



FLAGS: Not Just for Patriots

Find High-Probability Entries with a Basic Chart Pattern

One of the first hard lessons a new trader learns is that markets do not move in straight lines. A trade is initiated, the market moves a little in favor of the trade, then dips back against the position. This back and forth movement continues until the trader gives up and dumps the trade at a loss. Of course, the market then immediately takes off like a rocket, and the trade would have ended up being very profitable "if only it had been held a few more days." Some new traders repeat this process many times before giving up in exasperation.

BY ADAM GRIMES

The reason this happens is that the trader does not understand the fundamental structure of the market, which is that markets alternate between periods of trending activity and trading ranges. This is why when a trade is initiated in a “hot,” fast-moving market, the market often goes flat and dead as soon as the trade is put on. Traders must learn to see this underlying structure in the market so that they may make trades that take advantage of it. What was formerly a source of frustration to the novice trader becomes the basis for a high-probability trading methodology that can offer a high percentage of winning trades, excellent win/loss ratio and clearly defined risk management points.

Retracement patterns in trends are a fundamental, enduring element of market structure. These patterns worked a hundred years ago, they worked through the dot.com bubble and subsequent crash, and they continue to work in today’s contracting volatility environment. These patterns appear and are tradable in all active markets and all timeframes. These principles could be applied equally well to intraday futures, daily forex, or even to monthly stock charts.

Continuation Patterns: The Trend Will Continue

Traditionally, authors have used a variety of terms to describe the chart formations that result from the market’s tendency to pause between impulse moves: flags, pennants, rectangles, wedges, diamonds, boxes, corrective waves and x-y-z retracements. These patterns, which form on bar charts in any timeframe, are technically known as retracement patterns or continuation patterns and are visual representations of the market’s tendency to pause and to consolidate between impulse moves. To simplify matters a bit and to keep terminology consistent, we will refer to all of these chart formations under the broad term “flag.” It is often difficult to explain in words what may be seen very easily on a chart, so *Figure 1* shows schematic representations of several types of flag formations.

The Pole

All of these patterns are preceded by a fairly sharp impulse move that forms a pole on the chart. This pole is a pattern of several bars that is a visual representation of the strength of the trend. If the pole is too short or too shallow, or if it is made up of only one large bar, it may be an indication that the trend is not strong enough to generate high-probability flags. The best

retracement patterns will occur in strongly trending markets, and these will set up poles that contain more than one bar.

Eventually, the move that formed the pole will expend itself, and the market will go quiet. The market starts to trade within a fairly narrow range, and this range usually slants against the direction of the pole. In other words, if the pole was going up, the flag will tend to float back down. Bull flags usually have a downward bias, and the expectation is that price will break out of the flag and continue the uptrend. Bear flags occur in downtrending markets and usually slant upward.

Flags that slant in the direction of the trend often lead to poor trades (see *Figure 1, Example F*). It is almost as if the energy in the flag pattern is being expended in a slow trickle; these types of patterns often lead to significant reversals. These are not good trading formations—avoid trading flags that slant the “wrong” way.

Most of the time, there will be a sharp break out of the flag formation. About two-thirds of the time, flags will resolve in the direction of the prevailing trend. Bull flags tend to be followed by a move up, and bear flags tend to break downward. No trading methodology is without its losses, and there are certainly times when the market comes out of the “wrong” side of the flag. A consistent stop loss is needed to exit losing trades before they become large losses.

Win Ratio of 69 Percent

Retracement patterns have a verifiable, statistically valid edge. Trading every flag that forms in a trending market will result in a win ratio of about 69 percent (see *Table 1*), but it is possible to increase this win ratio to about 80 percent by taking certain elements of market structure into account. The first and most important rule: do not look for flags in trading ranges. Flags result from the natural alternation of impulse and consolidation that occurs in *trending* markets. Though chart formations which resemble flags may form in trading ranges, they are not true flags and do not have the same probability of continuation as true flags. It is necessary to be sure the market is actually trending before looking for retracement patterns.

