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Case Against Corporate Debt; Junk Bonds and CLOs In a Period of Crisis

Part I

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When it comes to matters that are in relation to macroeconomic events, it has become occurrent to me through the intake of various literature sources, whether that be from economists, investors, academics, professionals, etc. that the true controller and influencer of broader macro-movements in the economy are central banks and related entities. I say this in the sense that it is a near-exclusive phenomenon. This is not limited to the Federal Reserve, but I also include the International Monetary Fund (IMF) and the World Bank in this group of entities. Through the study of global markets, currency fluctuations, broader economic movers (inflation, unemployment) and other sources it seems at times that there are an excess number of factors that are influencing the broader system and the interlinking network of relations that dictate their movement; there are a lot of things going on. Looking deeper in, however, you'll find that central banking influence is perhaps the most important determinant in this network; central bank outlook and decisions impact global markets, perhaps more than any other entity. I can use the following statement to support this: your opinion (the market's) of unemployment matters much less than the central bank's opinion and the market's subsequent reaction to it. To convince you of a central bank's influence is to beat a dead horse, as there are thousands of studies trailing this argument and supporting it, whether it come from the Keynesian or Monetarist School of thought.

Of course, the interconnectedness of the macro-economy and the global integration that financial markets have at this point is undeniable and even seen as a large benefit when it comes to various forms of risk assessments by both commercial and investment banks alike. Despite that view, all of these markets are a slave to the influence of the central bank, whether that be the European Central Bank (ECB) for European markets or the Federal Reserve (Fed) for the American markets. Because of this centralization, much of the 'advantages' of certain instruments that thrive from diversification, whether it be geographic or asset-based, is part of a false belief. This concept is most evident in the great financial crash (GFC) of 2007-2008, in which collateralized debt obligations (CDOs) were exposed as being over-levered and almost completely dependent upon this 'diversification' as a defense mechanism for risk. These instruments have an ugly step sister, known as collateralized loan obligations (CLOs), which can be simplified to be the CDO's equivalent, but in corporate loans, typically of junk quality. My thesis is that eventually, there will be a similar situation as 2007, wherein these complex derivatives will collapse upon themselves and lead to a more grandiose systemic collapse. I am not the first person to argue this, and in this article, I will demonstrate a way in which the 'little person' can potentially profit from this value misallocation in CLOs and in the broader financial market.

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I have had my eye on corporate debt for a couple of years now, worrying about the consistently increasing figure of corporate debt being over 70% of the American GDP, amounting to more than $10 trillion at this point. The situation worsens, however, once you look at interest rates which are essentially at 0% and even negative in places like Germany and Japan. Using real interest rates, though, you'll find that some U.S. Treasures actually *are negative*, upon taking inflation into account, despite being positive in nominal terms.

Before being accused of being Chicken Little and screeching that the sky is fallen, I am aware that this story has been pushed again and again, in various outlets and such, my proposal and 'bet' is time sensitive and theta-defensive, granted that I am expressing it via options and not through actual bonds, as a matter of fact, my lack of funds has actually led me to using options on an ETF that is made up of corporate bonds, therefore indirectly betting on CLO failure. That being said, I clarify that my speculation is time sensitive.

In post war Japan, in the 1980s or so, the country suffered from a financial crisis that was a result of excessive asset hyper-inflation, with at one point real estate in a singular garden in Japan being worth more than all of the real estate in California combined. This was the result of a variety of problems in the Japanese banking system that allowed for over-leveraging and misplaced collateralization on loans that were used to invest in riskier and riskier assets. The country had a set of years when there was a lot of euphoria, specifically 1985 and 1989, during which stocks rose by 240% and real estate by 245%. This was clearly an asset bubble, a bubble whose implosion was so intense that it led to a 'Lost Decade' in Japanese markets, wherein growth ceased to exist, and development only occurred for the sake of recovery. This bubble was (practically) driven by aggressive credit expansion.

Why do I bring up Japan? There are some unique similarities to what the U.S. has been experiencing recently, in that 'quantitative easing' will have amplified the money supply by $3.5 trillion by the end of the year.

