Identifying Market Bottoms: IBD Follow-Through Days

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Features
- Focus: Technical
- Markets: Equities, Futures
- Time Perspective: Long-term

Studies/Files Included:
- Workspaces
- ShowMe
- Indicator

Summary

Major market bottoms are precursors to cyclical bull markets that may last for years. Spotting one after a substantial decline is a challenge for any trader. However, determining when a market bottom has actually occurred is typically an exercise in hindsight. Investor’s Business Daily’s “Follow-Through Day Pattern,” as described by its former chairman and founder, William O’Neil, in his book, How to Make Money in Stocks, is widely known as a pattern that identifies market bottoms. In this paper, tools are presented to identify the pattern, as well as examples and minor variations to the pattern’s rules. This paper will try to determine whether this technical tool is useful in identifying major market bottoms.

Introduction

The founder of Investor’s Business Daily (IBD), William O’Neil, asserts in his national bestseller, How to Make Money in Stocks, that every major bull market has begun with an “IBD Follow-Through Day.”

The IBD follow-through pattern is a tool used by traders to identify market bottoms. To a trader, this pattern is of particular interest because the volatility surrounding it can offer attractive trading opportunities. This volatility will increase as the decline accelerates and the market forms a bottom. According to O’Neil, the purpose of the IBD follow-through pattern is to identify market bottoms in major indexes like the S&P 500. He says that market bottoms should follow cyclical bear market declines, although smaller corrections between 2% and 8% should suffice.

In this paper, TradeStation indicators and ShowMe studies are used to examine the rules of the IBD follow-through pattern. These tools are available for download with this paper. We also present examples of applying the pattern as well as slight variations to its original parameters.
Follow-Through Pattern Rules

The rules for this reversal pattern are simple, yet certain aspects of O’Neil’s description of the pattern are vague and require some assumptions to be made. The pattern starts as the market (S&P 500, DJIA or Nasdaq) falls by some percentage. Although O’Neil does not say how deep this correction should be, we assumed that the correction should be 8%.

The second rule focuses on the day that the market makes a bear market low. Once a low occurs, the index must close higher on that day or on the following day. A higher close is called Day 1 of the pattern. The Day 1 low becomes the line in the sand; a violation of that low invalidates the pattern. Days 2 and 3 do not have to be positive days, but they cannot be less than the Day 1 low value.

O’Neil says to look for a major move on the fourth day of the pattern, which he calls a follow-through day. In his book, O’Neil writes that this number was 1%, but a higher number seems more appropriate in the modern trading environment. We use 1.7% as the default value, but this could be subject to experimentation. The move must also have greater volume than the previous day and greater volume than some considered average. O’Neil does not elaborate on this comparison. We decided not to include the greater-than-average-volume condition because O’Neil doesn’t say how many days to use in the calculation.

According to O’Neil, the strongest moves occur during days 4 through 7 but can take place on the third day, in which case days 1, 2 and 3 must all be very strong, with the major index being up 1% – 2% or more on each day, on heavy volume. This variation to the rules was not included in our indicator because of the limited number of occurrences over 20 years of S&P 500 Index history. Follow-through days after 7 days may occur but are usually weaker than days 4 through 7.

The table below summarizes the rules of the pattern, while Figure 1 outlines how an ideal pattern would appear on a chart.

<table>
<thead>
<tr>
<th>Summarizing the rules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1:</td>
</tr>
<tr>
<td>Once a low has been established (after a correction), Day 1 occurs if the close is near the high of that day or a higher close occurs on the day after the low.</td>
</tr>
<tr>
<td>Day 2:</td>
</tr>
<tr>
<td>The price must remain above the established low. If the price moves below the Day 1 low, then the pattern has been invalidated.</td>
</tr>
<tr>
<td>Day 3:</td>
</tr>
<tr>
<td>The price must remain above the established low. If the price moves below the Day 1 low, then the pattern has been invalidated.</td>
</tr>
<tr>
<td>Days 4 - 7:</td>
</tr>
<tr>
<td>Follow-through day must occur, with a gain greater than 1.7%, heavier volume than the previous day and heavier volume than average.</td>
</tr>
</tbody>
</table>
Note: The ShowMe allows for the volume greater than the previous day’s volume condition to be turned “On” or “Off” through the use of inputs. The heavier volume than average condition was not considered in the construction of the ShowMe.

