Mechanical Trading Using A Moving Average Hi-Lo Indicator

Mechanical trading is only mechanical in that it attempts to remove the emotional based decision making out of the equation. Discretionary trading permits the trader to use his or her own judgment as to whether or not they enter, exit or avoid taking a position in the market.

There are software packages such as Trade Station (and Metastock to some degree) which allow you to write up your entry and exit signals in code format so that your charting software alerts you to all of your entry and exit signals. I have been looking at a series of different mechanical systems, but I don't write code and the charting software packages I use don't really allow me to write code. However, the "mechanical" aspect of mechanical trading is not the code but the discipline of the trader to see the buy/sell alert and to act "mechanically" – that is, without emotion or second guessing the system. One system which is showing some promise still requires me to visually look at a chart to identify that an entry and/or exit signal has been given. But once I see that either of these signals has been generated, I should just obey the signal and act, in keeping with the mechanical part of the system.

I have done some back testing using only BHP. Why BHP? Because it is liquid, it can move a lot in a single day and it only costs 5% or 10% of the purchase price on margin with all CFD providers, therefore our financial outlay is small. The indicator I have been using is an Average High-Low indicator. I have been overlaying it on weekly charts.

BHP is currently going sideways, but over the past two years it rarely has 5 down weeks in a row, with 3 down weeks being the norm and it often has 3 or 4 "up" weeks in a row. This means we can day trade BHP or ride out a position on a weekly basis with some confidence before taking profits.

The High-Low indicator acts as our guide to stops and for reversals. The following charts should help to explain everything further. (I use the Hi-Lo indicator that comes as part of the FPRO charting package, I am unsure if any or all other packages such as Metastock have this feature).

Figure 1 shows the BHP weekly chart with the High-Low moving average overlay. We went short last week when it was obvious that the BHP share price was going to close below the average weekly Low. We use the average weekly Low as our “pivot” or “reversal” point.

What I mean by that is that my back testing has shown that there is a high chance that BHP will rebound higher in the week after the most recent weekly price bar has closed below the weekly moving average Low. But this alone is not our entry signal – after all, there is nothing that says that the BHP share cant continue to fall lower. But we overcome this by waiting for Monday’s action to see whether we get the first signs of a rebound or not.

So moving onto Fig. 2, we see the Daily price bar for Monday 9 March next to the weekly price bars. Monday’s price bar opened and closed above the moving average low and gives us some confidence to take an entry into BHP the following day, which we have done for the STPT Notional Portfolio. We have gone Long 1000 BHP CFDs on Tuesday at $29.00.

The exit is pretty much the reverse of this entry, where we exit once we see the daily price bar opens and closes below the moving average High.

