

ZEO QUARTERLY LETTER: 4Q2019

Dear Clients:

December 31st is a peculiar date in the financial markets. There's nothing magical about the last day of the year; it's an entirely emotional delineation when it comes to investment performance.¹ Unless one only enters and exits the markets exactly on year-end, the likelihood is very low that the calendar year performance of any investment is indicative of its performance between an investor's actual entry and exit points.

Even so, December 31st is the date that all memories get erased. It's the date when one year's performance gets written into stone, while the hope of a new year springs eternal. As we head into 2020, there is a well of optimism for the equity markets which has led many investors to believe that, despite a +31.5% total return for the S&P 500 in 2019, something similar could happen again. And why not? The equity markets have no quantitative upper bound; the only constraint is valuation, and in an environment of cheap capital and already-stretched valuations, it may be a fool's errand to make the case that this is the year when the market overvaluation argument stops being theoretical.

For those who believe in a continued bull market, what logically follows could be an outlook for 2020 which sees markets going higher with positive economic outlooks even as interest rates go lower to protect against an economic downturn which could happen any day now. But our concern stems from a different, though not necessarily contradictory, conclusion: There is a desperate need for risk management in the financial markets.

Robbing 2020 to Pay 2019: A Reality Check for Fixed Income

Fixed income markets are different from equity markets.

Let's say that again.

Fixed income markets are different from equity markets.

This statement is absurdly self-evident when put into writing. But it's not as obvious when put into the context of today's market dynamics. A systemic shift toward index investing has conditioned investors to think of every asset class as an exchange-traded security and to think of every exposure as a directional call on an entire asset class. For many, the annual rebalancing going on right now is at least in part an exercise to decide if they think equities and/or fixed income will go up again in 2020. But what does "go up" really mean? The index revolution has eroded the distinctions between asset classes. It's easy to forget that exchange-traded funds (ETFs) aren't stocks; as with any fund, there are underlying securities whose prices are ultimately driven by their own unique math and subject to their own asymmetries.

¹ There are two notable exceptions to this observation. First, for most investors, there are tax consequences to transactions that are tied to a given calendar year. Second, many investment managers get paid based on their performance between December 31sts. This last observation isn't a good reason we should adhere to the arbitrary calendar year measures, as it incentivizes manager behaviors which are not necessarily aligned with clients' best interests. This is a longer discussion for another time.

For example, unlike equities, bonds *do* have quantitative upper bounds. For a bond, there is a calculable highest price. A bond won't reasonably trade higher than the tightest yield investors are willing to earn. Even if that is zero (or in the case of some sovereign debt, negative²), the yield determines the maximum possible price. In that way, bond portfolios don't have the same luxury as equity portfolios, blindly expecting a repeat of a prior year's total return. Sure, the equity market might go up 31.5% again. We don't think it's likely, but it could happen. But the Bloomberg Barclays US Aggregate Bond Index (the "Agg") was up 8.7% in 2019, and for investors to expect a repeat of this in 2020 is to ignore the fundamental, unassailable math that governs bond prices. We are not saying 2020 can't be a positive year for fixed income. But we are saying that investors should probably trust the numbers.

For the purposes of this discussion, we will focus on the Agg as the most common benchmark for broad market fixed income. At the start of 2020, the Agg had a duration of 6.16 years, an average credit spread of 0.39%³ and an average yield-to-worst⁴ of 2.31%. To give readers a sense of how these values compare to the past, Figure 1 shows three charts, one for each datapoint, over the last 30 years, along with interest rates for the 7-year Treasury note,⁵ which finished 2019 at 1.83%.