Many have feared inflation, believing that it might make things more expensive for a country that is already suffering from high unemployment because of the covid-19 virus and the resulting lower spending patterns. But it goes beyond that, as the recent stock market rally and the even more recent drop off (as of June 26) is good evidence that the true inflation might be going into asset pricing and not consumer pricing; i.e. milk costs the same, yet there are companies that are touching their all-time highs despite not performing up to justified valuation metrics. Of course, valuation metrics are situational and what a company was projected to be worth 5 years from one month ago, in terms of an intrinsic value calculation, is not what it is worth 5 years from today, but even when taking this discrepancy into account, it is difficult for professionals to justify the valuation for certain companies like Zoom or Nikola, who are trading well over P/E ratios of 1000, something uncommon for even the most hopeful of technology companies (which typically nab the most optimistic projections). The Amazon hopeful model of 'expand now, profit later,' has definitely proven possible in the past with several notable companies, however, in an age of a looming (serious) unemployment crisis and ever-growing corporate debt accumulation it would be reasonable to expect less aggressive growth, no?
Recent investing patterns have been being dominated by flow investing and momentum trading, wherein the short-term is being focused on. This has led to what I believe to be asset price inflation. Retail investor participation has skyrocketed since the virus has begun and this has been quite clear from the jump in stock prices of companies on the verge and even announcing

bankruptcy, such as Chesapeake and Hertz. Many of these investors are novice and see it as gambling money, which it is akin to. Ironically enough, a lot of money has been made in bubbles, so it is not to say that these have not been times to invest (note greater fool theory).

Despite that disconnect from fundamentals, however, there are certain properties that cannot be ignored for the medium term nor the long term, and this is that these companies in the stock market have operational requirements that they must meet, and they have interest payments to fulfill. In the short term, this becomes 100% irrelevant, however, for the longer term investor this actually becomes an incredible opportunity to profit from eventual justification. The justification will come, it will arrive in perhaps 3 month or even 6 or maybe even a year, but eventually, it will come, and it has the potential to be devastating.

The U.S. Dollar is the most powerful currency in existence, I can sum this up with it being responsible for almost 40% of the world's debt, in terms of issued currency. According to the International Monetary Fund, as of the fourth quarter of 2019, it makes up over 60% of all known central bank foreign exchange reserves, a number that will likely only grow. Given the Dollar's position of power, the Fed actually holds more influence and power than what it is supposed to have. Ideally, one would assume that the Federal Reserve's responsibility is to the American people, despite that, the dollar's massive power actually makes it so that the Federal Reserve is actually responsible for the global currency markets. Any time the Fed changes interest rates or projects an outlook, the world listens closely, not just the American people. The Fed's printing practices, while necessary, has had consequences for the entire world, not just America. This is part of the interconnectedness concept of global markets; it is evidence of how diversified the markets are, yet also, how fragile they are. Fragility is a concept Nassim Taleb has touched upon in an expert manner and his writings are evidence that the dynamic systems embedded within the global economy are highly sensitive, hence why the coronavirus led to a 30% drop in the S&P 500 in an extremely short amount of time and a rapid recovery as well. Markets are (now) not biased to the upside nor the downside, but rather, to volatility.

This hyper-volatility American markets have been experiencing have only been exacerbated by the virus, however, in the past, high one-day gains in IPOs and random stock drops were common, more than they were prior to the GFC. This volatility has come with the increased retailer participation and the advent of riskier and more leveraged financial instruments, but this is all tied into the banking system.

The banking system and the financial industry actually stand front and center of this whole situation. To borrow concepts from the great Professor Richard Werner, in some manners, financial entities are value extractors, not value adders. Werner produced the first empirical study to prove that (commercial) banks create money; he claims that banks are thought of as deposit taking institutions that lend money, while the legal reality is that banks do not take deposits and that they do not lend money. A deposit is not held in custody, but rather legally, it is technically a loan to the bank. Banks borrow from the public; banks do not lend either, they are actually in the business of purchasing securities. Legally, banks securitize, for instance, whenever a 'loan' is created, technically a security is being made. The bank purchases said security which results in the bank doing something that is very different from what is being presented. Account transfers suffer from a similar situation; a 'deposit' is just a record of the bank's debt to the public; the bank also owes its depositors money and its record of the money

owed to the depositors is what the depositor *thinks* they are receiving as money. The money supply consists to 97%, bank deposits, these deposits are created from 'nothing' by banks when they lend. Werner believes this is because the banks invent fictitious deposits via restating accounts payable liability arising from the loan contract having purchased promissory notes (the security/'loan'). I state Werner's theory because it provides a verified schema for understanding the function of credit and how banks operate the money supply, it is also useful for visualizing how debt operates in a more complex manner.