**IBD Follow-Through ShowMe and Indicator**

The IBD Follow-Through ShowMe and Indicator, as well as a workspace showing their use, are available with this paper. Together, these tools can be used to spot the reversal pattern. The ShowMe, which is the primary tool, uses plot and text objects to indicate each phase of the pattern. In Figure 2, you’ll notice a series of dots and text objects on the chart.
The first indication you will always see when the pattern is initialized is a green dot. A green dot means that the condition for the correction, which is in percentage terms, has been met. This amount can be adjusted by the user from the inputs tab, as shown in Figure 3 (8% is the current default value).

The next indication is a blue dot, which indicates that a Day 1 low has taken place. As mentioned earlier, the Day 1 low can only occur after the correction criterion has been met. When the Day 1 condition has been met (close greater than the open, with a close near the high of the day), the ShowMe plots dark grey dots that mark the low of Day 1. The Day 1 low must not be broken while the pattern is building or it will be negated, at which time the pattern-building process will restart.

The IBD Follow-Through Day must occur between Days 4 through 7. These values can be changed from the Inputs tab. Notice in Figure 3 that there are two inputs named BeginOfLookForIBDFTD and EndOfLookForIBDFTD. These inputs, which are currently set to 4 and 7, determine on what bars the IBD FTD can be considered. The dark magenta dots and the text object “IBD FTD” (above the price) signify the follow-through day. The value under “IBD FTD” tells us the percentage return on that day, which must be greater than 1.7%. This value can also be adjusted from the Inputs tab (FollowThroughDay).

The IBD FTD must also occur on greater volume than the previous day. Although the original rules state that this condition must be true, we allow this rule to be turned “On” or “Off” by the user. Under the inputs tab, notice the Volumecondition input is set to “On” by default. You can turn it off by typing “Off” in the inputs tab.

Once the low has occurred, the pattern has 10 days from Day 1 before it expires. This count is shown in blue under the dark grey Day 1 low points. The pattern expiration is shown as a red dot on Day 10. The number of days in the pattern can be changed by users through the PatternExpiration input. Once the pattern concludes, the process begins all over again.

The indicator, which is presented as a red histogram, represents the correction (negative value) of the index in percentage terms. This indicator is not necessary to spot the IBD Follow-Through Day, but it helps to understand the price action leading to the pattern.
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Figure 3 – IBD Follow-Through ShowMe and Indicator Inputs Tab

<table>
<thead>
<tr>
<th>Name</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CorrectionAmount</td>
<td>8</td>
<td>Percentage decline that initiates the pattern</td>
</tr>
<tr>
<td>FollowThroughDay</td>
<td>1.7</td>
<td>Minimum percentage increase in price for FTD</td>
</tr>
<tr>
<td>ExpirationDay</td>
<td>10</td>
<td>Number of days considered in the pattern</td>
</tr>
<tr>
<td>VolumeCondition</td>
<td>&quot;On&quot;</td>
<td>Volume Condition (Volume is greater than previous day's volume)</td>
</tr>
<tr>
<td>BeginOfLookIBDFTD</td>
<td>4</td>
<td>First day the ShowMe will look for the IBD FTD</td>
</tr>
<tr>
<td>EndOfLookForIBDFTD</td>
<td>7</td>
<td>Last day the ShowMe will look for the IBD FTD</td>
</tr>
</tbody>
</table>

Follow-Through Examples

In Figure 4, we see the S&P 500 E-mini futures contract. Preceding the bear market low, on March 8, 2009, there were two Day 1 counts that were invalidated as new short term lows were made. With a Day 1 count occurring on March 8, an IBD Follow-Through Day of 4.75% took place on Day 5 of the pattern. This period concluded the end of a bear market and was the beginning of a new three-year cyclical bull run.

Figure 4 – IBD Follow-Through Example 1 – S&P 500 Index Futures – (Feb. 2009 – May 2009)

O’Neil writes in his book that every major market rally is accompanied by an IBD Follow-Through Day, but that not every follow-through day is predictive of a new bull market. Figure 5 is a perfect example of this, as an IBD follow through develops in early February, 2008. This pattern failed as the Day 1 support level was taken out a few months later. There certainly wasn’t any explosive rally to follow the 2.24% follow-through day.
Figure 5 – IBD Follow-Through Example 2 – S&P 500 Index Futures – (January 2008 – March 2008)

Figure 6 is an example of what may happen when the market is declining over a longer time period. The IBD Follow-Through ShowMe is always looking to find the market's bottom after it has been corrected by at least the desired percentage amount. In Figure 6, we see four consecutive Day 1 confirmations depicted by the blue dots. For each of these blue dots, we can see that each pattern count is cut short after Days 1, 3 and 4. On each occurrence, with the exception of the fourth, the Day 1 low was broken and the indicator was forced to reset and find the new low. On the fourth attempt, on July 16, 2008, the Day 1 low holds and the pattern expires 10 days later, without any IBD Follow-Through Day.