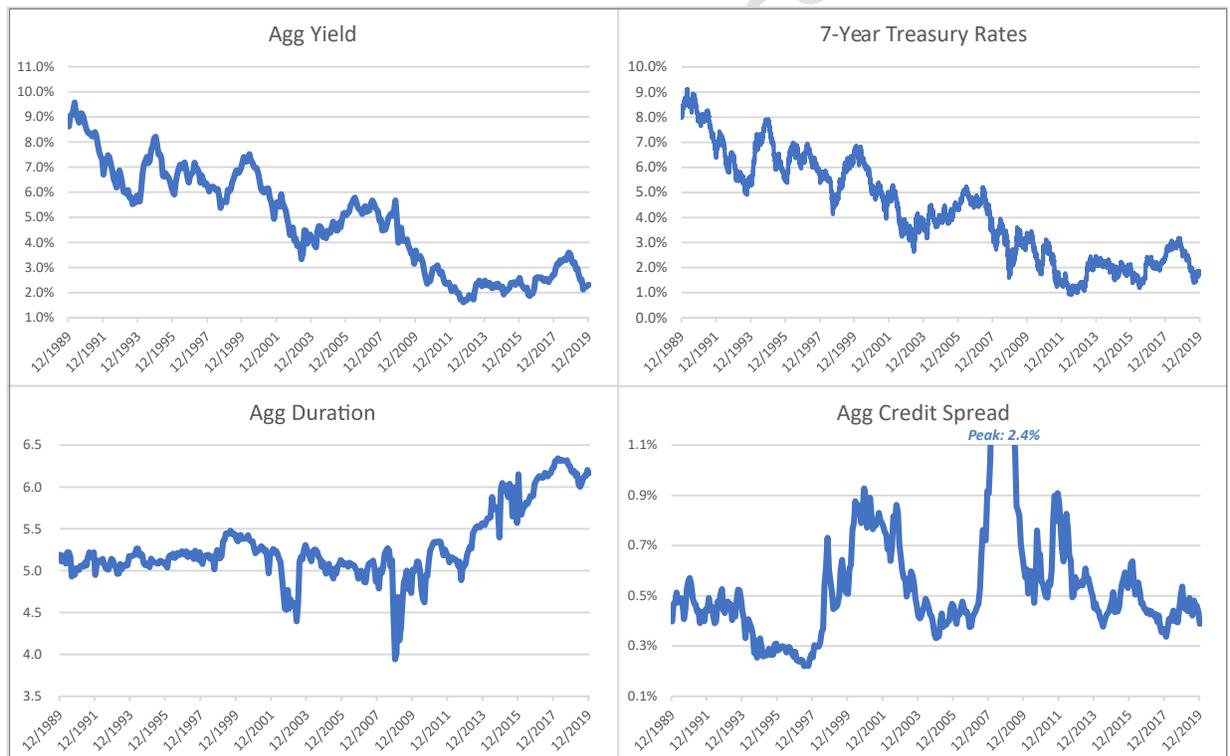


Figure 1: 30-year history of 7-year Treasury bond interest rates and the yield-to-worst, duration and option-adjusted spread for the Bloomberg Barclays US Aggregate Bond index. (Sources: US Treasury, Bloomberg Finance LP)

2 We encourage readers to listen to our latest investor call, in which we discuss our views on negative interest rates. The call can be found at <https://www.zeo.com/content/#investor-calls>.

3 Specifically, this was the average option-adjusted spread (OAS) of the Agg on 12/31/2019. The option-adjusted spread is the credit spread of a bond after taking into account the issuer's option to redeem the bonds earlier. Since an issuer would only use that option in certain circumstances, the likelihood of those circumstances is taken into account in the bond's pricing model to allow for better comparison of credit spreads across bonds and issuers.

4 Yield-to-worst (YTW) is the worst non-default yield an investor would receive if they purchased a bond at the current price. This may differ from the yield-to-maturity (YTM) if, for example, an early redemption by the issuer resulted in a lower yield to the date of redemption than one might earn if the issuer left the bond outstanding.

5 We use the 7-year Treasury bond because its duration (approximately 6.5 years) most closely matches the duration of the Agg.

From here, the bond math takes over. The Agg’s performance, for the most part, is driven by the yield and changes in interest rates and credit spreads. The magnitude of the impact of those changes is determined by the duration.⁶ Of course, if nothing changes, the index should be expected to return the start-of-year 2.31% yield as a base case.