FIG 1. BHP Weekly Chart

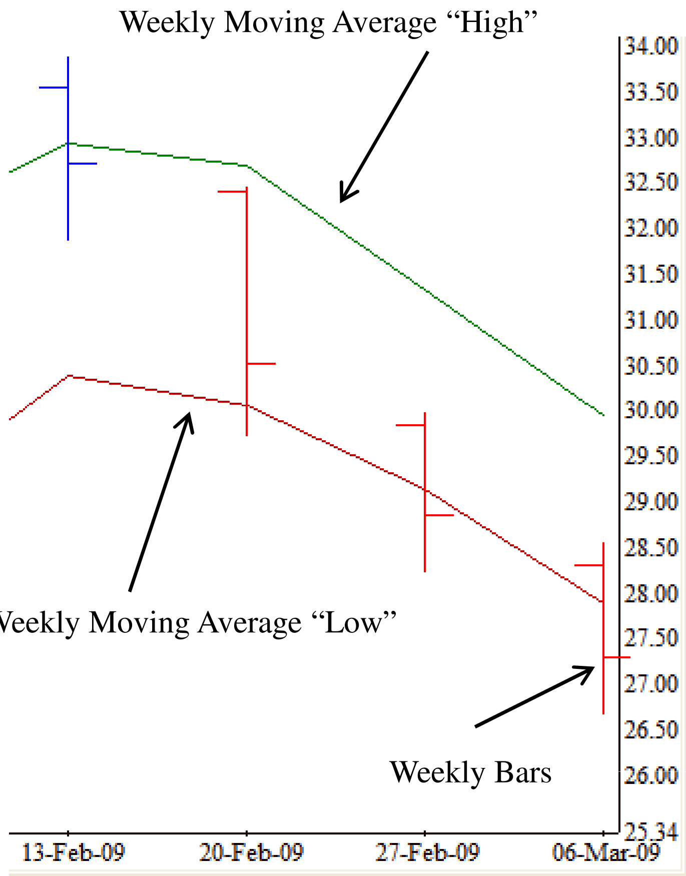


FIG 2. BHP Weekly Chart

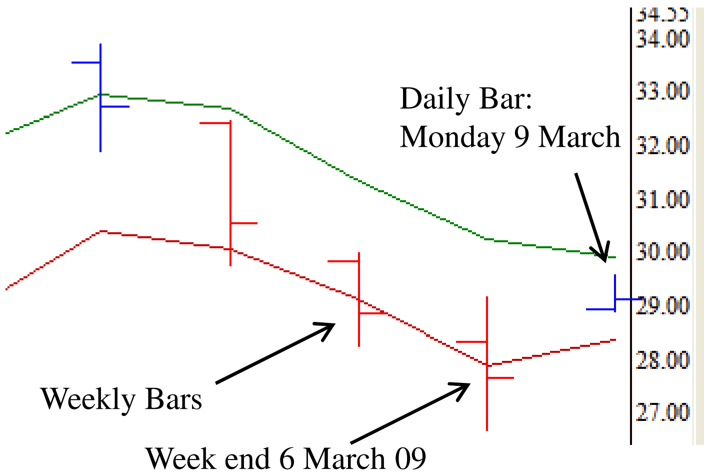
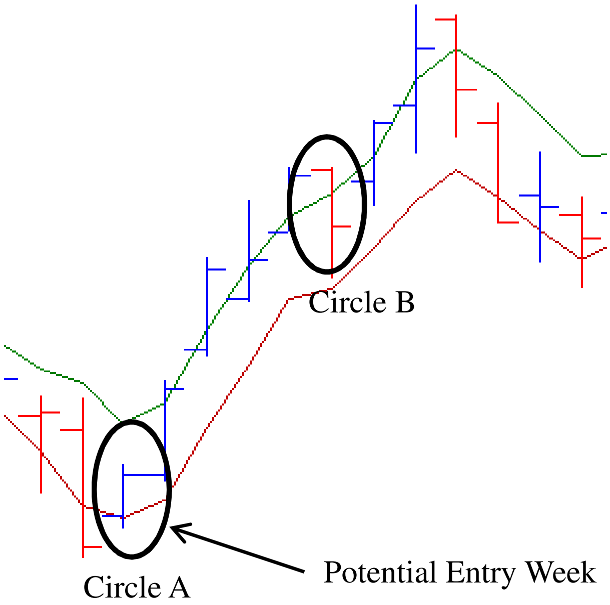


Figure 3 shows the BHP weekly chart with the High-Low moving average overlay. Circle "A" shows an entry week based on the stock closing higher for the week than the previous week and therefore above the moving average Low. Circle "B" shows an exit week based on the stock closing lower for the week than the previous week and therefore below the moving average High.

FIG 3. BHP Weekly Chart



There is an important point to note here. We know that by using weekly charts we delay our entry and exit. For example, we might see the "Up" weekly bar at Circle A and then enter on Monday of the following week. This will cause some delay and slippage of potential profit by not acting during the week that the price bar marked at Circle A, actually occurred.

One way of overcoming this is to combine daily bars as shown in Fig. 2 above. In that chart, we used three factors to guide our decision to enter..

1. the BHP daily price bar opened and closed higher on 9 March, than the moving average Low. Tuesday followed up with another day opening above the moving average low, so we entered on this day

2. BHP had fallen for 3 weeks in a row and recent history tells us that this is usually the most number of consecutive weeks that BHP falls before an upside bounce lasting at least one week.

3. the weekly low of the price bar prior to the price bar shown at Circle A, was below the moving average Low. We read this as a potential pivot point or rebound trigger – particularly if it the third or fourth week of declines in the BHP share price. The following week (the price bar at Circle A) saw BHP make a daily open and a close at the start of the week which was higher than the moving average Low.

On the exit side, we note that when we get an open and a close on the same day below the moving average High, we read it as a sign that a reversal trigger or a swing from High to Low maybe underway and we use this as an alert signal to exit. This occurs at Circle B.

But again we are faced with the dilemma of waiting all week before exiting based on weekly bars alone. We overcome this potential delay and slippage in open profit by getting an exit signal by using a daily open and close below the moving average High and using this as our exit trigger for the following day.

