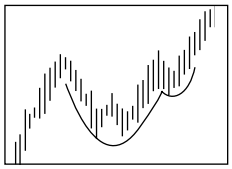
9

Cup with Handle



RESULTS SNAPSHOT

Upward Breakouts

Appearance	Looks like a cup profile with the handle on the right.	
Reversal or continuation	Short-term bullish continuation	
	Bull Market	**Bear Market**
Performance rank	13 out of 23	9 out of 19
Break-even failure rate	5%	7%
Average rise	34%	23%
Change after trend ends	–30%	–34%
Volume trend	Downward	Upward
Throwbacks	58%	42%
Percentage meeting price target	50%	27%
Surprising findings	Patterns that are tall, have short handles, and a higher left cup lip perform better.	
See also	Bump-and-Run Reversal Bottom; Rounded Bottom	

This pattern sports a low failure rate but a below average rise when compared to other chart pattern types. The Results Snapshot shows the numbers. A few surprises are unique to this pattern. A cup with a short handle (shorter than the median length) tends to outperform those with longer handles. If the left cup

lip is higher than the right, the postbreakout performance is also slightly better. The higher left lip is a change from the first edition of this *Encyclopedia* where cups with a higher right lip performed better. I believe the difference is from the change in methodology and a larger sample size.

Tour

The cup-with-handle formation was popularized by William J. O'Neil in his book, *How to Make Money in Stocks* (McGraw-Hill, 1988). He gives a couple of examples such as that shown in Figure 9.1. The stock climbed 295% in about 2 months (computed from the right cup lip to the ultimate high). Unfortunately, it does not meet O'Neil's criteria for a cup-with-handle formation. I discuss my interpretation of his criteria in a moment, but let us first take a closer look at the chart pattern. The stock began rising in early August at a price of about 5.50 and climbed steadily until it bumped up in early December. Volume, incidentally, was very high for the stock at this stage. The stock climbed robustly then rounded over and plunged back through an earlier trend line. It completed a bump-and-run reversal (BARR). During its climb, the stock reached a high of 26.88 during late December and a low of 12.38 after the BARR top—a loss of 54%. The rise and decline formed the left side of the cup. Over the next 2 months, prices meandered upward and pierced the old high during late March. The rise to the old high completed the right side of the cup.

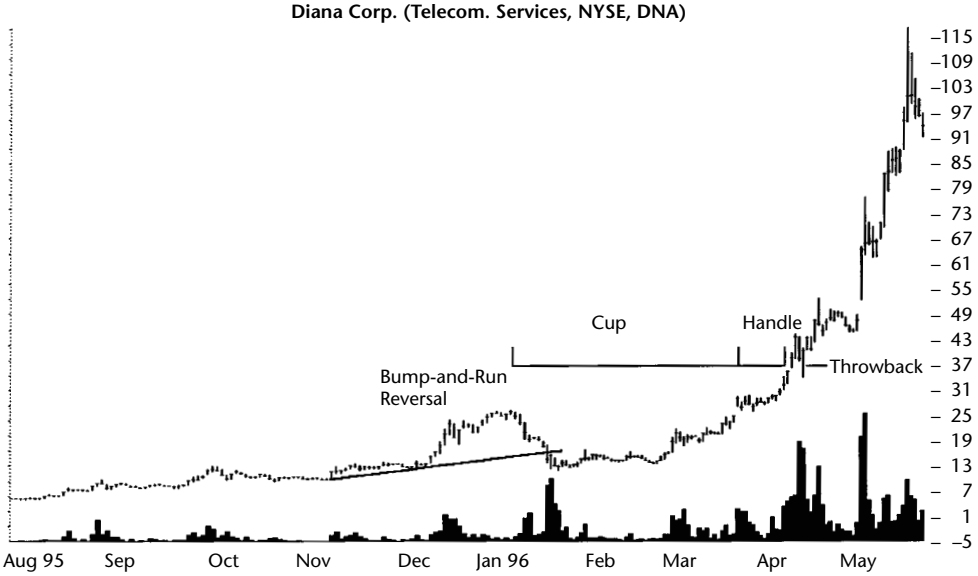


Figure 9.1 Bump-and-run reversal that leads to a cup-with-handle formation. Note the price scale as the breakout occurs at about 30 and the stock climbs to 120 in fewer than 2 months. The cup handle is a high, tight flag formation.

