

ZEO QUARTERLY LETTER: 1Q2017

Dear Clients:

In the classic Hasbro game Chutes and Ladders, square number 87 is, put simply, a soul-crushing, disheartening place to be. The space is not-so-subtly illustrated with a child precariously attempting to steal a treat from a cookie jar. Whether after a long steady climb avoiding many smaller chutes along the way or on the very next move after a single rapturous ascent up the ladder from space 28 to 84, landing on 87 will send a player into a freefall, both literally and figuratively, until you land back at space 24 with nothing but a broken cookie jar and a bumped head to show for it. It's hard not to see this as an apt metaphor for investing behavior, but it's at its most fitting because of what comes next.

Chute! Chute? Shoot.

Now facing a much-changed circumstance, there isn't a player in existence that doesn't try to spin a 4 to land on space 28 at the foot of the longest ladder in the game. That is, having just experienced an intense loss, it's common to try for an equally intense gain to recover as quickly as possible. With respect to the game, this behavior derives from a few motivations. First, the consequences of an unsuccessful attempt to hit on a big gain in position are small. Second, there is a tendency to ascribe to skill what is actually a matter of chance, namely spinning that much-desired 4. And third, Chutes and Ladders is a competition, and only one player will reach the coveted 100 first, which prompts constant comparisons of where you stand relative to the other players.

All three of these tendencies can be recognized in classic investor behaviors as well. Unexpected losses are often followed by disproportionate risk taking. Rarely do profitable investors credit the broader market movements for their highly-correlated gains¹. And many fall into the trap of focusing almost exclusively on their performance relative to peers or benchmarks even when a portfolio's objectives are not defined relatively. It will come as no surprise that we believe these behaviors to be detrimental to a long-term sustainable and consistent approach to managing an investment allocation.

¹ Though, of course, these same market participants are quick to blame the markets for losses. Gains are all skill; losses are bad luck. While not true of everyone, many readers will no doubt recognize this pattern among their acquaintances.

Especially as it pertains to fixed income portfolios, whose primary goal should be capital preservation and income, there is not enough margin for error to accommodate a risk-seeking, self-congratulatory competition mindset. Unfortunately, many fixed income strategies focus on optics that can provide a false sense of security,² which in turn lulls investors into ignoring this manager-mindset risk. While harder to spot in fixed income managers, these tendencies are exceptionally dangerous to the preservation of capital. We believe the prudent investor is best-served by, above all else, holding managers accountable for their proximity to the cookie jar they claim not to be reaching for.

Forget the Cookie Jar – It’s the Pies You Should Avoid

“What do you suggest I do with my clients’ savings?” This is a question we hear from advisors regularly. To answer this question properly, it’s important to have a shared understanding of what we mean by “savings”.

We find it helpful to frame this definition in the overall context of an individual’s financial picture. Traditionally, savings are managed as an entirely separate allocation, distinct from the long-term investment portfolio. This has led to a silo mindset, with savings generally not getting enough attention. In today’s era of money market reforms and heightened concern over CD liquidity, investors have found themselves unprepared for managing savings in the current environment.

