Exits

An Eye on Risk

An old trading adage states that you should review open positions on a daily basis and ask yourself if you still really want to have them. This article, about exits with controlled risk, is based on that thought.

In the December issue of Traders' I presented a simple strategy for trading stocks. The trading system bought when prices reached a new all-time-high, setting the initial stop at the previous low of the move. Position size was calculated so that the difference between entry and exit would amount to no more than one percent of trading capital being put at risk.

The main part of the system - the part that allows you a small but decisive advantage - has nothing to do with the stock's all-time-high. This is only the trend filter, which helps select stocks that can be expected to continue moving higher.

The main part of the trading system has to do with consequent entry and exit management. If in the course of an upward trend, a new low is established, stops are always pulled up to this low. If a position is stopped out, the security is put right back in the portfolio again once it reaches another new all time high. This can be seen in figure 1. Thus the system can be described as a simple trend follower with trailing stops and a strategy for re-entry.

The system works; it survived the Jerome Kerviel sell-off without a hitch, and nevertheless in this system, as well as other similar ones, there is a hidden trap that I want to draw your attention to in this article as well as a possible solution for it.

The system takes full advantage of bullish market phases. If however markets turn south, stops ensure that you are taken out of your positions at the last low swing. Ultimately, the all-time-high entry keeps you away from weak markets and you can invest accumulated profits from the last bull move in opportunities outside the stock market.

The inherent trap in this system reveals itself when an entire portfolio of positions is traded as opposed to just single positions. What can happen is that you end up trashing your own risk management and thus suffering far greater losses in a surprise market move as would have initially been assumed.

How Can this Occur?

The system never risks more than 1% of trading capital in a new trade. So if you have 10 positions in your portfolio you might think that portfolio risk would be contained at about 10% of trading capital. This

F1) The Original All Time High System

The All Time High System buys when a stock reaches a new all-time-high. The stop is always placed on a price move's previous swing low. If a new swing low is formed, the stop is move up to that level. Position risk is initially limited to 1% of portfolio/account value. The position is held until the trend stops and prices begin forming lows instead of new highs.

is the trap. Portfolio risk is potentially much higher. The following will demonstrate why that is.

The Greed Stop

Let us review the trade shown in figure 1. In addition, figure 2 shows position risk bar for bar based on the close. Risk is defined as the difference between the current price and the stop level multiplied by the number of shares held. At entry, everything was still fine for the position shown in figure 2. The all-time-high was at 67.75€, the last movement low was at 56.30€. A 10,000€ portfolio would mean a maximum risk of 100€ per position using the 1% rule. Thus 8 shares are purchased using the buy signals shown.

Subsequently the market moved in the desired direction and the stop could be pulled up. The problem with the position doesn't begin until the end of 2005. At this point the stock begins a strong price increase. It does this without any meaningful intermediate corrections so that the stop suddenly is very far away from current price. This is shown by the risk indicator. Initially position risk was at a desired level of about 100€. It wasn't until the stock's strong price increase in December 2005 and January 2006 that position risk began to get out of control. Instead of the originally planned risk of 100€, the risk at the turn of the year 2005/2006 was at more than 160€. That is 60% more than was initially planned.

Assuming you are invested in 10 securities simultaneously, then what can happen is that following a strong price increase and a subsequent fast corrective pull back, you will have to live with a much

F2) Risk Under Control?

This figure is a more detailed look at the first trade in figure 1. In addition, position risk is shown below the chart. At position entry, the number of shares implimented was such that, between entry price and the stop at the previous swing low, position risk amounted to 100€. However, the stock's rapid run-up in price at the turn of the year 2005/2006 led to an increase in position risk of more than 50% to 160€.

This always occurs when the stop is not pulled up quickly enough. But does it make sense to pull the stop up so quickly in an effort to keep risk in check when the original trading plan dictates a stop at the previous swing low?

