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Using Trailing Stops in a Trading System

Chuck LeBeau discusses the use of exit strategies in designing a trading system. In this installment, he discusses the use of the "Channel Exit." This method takes a popular entry strategy and applies it to exiting the market with a trailing stop

The necessary precautions have been taken to avoid catastrophic losses by using disciplined money management stops. Now, it is appropriate to concentrate on strategies that are designed to accumulate and retain profits in the market. When properly implemented, these strategies are intended to accomplish two important goals in trade management – they should allow profits to run and at the same time, they should protect open trade profits.

While their application is extremely wide, we do not believe that trailing stops are appropriate in all trading circumstances. Most of the trailing exits we will describe are specifically designed to allow profits run indefinitely. Therefore, they are best used with systems that are trend following.

In counter-trend trading, more aggressive exits are suitable. The "when you have a profit, take it" philosophy works best when you are trading counter-trend, since the anticipated amount of profits is relatively limited. However, to take quick profits in a trend is usually an exercise in frustration. Exiting the market with a small profit only to watch a huge trend continue to move in our trade direction for days or months after our untimely exit can be very frustrating. Therefore, we recommend using different exit strategies based on the underlying market conditions. We will discuss the more aggressive exits later. For now, we will concentrate on exits designed to accumulate large profits over time.

A thorough understanding of trailing stops is critical for trend-following traders because trend following is typically associated with a lower percentage of profitable trades. This makes it particularly important to capture as much profit as possible when those large but infrequent trends occur. Typical trend followers make most of their profits by capitalizing on a few infrequent but very large trends, while managing to cut losses effectively during the more frequent sideways markets.

The rationale behind the use of the trailing stop is based on the anticipation of the occasional extremely large trends and the possibilities of capturing substantial profits during these major trends. If the trade entry is timely and the market continues to trend in the direction of the trade, trailing stops are an excellent exit strategy that can enable us to capture a significant portion of that trend.

The trailing stops we will describe in this and following articles have similar characteristics. It is important to understand these characteristics as we use them to design our trading systems. Effective trailing stops can significantly increase the net profits gained in a trend-following system by allowing us to maximize and capture large profitable trades. The ratio of the average winning trade to the average losing trade is substantially improved by using trailing stops.

However, there are some negative characteristics of these stops. The number of profitable trades is sometimes reduced since these stops may allow modestly profitable trades to turn into losers. Also, occasional large retracements in open trade profits can make the use of these stops quite difficult psychologically. No trader enjoys seeing large profits reduced to small profits or watching profitable trades become unprofitable.

The Channel Exit

The simplest process for following a trend is to establish a stop that continuously moves in the direction of the trend using recent highest high or lowest low prices. For example, to follow prices in an uptrend, a stop may be placed at the lowest low of the last few bars. Conversely, in a downtrend, the stop is placed at the highest high of the last few bars. The number of bars used to calculate the highest high or lowest low price depends on the room we wish to give the trade. The more bars used to set the stop, the more room we give the trade and consequently the larger the retracement of profits before the stop is triggered. Using a very recent high or low point enables us to take a quick exit on the trade.

This type of trailing stop is commonly referred to as a "Channel Exit." The "channel" name comes from the appearance of a channel formed from using the highest high of x bars and the lowest low of x bars for short and long exits respectively. The name also derives from the popular entry strategy that uses these same points to enter trades on breakouts. Since we are focusing on exits and will be using only one boundary of the channel, the term "channel" may be a slight misnomer, but we will continue to refer to these trailing exits by their commonly used name.

For most of our examples, we will assume that we are working with daily bars but it is possible that we could be working with bars of any magnitude depending on the type of system we are designing. A channel exit is extremely versatile and can work equally well with weekly bars or five-minute bars. Also, keep in mind that any examples referring to long trades can be equally applicable to short trades.

The implementation of a channel exit is very simple. Suppose we have decided to use a 20-day channel exit for a long trade. For each day in the trade, we would determine the lowest low price of the last 20 days and place our exit stop at that point. Many traders may place their stops a few points nearer or further than the actual low price depending on their preference. As prices move in the direction of the trade, the lowest price of the last twenty days continually moves up, thus "trailing" under the trade and serving to protect some of the profits that have accumulated. It is important to note that the channel stop moves only in the direction of the trade. When prices fall back through the lowest low price of the last twenty days, the trade is exited using a sell stop order.