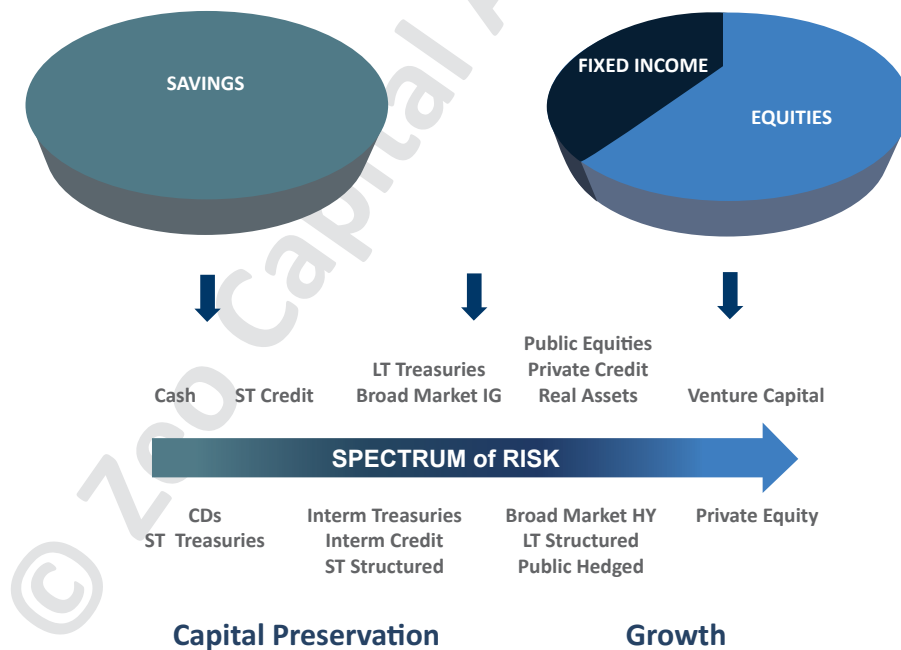


Figure 1: Considering investments on a spectrum of risk enables a more consistent investment approach across all aspects of an investor's financial picture. (Source: Zeo Capital Advisors)

² An all-to-common example of this is the fixed income strategy that highlights its investment grade credit rating but concentrates assets in risky structured products which optically benefit from financial engineering.

We suggest investors reconsider the way they think about these two allocation categories. Rather than treat them as separate allocations, it may be helpful to view the investment options as comparable by placing them on one relatively consistent spectrum of risk. That is, the investments that previously constituted savings are simply the lower risk end of a spectrum which naturally progresses through those investments generally used for core fixed income in a long-term portfolio to those investments that make up the equity portion.

If we further think of this unifying spectrum not in terms of fixed income and equity but rather in terms of capital preservation and growth, we can see how savings, fixed income and equities can all coexist within the same framework, allowing investors to apply a consistent risk and portfolio discipline across all three (Figure 1). It is also important to note that as risk increases, volatility and expected return generally increase as well. After all, there is no free money.

Many investors have unknowingly already employed a version of this approach by moving their savings from money market funds and CDs to laddered portfolios of treasury instruments. But what does it mean to ladder a treasury portfolio by maturity? In our view, a ladder by maturity is simply an indirect way of laddering by volatility, as maturity directly translates into sensitivity to interest rates, and treasury instruments are viewed as having no other risk (e.g. credit, liquidity, etc.). Furthermore, while many investors consider treasury instruments to be on the far-left end of a risk spectrum, we contend that as one progresses up the ladder, the portfolio is introducing unacceptable levels of risk to savings since maturities greater than one year don't earn enough yield to protect a portfolio against interest rate moves.³

If, however, we abstract the concept of a ladder to consider other risks other than interest rate sensitivity, then we can dramatically expand our toolkit at each rung of the ladder. For example, would a short-term credit portfolio offer a level of risk comparable to a medium-term treasury rung? To the extent they exhibit similar levels of volatility over timeframes that span different market environments, it's reasonable to consider the risk of realizing a principal loss to be similar. We believe investors would be well-suited to cast aside their preconceived notions of specific risks and consider building ladders by broader risk measures such as volatility. Then, if a treasury ladder turns out to be the optimal risk-minded portfolio, it would emerge from the analysis of potential investments as the best way to express a volatility ladder.

So does it?

Not All Ladders Go Up

Some readers may recognize that we've been making the case for prioritizing risk-reward metrics as the basis for investment analysis for some time now. Much of what we do with respect to our own mutual fund is to show prospective and current clients the potential benefits of introducing high Sharpe ratio⁴ strategies such as our own into a traditional fixed income

³ We recommend readers review our 4Q16 investor letter for our discussion of fixed income risk metrics to understand why this is the case.

⁴ The Sharpe ratio is a measure of risk/reward calculated by dividing the excess annualized return of a portfolio (i.e. return above treasury rates) by the annualized standard deviation of the portfolio's returns. A high Sharpe ratio is preferred, denoting a higher excess return per unit of risk as measured by volatility.

portfolio. And when faced with the question about savings mentioned above, we undertook a research effort to explore whether this type of risk-minded approach was effective when used as a methodology for constructing entire mutual fund portfolios.

We developed several internal risk metrics by which we could identify and isolate mutual funds that appeared to meet certain key characteristics. Specifically, we were focused on measures that highlighted superior volatility and risk-reward while limiting unexpected surprises. Most importantly and as part of our goal of limiting downside surprises, we wanted strategies that had demonstrated consistency.