F3) Uniform Risk Exit

The same trade as in figure 2, only this time risk does not increase substantially above the amount it was at the beginning of the trade. This is done by reducing position size from 8 to 6 shares following the strong run-up in prices during December 2005. If position risk increases above the original value, whether it is because the market has had a strong run-up or because there is no logical place on the chart to pull the stop up to, position size is simply reduced. Simultaneously open profits are partially realised.

higher level of risk than the originally planned 10*1%. These kinds of unplanned drawdowns can of course ruin your entire risk and money management plan.

One way to solve this problem would be to just pull up the stop in the case of the market making a quick run up. You would not wait until a new swing low was put in but instead simply pull up the stop day by day by the amount that the stock increases in price. This way the position never has more than the originally accepted risk.

That sounds plausible however it has a big disadvantage. Instead of placing the stop according to a logical area on the chart as originally thought, in our case the last move low, you end up placing it in no man's land as far as the chart is concerned.

Actually, that kind trailing stop – motivated mainly by greed and fear of losses – is a negative thing. You overlook the fact that when prices increase strongly, market volatility increases as well and you are going to have to allow your position more room if you don't want to risk being stopped out on a random move. Of course by itself it is nice when a position becomes profitable. But it can become fatal if, because of the account's equity increase, you forget about the risk that has built up in the portfolio.

F4) Profit Give-Away

Here you can see what happens when too much attention is paid to risk and profits are given away. After a stock has had a good run, the stop is not pulled up. Instead position-size is reduced so that the original risk value is not exceeded. Nevertheless it was possible to pull up the stop a few bars later. Thus we took on less risk then we had originally planned. The result is that the trade was closed with only part of its potential profits.

Uniform Risk Exit

Instead of fighting this increased risk by placing a stop in no man's land on the chart, there exists a second option for keeping risk consistant and remaining true to the trading plan.

I call this exit the uniform risk exit. With the uniform risk exit the stop remains at the swing low as originally planned. But that does not mean that you simply ignore accumulated risk. Instead it means that you regularly adjust position size according to market conditions. How that works is shown in figure 3.

Again this shows the system trading the same example trade, except this time position risk no longer increases by 50% at the turn of the year 2005/2006, but always remains at the initial level of about 100€. This is attained by selling a certain number of shares as soon as the trade's planned risk has been exceeded until risk is back at its originally desired level. In the example this was done by selling two shares instead of holding the original eight; now the position consists of six shares.

Thus when you see that the market has risen sharply and you cannot pull the stop up because there is no reasonable chart reference for it, you simply reduce position size until the originally planned risk is attained once again.

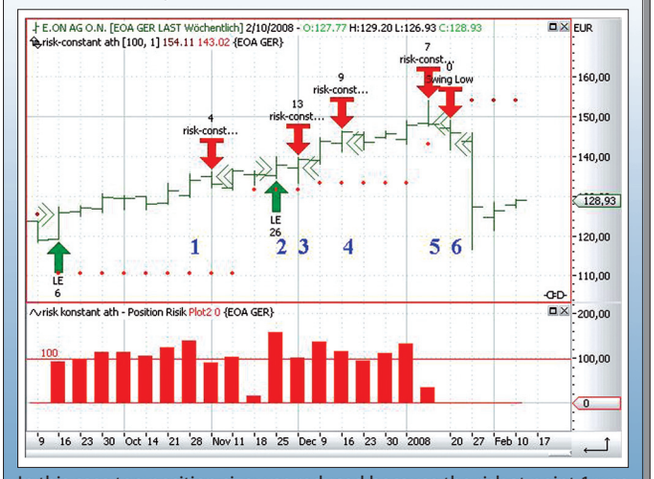
Simultaneously you are cashing in on some of the open profits. Now since, as an experienced trader, you would never lower a stop, risk can only increase if the market moves in the desired direction. So it can't hurt to realise a few profits, the position remains intact; the only thing you might criticise is that there is a certain amount of taking profits too early.

If for example you have ten different stocks in your portfolio and you only adjust them at the end of the week or the end of the month, you can never lose more than 10*1% of the account in the course of a week or a month with a single position risk of 1%. This makes results predictable. Now you have a clear worst-case scenario for the upcoming trading period. This type of scenario planning is an essential part of an overriding money management plan.