Currently, as of July 2020, it seems that the financial markets are operating on emotive momentum, mainly propped up by liquidity rushes from quantitative easing by the Federal Reserve. Similar to an option's value at market open, whence a price surge is triggered less by the stock price rising and more from the implied volatility rising, the financial markets ignore fundamentals and rather, become buttressed by rapid momentum. Interestingly enough, the VIX is strangely high despite the SPY's 60 day rally; the VVIX, which tracks the VIX's volatility, essentially the volatility of the volatility, is also at an unusual level relative to the SPY.

The disconnect from fundamentalism finds an explanation in the reflexive phenomenon which markets have begun to express themselves with, as it seems that FOMO completely dominates the market.

It is my belief that the United States, and other countries as well, operate on a banking-centric financial market, wherein private banks dominate cash flows extensively, and are, in turn, supported by the central bank which is just a proxy-expression for private banks granted their share structure. That being said, I will explain the problem with CLOs.

Collateralized loan obligations only become relevant as a matter of discussion now because they are facing extreme problems from credit risk, as the crisis is pushing them to their limits. CLOs are structured in tranches, but they are limited to high levels of risks because there are predefined thresholds for the amount of CCC (non-investment grade) rated loans that can be stored within them. Senior tranches are protected because in cases of emergency, cash flows are diverted to support them from principal risk especially in situations of rating downgrades (like in mid-March). As a quick aside, if everyone is downgraded, no one is downgraded, and this is the simple thinking that guides central banking assistance, wherein the problems can all be temporarily 'stopped' by equalizing through quantitative easing; the conflict with this method of damage mitigation is that it works, but only 'after the fact,' that initial hard hit that is reactional will still have to occur (things must get worse before they get better) and my case in this paper is that it will happen again. The problem with CLO and CDO structures from a practical view seem to be that they are *really* dangerous because their risk insulation arises from their collective risk, meaning that the loans within them aren't *truly* AAA, it's just that the certain combination of BB and BBB loans all defaulting simultaneously is AAA because of a low conjunctive probability, tail risk disregards this; a high enough tide can kill the highest flying birds, no matter how high they fly.

Pension funds and insurers own the most senior tranches of CLOs, so they get priority in the payments. For this tranche to lose money on their principal, it is estimated that speculative (junk) corporate debt default rates would have to be above 16% or so; this is S&P Global Ratings' worst case scenario for the following year. This situation excludes credit downgrades as a risk; insurers and certain funds have allocation requirements that prevent them from holding a

certain amount of assets at particular ratings, so the risk of ratings worsening could create another problem. Perhaps the AAA rated senior tranches are safe, but there are lower tranches that are rated BBB which are especially susceptible. The lower the credit rating, the easier it is for it to lower more. It is said that some insurance companies own about $5 billion worth of CLO debt rated BBB-, which is the lowest investment-grade tier. The corporate leveraged loan market is worth $2 trillion. The ongoing narrative since the crisis started, and really since 2008, has been that the Federal Reserve will 'save' the debt; this might very well happen, but again, the initial crash will hit, and it will be painful. Of course, there is no great change without great pain and eventually the Federal Reserve will run into problems with managing debt, particularly when it comes to dealing with external debtholders (like China). Even if external debtholders make up a small number of holders, the Fed and the market thinks it can print their way out of every problem that comes their way, *and they're right*. BUT, this is only until a certain point in time.