The details of these metrics are not proprietary, and we are happy to share them with whichever readers are interested in learning more, but an in-depth analysis is beyond the scope of this discussion. Suffice it to say here that we started with a universe of all fixed income mutual funds and narrowed it down exclusively by risk-reward metrics. By sorting the resulting funds by volatility, we selected a portfolio of funds representing each rung of a “volatility ladder”. In the case of a savings portfolio, we constrained the volatility to only consider funds with a standard deviation⁵ under 2%. Lastly, we created a “duration ladder” treasury portfolio using maturity-constrained exchange-traded funds and compared the results to our “volatility ladder” portfolio a few different ways (see Appendix 1).

While we are pleased with the results of our analysis, it’s important to highlight a few key points. First, it is important for readers to note that the specific funds identified through this type of quantitative approach are less important than the approach itself. There is still a significant amount of manager-specific due diligence that must be done. Though the metrics mentioned can highlight managers to consider, using them alone would be an insufficient due diligence process.

However, the approach to identifying strategies with these risk-minded profiles can help an investor sift through a seemingly endless array of fund options. Even an equal-weighted collection of funds identified only by quantitative means (which constitutes our “volatility ladder” portfolio) can illustrate the potential advantages of such an approach to portfolio construction. Furthermore, one could adjust the portfolios to include cash or select a different mix of similarly-identified funds to match fees, standard deviation or any other preferred metric of a “duration ladder” portfolio. By doing so, one can reduce variables and better compare apples-to-apples to more clearly observe the potential of an approach we believe is better suited for preserving capital.

Put another way, whether an investor cares more about fees, performance or risk, a carefully-selected portfolio laddered by risk metrics such as volatility has the potential to deliver a superior profile for savings when compared to a more constrained ladder by maturity that is the most prevalent approach used today. In particular, we are struck by the significantly higher probability of finishing in negative territory in reasonable savings timeframes for a “duration ladder” portfolio. While such a portfolio may not have lost money if held for the last five years,

⁵ Standard deviation is a measure of the dispersion of a set of data from its mean. The standard deviation is higher if the data points are further from the mean, and vice-versa.

it's no doubt one risks impairing savings if capital is needed in shorter periods.

To us, this is a critical failure of a savings portfolio. Unlike a childhood board game, the consequences of such mistakes in a person's financial life are more substantial. We encourage readers to be vigilant and avoid those situations, however conventional, which could leave them on the floor. After all, spinning that 4 is a matter of chance, not skill. And as investment lessons go, it's a painful one to learn the hard way – we believe it may be best to avoid putting yourself in that position in the first place.

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

Sincerely,



Venkatesh Reddy
Chief Investment Officer



Bradford Cook
Portfolio Manager

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Appendix 1: Ladder Data

In the examples below, the “duration ladder” portfolio was selected in a best-efforts attempt to match the standard deviation ranges that make up the rungs of a “volatility ladder”, while considering feedback from the same financial advisors that asked us about savings in the first place. Our options were limited due to our decision to use ETFs for ease of access to historical data, and we encourage readers to consider other ways to build duration ladders, e.g. individual treasury securities.

The “volatility ladder” portfolio, on the other hand, is presented in several forms. This is to serve three purposes. First, we want to emphasize that the specific composition of the portfolio as shown is less important than the approach. Second, it is important to highlight that additional levels of due diligence are required to settle on a specific portfolio for investment. Third, we believe it is helpful to highlight how a “volatility ladder” portfolio might compare if adjusted to match any specific risk or reward characteristic of a traditional “duration ladder” portfolio. Such adjustments could be made to the weightings of the funds in the portfolio, or as is the case with the illustrations provided, by adding various weightings of cash to the portfolio to “dilute” the resulting metrics.

To that end, we have provided four “volatility ladder” portfolios for comparison to the “duration ladder” portfolio discussed above:

Portfolio #1

Date Range: 3/31/2012 to 3/31/2017

Volatility Ladder		Duration Ladder
1.72%	Net Annualized Return	0.41%
0.60%	Standard Deviation	0.59%
-0.85%	Max Drawdown	-0.80%
2.88	Absolute Ratio	0.69
0.40 years	Time Between Peaks	0.84 years
4.7%	6m Probability < 0%	26.3%
0.3%	12m Probability < 0%	9.4%
0.43%/0.55%	Mgmt Fee/Exp Ratio	0.15%/0.15%

Here, we have equal-weighted the funds we identified without regard for any characteristics other than our selection criteria. It’s important to note that our criteria were based on data from the last three years, while the tables we have provided cover the last five years. This is intentional, as we required our resulting data to include periods not used to select the portfolio to reduce selection bias. In addition, we also evaluated this approach using a non-overlapping two-year period prior to the selection criteria period, the results of which can be shared with interested readers separately.

