Chapter 11

Prophecy of Value

From Scalping to Trading

It began with this text from my wife about our son Jackson: "Jackson wants to buy an extra Austin City Limits ticket to sell later on, presumably for a profit. What do you think?" For years, I've been trying to find a way to teach my kids about trading in a way that would capture their interest. Finally, I had my opportunity. I said, "Yes, but it's not a gift, it's an investment that he will make from his savings." (I will preface this chapter by stating up front that reselling tickets for a profit is legal in the state of Texas.)

Jackson's argument for purchasing the extra ticket for $255 is that every year he sees tickets sell in the online aftermarket "at the last minute for as much as $500." If he could do that, he would effectively be able to go for free. That's when I let him know that he was trading. He was making a bet based on his experience. He had identified a trend in price action and was positioning himself to capitalize on it. He immediately made a classic mistake by framing the decision irrationally. He is correct, he could effectively go for free, but because money is fungible, the cost of the ticket he is actually using is completely irrelevant. All that matters

AlphaBrain: How a Group of Iconoclasts Are Using Cognitive Science to Advance the Business of Alpha Generation, First Edition. Stephen Duneier.

is how much he is risking relative to how much profit he expects to gain. It's a mistake that traders often make.

He acknowledged that there was a risk that he wouldn't be able to sell the ticket for at least what he'd paid, which is the lowest he'd be willing to sell it. By refusing to sell it for less than he paid, he is effectively saying he'd rather lose everything, than lose even a little bit. As is often the case with traders, he saw that risk as something close to zero. Even if that's the case, the price he paid for the ticket is irrelevant going forward. It means nothing to other concertgoers, and should mean nothing to him also. From that point forward he is simply trying to maximize his return.

His argument for getting into the trade is sound. Every year the tickets sell out within two days, and he just bought one more ticket than he had in any other year. "So you could assume that there's at least one person who's normally getting a ticket that was unable to." If you think about it, he's talking about market positioning now. There are two issues with this logic. First, he has ignored the fact that there is also at least one person who normally buys just one ticket who now has two. So, while demand may have grown by one, so too has supply. This has implications for the second issue.

As it is for traders, he doesn't have perfect information about market positioning. How many others have purchased extra tickets for the sole purpose of selling at a higher price? How many are professionals? What is their risk tolerance? How quickly does the excess demand normally get satisfied? In other words, what is the optimal time to sell? That doesn't necessarily mean the highest price, but that point where the reward relative to risk has peaked. "You're playing to people's need to not be left out of stuff and the closer it gets the more of a panic people get into." He's right, but again, he's ignoring the supply side, which will feel the same pressure. The longer he waits, the more desperate potential buyers become, but if he waits even a minute too long, the ticket will be worthless, and so at some point, that puts pressure on sellers.

"However, when all of the other people doing this put tickets on sale for $500, if I'm desperate, I can put mine up for $400, still make money and have a definite sale since its $100 less than competitors." On paper, as a hypothetical, this strategy appears sound, but only because it glosses over some very difficult to define, yet essential aspects of the decision process. How do you define desperate? Will you know when you have

become desperate, and if so, will you be able to contain the emotion so that you can still make a rational decision? I suggested to him what I suggest to all of my clients. Make a plan ahead of time. Up front, before emotion takes over, set reassessment triggers in both price and time. In other words, rather than trying to sell at the absolute high, set a price target and stick to it. If the target isn't hit by a particular date, resolve to sell it then, at the clearing price.

There is one final, but very important point that came to light when he said "I saw one go for $650 last year, which is absurd." He says it is absurd, but because he didn't sell his ticket for $650, he effectively paid $650 for the ticket he used. Therefore, he has defined his own action as absurd. How did I arrive at this conclusion?

He has a ticket. That ticket could be sold for $650. Therefore, there is no difference between $650 cash and the ticket. If instead of holding that ticket, which represents $650, he was actually in possession of $650 cash (and no ticket), he could not attend the concert. However, to get back to holding a ticket, he would have to exchange that $650 in cash for it. Therefore, he paid $650 for his ticket. My son remains unconvinced, but he's not alone.

This is similar to the mistake made by the wine connoisseurs mentioned earlier. You know, the ones who didn't realize they had actually paid $75 for a bottle of wine for which they'd only paid $20.