Know When to Exit

When looking for the best patterns to trade, the shape and

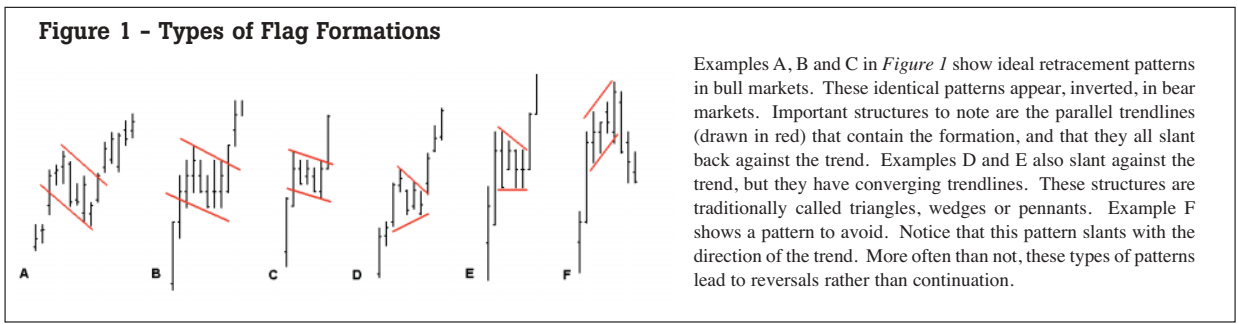


Table 1 - Retracement Win Percent

Market	Timeframe	Dates	Win%	#Trades
S&P	daily	4/1/93-4/1/03	65%	54
T-bonds	daily	4/1/93-4/1/03	74%	49
Crude Oil	daily	4/1/93-4/1/03	77%	83
Gold	daily	4/1/93-4/1/03	65%	60
Sugar	daily	4/1/93-4/1/03	70%	63
Live Cattle	daily	4/1/93-4/1/03	70%	50
Wheat	daily	4/1/93-4/1/03	65%	48
MMM	daily	4/1/93-4/1/03	59%	44
MER	daily	4/1/93-4/1/03	75%	55
GM	daily	4/1/93-4/1/03	69%	58
IBM	daily	4/1/93-4/1/03	73%	62
ES	5 min	6/5/99-4/1/03	67%	7342
US	5 min	2/11/2-4/1/03	70%	1240

This table shows the results of applying a simple retracement system to many years of market data in various timeframes. This is not intended to be a representation of a complete trading system, but merely empirical proof that there is an edge to entering retracements in trending markets. More complete information on this study, including the actual system used to generate this data, is available at: <http://www.talontradinggroup.com/FlagProject/index.htm>.

appearance of the flag also can be used as a filter. The best flags will be fairly tightly contained patterns. Beware of flags that have a lot of back and forth spikes and of flags that take too long to form. Continuation patterns tend to end fairly quickly—if a pattern takes a long time to form, there is actually a higher probability of reversal than of continuation. Again, this is something that will vary a bit from market to market, but 20 bars on any timeframe is a *very long time* to wait for a flag to resolve itself. If you have entered such a pattern and the flag does not “kick out” within the expected timeframe, exit the trade.

Being aware of the overall technical structure of the market is also important. The best retracement trades will come at significant turning points. For instance, imagine that the market has been in a downtrend, makes a basing pattern, and then gives signs of an upside reversal...or that a market has been locked in a small, tight trading range and breaks out to the upside. The first retracement after *either* of these scenarios would be an exceptionally high-probability trade.

The Trade Entry

Once the flag pattern is visually identified, it is time to start considering entry criteria, profit targets, and stop loss levels. Buying a bull flag as it sets up (or the reverse, selling a bear flag as the market is rising) is, in essence, initiating a countertrend trade against the short-term trend of the market. If this entry technique is used, the trader needs to be aware that the market often will continue to work against the position for a short time, and the trade certainly may fail outright. An initial stop must be used to limit the loss if the flag never turns back up.

It is also possible to wait for the market to turn and enter once the primary trend has already resumed. One way to do this is to use

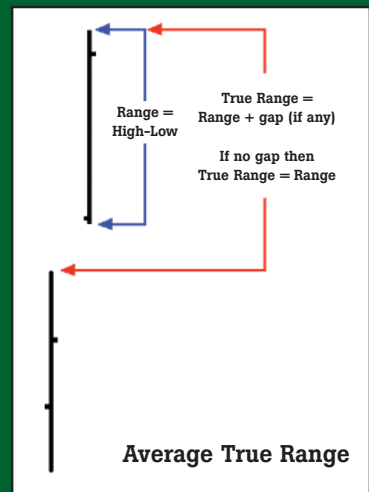
What Is Average True Range?

Range means the high of the bar minus the low of the bar. True range accounts for price gaps (when the low of the current bar is above the high of the previous bar, or when the high of the current bar is below the low of the previous bar) and adds the range of the gap to the calculation.

True range is averaged over a time window to produce *Average True Range*. The length of time window is not extremely important—smaller values (five and under) will respond more quickly to changing market conditions, and larger values (20 and over) will smooth out all but the most significant fluctuations. Ranges of 10-30 work well in most markets and timeframes.

True range is a useful concept because it more accurately represents the area that price covered. Simple range calculations ignore gaps in markets. However, the market usually did trade through those prices (for instance, in overnight or overseas markets), and a trader holding a position through the gap would certainly have been exposed to a price change. For these reasons, system developers and programmers almost always favor true range over range, for any market or time period.