We suspect that most investors are expecting something else from their fixed income allocations, so the more interesting outcomes to our readers derive from various spread and interest rate scenarios. A matrix of such scenarios can be found in Figure 2. We’ll start with the unintuitive scenario that we believe would probably be required for the Agg to repeat an 8%+ total return. In this case, if credit spreads compress to their tightest levels ever (approximately 0.20%, last seen in 1997), interest rates would need to decline to around 1%, a level not seen in the 7-year Treasury since 2012 (see Figure 1). In our view, this is highly implausible; we can’t devise a realistic narrative around such an extreme move. The negative economic fundamentals needed to justify such dramatic quantitative easing are incompatible, in our view, with a decline in credit spreads by nearly 50%. A more realistic upside scenario might be one in which interest rates and credit spreads drift slightly lower. In our opinion, a best-case scenario for the Agg might be closer to a mid 4% total return if the markets were to see a 0.30% OAS and a 1.5% 7-year Treasury rate. That’s not bad, but it’s also far from certain and only one of many possible outcomes.

The Effect of Bond Math on Expected Returns of the Agg

		Agg Credit Spread						
		0.20%	0.30%	0.39%	0.40%	0.50%	0.60%	0.70%
7-Year Treasury Interest Rate	1.00%	8.09%	7.52%	7.02%	6.96%	6.39%	5.83%	5.26%
	1.25%	6.68%	6.11%	5.61%	5.54%	4.98%	4.41%	3.84%
	1.50%	5.26%	4.69%	4.19%	4.13%	3.56%	2.99%	2.43%
	1.75%	3.84%	3.28%	2.77%	2.71%	2.14%	1.58%	1.01%
	1.83%	3.38%	2.81%	2.31%	2.25%	1.68%	1.11%	0.55%
	2.00%	2.43%	1.86%	1.36%	1.29%	0.73%	0.16%	-0.41%
	2.25%	1.01%	0.44%	-0.06%	-0.12%	-0.69%	-1.25%	-1.82%
	2.50%	-0.41%	-0.97%	-1.47%	-1.54%	-2.10%	-2.67%	-3.24%
	2.75%	-1.82%	-2.39%	-2.89%	-2.95%	-3.52%	-4.09%	-4.65%
	3.00%	-3.24%	-3.80%	-4.37%	-4.37%	-4.94%	-5.50%	-6.07%

Figure 2: As of 12/31/2019, the yield-to-worst for the Agg was 2.31%, the option-adjusted spread for the Agg was 0.39% and the 7-year Treasury rate was 1.83%. The bond math formula we use for this illustration is: Expected Return = Current Yield + (1/2 * (Change in Spread + Change in Interest Rate)) + (Duration * (Change in Spread + Change in Interest Rate)). The first component of the equation assumes we earn the yield for a year. The second component adjusts the yield earned for changes in spreads and interest rates, assuming the change happens all at once midway through the year. The third component adjusts the total return for the mark-to-market impact of the credit spread and interest rate change, using the Agg’s 12/31/2019 duration of 6.16 years. Note that these calculations are provided to illustrate bond math and do not constitute a prediction of what will happen in 2020. Return expectations are presented gross of any management fees and are not intended to be indicative of any fund’s or strategy’s performance. The Agg is unmanaged and used for illustrative purposes only. It is not possible to invest directly in an index. (Sources: Zeo Capital Advisors, Bloomberg Finance LP)

⁶ The yield changes when interest rates and credit spreads change as well. This second order effect introduces an element of timing: When the rates and spreads change during a given year they will impact the average yield for that year. For our calculations in this letter, we assume any rate and spread changes take place all at once exactly midway through the year. Of course, this is a simplification of how rates and spreads move, but these assumptions are sufficient to show the impact on the Agg’s expected return.