Re-entry

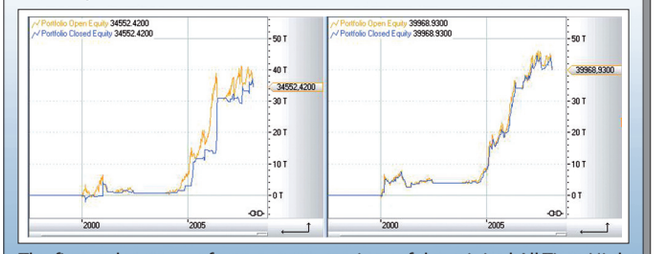
Unfortunately all exit methods present some kind of disadvantage. In the example shown here, position size was decreased, which was not bad because the position was stopped out anyway at about the same level just a few bars later. Unfortunately you don't know that beforehand.

F5) Re-Entry



In this case too position size was reduced because the risk at point 1 was higher than the value established at the start of the trade. Subsequently the stop was pulled higher anyway with the result that we are now under invested as measured by risk. This condition was alliviated at point 2 when prices reached a new all-time-high and position size was increased in order to establish the same risk level as in the beginning of the trade.

F6) System Performance



The figure shows a performance comparison of the original All Time High System (left) with the uniform risk version of the system. (Dax30 Stocks, 1000€ risk per trade) With the new exit, the system's absolute performance increased slightly. However what is much more essential in practice is that the Uniform Risk System is much easier to keep under control in markets with spontaneous trend changes. Portfolio risk is essentially never greater than the sum of the risk of the individual positions at the point of opening. The intermediate realisation of profits and the manageable risk make the system much easier on the nerves when trading.

The market could also have begun to rally just after position size had been reduced. And then you have another problem; you are now under invested.

Instead of trading the rally with a full position, you have your risk under control and taken a small profit; but you will have much less profit at the end of the trade as would someone who had ignored the increased risk and held the original number of shares all the way through.

This problem is illustrated in figure 4. The trend has continued and we are invested with a position that is far too small measured against the originally calculated risk.

That is why we need a plan to ensure we get back into a full position when the market really begins to move and not end up starving on the sidelines with too small of a position.

For this we just need to remember our trading system's original premis; namely that we buy every new all time high. So when you see that position risk is too small once your stop has been pulled up to a new swing low, you just wait until prices reach a new all-time-high and simply buy the number of shares necessary to bring position risk back to its original value. The procedure is shown in figure 5.

The original entry consisted of eight shares. Using a stop at the previous swing low results in a risk of about 100€. This risk should essentially not be exceeded throughout the course of the trade. This guarantees that if the market moves against you, you won't lose more than the originally calculated 100€.

The indicator under the chart again shows position risk; from the close of the bar to the current valid stop.

At point 1, the system notes that risk has increased because of the positive market movement. Accordingly it calls for a reduction in position size by two shares. A few bars later the stop was pulled up to the new swing low that has formed in the meantime. The result is that risk is now much too small. Upon reaching the new all-time-high at point 2 the system buys 22 additional shares for a total position size of 26 shares.

Since the market continues to rise, position size was again reduced at points 3, 4, and 5 before the position was finally stopped out entirely at the previous swing low. Ignoring the re-entry part of the strategy and only reducing shares when risk becomes too high means you will miss out on about 40% of the system's potential profits. If however risk is held uniform, i.e. you reduce position size when risk is too high and add to the position when risk is too low, system performance improves significantly. This can bee seen on figure 6.

Summary

Always keep an eye on a trade's risk! If it increases significantly, reduce the number of shares held. That way you cash in on some profits, but you must remember to increase position size again as soon as you get a re-entry signal. With that kind of even-handed trading in your portfolio it should be possible to beat a number of funds out there. The logic of the All Time High System ensures that you are invested during strong markets and risk is always under control, while leaving the losses to others during bear markets. The strategic utilisation of "good" phases with simultaneous risk control, is the key to long-term market success.

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