However, applying true range to intraday data may cause some distortions. For instance, if the S&P market gaps 20 points on the open, the true range of the first five-minute bar of the day will be at least 20 points (from the previous day’s close to the current day’s open), even though the market may cover a much smaller range in the first few minutes. This can create distortions in those calculations that depend on true range, and some calculations will carry this error through many hours of the trading day. Intraday traders should consider whether simple range may or may not be a more accurate way to evaluate intraday data.



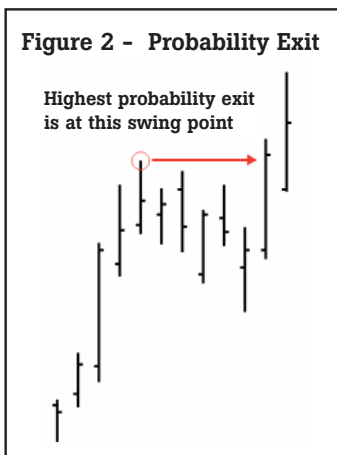
a very short-term breakout system, like buying above the high of the previous bar while a bull flag is forming. This entry technique sacrifices initial trade location in return for some added confidence that the trend has turned and the market is moving in the “right” direction. Either of these entry styles can be profitable—the choice will depend on the individual trader. Most traders find one entry style suits their personality and feels much more natural to them than the other.

It is also possible to enter at Fibonacci retracement levels, or to set mechanical entry levels based on an average true range (ATR) or percentage function. For example, a trader could decide always to buy once a bull flag retraces a fixed percentage from the swing high. Each market develops its own characteristics and tends to pull back more or less the same amount each time. If you become familiar with a specific market and examine its recent retracements, you will easily gain a sense of how big the average pullbacks in that market tend to be.

Stops Are Needed

Though trading retracement patterns is a high-probability trading methodology, there are still losses, and stops must be used to limit these losses. As a general rule with any trading system, larger stops will work better than very tight stops. It is possible to set stops based on visual chart inspection (good retracements usually respect recent swing points) or on Fibonacci levels (if the trade is entered at the 50-percent retracement level, perhaps the stop could go just beyond the 62-percent retracement level).

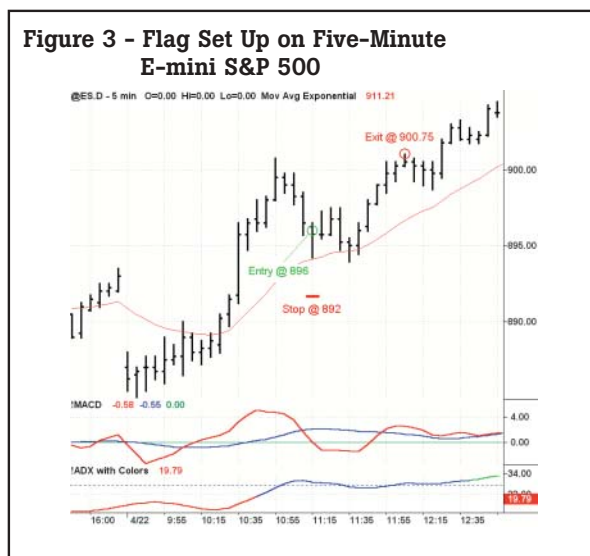
With a high-probability trading strategy, the highest win ratio will be achieved if the initial stop is somewhat larger than the anticipated profit. This goes against much of the conventional wisdom that says profit targets should be several times the size of the risk, but tests out well in real-time trading. A stop loss twice the size of the anticipated profit is acceptable if you can achieve a win/loss ratio over 75 percent. Note that this refers only to initial stop placement—as the trade works, the stop should be pulled in to reduce risk.



A reasonable profit objective is the swing point that ended the pole. See *Figure 2*. When used to predict the near-term direction of the market, flags are very high-probability patterns. Be careful of trying to predict too far into the future with these patterns; accuracy (and profitability) fall off

the farther into the future one looks. Highest win ratios will be achieved by playing for the smaller target, but this technique may also be used to establish positions in trending markets and to play for a larger win.

Whatever exit technique is used, the trader should be aware that flags usually give rise to *one* push out of the formation. If this push falls short of the profit objective or does not extend as far as anticipated, the trade should be exited or stops ratcheted up to lock in profits. *Never* let a winning trade turn into a loser when trading these patterns.