Figure 6 – IBD Follow-Through Example 3 – S&P 500 Index Futures – (June 2008 – August 2008)
IBD Follow-Through Study

In our study, we looked at about 20 years of daily S&P 500 SPDRS ETF (SPY) data. Figure 7 shows the results from a TradeStation optimization run. On each trade, a position of $10,000 was taken, buying at the close of the bar on the day the IBD FTD occurred and holding that position between 5 and 100 days out in time. That is, we ran our optimization test increasing the holding period for each historical test of trades by 5 days until we reached 100 days. In Figure 7, the column on the left, DaysOutInTime, you can see the performance for holding positions for each 5 day interval increase. (Please note that these results do not include commission costs and that all of the input parameters were kept the same as shown in Figure 3.)

While the number of trades is not statistically significant, we observe profitability for most of the test runs. Interestingly, in some cases for basic exit criteria, a high percentage of the trades were profitable (60% – 80%) and that the average profit factor for most test runs was above 2. One caveat of our historical testing was that most of the winning trades and net profitability came in the 1990s. Since 2003, there have not been many trading signals.

Figure 7 – IBD FTD Study 1 – S&P 500 SPDRS ETF – (2/2/1993 – 5/24/2012)

As you can see, we conducted a simple study just to give you a sample of how the pattern has performed over time. However, there are many variations that could have been tested. For example, we could have changed the correction amount, which was 8%, and made it smaller. We could have made the percentage return condition on the IBD FTD lower, perhaps 1% instead of 1.7%, or we could have chosen to turn off the volume condition.

Conclusion

Guessing when a market or security has bottomed can be an expensive and frustrating exercise. While many traders play the guessing game, there are plenty of technical indicators that can help traders to analyze market bottoms more accurately.

While not a perfect indicator, the IBD FTD can help create a trading discipline around the search for market bottoms. First, the retracement percentage helps us zone in on a reasonable area where a market bottom could be built. Second, the Day 1 low may be used for setting protective stops for long positions. Third, we have a time limit on our expectation for the pattern to play out. If price is higher from our purchase price by the time limit, we can either choose to exit the trade or let it run higher, possibly adjusting our stop higher as price changes.

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In How to Make Money in Stocks, O’Neil offers an imprecise explanation of the indicator. The first assumption we had to make was about the percentage correction. O’Neil does not state what the correct value should be. We decided that the user should be able to adjust this value. We set the default correction
value to 8%. The problem with having a lower correction value is that the pattern is triggered earlier and many false signals occur. With a relatively high value, you may miss many of the intermediate-term market bottoms.

The second assumption we had to make was the percentage return for the IBD Follow-Through Day. O’Neil does not tell us what the correct value is. Articles from IBD’s website indicate that this value is 1.7%, which is the default value we used. However, this value may also be modified. At 1.7%, there were many false IBD FTDs. The user could adjust the value higher so it would be harder for the FTD to occur, which might translate to a more meaningful signal.

The third determination we had to make was whether to keep the volume condition or to eliminate it completely. IBD’s website points to many IBD FTDs where the volume condition was not true (volume greater than previous day) on the day of the FTD. So we gave the user the option of turning the volume condition on or off.

The last assumption we had to make was to determine how many bars to include in the pattern, which would also be related to when to reset the correction percentage back to zero, essentially resetting all of the factors in the pattern. We decided to use 10 bars for the pattern. If the Day 1 low is broken to the downside, the correctional percentage value will stay the same. As mentioned above, the user can adjust the number of bars in the pattern, which is currently set to 10 bars. Despite these assumptions, the IBD FTD pattern is an excellent indicator that uses objective rules to identify market bottoms.

Bibliography


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- Files with extension “.tsw” – These are TradeStation workspaces. These may be stored in any folder where you choose to save TradeStation workspaces.
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