Credit

The threat that the markets face with CLOs is reminiscent of that with CDOs in 2008 in more than one way. The root of the problem lies within credit; one measure to note is that of the rate of growth of credit to the rate of growth of GDP, more specifically the ratio. If the rate of credit growth is outpacing that of GDP growth in the medium/long run, then credit can only grow as a result of increased lending to non-productive enterprises. In the years leading up to 2008, the largest non-productive enterprise was residential housing, wherein value would be created only in scenarios where houses were being newly created (construction and materials productivity that is temporary, lasting no longer than 6 months at most typically). It is well known that buying a house does NOT generate jobs nor income nor true profits in a sustainable manner; this leads to artificial asset price inflation. This is a result of loose credit standards, something that has only been exacerbated as a result of 0% interest rates which has led to more and more aggressive return (risk) seeking from banks. The fractional reserve banking system, visualized by the money multiplier equation, only amplifies this risk of asset inflation.

In banking, it is important to discriminate between money being used for GDP transactions (which is money being used for the 'real' economy which determines GDP) and bank credit used for financial transactions, which is *not* part of GDP, being capital gains oriented which determines asset pricing, something that is unsustainable in the long run. The reasoning behind this is because there is no income gain creation; the idea here is that appreciation through asset inflation is only possible through consistent credit creation, which in times of heavy stress (like a pandemic or a market crash) falters and becomes more fragile and vulnerable to collapse. There is little inflationary pressure in scenarios of loan usage for growth, for things of utility that is (GDP transactions). It is important to discern between the investment and consumption applications of credit.

In the 1920s in the U.S., margin loans rose from 23.8% of all loans in 1919 to being over 35%. In the United Kingdom (UK), from 2001 to 2011, credit for the UK's real economy, counting mortgages, accounted for only 22% of their total assets. A significant and rapid rise in credit creation for non-GDP transactions leads to asset bubbles and busts and banking (which in turn lead to economic) crises (because of high connecvitivty).

The solution to this lies in things like credit guidance, whereby a central bank targets productive bank credit and restricts unproductive bank credit. This is a very simple system as it would result in the effective deliverance of *real growth* driven credit to the right place, where value and income is being generated. Credit is *always* allocated by private (commercial) banks This solution is plausible because it is dependent upon the central bank's guidance, and history and the present has proven that commercial banks are very attentive to the opinions and actions of central banks; mainly because they depend on it for solvency and liquidity (repos, treasuries, etc.). Although a bit authoritarian, this would be the proper way to go about things in order to substantially reduce banking crises (which always turn into economic crises) or financial crises (which mainly stem from banking crises).

Wouldn't this eliminate speculation? Not at all, leverage doesn't *have* to be created by private banks, they can come from non-bank financial institutions; if a hedge fund wants to make a leveraged speculative bet it can offer bonds or borrow from an insurance company or a pension fund, but not from a bank. Credit is always allocated by banks; the credit guidance solution would vehemently ease bubble-forming tendencies.

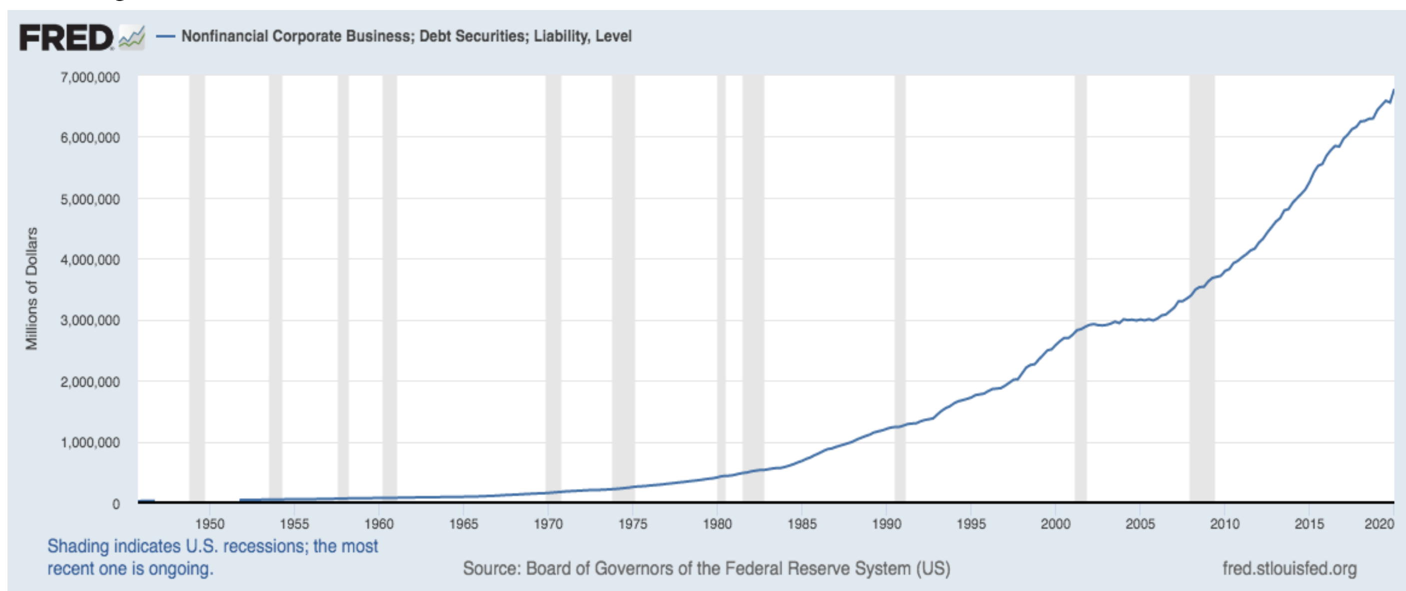
Why do I mention all of this? Very simple, to let the reader know that it will ***never happen***.