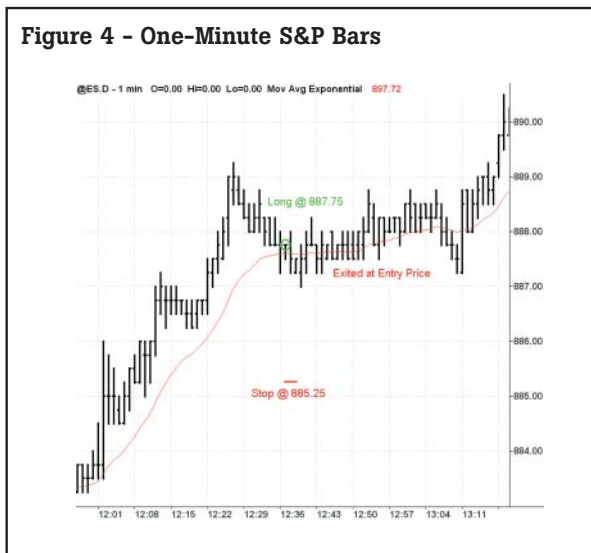
A Trade Example

Figure 3 illustrates how these concepts can be applied to real market data. This figure shows a flag that set up on 4/22/03 on a five-minute E-mini S&P 500 chart. The market opened with a small gap down and traded higher, then began a strong push at 10:30 EDT. This move extended over the next 25 minutes and began to pull back after reaching a high of 901. At 11:15, I judged that the market had pulled back “about enough” and went long on a limit order at 896. Initial stop was established at 892, which was just under the 50-percent retracement level for the push up. Over the next five bars, the market moved a little against the position, but was never more than two points under water. This was an aggressive entry technique, as I essentially bought a falling market. However, the price structure showed a clear flag, the trend preceding the flag was strong, and the flag pattern itself looked good, so I judged there was a high-probability expectation of a continued push to the upside.

At 11:33, the market seemed to have made a short-term low, and I moved the stop up just below that swing low. This reduced the risk on the trade to \$150 per contract. From that

point, the market worked higher, reaching the price objective of 900.75 (the previous swing high that ended the pole formation) at 12:01, about 45 minutes after the trade was initiated. This example illustrates the most aggressive entry technique and shows that the market may move against the position for some time if this kind of entry is used. A reasonable stop must be established and the trade must be exited if the market goes flat after entry, but the trade must also be given enough time to work. It is impossible to always buy the exact low point of a retracement (or to sell the high point). Rather, this technique gives an approximate zone within which a trade may be initiated. A wide enough stop must be used to allow for some inaccuracy on the entry.

One last example will suffice to illustrate the worst-case scenario. **Figure 4** shows a trade that was initiated based on a bull flag on one-minute S&P bars. There were ample warning signs **not** to take this trade: there were multiple divergences on several timeframes, and the chart pattern suggested a short-term reversal point had been reached. In addition, continuation patterns that form at lunchtime in the stock index futures tend to have less follow-through than trades made in the morning or afternoon. This trade had nearly *everything* going against it. Nonetheless, I was frustrated at having missed the move up that morning and entered long at 887.75 at 12:37, establishing an initial stop 2.5 points under the entry price at 885.25.



Everyone Makes Mistakes

As the market traded sideways over the next few minutes, I realized the error of my ways, and I was able to scratch the trade by exiting at the entry price. This trade is an excellent example of spectacularly poor judgment and illustrates a clear error in even entering this trade in the first place. However,

in this case, the market gods took pity on me and let me out with a scratch.

This example, embarrassing as it may be, illustrates several important points. Even the bad trades tend to give a “grace period” for exit by trading sideways. The times when the market spikes hard against the position are very, very rare, but they do occur. This is why I suggest using an actual resting stop order in the market instead of a mental stop. (They are called mental stops because they make you “mental” if you use them!) Once a mistake is realized, it must be quickly corrected, and no one is ever immune to errors and mistakes.

Flags Should Pay Off Quickly

Also notice that this trade did *eventually* (45 bars later) reach the profit objective. This is far too long to have held the trade, even though it never came close to the stop loss level. Continuation patterns should work quickly, as the other trade examples have shown. This particular trade was initiated based on one-minute bars. To have held it 45 minutes hoping for a profit would have immeasurably compounded the initial error, even though the trade would have been a winner. Consistent profits can be achieved only by consistently following trading rules.

The flag is a basic chart pattern that it is often overlooked in favor of much more complicated and flashy tools. Traders, especially newer traders, love complex indicators requiring many lines of computer code, trading strategies that analyze more than a dozen factors before entering a trade and chart patterns that have lots of complicated elements. The more obscure and complex the mathematics involved, the better. This sort of thing sells lots of books and software, but it often fails to produce winning trades.

Simple Can Be Better

In trading, simple is often better. Retracements are simple patterns that work. Certainly there is more to profitable trading than knowing when to enter a market, but if you do not know how to identify low-risk entry points, then chances are you will not be profitable in the long run. Retracement patterns offer excellent trading opportunities. In fact, it is possible to build a profitable trading program based on these patterns alone. These are enduring and robust patterns that offer insight into the deep, true structure of trends and provide a consistent, low-risk entry methodology.

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