How Regret Makes Us Do Things We'll Regret

There is a well-known psychological study in which participants are posed the following question:

> There have been several epidemics of a particular strain of flu that everyone contracts, and it is fatal for 10 out of every 10,000 children under the age of three. A vaccine for the flu is available, which causes death in 5 out of every 10,000 children. Would you vaccinate your child?[1]

[1] David A. Asch, Jonathan Baron, and John C. Hershey, "Omission Bias and Pertussis Vaccination," *Medical Decision Making* 14, no. 2 (1994): 118–123 (journals.sagepub.com/doi/pdf/10.1177/0272989X9401400204).

Although the answer is obvious to an objective observer, the majority of parents who participated in the study opted not to vaccinate their children, because the vaccination *caused* five deaths. It didn't matter to these parents that their children faced twice the risk of death without the vaccination. The reason they gave for the decision is that they would "feel responsible if anything happened because of the vaccine," yet they dismissed the notion that they'd feel responsible if they failed to vaccinate. In other words, they would feel responsible for an outcome that followed their own actions, but not if it resulted from a lack of action.

Evidence of this type of bias is embedded in the very fiber of our society. For instance, the Hippocratic Oath that doctors take compels them to "Do no harm" rather than "Do some good." If someone physically holds another person's head under water until they drown they will have broken the law and will face a very stiff penalty. However, if someone is drowning and an onlooker who is capable of saving him elects not to, it is not a crime.

Richard Thaler ran a related experiment wherein participants were posed the following question:

> Assume you have been exposed to a disease that, if contracted, leads to a quick and painless death within a week. The probability you have the disease is 0.001. What is the maximum you would be willing to pay for a cure?[2]

They then faced this slight variation:

> Suppose volunteers would be needed for research on the [aforementioned] … disease. All that would be required is that you expose yourself to a 0.001 chance of contracting the disease. What is the minimum you would require to volunteer for this program? (You would not be allowed to purchase the cure.)[3]

Although both scenarios involve exactly the same odds for contracting exactly the same disease and the same likelihood of death, participants

[2] Richard Thaler, "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behavior and Organization* 1, no. 1 (1980): 39–60.
[3] Ibid.

required a fee to volunteer that was roughly 50 times greater than they were willing to pay for the vaccine.

In all of the preceding examples, the fundamental difference in the choices they face comes down to a decision of omission versus commission. Although the outcomes may be identical, and in some cases far worse, the feelings of responsibility, and potentially regret, are what drive the systematic errors in judgment, and we are all vulnerable to it.

What Would You Do?

Scenario 1

You are one of many portfolio managers for a large hedge fund. As you do every day you've just reviewed the contents of your portfolio to be sure it contains only positions that you believe present attractive risk versus reward profiles from current levels, and considering your views and expectations, all are sized in appropriate proportions. Without warning, you receive an email from your CIO informing you that your capital allocation has been doubled, effective immediately. One of the positions in your portfolio has appreciated substantially since first putting it on several weeks ago. Having already realized the move you had initially anticipated, a few days ago you unwound all but 1/6th of the position, leaving the small remainder on in case the move continues.

***Question 1a*:** In light of your new capital allocation, should you adjust the size of this position?

***Answer 1a*:** For many experienced risk-takers this scenario presents a very real quandary. However, if your goal is to always make optimal, purely objective decisions, the only rational answer is yes, you should double the size of all positions in order to maintain the same proportional exposure to the portfolio. Of course, this is predicated on the assumption that you had made a balanced and objective decision regarding this position before you received the email from your CIO.

For example, if you had decided this position should represent 50 basis points of risk to your portfolio before the increase, it should represent 50 basis points of risk after it. If instead you choose to do nothing, you will actively reduce your exposure to 25 basis points,

thereby effectively ceding control of a trading decision to an unwitting third party. If you are willing to do so now, why not make all trading decisions in a similarly random manner, such as by the flip of a coin? The only reason not to make the adjustment is if the current offer is at or above your take profit level (and vice versa for a short position). There is the possibility that you remain unconvinced, and in that case you have proof that your portfolio review prior to the email was lacking in conviction. If this applies to you, take note of just how biased you are toward doing nothing.

***Question 1b*:** Would your answer change if you were the only portfolio manager in the fund and, rather than receiving an increase from your CIO, the unexpected increase was from a sudden inflow from an investor?

