Parties involved in Pending M & A Transactions

- Re-Assessment of deal terms and valuation
- Material adverse event provisions
- Exploring alternative deal partners

## For Investment Funds and their Clients

- Managing the downside of leverage – margin calls and fund losses
  - Monetizing illiquid investments
  - Redemptions, gating, and side pockets
  - Valuation of illiquid portfolio investments
  - Assessing counterparty risk
  - Managing material non-public information
  - Valuation of membership interests in private equity funds
  - Managing contractually mandated dissolutions for private equity funds
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## For Structured Credit Vehicles

- Assess the impact of falling market prices for the underlying securities on structured credit vehicle, with respect to potential forced liquidations or the cessation of fees and/or distributions
  - For structured credit products that rely on lease payments, assess the likelihood that the lessee will be in a position to continue to pay in the normal course
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## For Investors

- Confirm or otherwise reassess asset allocation strategy
- Identifying whether there is a liquidity need, and where that liquidity might be available at the least cost, across a portfolio of investments
- Assessing suitability issues with respect to investments made by discretionary adviser.
- Assessing whether illiquid portfolio positions have been properly valued

## Postscript – Information Resources

The COVID-19 Crisis is unfolding quickly, and the resulting information flow can be overwhelming. I have found it useful to follow reliable information providers and thought leaders in real time, to more effectively stay abreast of relevant developments. I provide some of my sources below by topic:<sup>40</sup>

### For More Information about the Outlook for Corporate & Municipal Credit

The credit rating agencies have been publishing various reports and holding webcasts. Those resources are available as follows:

- S&P: <https://www.spglobal.com/marketintelligence/en/events/webinars/>
- Moody's daily coronavirus webinar: <https://events.moodys.io/channels/coronavirus>
- Fitch – focuses on financial institutions, insurance, power, continuous care facilities, and infrastructure: <https://www.fitchratings.com/site/coronavirus>
- Kroll Bond Rating Agency – CMBS, RMBS, ABS, Public Finance, and Financial Guarantors <https://www.krollbondratings.com> and @KBRA
- Matt Wirz (credit reporter) @MattWirz
- LevFin Insights (@levfininsights) – news and information on the leveraged loan and high-yield bond markets
- AdvantageData (@Advantage\_Data) global fixed income pricing and analytics
- Debtwire @Debtwire
- Debtwire Municipals @Debtwire\_Munis
- Municipal Bonds @munibonds
- The Bond Buyer – municipal finance @TheBondBuyer
- WSJPro Bankruptcy @WSJBankruptcy

### For More Information about the Risks Facing the Insurance Industry

- NAIC – National Association of Insurance Commissioners <https://content.naic.org> and @naic
- Fitch – see above
- Kroll - see above
- AM Best - [www.ambest.com](http://www.ambest.com) and @AMBestRatings

### For More Information about the Risk to Credit Markets/Swaps/Derivatives

- IHS Markit <https://ihsmarkit.com> and @IHSMarkit

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<sup>40</sup> An @ prefix denotes a twitter account holder

- ISDA <https://www.isda.org> and @ISDA
- RiskNet Investing – risk management and derivatives <https://www.risk.net> and @RiskNet\_AM

### For More Information about Risks facing Structured Credit:

- Structured Credit Investor <https://structuredcredit> and @SCI\_Newsfeed
- Tom Barrack – Founder of Colony Capital @TomBarrackJr

### For More Information about the Risks Facing Hedge Funds/Private Equity/Asset Management

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- HFMWeek – <https://hfm.global> and @HFMWeek
- HFR – <https://www.hedgefundresearch> and @HFRinc
- GAIM Ops – Global Alternative Investment Management @GAIMOps
- eVestment – <https://www.evestment.com> and @eVestment
- FINalternatives – hedge funds, private equity and alternatives @finalternatives
- PEI – news on the private equity industry <https://www.privateequityinternational.com/> and @PEI\_news