Profit-taking stunted the climb and prices moved horizontally for almost 2 weeks before resuming their rise. This movement formed the cup handle (incidentally, the handle in this formation is a high, tight flag formation). Volume during formation of the handle was down sloping—higher at the start and trending lower. When prices rose above the cup lip, a breakout occurred. This accompanied a surge in volume that propelled prices higher. However, a week after the breakout, prices threw back to the handle top before continuing upward. This throwback allowed nimble investors the opportunity to enter long positions or add to existing ones. By late May, just 44 days after the breakout, the stock reached the ultimate high of 120.

Identification Guidelines

In the study of chart formations, when I search a database for various patterns, I ignore most conventional selection criteria. I let the formations determine their own characteristics. That is the approach I used in selecting the cup-with-handle formation. Table 9.1 shows both the O'Neil selection criteria and the guidelines I used to choose patterns.

Table 9.1
Two Different Approaches to O'Neil's Cup-with-Handle Pattern

O'Neil Criteria	Bulkowski Selection Guidelines
Improving relative strength	None
Substantial increase in volume during prior uptrend	None
Rise before cup is at least 30%	Same
U-shaped cup	Same
Cups without handles allowed	Cup must have handles
Cup duration: 7 to 65 weeks	Same
Cup depth: 12% or 15% to 33%; some decline 40% to 50%	None
Handle duration: usually at least 1 to 2 weeks	1 week minimun
Handle downward price trend	None
Handle downward volume trend	None
Handles form in upper half of cup	Selected if handle *looks* like it formed in upper half
Handle forms above 200 day price moving average	None
Handle price drop should be 10% to 15% from high unless stock forms a very large cup	None
High breakout volume, at least 50% above normal	None
Saucer with handle price pattern has more shallow cups	None
None suggested	Cup edges should be at about the same price level

In the first edition of this book, I applied as many of his guidelines as I could and found that fewer than 10% of the patterns I considered valid cups were chosen. Plus, the performance of the selected few was not as good as the cups I found using the Bulkowski guidelines shown in Table 9.1. For more information about the cup with handle pattern, consult O'Neil's book.

Here is a brief review of the guidelines I found important.

Rise before cup is at least 30%. As I was selecting cup-with-handle patterns, it became apparent that locating cups during an uptrend was important. So I used O'Neil's minimum rise to the left cup lip of 30%. To measure this, I applied the same method as for finding the trend start (see the Glossary for a definition) and reviewed those that fell short of 30%. If the trend start using the mechanical method was shy (usually by just a few percentage points) of the required 30% but the price trend appeared longer on examination, I accepted the pattern. Just 15 of 471 patterns (3%) were in this category.

U-shaped cup, handle duration. I removed all V-shaped cups and kept the U-shaped ones. I am not sure about the performance effect of this. Also removed were those cups with handles shorter than 7 days (5 trading days). A cup without a handle is a rounding bottom. I considered the handle length as the distance from the right cup lip to the breakout.

Cup duration. I used a strict interpretation of O'Neil's cup duration. Removed were short cups (fewer than 7 weeks) and overly long ones (over 65 weeks).

Handles form in upper half of cup. I used a more lax interpretation of where the handle forms on the cup. In other words, I visually inspected the cups to be sure prices in the handle drifted no lower than halfway down the cup. I removed those drifting lower (include all with downward breakouts). When measuring distance, use an arithmetic chart, not a semilogarithmic chart.

Cup lips near same price. Finally, I selected cups with lips (tops) at approximately the same price level. Cups with uneven lips are better classified as scallops. I assign no hard percentages to the difference. Use your own judgment and the figures in this chapter as guides.

Figure 9.2 shows another good example of the cup-with-handle pattern. The cup gently rounds over and climbs just beyond the old high then pauses. Prices drift down in the handle, along with a down-trending volume pattern before the breakout. Then volume surges and prices move smartly upward. Two days after the breakout, prices move marginally lower again and enter the region of the right cup lip. After a brief throwback, prices are soon on their way again. Less than 2 months later, the stock tops out at 15.50 for a rise of 22%.

If you look on either side of the cup in Figure 9.2 you will find two additional cups (portions of which are shown) that fail. The one on the left breaks out downward and the one on the right fails to continue rising by more than