Fig. 5 – exits based on weekly bars

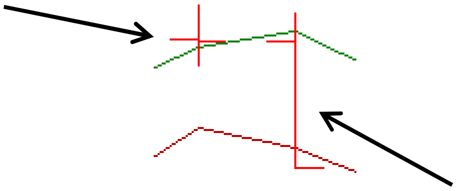
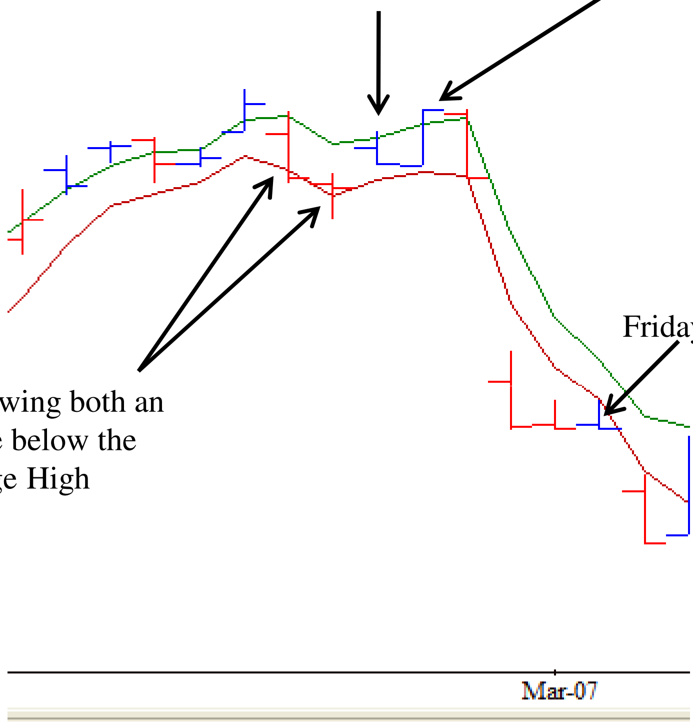


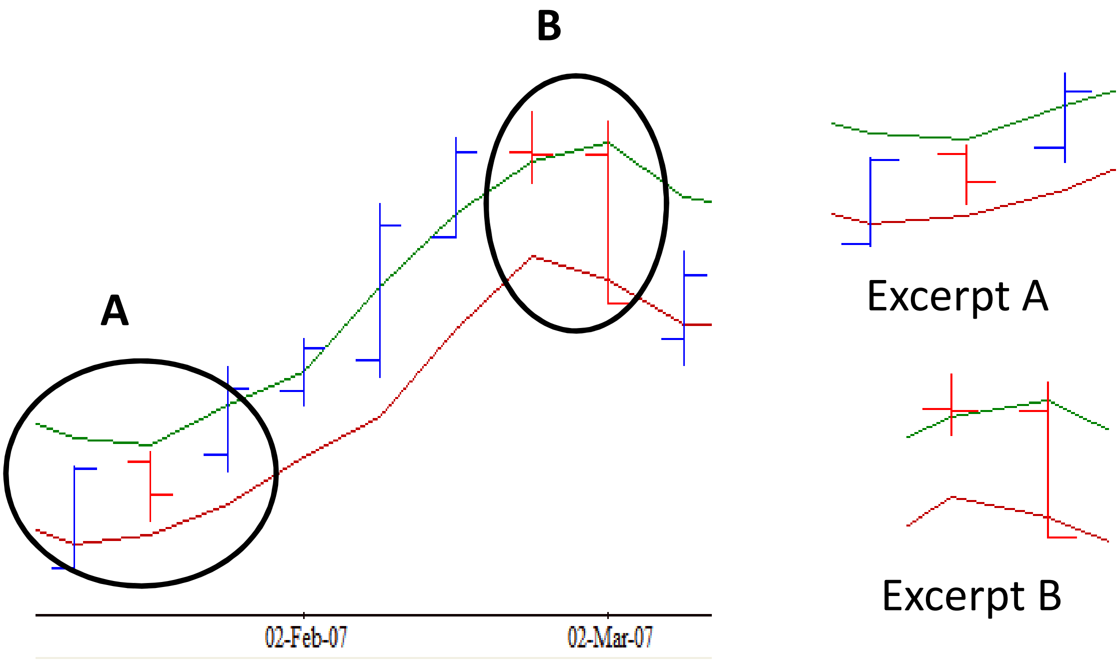
Fig. 6



During the week ending Friday 23 Feb 07, we get two exit signals on the red, daily bars on Wednesday and Thursday (Fig. 6). However, this is not clear on the weekly chart shown in Fig. 5. But if we use this strategy of exiting when a daily price bar opens and closes below the moving average High, we potentially save ourselves from unwanted losses, because as we see on the chart in Fig. 6, there was a huge gap down in the share price in the following week beginning Monday 26 Feb 07 and ending on Friday, 2 March.