***Answer 1b*:** No. Whether you are a portfolio manager independently managing capital allocated to you by your firm or directly invested with you by an investor, the decision-making process should be identical. If your previous answer was riddled with uncertainty, but made clear when rephrased in Question 1b, you have a potential tool for improving your decision-making going forward.

Scenario 2

You are one of many portfolio managers for a large hedge fund. You have an excellent track record both as a producer and disciplined risk manager. Although the fund has a policy of cutting capital allocations on a 5% drawdown, it is also well known that this speed bump is more relaxed for portfolio managers of your caliber. In fact, you've witnessed other portfolio managers who have been down more than 8% before having their capital allocation reduced. As a result, you decide to manage your portfolio as though the speed bump is an unknown, so, as you have always done, as you recently began to experience a drawdown you gradually reduced the risk in your portfolio. Now down 4%, this has been a particularly bad run for you, and management believes the stress is beginning to affect you. As a result, they've suddenly decided to reduce your allocation by 50%, effective immediately.

***Question 2a*:** In light of the fact that you have been reducing your risk along the way, do you need to make any adjustments to your positions when your capital is unexpectedly reduced?

***Answer 2a*:** This tends to be more of a dilemma for former proprietary traders than those who began their careers on the buy-side, because they have been trained to manage notional risk rather than capital. Once again though, the answer is clear. The portfolio should be adjusted in exactly the same way and for exactly the same reasons as discussed in scenario 1, with the same caveat regarding entry price but this time relative to the stop-loss. To make the argument that risk has already been reduced ahead of the capital reduction is to ignore that you are managing capital. Without a definitive speed-bump procedure, the portfolio manager should manage the allocated capital without bias. Although reducing your risk when your conviction is waning is a prudent decision, doubling it because an unwitting third party attempted to reduce its exposure to your portfolio is not, and that is exactly what you will be doing if you don't cut your positions proportionally. If you argue that you cut your risk in anticipation of your capital being reduced at some point, then you are presenting evidence that you have been underinvested relative to your conviction, which begs the question, at what point did you actively cut your capital, and why didn't you notify the CIO at that time?

It's important to make a distinction between reducing risk due to waning conviction and reducing it because you are managing less capital. If you don't make and recognize that distinction in a deliberate manner, you make it easier for this bias to regularly affect your investment process.

***Question 2b*:** Would your answer change if you were the only portfolio manager in the fund and if, rather than the reduction in capital coming from your CIO, it was the result of unexpected outflows?

***Answer 2b*:** See Answer 1b.

Scenario 3

You are the CEO and CIO of a young hedge fund with several portfolio managers each managing independent portfolios. The end of your second calendar year in business is fast approaching and your firm has

had a good run. So good, in fact, that if you were to close down all positions today, the performance fees alone would allow you to fully fund your entire business for another year, after all bonuses are paid out. Recognizing this as a crucial time in the development of a young hedge fund, you are inclined to reduce risk dramatically into year-end.

***Question 3a*:** Should you (a) tell all portfolio managers to reduce their risks immediately or (b) reduce capital allocations to all portfolio managers?

***Answer 3a*:** As CEO, your objective is to ensure the viability of the business. As CIO, you are tasked with maximizing returns relative to the risk taken in the investment portfolio, just as it is for each portfolio manager and the capital allocated to each. The CIO effectively manages a portfolio of trades like any other risk-taker, assessing the merits of each component both independently and as part of the overall portfolio. In order to maximize the benefits associated with each portfolio manager, they should be allowed maximum autonomy within well-defined constraints that they are able to account for in their planning and positioning. If we believe it is better to make decisions under certainty than uncertainty, then as CIO we should do our best not to be the source of uncertainty for our own portfolio managers. Therefore, the best answer must be "b." The only reason to opt for "a" would be to avoid responsibility and potential regret should the decision to reduce risk be seen as a bad one at some point in the future.

The very possibility that any of these scenarios could invite debate serves as evidence of our very human preference for doing nothing.

