

# Loss-Averse Investors:

Let Rho's TOPS COLA Quench Your Thirst for  
Risk-Managed Returns

# Rho TOPS COLA Strategy

■ **LOSS-AVERSION IS WIDELY PREVALENT IN INVESTORS** and was exaggerated following the losses they suffered in equity markets and hedge funds in 2008. Cognitive psychology teaches us that loss aversion is a natural reaction due to cognitive biases that govern human perceptions. However, loss aversion is not the best investment strategy in the long run, even though it is psychologically comforting and easy to pursue, because loss aversion negatively skews the distribution of expected returns. So what is the best strategy for loss-averse investors as they lick their wounds and consider their alternatives?

■ **RISK-MANAGED PRODUCTS ARE THE BEST ALTERNATIVE** for risk-averse investors. In this note we explore the impact of loss aversion on investment decisions, and make a strong case for investment strategies that control risk, first and foremost, and then maximize Return Efficiency. Rho's vigilant approach to risk management should provide much needed confidence to investors as they explore investment opportunities in an environment in which loss aversion is common.

■ **WHAT IS LOSS AVERSION?** Loss aversion is the disproportionately intense emotional response to losses versus gains of equal magnitude. Behavioral studies by Kahneman and Taversky (1986) have shown that

people react differently to gains and losses, and these biases, called cognitive biases, subconsciously control our investment decisions. Kahneman and Taversky showed that the decision making tendency of their subjects could be divided into "risk-seeking" and "risk-avoiding". Risk seeking subjects were willing to tolerate greater uncertainty about future returns. Their

key finding (see Table below) was that, remarkably, people are risk-seeking when it comes to losses and risk-avoiding towards profits. Further, they found that the intensity of emotional response was different for gains and losses. For equal gains and losses, losses were up to 2.5 times more painful. This is loss aversion.

*Remarkably, people are risk-seeking when it comes to losses and risk-avoiding towards profits*

| Investor Cognitive Bias                  | Losses | Gains |
|--|--------|-------|
| Risk avoiding (emotional impact = small) |        | x     |
| Risk seeking (emotional impact = large)  | x      |       |

■ **EFFECT OF LOSS-AVERSION COGNITIVE BIAS:** Loss-aversion has a profound effect on investment returns because the strategy of a loss-averse investor may be described as “cut profits early, let losses run”.

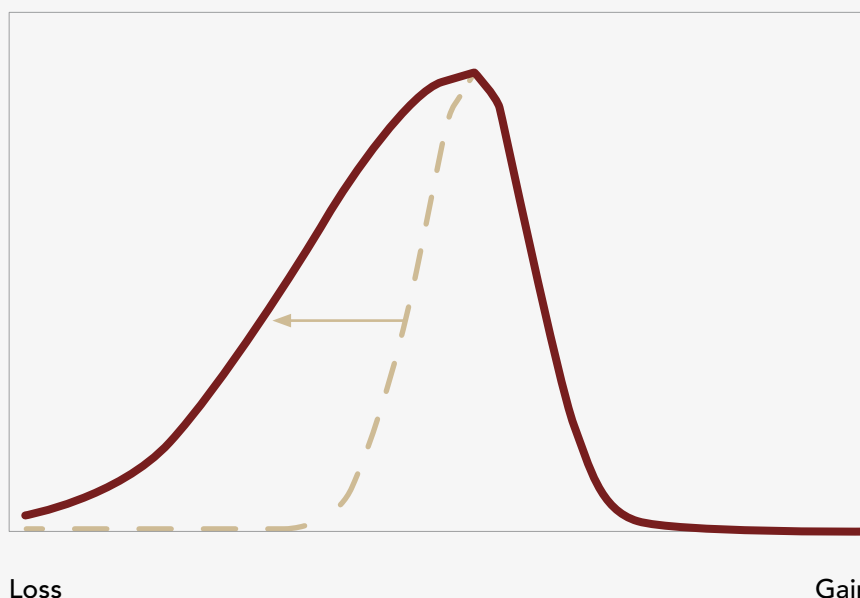
*The strategy of a loss-averse investor may be described as “cut profits early, let losses run”*

The above table shows that profitable trades are cut off quickly, to avoid turning them into losers. Conversely, investors hold on too long to losing trades in the hope that they will return to profitability. If we were to plot the distribution of profits and losses of individual trades, that distribution would be skewed to the left (as depicted in the histogram below), because losing trades are allowed to run, but profitable trades are closed before they mature.

