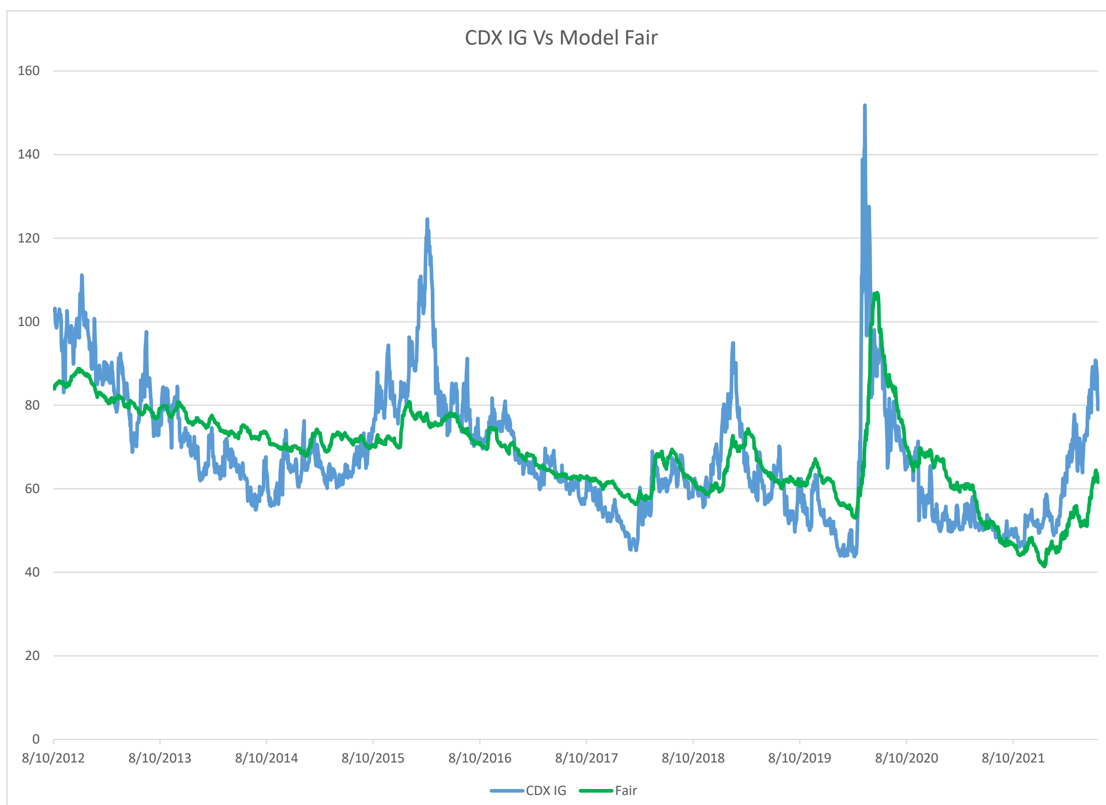
The Damped Spring Report

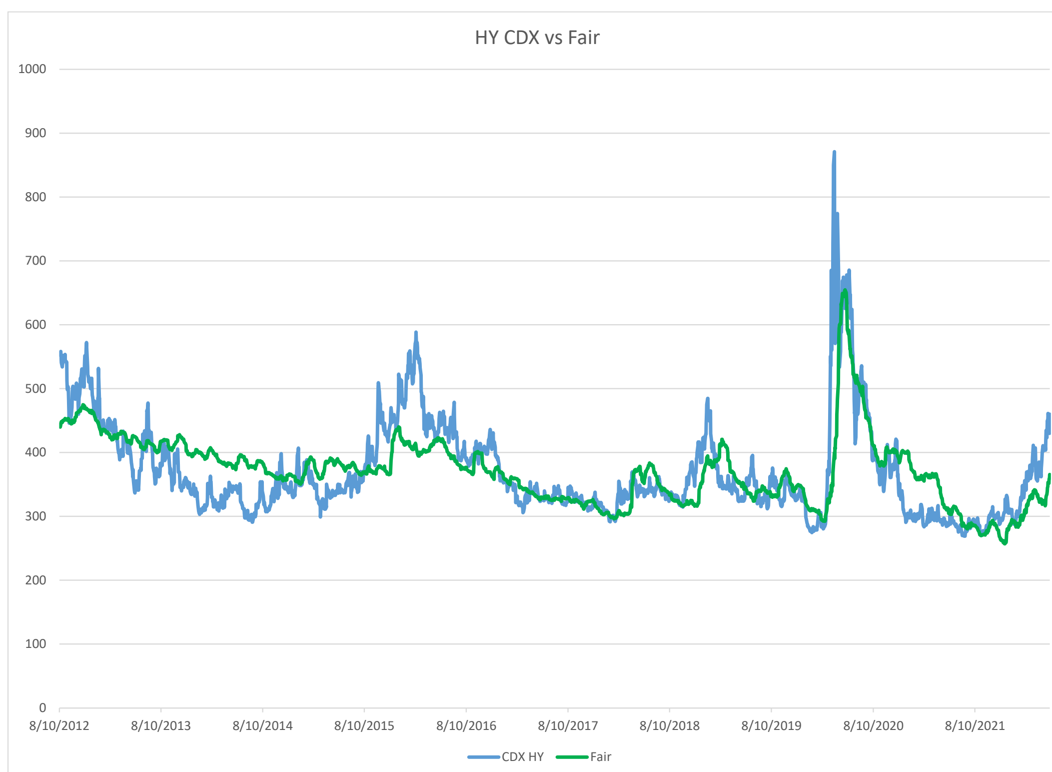
"Shifts in growth, inflation, risk premium and positioning all lead to opportunities in markets"

5/29/2022

Corporate Credit spreads have widened significantly over the past few months. Rising risk-free interest rates, falling corporate enterprise values, and rising volatility expectations have dealt a triple whammy of negative forces on corporate bonds. Credit spreads, principally driven by enterprise value and volatility expectations, have also been driven wider by flows out of cash corporate bonds due to their duration and credit risk and into risk free assets. This secondary force has caused a diversion from our fair value capital structure arbitrage model for both High Yield and Investment Grade Corporate Spreads