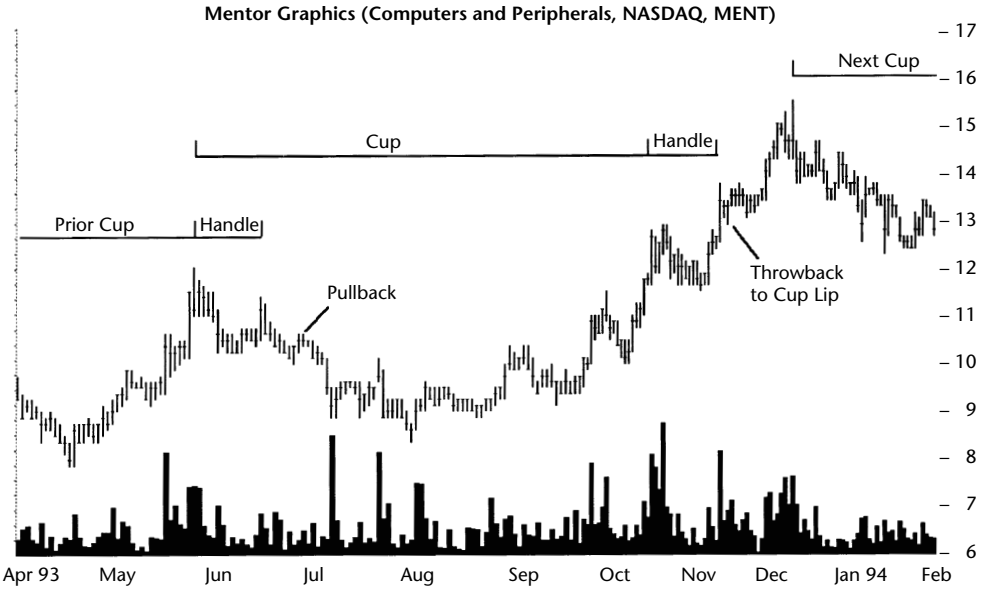


Figure 9.2 A cup-with-handle pattern. The cup and handle are shaped nicely, with the right cup lip slightly higher than the left.

5%, so it, too, is a failure. Only the center cup works as expected but even it shows muted gains.

Figure 9.3 also shows a cup-with-handle formation but on the weekly time scale. When I was searching for the various formations, I found that weekly scales provide an easy way to identify many of the formations. Of course, I also looked at daily price data to refine the weekly patterns and identify new formations that I may have missed.

The chart in Figure 9.3 shows an example of a cup-with-handle formation in which the rise falters after rising just 11%. Fortunately, after declining back to the handle base, the stock recovers and goes on to form new highs. Ultimately, the stock gains 52%.

Figure 9.3 also highlights an incorrectly selected cup: an inner cup. There is no 30% rise leading up to the formation (since prices are trending downward) and the handle lasts just 2 days. However, inner cups offer wonderful trading opportunities as they allow you to get in on the ground floor of an impending rise. Even if prices only rise to the height of the outer left cup lip, the move can be significant.

Figure 9.4 shows another example of an errant cup selection. The rise from point A to point B is less than 30%. Had you invested in this pattern after prices rose above the cup lip, you would have seen the stock climb to 34.50, an increase of just 11%. After it reached the high, the stock plummeted. In less than a month, prices declined to 21.50, a loss of 38%.

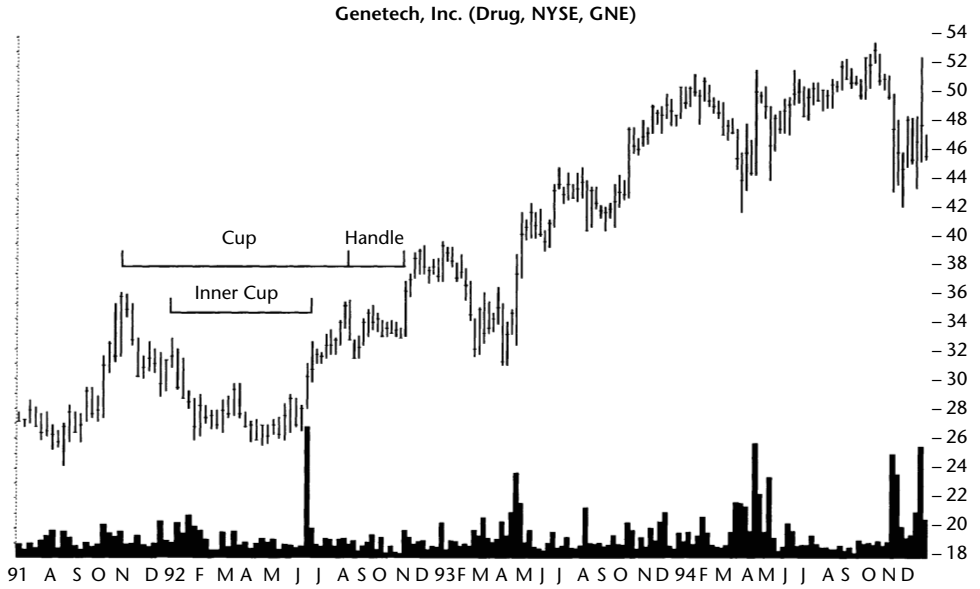


Figure 9.3 Cup-with-handle pattern on a weekly scale. The failure at 10% to 15% above the breakout is quite typical for this formation. However, this stock recovered and continued upward.