And this is why the possibility to profit from credit misallocation has become more common and the profitability has become more substantial in recent times. As the misuse of credit increases and increases, and becomes propagated by lower and lower interest rates, the possibility of profiting from financial crashes as a result of negative credit events like loan defaults and credit downgrades becomes more and more common. This leads directly into the problem with the CLOs and their exposure to the crisis caused by the virus.
The Federal Reserve has moved on to purchase corporate bonds and ETFs for the first time in history; some of their purchased instruments directly replicate CLOs. This is creating the possibility of another scenario wherein market participants feel comfort in buying really low quality bonds and loans because 'the Fed is buying them.' In this scenario, the Fed is attempting to act in risk reduction, but really, they might just be adding more air by creating a very large cushion. This can be best defined as a particular form of front-running, wherein institutions feel pressure to 'beat the Fed.'

CLOs are generally made up of corporate, junk-rated loans; historically, these loans had been first lien bank loans which were secured by the held corporation's assets as insurance against bankruptcy. This is meant to increase their safety. Actual CLOs are a collection of 100 to 250 corporate loans which are structured by an asset manager. Blackrock is a large participant in this market, along with notable private equity firms. The CLO is separated into different tranches depending on their credit ratings, with equity tranches (the most vulnerable and riskiest) at the bottom. Despite this, CLOs are attractive because of their risk-return relationship; on average, loss adjusted return for BB-rated CLOs are between 5% and 6% per year, which compared to 3% for a high yield corporate bond is very attractive. CLO equity tranche returns range between 12% to 20%. CLO returns are tied to the LIBOR rate, so the AAA tranche may return 200 basis points on top of the LIBOR rate, this is attractive when interest rates are rising (which is not the current situation).

Janet Yellen and Ray Dalio have both spoken out about the dangers of the CLO market granted its tendency to contribute to growth in subprime assets; Yellen's critique has been in regard to how weak the underwriting has become for CLOs in that financial institutions have become increasingly liberal with their executions. Another threat posed to CLOs and that, in turn, CLOs pose, is that arising from record low interest rates and the risk of diminishing income for corporations. Stanley Druckenmiller has called out the rise in zombie companies because of this very reason, the drop of interest rates below return on equity has led to the artificialized survival of many faulty companies that are otherwise only surviving because of low interest rates (for the most part) and are fundamentally running on fumes. On top of this, the ease of credit access to these companies might create problems with credit liquidity for more qualified companies that might offer lower rates of return (due to their security), but rates of return that are more secure under universal conditions not just those of low interest rates.

Much of the debt issued by corporations has been issued for the purpose of short term benefit, as is debt issued for shareholder returns via buybacks or dividend increases, activities which boost stock prices but have no tangible positive long term effects. This might be a point of reasoning as to why corporate debt is at an all-time high and has not stopped setting all-time highs since 2005 or so.