So in summary, we use daily Open and Closes to get an understanding of whether or not we should enter or exit

Fig. 5 BHP - anomalies



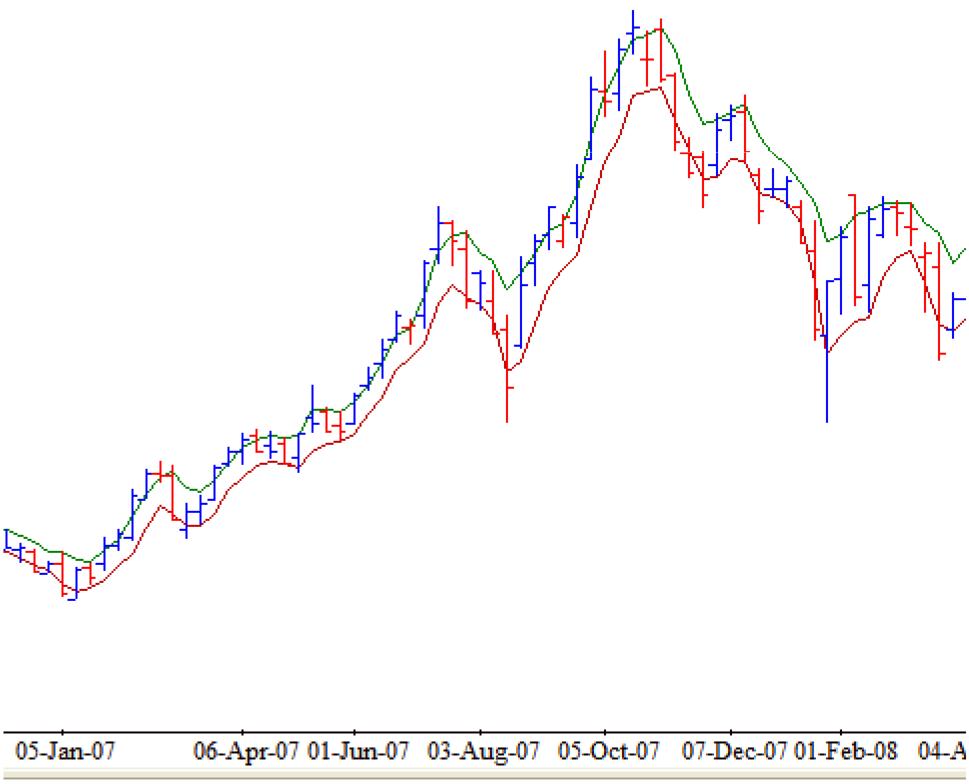
Excerpt A shows a particular set up where we might have entered BHP on the first bar on the right shown in the excerpt, which is an Up week, but is followed by a Down week (red bar). However, during this Down week, there was never an open and a close on the same day which took the price bar below the moving average Low. In this situation we would still want to hold onto this open position. This is an example highlighting the need to act only after the day when an open and a close on the same day occurs below the moving average Low.

The example shown in Excerpt B goes one step further to illustrate this point. Excerpt B shows a set up where the first, smaller red bar indicates a Down week, but the weekly Open and Close both remain above the moving average High. This is a false signal telling us to hold the position open. If we look at the daily bars during this same week, we will see that two days during this week signaled exits.

This is not a perfect strategy and we should expect to get whipsawed in and out of the stock especially in sideways markets. Weekly charts provide the best signals in strongly trending markets. We are currently not in such a market.

As shown in Fig. 8, this technique works best in trending markets, where we often get between 2 to 4 weeks of rises or falls in the same direction, which in turn allow us to go Long or Short with some confidence over either a daily or weekly period. When the stock begins to track sideways, we are prone to being whipsawed in and out due to a higher chance of only having one up week followed by one down week, which is followed by another up week and then another down week and so on.

Fig. 8 BHP - trending markets



Summary

So in summary, we use :

1. daily Open and Closes to get an understanding of whether or not we should enter or exit
2. Weekly bars to understand the direction of the trend
3. A combination of the Hi-Lo moving average indicator and weekly bars to calculate potential “pivot points” - taking note of when a series of “down” weeks or “up” weeks have occurred and anticipating either a rebound or a reversal
4. A stock such as BHP which is liquid and which we can buy on margin, limiting our financial outlay
5. The draw back is that we don’t have a set stop-loss percentage on each trade we make. We exit based on the Open and Close of the daily price bars in conjunction with the Hi-Lo moving average indicator.