The dashed line emphasizes the shift to negative outcomes. Such a strategy is emotionally comforting and easy to follow, but destined to be unprofitable over the long run, because the upside is “capped” and the down-side outcomes are open-ended.

**FIGURE 1**

This figure is a schematic distribution of gains and losses from individual trades for a loss-averse investor. The distribution is skewed to the left, from a symmetrical distribution, as highlighted by the arrow, because loss-averse investors “cut off profits, and let losses run”, i.e., the up-side is capped but the down-side is open ended.



■ **RHO STRATEGIES AVOID LOSS-AVERSION** because they are based on more than 15-years trading experience and extensive testing. Specifically, we are passionately dispassionate about our trading deci-

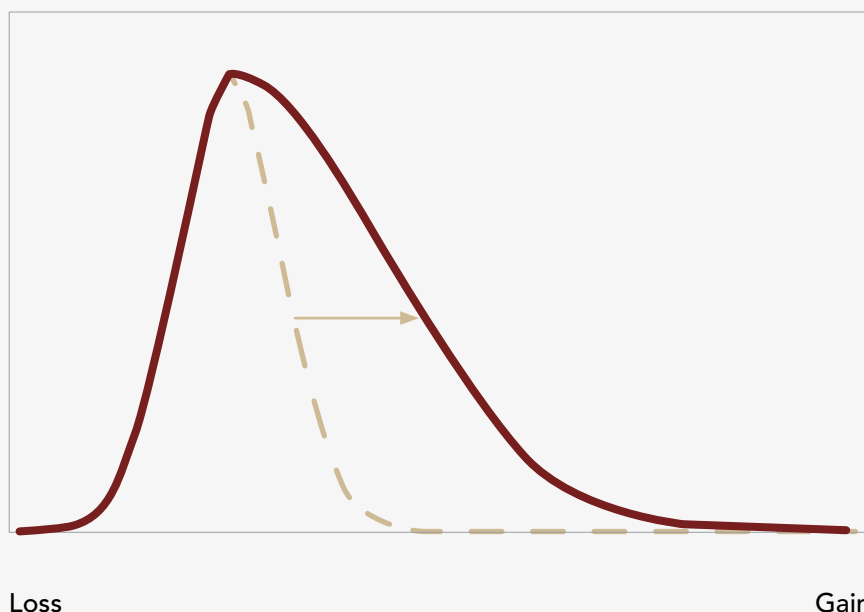
sions, so there is no emotional effect of winning or losing trades. Our risk-seeking pattern is precisely opposite of a loss-averse investor as shown below, because we cut-off losses early and let profits run.

| Rho Strategies are Opposite Investor Bias | Losses | Gains |
|---|--------|-------|
| Risk avoiding (no emotional impact)       | x      |       |
| Risk seeking (no emotional impact)        |        | x     |

■ **RHO "TOPS COLA" SKEWS DISTRIBUTION TO RIGHT** because our strategy is "Take Our Profits Slowly, Cut Off Losses At once" ("TOPS COLA"). This methodology produces a distribution of trade returns that is skewed to the right (as depicted in the histogram below), since the losses on the left are "capped" and the gains on the right are open-ended.

**FIGURE 2**

This figure is a schematic distribution of gains and losses from individual trades for the Rho strategies. The distribution is skewed to the right, from a symmetrical distribution, as highlighted by the arrow, because Rho's strategies "take our profits slowly, but cut-off losses at once" (TOPS COLA).