Our model





Our framework

Our basic framework for credit markets is a capital structure arbitrage concept first published by Bob Merton. At Salomon Brothers, in late 1980's and early 1990's, Andy worked with Bob Merton, Myron Scholes and the future founders of LTCM, to develop and implement this model to trade both the high yield and convertible bond capital structure arbitrage market. Since then, Andy has also traded this model as a portfolio manager. The framework includes these concepts

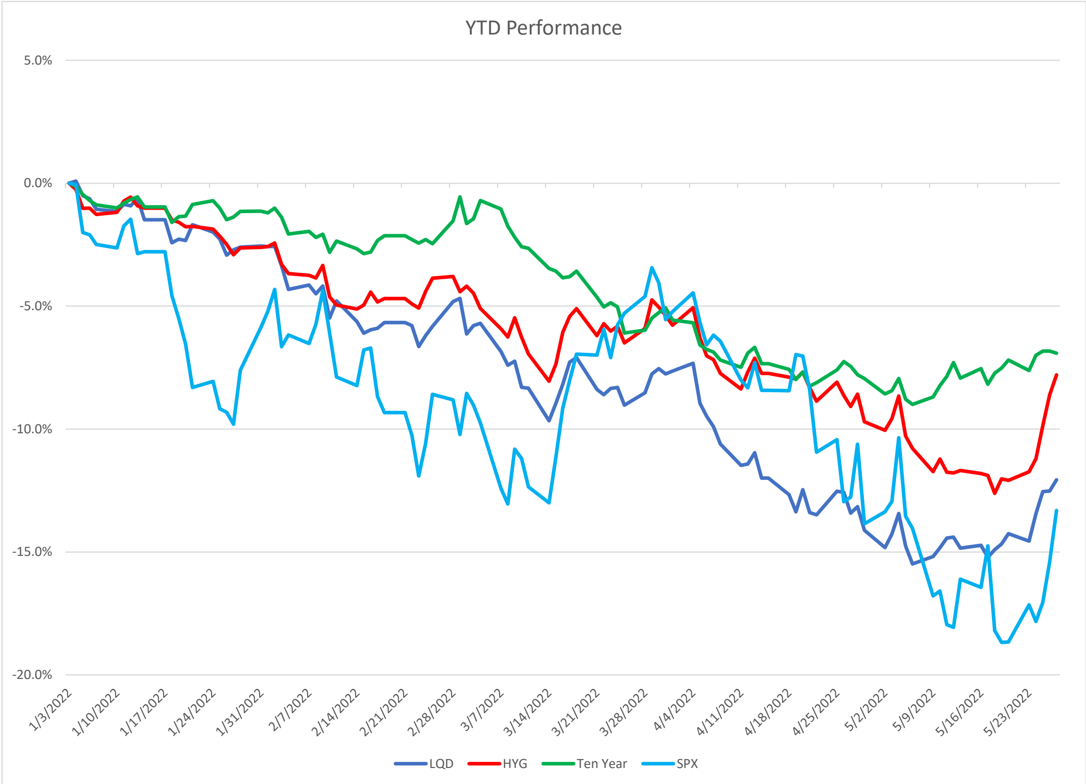
- At all times, the enterprise value (assets) of a company is equal to the value of its liabilities and shareholder equity
- The equity is a call on the value of the assets struck at the book value of the debt
- The debt is long the assets of the company and short the call on the assets to the equity holder