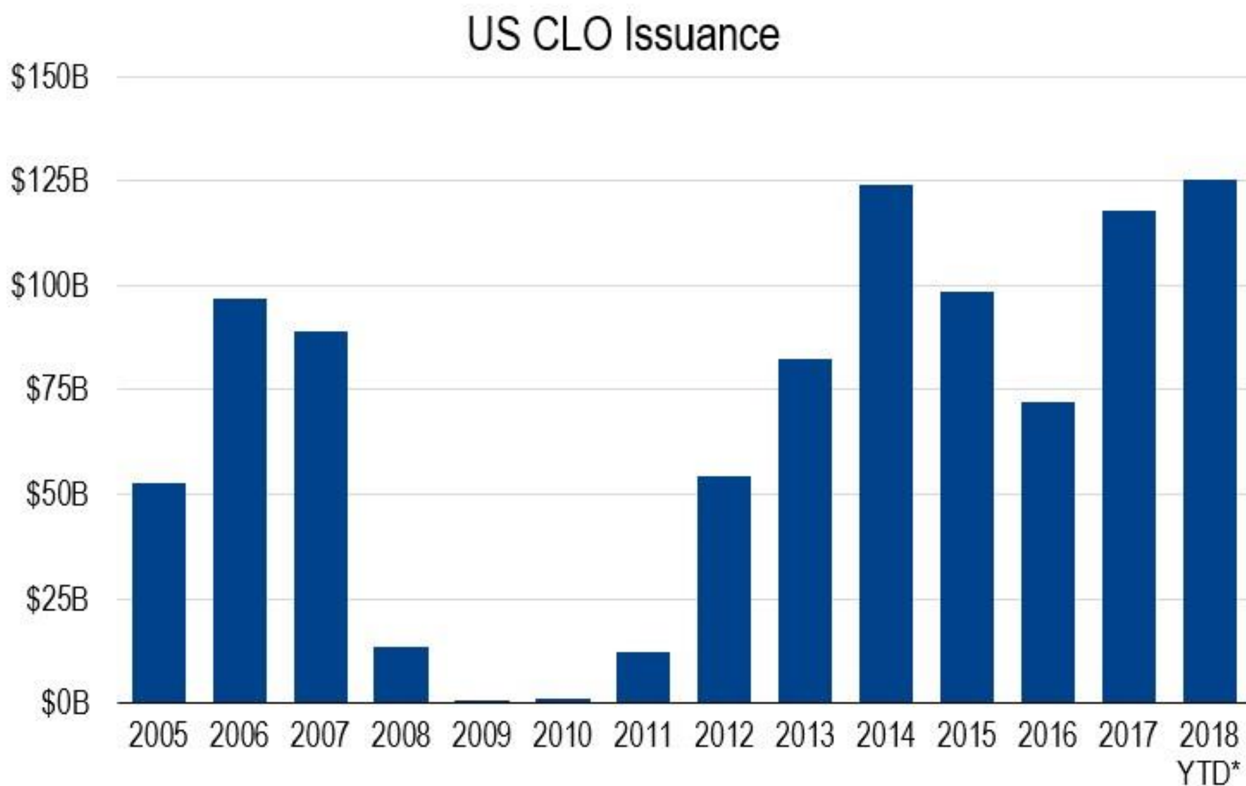


The reason this matters so much is that in the case of a market downturn, the earnings decline would make the debt reduction for corporations substantially difficult, hence why issuing debt for buybacks is such a bad idea, *especially* when buybacks are done when the stock is relatively expensive in its price action.

This situation with CLOs can be tied into the problem with non-productive credit creation in the economy. Take the cash flow into private equity (PE) firms as a proxy for the asset inflation that CLOs have experienced in recent years. The cash flow into PE firms has pressured them into pursuing more and more aggressive returns which has led to them finding more aggressive vehicles to invest in, CLOs are this vehicle. It is possible that these firms have bought up any debt they could find and in turn structured it in the form of a CLO in order to protect their

investors from defaults, believing that the diversification would protect them from risk. A scenario wherein defaults occur in packs could be particularly damaging for private equity firms. This is the same mentality, that of the low tendency of default, especially with high diversification, will prevent scenarios of catastrophe. Remember, *the dog doesn't bite until it does.*

A chart of CLO issuance in the United States only adds support to this argument; it should be noted that downgrades driven by the virus slowed down the issuance of CLOs significantly in April (by 48%), however, issuance resumed thereafter. Perhaps worse, there has been a decrease in lending standards. Prior to a repeal in February 2018, courts required that CLO asset managers maintain a direct 5% stake in the CLOs they issued; after the court ruling, CLO funding exploded. On top of this, corporate loans have become 'covenant-lite' which decreases the restrictions that corporations have with the capital from the leveraged loans they take out. About 80% of the leveraged loan market is covenant lite loans. Without restrictions and high lending standards, there are little incentives for responsible behavior in the markets.