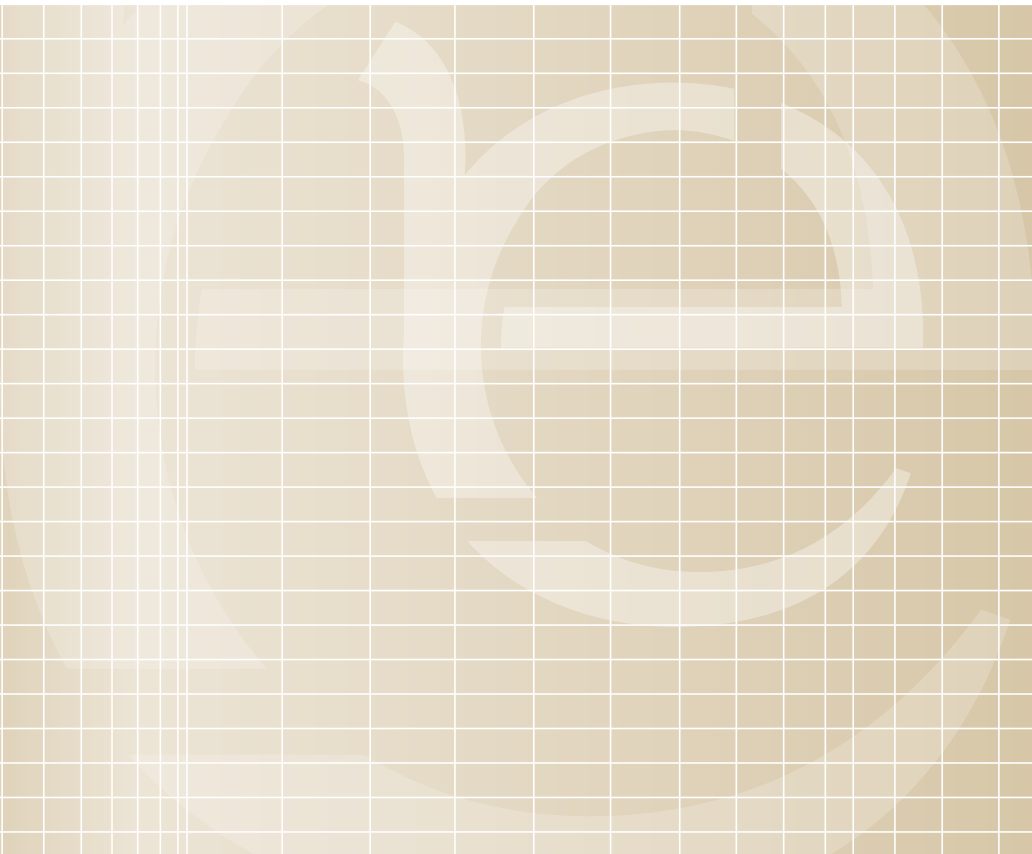
■ **"TOPS COLA" STRATEGY HAS PROFOUND IMPLICATIONS** for loss-averse investors, because it is exactly the opposite of what they want to do, and over the long run, after we accumulate a sufficient number of "outlying" winners, this strategy is likely to be profitable.

■ **PRODUCT DESIGN FOR LOSS-AVERSE INVESTORS** must first be based on the recognition that the trading strategies must be positively skewed. Next, we recognize that emphasizing gains, or chasing returns will sooner or later lead to draw-downs, and those losses are likely to have a disproportionate negative effect on investors. So, the Rho approach is to address loss-aversion first, by using a design approach that starts with the largest loss an investor is willing to accept. Then we select systems that will maximize Return Efficiency, i.e., try to maximize returns for the desired level of risk. This product design strategy is summarized below.

*The Rho approach is to address loss-aversion first*

| Product Design Strategies              | Loss-Averse Investor  | Gain-Seeking Investors  |
|--|---|---|
| Returns have large emotional impact    |   | Emphasizing returns leaves door open to investor loss-aversion bias |
| Draw-downs have large emotional impact | Control losses first, then maximize Return Efficiency by trading systems with positive-skew |   |

■ **LET RHO QUENCH YOUR THIRST FOR RISK-MANAGED RETURNS** through our transparency, attention to detail, excellent diversification, return-efficient designs, and total commitment to comprehensive risk management. If you are a loss-averse investor, we encourage you to explore if Rho is the right manager for you.



Rho Asset Management (“Rho”) is a Swiss based Commodity Trading Adviser (CTA) established in 2007. The founders of Rho have combined more than 50 years of experience in alternative investments and a successful track record in trading and managing client assets.

Our goal is to provide the highest possible RETURN EFFICIENCY to our investors using ALTIUS, CITIUS and FORTIUS, all fully automated trading programs. Rho is research and technology driven, specializing in design and implementation of systematic trading strategies. All strategies are based on quantitative analyses of price behavior in the global financial and commodity markets.

Rho is dedicated to providing our clients with tangible value in investment performance and quality of client service.