With this framework the expected volatility of the assets determines the value of the call option. In certain cases, the implied volatility of the assets is available, such as when valuing Microstrategy Inc. where the asset is Bitcoin, or a pure play gold miner where the asset is gold, or with some more difficulty oil producers like Aramco. But, in general, the asset volatility is not available and has to be approximated with a de-levered equity implied volatility.

Implementation in Macro

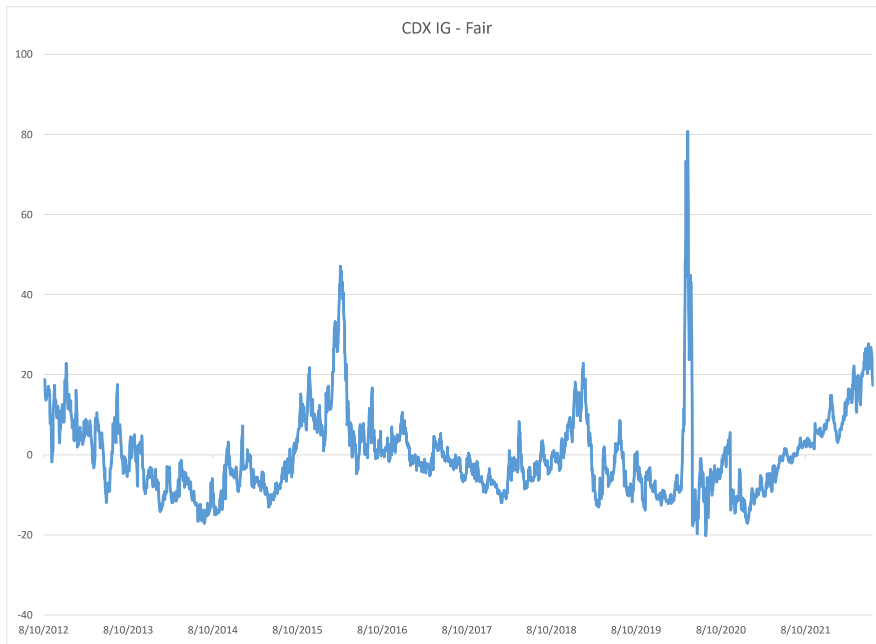
Capital structure arbitrage is typically done using a single company. By examining the assets, and the entire right side of the balance sheet, and then implementing