We could see an equally (if not more) likely scenario in which the interest rate curve steepens so that the 7-year rate is slightly higher (say, 2%), with credit spreads widening to around 0.50% as leverage in the financial system begins to unwind in anticipation of a post-election reality, whether that reality is rooted in narratives of economic strength or policy shifts. In fact, we've seen a more pronounced version of these circumstances several times in the last few years with less-defined catalysts. In this case and many like it, our math would expect the Agg to deliver under 1% (or even go negative). We are not making the case for a pronounced down market here, but in this simple illustration, we hope readers can see the disproportionate risk of disappointment and middling performance that exists in the fixed income markets to start 2020. Every day that passes with spreads tightening or rates declining loads the spring even further, reducing the room to the upside while increasing the distance investors have to fall if things go the other way.

In reality, we would not be surprised to see some combination of the scenarios we've laid out. But that's just the point. The task investors are given is not one of predicting what *will* happen but being prepared for whatever *does* happen. To lazily assume the upside and downside of any asset class is symmetric may be ill-advised in some cases (e.g. equities), but it is potentially very dangerous in fixed income. First, it's objectively wrong; bond math governs an inherent asymmetry in fixed income which doesn't disappear simply because it is ignored or misunderstood. Second, fixed income does not historically exhibit the correlation with equities to the extent we saw in 2019.

We fear that, rather than acknowledging their good fortune, investors are doubling down on it happening again. But the last time the market has seen two consecutive years in which the Agg has delivered over 5% total return was 2010/2011. The current economy is a very different level of risk than the one we saw just after the financial crisis. Rather than cheer the 2019 gain in fixed income and pat themselves on the back for a job well done, investors should realize that some of what should have been 2020's performance was pulled back into 2019 in most duration-unconstrained strategies. This has reduced the already small cushion investors have if things don't go as they expect... and maybe even if they do.

That said, a good investor still needs her fixed income allocation to serve its purpose. In our view, this is the time to put on her risk manager's hat and look for those strategies which aim to earn their keep without counting on a decline in interest rates or credit spreads. In doing so, one can more confidently try to avoid compromising the expected return in a core fixed income portfolio while diversifying risks away from duration. Provided that one finds managers seeking to manage risk rather than just to outperform beta, the result is an overall portfolio that can more effectively target both performance and consistency, an elusive combination in today's fixed income markets.

Comparing Apples And Oranges: Making Sense of Yield Parity In Fixed Income

We are in a market where demand for yield has resulted in a compression of expected returns from virtually every asset class in fixed income. There are small variations from category to category, but ultimately, the differences between yields across asset classes are small. Similarly, the term structures of yield curves and credit curves across fixed income are relatively flat,⁷ so even an investor who seeks extra yield by taking on duration is seeing only a small benefit. Put another way, pretty

⁷ The term structure of a curve shows how rates of that curve change over time. A flat term structure means that rates for shorter timeframes are similar to rates for longer timeframes.

much all fixed income investments come with similar yields in today's environment.

One area in which this is most notable is in the difference in credit spreads between A-rated corporate debt and BB-rated corporate debt.⁸ Figure 3 shows that difference over the last 20 years. This chart shows the extra credit spread one would be paid for BB-rated credit risk over what one would be paid for A-rated credit risk. This additional compensation is at its lowest point since mid-2007, just before the start of the decline leading into the 2008 financial crisis. The instinctive reaction of many investors is to conclude that high yield bonds are overvalued relative to investment grade bonds today. But that instinct is incorrect. Figure 4 tells a very different story. This chart shows the historical durations of BB-rated credit and A-rated credit. In fact, the duration of the high yield index has declined over the same 20-year period, while the duration of the investment grade index has increased substantially.

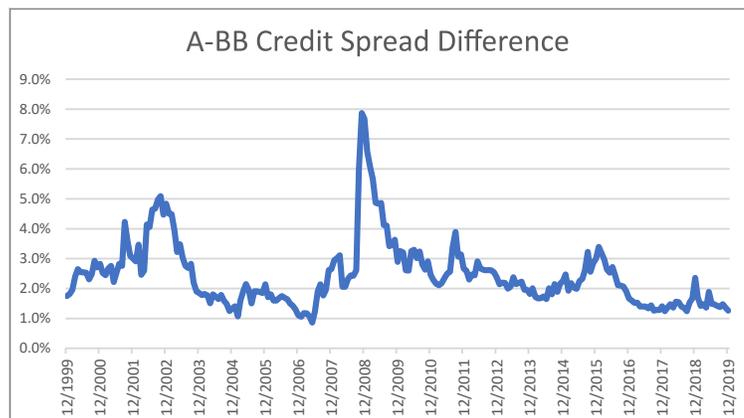


Figure 3: 20-year history of the difference in the option-adjusted credit spreads for the ICE BofA Single-A Corporate Index and the ICE BofA BB US High Yield Index. (Sources: Bloomberg Finance LP, ICE Data Services)

