The Tao of Reward and Risk

by Sam Eder

On the surface, reward vs. risk seems simple. Just make sure you have a three to one reward/risk ratio and — hey presto — you can go back to searching for that perfect entry.

But like so many trading concepts, what seems simple actually has a lot of depth, plenty of room for mistakes, and great opportunities. A superficial understanding of reward/risk just won't do it justice. We need to look closer to ensure our trade management is as good as it can be.

The Basics: Reward/Risk Ratios

Knowing the reward/risk ratio of your trades should be one of your bread and butter trading activities. For every trade, either know the answer or ask the question -

What is your potential loss compared to your potential gain?

For example, some traders like Paul Tudor Jones look to make five times their risk on each trade which gives a reward/risk ratio of 5:1. Others might look to make an amount equal to their risk, giving them a reward risk profile of 1:1. The point is not necessarily to pick one or the other — that comes later, when you set your trading system's objectives — but to make sure you know the reward/risk of the trade you are about to place.

Unhealthy Habits

Traders can develop unhealthy habits in their obsession with having a high reward/risk ratio (3:1 is a common one). Certain behaviors can prove less than helpful for good trading results. For example, it's no good sticking a profit target three times the distance of your stop away from your entry and simply hoping that is enough to make your trading system profitable. Instead, the reward/risk profile of the trade should be carefully considered based on the opportunity presented in front of you and how you implement the trade to produce the best outcome.

Focusing on an overly simplistic view of reward/risk can also lead the trader into doing things backwards. A backwards example - some traders will simply place a stop-loss very tight to the entry just so they can have a suitable reward risk ratio based on a good target, but this is putting the cart before the horse. Tightening the stop to manufacture a superior (or even acceptable) reward/risk ratio does not work. You can't turn a poor opportunity into a good one by simply moving the stop closer to the entry. In fact, if you think about it logically, it makes sense to have the stop further away on a lower quality trade as a tight stop is highly likely to be triggered.

Instead, *wait for opportunities with naturally high reward/risk profiles* and then place your stop where it is most likely to achieve your trading system's objectives. (For Van Tharp students — this is what he means when he talks about having a 3:1 reward/risk ratio. Find opportunities that have a naturally favorable reward/risk profile, rather than trying to manufacture them.)

Reward/Risk vs. Win Rate

Setting your system's reward/risk profile is a balance between consistency (win rate) and profitability (reward/risk). A system that makes less profit but is easier to trade because it wins more often can be a better choice for traders over a trading system with more losing trades but bigger winners.

To alter the reward/risk ratio, you could stalk an entry point on a lower timeframe, which will improve the payoff and lower the risk. Conversely, you could widen the stop-loss, which will decrease the reward, but increase the win rate. Neither of these adjustments, however, will ever turn a bad opportunity into a good one or vice versa. They are just going to allow the trader to meet different objectives, whether the aim is to create an easier system that wins more often, therefore, is easier to trade, or a more profitable trading system with larger winners (that could be more difficult to trade).

Ways of Calculating Your Reward/Risk

Another area where an overly simplistic view of reward/risk falls down is assessing the reward/risk profile of a trading system. Instead of generically thinking about reward to risk, consider three distinct measures:

1. Targeted reward/risk
2. Current reward/risk
3. Effective reward/risk

Targeted reward/risk is what we commonly refer to as the reward/risk ratio. It is based on the reward/risk profile of the trade prior to entry. For example, if you are looking to make 3 units for every one unit you risk, then your targeted reward/risk ratio is 3:1.

The current reward/risk is the live reward/risk profile of your trade as it changes throughout the lifecycle of your position. For example, you might start with a targeted ratio of 2:1, and then after you are in the position, you adjust your stops, take profits, or add size to the trade as part of your trade management rules. As the live trade progresses, the current reward/risk profile may vary drastically. (One note — Van Tharp recommends that you never let your current reward/risk ratio to decline to less than 1:1 while in a trade.)

Improving Reward/Risk Ratio vs Static Reward/Risk

The effective reward/risk ratio is your ending reward/risk profile across a number of trades. For example, your average winning trade in a system might be three times larger than your average losing trade. In such a case, you might have a targeted reward/risk of 2:1. If your average loss is 0.3 and average win is 0.9, you would divide your average win by your average loss to reveal an effective reward/risk of 3:1 — substantially better than it the initial or targeted reward/risk ratio. Of course, you might have the reverse. A system that targets 3:1 could end up with an effective risk reward of 1.5:1 or worse.

It gets really interesting once you start running comparisons with win rates factored in. For example, would you rather have a trading strategy that makes +0.9R on average and loses -0.3R on average (for an effective reward/risk of 3:1) with a 60% win rate, or a system with a targeted reward/risk of 3:1 and a 40% win rate?

Without a detailed knowledge of reward/risk, many traders would choose the system with the 3:1 targeted reward/risk and 40% win rate. But if you grasp the concept of effective reward/risk analysis, you might find the system that makes 0.9R just suits you better. It would probably be easier to trade so you would make fewer mistakes and the resulting higher quality would allow you to trade it with more aggressive or more creative position sizing strategies.

Scaling-Out: Accepting a Lower Reward/Risk Ratio on Part of the Trade

When looking at the reward to risk profile of a trade, you need to consider the whole trade including all its component exits. Sometimes it may make sense to accept a lower reward to risk on part of the trade, as long as the reward to risk on the trade as a whole remains at an acceptable level.

An instance of this would be scaling out of the trade as the market continues to moves in your direction and the trade has reached some profit target. In this case, your reward to risk profile is less than optimal on a part of a trade. But this sacrifice of the reward to risk profile may improve your trading performance in other areas. For example, taking profit out of a trade at various points may help you meet a trading objective for generating a smooth equity curve.

How about your trading? What reward/risk ratio do you think is acceptable on your trades? Do you have a defined targeted ratio before you enter a position and an acceptable effective ratio resulting from your trades? Do you manage your current reward risk ratio on open positions? Developing a strong and deeper understanding of your reward to risk management can be a great edge and a path to trading mastery.