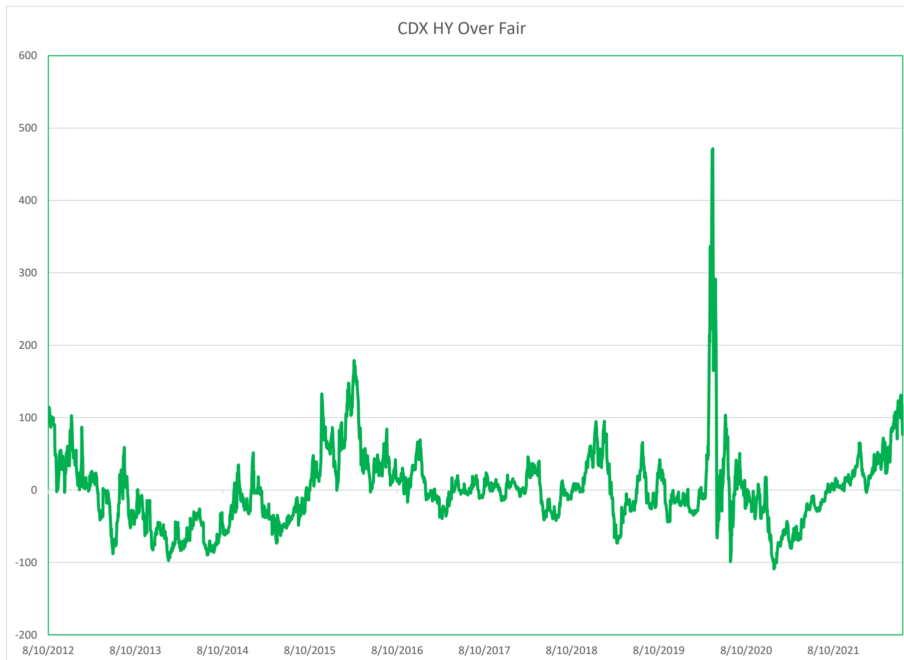
the model with insight on both solvency, which the model handles well, and liquidity events, which the model handles poorly, a portfolio manager can either choose the best part of a capital structure to own or pursue relative value trading strategies across the capital structure. We extrapolate this idea to broad market indices, conscious of what is lost, but also recognizing that diversification helps. We strongly believe that the credit markets, equity markets, and volatility markets move in lock step based on the framework we use but also diverge for periods of time due to idiosyncratic drivers. Today, we believe credit spreads have been pushed wider to fair because of the impact of cash corporate bond outflows as these assets have been at the point of the sword in terms of performance since QT drumbeats were first heard.



The dark blue line is LQD, it holds 2500 Investment Grade corporate bonds; it is highly liquid and the preferred vehicle for expressing exposures to IG corporate bonds in the market. It has performed as badly as stocks. It is marketed as a safe investment. HYG is a similar corporate bond ETF, but it holds High Yield Credit. Because of its high leverage and large short interest it has bounced dramatically during last week’s massive rally.

While both CDX IG and CDX HY spreads are above our fair calculation we are a few days late in publishing this DSR. Below we plot the difference between fair and market using our capital structure model





As a trader looking at these diffs obviously the drawdown risk is of some concern. However, given the recent history, and what caused the drawdown it is interesting to compare the diffs on an absolute scale relative to the Covid drawdown. HY had a 5x drawdown vs current level whereas IG only had a 2x drawdown. While both CDX are wide to our fair value, we prefer IG here for many reasons including:

- The terrible performance of LQD and Investment grade indices in general
- The not particularly bad HYG performance and its most recent gap up

- The drawdown risk of HYG arbitrage due primarily to composition vs macro hedges

Fundamentals

The economic climate is obviously responsible for the poor performance of credit. The Fed is tightening by hiking rates and pursuing QT, the economy is slowing in response to tightening, inflation remains high, the war in Ukraine is ongoing, and China is an economic and geopolitical wild card. If the world economy falls into recession equities will fall. Using our framework that would be bearish credit spreads. Volatility is already quite elevated so a recession may not have an impact on that framework driver. However, a true recession with falling inflation would be bullish bonds and corporate bonds would benefit from duration despite widening credit spreads resulting in an ebbing of outflows from this asset class.

More importantly than mark to market changes extremely weak fundamentals would cause actual defaults. It is useful to pause and reflect how one makes return when holding a portfolio of corporate bond spreads. Of course, mark to market is important but what drives long term returns is the actual number of defaults and subsequent losses one experiences while holding the portfolio vs the coupon received.