The first and most obvious question to answer about channel exits is how many bars to use to pick the exit point. For example, should we set our stop at the lowest low of 5 days or the lowest low of 20 days, or some other number of days? The answer to this question depends on the objectives of our system.

A clearly stated set of objectives for the system is very helpful at these important decision points. Do we want to design a long-term system with slow exits or do we want

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a short-term system with quicker exits? A longer channel length usually allows more profits to accumulate over a long run if there are big trends. A shorter channel will usually capture more profits if there are smaller trends. In our research, we have found that long-term systems generally work well with a trailing exit set at the lowest low or the highest high of the last 20 days or more. For intermediate term systems, set the trailing exit at the lowest or highest price of between 5 to 20 days. For short-term systems, the lowest or highest price of between 1 to 5 days is usually optimal.

Trailing stops with a long-term channel accumulate the largest open profits if there is a sustained trend. However, this method also gives back the largest amount of open profits when the trailing stop order is eventually triggered. Using a shorter channel can create a closer stop in order to preserve more open trade profits. As can be expected, the closer stop often does not allow profits to accumulate as nicely as the longer channel, and often causes a premature exit out of a large trend.

However, we have noticed that a very short channel length of between 1 and 3 bars is still highly effective in trailing a profitable trade in a runaway trend. The best type of channel exit to use in a runaway trend is a very short channel, for example 3 bars in length. We have observed that this exit in a strong trend often keeps us in a trade until we are close to the end of the trend.

It appears that there is a conflict of exit objectives here. A longer channel length will capture more profit but give back a larger proportion of that profit; a shorter channel length will capture less profit, but protect more of what it has captured. How can we resolve this issue and create an exit that can both accumulate large profits, as well as protect these profits closely? A very effective exit technique calls for a long-term channel to be implemented at the beginning of a trade with the length of the channel gradually shortened as larger profits are accumulated. Once the trade is significantly profitable or the market is in a strongly trending move, the goal is to have a very short channel that gives back very little of the large open profit.

Here is an example of how this method might be implemented. At the beginning of a long trade, after setting our previously described money management stop to avoid any catastrophic losses, we will trail a stop at the lowest low of the last 20 days. This 20-day channel stop is usually far enough from the trade to avoid needless whipsaws and keep us in the trade long enough to begin accumulating some worthwhile profits. At some pre-determined level of profitability, which can be based on a multiple of the average true-range or some specific dollar amount of open profit, the channel length can be shortened to take us out of the trade at the lowest low of 10 days. If we are fortunate enough to reach another higher level of profitability, like 5 average true ranges of profit or some other larger dollar amount, we can shorten the channel further so that we will exit at the lowest low of 5 days.

At the highest level of profitability, perhaps a very rare occurrence, we might even be able to place our exit stop at the low of the previous day to protect the large profit that has accumulated. As you can see, this strategy allows plenty of room for profits to accumulate at the beginning of a trade and then tightens up the stops as profits are accumulated. The larger the profits in the trade, the tighter the exit stop becomes. The more we have, the less we want to give back.

There is another way to improve the channel exit that is worth discussing. This method is to contract (or expand) the traditional channels using the height of the channel, or some multiple of the average true range. How this would work – suppose you are working with a 20-day channel exit. First, calculate the height of the channel, as measured by the distance between the highest 20-day high and the lowest 20-day low. Then, you contract the channel by increasing the lowest low value and decreasing the highest high value previously obtained to determine the exit points. For instance, in a long trade, you could increase the lowest low price by 5% of the channel height or by 5% of the average true range, and use the adjusted price as your exit stop. This creates a slightly tighter stop than the conventional channel. More importantly, it allows your stop order to be executed before the multitude of stops that are already placed in the market at the 20-day low.

The last point should be considered an important disadvantage of the channel exit. Channel breakout methods are popular enough to cause a large number of entry and exit stops to be placed at previous lowest low and highest high price levels. This can cause a significant amount of slippage when attempting to implement these techniques in your own trading. The method of adjusting the actual lowest low or highest high price by a percentage of the overall channel height or the average true range is one possible way to move your stops away from the stops that are placed by the general public and achieve better executions on your exits.

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