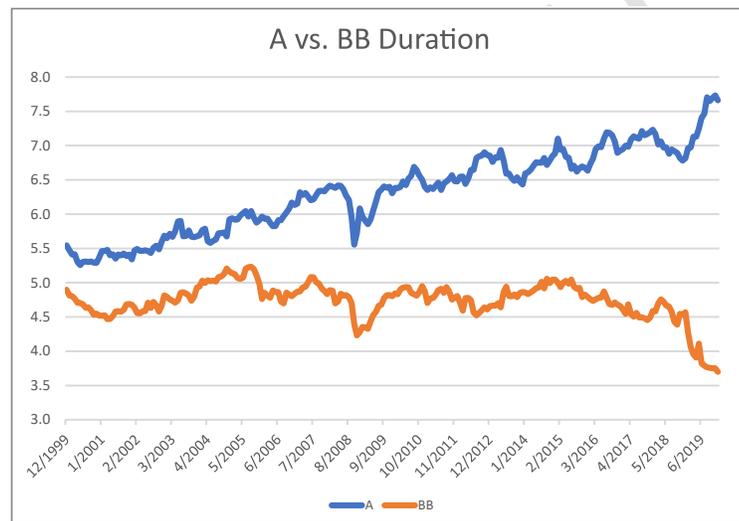


Figure 4: 20-year history of effective duration for the ICE BofA Single-A Corporate Index and the ICE BofA BB US High Yield Index. (Source: Bloomberg Finance LP, ICE Data Services)

This is not to say that there should not be a credit spread difference between A-rated bonds and BB-rated bonds. In 2000, when the durations of the two indices were similar, investors could correctly argue that they were being compensated almost exclusively for taking on additional credit risk (see Figure 5). However, what is clear in the duration data is that the interest rate sensitivity has increased in investment grade fixed income and decreased in high yield fixed income. As a result, some amount of the lower spread difference in 2020 can be explained by a reduction in duration risk offsetting the increase in credit risk.⁹

⁸ We use the ICE BofA Single-A US Corporate Index for A-rated credit data and the ICE BofA BB US High Yield Index for the BB-rated credit data.

⁹ Also in Figure 5, readers can see our view of our own strategies relative to this risk tradeoff. Those who have heard us explain where we believe our strategies fit into a fixed income portfolio will recognize that we make the case for diversifying the risk in a traditional fixed income portfolio from duration to credit while maintaining a similar level of overall risk. With the duration of investment grade credit even longer than is typical for a core fixed income portfolio, we would argue the benefits from our strategies are even more pronounced, especially in the current environment where both credit spread risk and interest rate risk loom large over the markets.