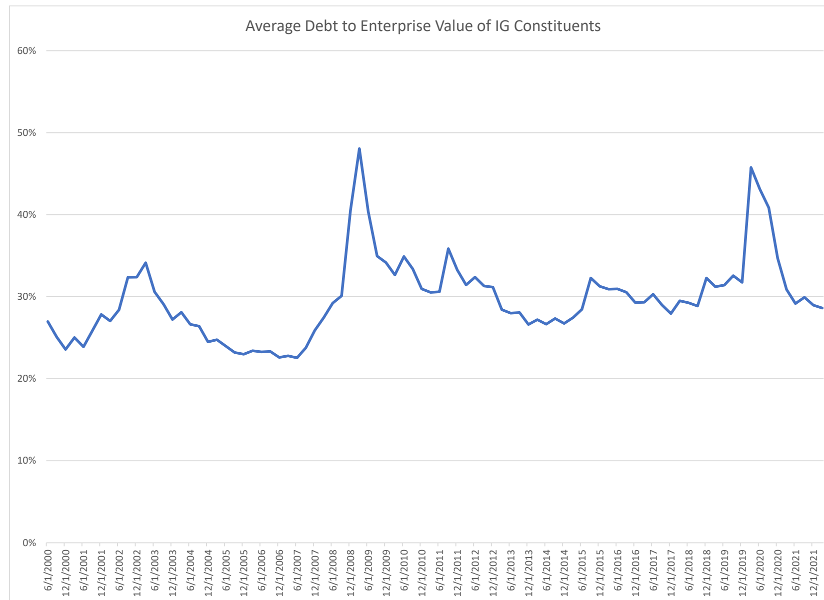
We use a rough heuristic to estimate the percentage of the portfolio that would have to default in order to lose money on a portfolio. It's rough. Don't focus on the details to carefully. Precision is the enemy.

Heuristic

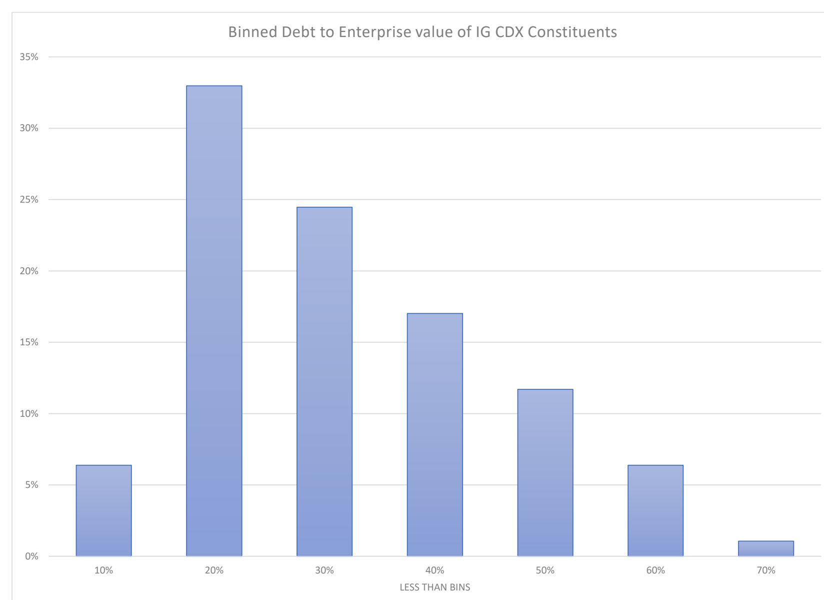
- Receive spread for 5 years
- Lose 60% on all the companies that default (recover 40%)
- Assume all happen cumulatively at the expiration of CDX

Let's put the above picture in context versus the actual companies in the CDX IG. These companies are huge, diversified, and have been able to raise low coupon debt for a decade. They are financially strong. One measure we like is debt to enterprise value. Obviously, the market value of the assets of the company (EV) is a basis for our framework and the book debt amount is the strike price for the equity "option value"

Current Debt to EV is quite low versus history.



Obviously, the average doesn't tell you what you want for credit because as anyone who trade CDX in 2004 knows it's the tails that jump to default. Remember the Auto Sector back then? Here is the distribution of current Debt to EV



Could there be fraud like Enron? Sure! By the way, my heuristic assumes only 40% recovery while Enron creditors got 53%. But bad things can happen. Currently 6.5% of the companies in the index will have to default over the next five years AND recover only 40% to lose money. We are currently looking for actual default and recovery data for all CDX series ever created. Once we track it down and process the data, we will append this DSR. Nonetheless we were able to find a useful picture

Focus on the cumulative default rate for 5 years column 3.1% including the GFC and the depression for BBB's

Table 8.
Average Cumulative Corporate Bond Default Rates, 1920-2009[16]