P&L Driven P&L

I recently gave a talk to hedge fund clients of one of the largest investment banks. Among other things, I once again argued against the use of speed bumps. To review the way a speed bump works, if a portfolio manager or fund is down a certain percentage from its high-water mark, the portfolio manager must cut risk by a specific proportion. The thinking is that occasionally risk-takers aren't seeing things clearly, but they are somehow blind to that fact. Rather than letting the wheels come

off completely, the speed bump serves as a formal process for avoiding the downward spiral. Think of it like a time-out for a troubled child. It forces them to take a step back and think about their actions. I don't believe the time-out helps the troubled child avoid further problems, it simply gets them out of the parent or teacher's hair for a while. Same goes for the speed bump. Like nearly all other risk management tools this industry has come to depend upon, the speed bump is a reactive one. Worst of all, it accomplishes one of two things. Either it reduces the returns of a good portfolio manager or it extends the life of one that should be fired.

Interestingly, this was one of the rare times I didn't run into fervent opposition to my argument from the audience. Instead, I was asked a simple, but very telling question. "How can you be opposed to speed bumps while simultaneously arguing that stop-losses are an essential component of an intelligent investment process?" I began to salivate, because the question itself highlighted an equally problematic issue. Stop-losses are often seen as a way to limit losses, to avoid the downward spiral, and in a way they are. There is, however, a seemingly subtle, yet very important distinction between my approach to stops and that of most others that begins with position sizing.

Very often a portfolio manager will determine the size of a position by how much he hopes to make, or even just by picking a nice round number. The stop-loss level is then chosen by how much he is willing to lose given the resulting notional amount. In other words, the level is determined by P&L. That is the mistake, and it's the same one made by those who use speed bumps, which is why the question was posed. The person posing the question saw my support for stop-losses and opposition to speed bumps as inconsistent because he saw them both as being driven by P&L. He's right, but only if you implement stop-losses as I've described, which I do not.

Determining the position size is the very last step in my investment process. Before the notional amount is set, I first identify the correct level that the position should be unwound if my expectations are not met which is my stop-loss level. It is the nearest market price that should not trade so long as my underlying thesis holds true. The last thing I want is to be taken out of a position while I still believe in the underlying view.

I know that if I stop out of a position meant to express a view that I still hold, eventually I will be compelled to express that same view again. If that is the case, what was the point in stopping out of the position? The reason is that it creates the illusion of discipline, an illusion designed to fool others – and ourselves.

Here's an example of how it plays out in practice. You identify an assortment of evidence arguing for company XYZ's stock to go up. The stock is trading right in the middle of a well-defined yet fairly wide trading range. You go long. You set a "tight stop," well within the trading range, in order to "cap the downside." If the stop is triggered, you will lose 20 bps of your AUM. In other words, you have decided that given your level of conviction for the underlying view, you are willing to risk a maximum of 20 bps on the idea. A few days later, the stop is hit and you realize the 20 bps loss. Two weeks later, the stock rallies back to the original entry level. All the reasons you initially believed in the trade remain in place, so you enter the trade again, with the same "tight stop." Now you have risked 40 basis points (bps) on the idea that you initially deemed worthy of just 20 bps, but it doesn't end there. This is often repeated over and over and over again.

Eventually, your view is proven correct. The stock rallies and you make 60 bps having risked just 20 bps. We see this happen all the time. Remember the short EUR, the long JPY and short S&P trades that cost funds for years before finally "paying off?" If portfolio managers are being honest with themselves and with investors, all those trades should be combined in order to properly assess the return on investment (and risk) over time.

Tight stops are a good idea, but only when it is due to the entry level being very close to a price that is significant to many market participants. A simple way to say this is, "so long as my view holds true, the stop-loss level should not trade. If it does, something has significantly changed and I no longer want to have that position." This is a dramatically different approach to the stop-loss from the one described earlier. The decision involved is driven by the view, the portfolio manager's expectations, and the market, not based purely on P&L. That is how you want decisions to be made.

Going back to the question posed by the audience member. He was correct if you approach stop-losses like most in the markets do. It is inconsistent to argue against speed bumps and in favor of stop-losses, because, in both cases, decisions are being made driven solely by P&L, without consideration for markets, views, or expectations. When utilized in this manner stop losses are last line of defense against an investment process that is impulsive and poorly planned. However, if the stop-loss is an integral part of a proactive investment process, derived as a result of a thorough analysis, fact-based research, and a firm view, it no longer has anything in common with the speed bump. That leaves the speed bump as the only decision being made indiscriminately.