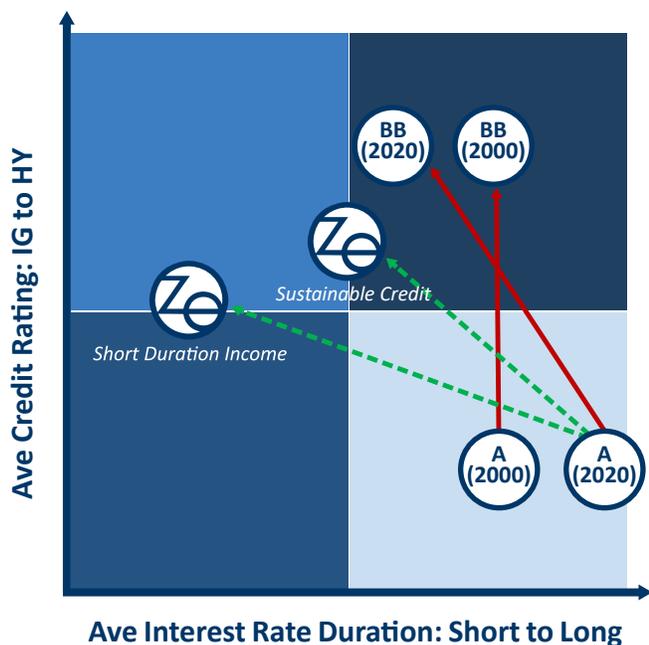


Figure 5: Illustration of relative risk tradeoffs between credit and duration within fixed income. The risk profiles of Zeo's strategies are shown for comparison.

The point we are making is bigger than corporate credit. Our example makes the case that the conventional wisdom of using credit ratings as a sole proxy for fixed income risk, for example, belies a very real countervailing duration risk hidden underneath. But, as we have written before, this type of obfuscation is found throughout fixed income.¹⁰ Common shortcuts for evaluating investments are still mired in a myopic and somewhat confused idea that past performance alone, independent of risk and duration, is sufficient despite ubiquitous disclosures to the contrary. Hence, the Agg's stellar year in 2019 is mistakenly seen by some as a reason to double down on duration risk rather than be wary of it. Ultimately, in a market in which yields and spread differences across asset classes and across durations within each asset class are relatively flat, how *does* an investor determine relative value between her investment options

within fixed income?

The short answer is by understanding the risks underneath the hood of each strategy. Within fixed income, most risks boil down to some form of exposure to credit or duration. In our view, it is reasonable in a core fixed income portfolio to take one or the other risk, *but not both*. Ideally, one would diversify the risks between the two and then further between different credit exposures to minimize the chances that any one risk dominates. Furthermore, when taking on credit risk, which credits get selected are important. To that end, we encourage investors to focus on managers who do deep dives on whatever type of securities they evaluate and are selective about what they include in their portfolios. Otherwise, you may just find yourself adding a third risk, default risk, into your portfolio by mistake at exactly the wrong time.

Lastly, we believe it is especially important to try to identify which strategies consistently deliver on their mandates. There are a host of risk metrics one can use to do so.¹¹ By focusing on consistency, investors can narrow down the almost intractably large list of investment options rather quickly to those who have at least quantitatively shown some risk management skill. From there, there is no substitute for speaking with the portfolio managers themselves and understanding what they do, how they do it and whether you think it is repeatable. And before you know it, you've done what most investors fail to do: bring a risk management lens to a portfolio, and just in time.

¹⁰ We have in the past called out hidden risks in a variety of fixed income asset classes, including collateralized debt, structured products and business development companies. Ultimately, it's important that investors understand what mandate they are giving a manager and what risks the manager is taking to deliver on that mandate. A good rule of thumb is this: If it is confusing, it's probably not worth the risk.

¹¹ Among our favorites are rolling 12-month performance (and standard deviation of the same), the ratio of total returns to standard deviation (which we have dubbed the absolute ratio), standard deviation, max drawdown and time between high water marks. We realize this was an unexpectedly quick rundown of interesting risk metrics, and this list isn't comprehensive. We invite any reader who is interested to reach out for a deeper discussion on how we use these metrics and what insights one can derive from them.

The act of managing risk is an inherently active task, and it's hard work! We acknowledge that most investors aren't necessarily fluent in the language and skillsets of risk management through no fault of their own. We implore our readers to recognize there is an opportunity in this observation; it's been a while since we've seen a market decline which reminded investors that ignoring the downside can be costly... literally. Over the years, we have taken it upon ourselves to teach these concepts and keep them front of mind for anyone willing to listen. Today, this responsibility comes with a sense of urgency. Risk management matters more than ever, and we are here to help.

As always, we are available for your questions, comments or feedback. We thank you for your continued support and confidence in our management.

Sincerely,

A handwritten signature in black ink that reads "Venk". The signature is stylized with a long horizontal stroke at the end.

Venk Reddy
Chief Investment Officer

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