RATING	1	2	3	4	5	6	7	8	9	10	
Aaa	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.5%	0.7%	0.9%	Investment Grade
Aa	0.1%	0.2%	0.3%	0.5%	0.7%	1.0%	1.3%	1.6%	1.9%	2.2%	
A	0.1%	0.3%	0.6%	0.9%	1.3%	1.6%	2.0%	2.4%	2.9%	3.3%	
Baa	0.3%	0.8%	1.5%	2.3%	3.1%	4.0%	4.7%	5.5%	6.4%	7.2%	
Ba	1.4%	3.3%	5.5%	7.7%	9.9%	11.9%	13.8%	15.7%	17.4%	19.2%	Not Investment Grade
B	4.0%	9.0%	14.0%	18.5%	22.4%	25.9%	29.1%	31.9%	34.3%	36.4%	
Caa-C	14.3%	24.0%	31.4%	36.9%	41.2%	44.3%	46.7%	48.8%	50.9%	52.8%	

The fact is that IG companies just don't go from investment grade to default quickly unless they are fraudulent.

At the same time, we are not naïve. Corporate spreads can certainly widen a great deal from here despite the fundamental strength of the underlying companies. In fact, of course they will widen further if growth expectations fall, inflation remains persistently high, financing markets seize up, and/or the Fed overtightens.

But a couple of counterpoints.

- Corporations are full of employees and want more.
- Guess who gets fired to pay off creditors in a downturn. Lots of cost cutting to be done before bankruptcy.
- Equity markets provide major opportunity for deleveraging if companies get in trouble. Yes that may be at lower levels but they function.
- A functional credit market is the one requirement that the Fed needs to achieve its full mandate.
- While the Fed probably doesn't care much about the stock market, we think the Investment Grade Corporate Bond FED Put is a real thing.

In synthesis we believe that IG corporate bond spreads are rich to fair value and should tighten over the balance of 2022 relative to the underlying equity and equity volatility markets. **We are bullish equities and so would consider owning IG Corporate bond spreads outright, but love IG hedged with 1–2-year SPX OTM Puts.**

Current Recommendations and Performance

	Assumed Portfolio size	$ 100,000,000						
	LTD P/L	$ 41,444,204						
	Total Return	41.44%		YTD Return		10.15%		
	Today's Date	5/29/2022		Portfolio Created		4/15/2019		

Date	Position	Entry Price	Amount	Worst case l(	MTM		P/L	Open/Closed
4/26/2022	AUDUSD .7175/.7375 Call Spread	1.12	44,642,857	$ 500,000	1.12	$	-	Open
4/26/2022	EURUSD 1.07/1.10 Call Spread	1.02	49,019,608	$ 500,000	1.2	$	88,235	Open
4/26/2022	GBPUSD 126.5/129.5 Call Spread	0.92	54,347,826	$ 500,000	0.96	$	21,739	Open
5/5/2022	TLT 115/112 July Put Spread	1.35	-606	$1,000,000	0.6	$	454,545	Open
5/5/2022	GLD 175/172 Put Spread	1.4	-6250	$1,000,000	1.6	$	(125,000)	Open
5/5/2022	NDX July 13000/12500 Put Spread	208	-34	$1,000,000	220	$	(41,096)	Open
5/5/2022	SPX July 4200/4000 Put Spread	79	-83	$1,000,000	72	$	57,851	Open
5/24/2022	ZBU August 145 Call	1.359375	-455		1.111111	$	112,960	Open
5/24/2022	ZBU August 145/147 Call Spread	0.4375	-640		0.40625	$	20,000	Open
5/11/2022	ZBU August 139 Call	2.2	455	$1,000,000	3.625	$	647,727	Open
5/11/2022	AUDUSD .7175/.7375 Call Spread	0.63	79,365,079	$ 500,000	1.12	$	388,889	Open
5/11/2022	EURUSD 1.07/1.10 Call Spread	0.6	83,333,333	$ 500,000	1.2	$	500,000	Open
5/11/2022	GBPUSD 126.5/129.5 Call Spread	0.48	104,166,667	$ 500,000	0.96	$	500,000	Open
5/11/2022	NDX July 13000 Call	350	29	$1,000,000	385	$	100,000	Open
5/11/2022	SPX July 4200 Calll	80	125	$1,000,000	118	$	475,000	Open