CLOs control over 60% of the $1.2 trillion leveraged loan market, according to Wells Fargo. CLOs are designed to inherently 'protect holders of the safest AAA tranches,' which make up over 50% of an average deal.

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A simple explanation for the rapid surge, specifically more than a 100% increase, in size from $300 billion in 2008 to $600 billion in 2018 (and more in 2020) in the CLO market can be accredited to the plummet in interest rates for treasuries and gilds. Investors earn (practically) nothing, whilst a treasury can (barely) earn you 1.5%, a AAA tranche in a CLO (which has never defaulted) can earn you 3% and some CLO equity tranches can earn you over 13%. Some of borrowers have spent the last decade accumulating $1 trillion in junk debt with about a third of the whole corporate debt market at threat of getting rated into CCC, which is essentially garbage. CLOs are discouraged, sometimes legally, of holding certain amounts of CCC rated debt. Given the current circumstances, the likelihood of debt collapse is becoming more and more probable.

On CDO Risk

CLOs are inherently insulated from the same risks and threats that CDOs and CMOs were exposed to because of their capital structure; CLOs are designed to be more flexible to 'checks' on their infrastructure than CDOs are/were. This makes them more susceptible to artificial survival. For this, see overcollateralization checks.

How to Bet on This

The method I will be using to 'bet' on my findings is primarily through Long Term Equity Anticipation Security (LEAP) Option Puts, or LEAP puts, on ETFs that hold low quality corporate debt. My reasoning behind using LEAPs is because I am certain that CLOs will destabilize the corporate bond market, but am uncertain as to when; thankfully, I do not need to know specifically when, just a general time range. The usage of LEAP puts on certain ETFs that are near their all-time highs and have cheap option contracts is the optimal way to go about the speculated events, the reasoning being that the odds are extraordinarily in favor of the option purchaser. Although LEAPs are typically used as a risk reduction mechanism, their utility and safety profile as a speculative tool are great as well, especially if one is betting on eventual intrinsic value accumulation; the assessment here is that out of the money puts are a proper choice.

The implications of this writing are that there *must* be a complete collapse in the corporate debt markets if I am right, so really, a broad visualization of the markets will suffice. I will attempt to focus my view as much as possible, attempting to find those ETFs whose exposure is most concentrated in the CLO market, but the over-diversification and fund flows of some of these ETFs almost assure that there will be a systemic crash due to the way these assets are structured.

Something to note about CLOs is their original intention; the CLO created a means by which companies with weaker credit ratings could borrow from institutions other than banks, lowering the overall cost of money to them. Other companies, those being corporations with good credit ratings, were already able to borrow cheaply with bonds, but those that couldn't had to borrow from banks at higher costs. The implication is that CLOs are intended for companies with low quality credit ratings, hence, they are already at a higher than usual risk (we can assume that most, if not all, debt in a CLO is junk-rated).

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I am currently holding put LEAPs on the iShares Trust High Yield ETF, listed as HYG, the specific contract is the 15 JAN 21 73 P 100.

A Note of Hope

The past has brought with it the intervention of the Federal Reserve, with the central bank assisting in matters of emergency and even bringing many to accuse the American government of falsely portrayed capitalism, claiming true laisse-faire competition only exists for 'normal' people and socialism is enacted almost exclusively for corporations. This is understandable and a point of controversy, but with that being said, the complete demise of the system is a possibility unless certain actions can take place. True change will come, but it only comes with a crash; rarely in history have things truly gone through an evolution without a catastrophe. The reality is that the future is bright and there are better things to come, but pain in the short term must be felt in order for there to be any results, this includes matters of a conflicted capitalistic market that at times feels regulated in a biased manner.

I will expand more on this topic in a second paper.

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