Portfolio #2

Date Range: 3/31/2012 to 3/31/2017

Volatility Ladder		Duration Ladder
1.70%	Net Annualized Return	0.41%
0.59%	Standard Deviation	0.59%
-0.83%	Max Drawdown	-0.80%
2.88	Absolute Ratio	0.69
0.40 years	Time Between Peaks	0.84 years
4.7%	6m Probability < 0%	26.3%
0.3%	12m Probability < 0%	9.4%
0.42%/0.54%	Mgmt Fee/Exp Ratio	0.15%/0.15%

This portfolio is virtually identical to the prior portfolio, but is adjusted slightly to match the standard deviations of the two ladders exactly. While the adjustment only makes a small difference, we can begin to see the potential to alter the mix of the underlying investments to construct different portfolios for a variety of goals. The underlying process and approach we have been discussing in this letter, however, remains the same.

Portfolio #3

Date Range: 3/31/2012 to 3/31/2017

Volatility Ladder		Duration Ladder
0.41%	Net Annualized Return	0.41%
0.14%	Standard Deviation	0.59%
-0.20%	Max Drawdown	-0.80%
2.87	Absolute Ratio	0.69
0.40 years	Time Between Peaks	0.84 years
4.7%	6m Probability < 0%	26.3%
0.3%	12m Probability < 0%	9.4%
0.10%/0.13%	Mgmt Fee/Exp Ratio	0.15%/0.15%

While we believe risk metrics are far more important when aiming to preserve capital, we recognize that many investors still focus first and foremost on performance. In order to provide an opportunity to understand the return/risk characteristics of our risk-minded portfolio approach, we adjusted the “volatility ladder” portfolio here to match the five-year performance of the “duration ladder” portfolio. We believe, even for the same performance, the risk profile is substantially more attractive. We will note that, due to the use of cash to dilute the historical fund performance data, the fees on such a portfolio, even with its use of actively-managed strategies, are also quite low.

Portfolio #4

Date Range: 3/31/2012 to 3/31/2017

Volatility Ladder		Duration Ladder
0.53%	Net Annualized Return	0.41%
0.18%	Standard Deviation	0.59%
-0.26%	Max Drawdown	-0.80%
2.87	Absolute Ratio	0.69
0.40 years	Time Between Peaks	0.84 years
4.7%	6m Probability < 0%	26.3%
0.3%	12m Probability < 0%	9.4%
0.13%/0.17%	Mgmt Fee/Exp Ratio	0.15%/0.15%

Readers should remember that any such evaluation of mutual fund historical data will be net of fees. Though a “volatility ladder” portfolio will almost certainly have a higher average management fee, we believe such a risk-minded portfolio would more than compensate an investor for the additional expense in the form of both performance and a stronger risk profile. However, as illustrated here, one could adjust the portfolios to include cash or by selecting a different mix of similarly-identified funds to match fees of the “duration ladder” portfolio.⁶ Even so, the risk-minded approach still has the potential to deliver superior results.

As a final comment, we would like to emphasize that our methodology for constructing laddered portfolios can be applied in a variety of ways and does not necessarily have to result in the specific collection or weighting of funds we used for this analysis. We encourage readers to explore other risk measures which are meaningful to them or to engage with us more deeply in a discussion of the specific metrics we chose for this letter and how they might differ from those we would use to achieve other goals.

Please Note: The portfolios represented in Appendix 1 are hypothetical portfolios constructed with the benefit of hindsight and are used for illustrative purposes only. The portfolios do not represent the results of actual trading using client assets, but were rather achieved by means of the retroactive application of a model. The use of hypothetical portfolios to illustrate the implementation of a trading strategy has inherent limitations, as the strategy’s real-world application is subject to numerous variables that may impact actual performance. The trading strategy illustrated in these hypothetical portfolios was not available during the applicable timeline. All investments have the potential for loss, including the complete loss of capital, which the client must be willing to bear.

⁶ Note that, in this case, we matched the average of the management fees and the overall expense ratio. Other approaches to this matching are possible, but we believe the results would be substantially similar.

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