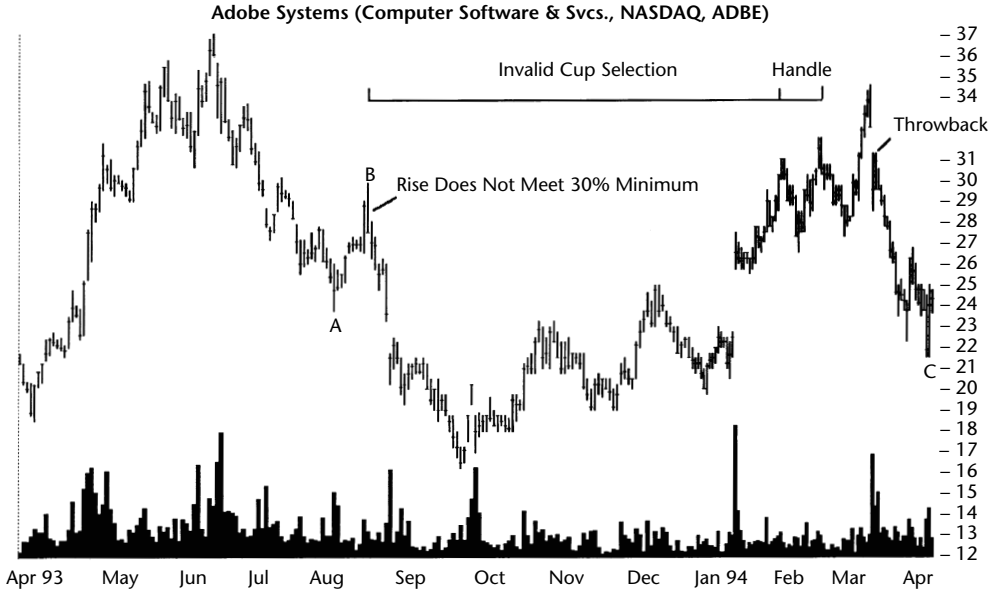


Figure 9.4 An invalid cup-with-handle pattern. The rise from point A to point B is less than 30%. The two outer peaks (in June and March) do not create a cup either because the handle drops down too far (point C)—well below the cup midpoint.

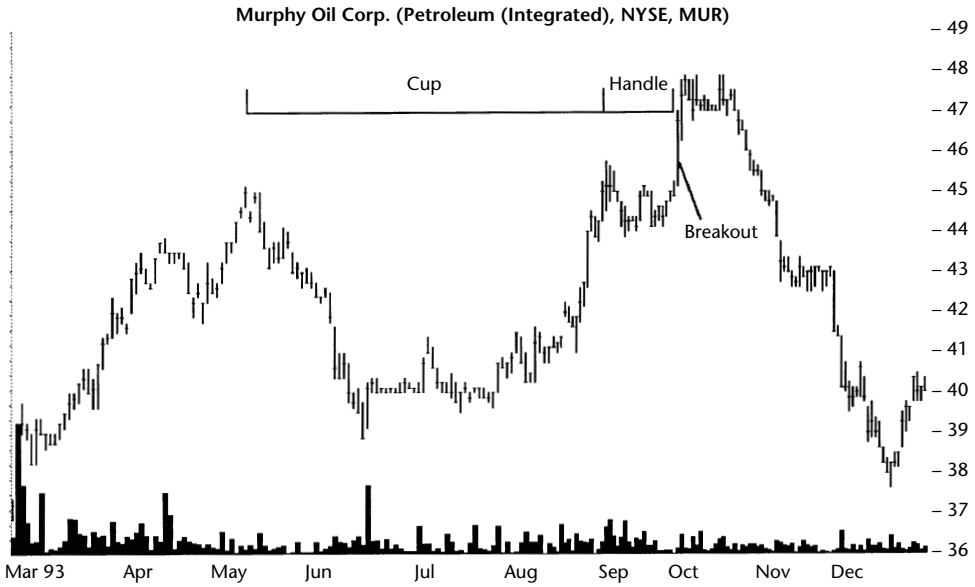


Figure 9.5 A cup-with-handle formation 5% failure. Although prices break out upward, they move less than 5% away from the cup lip before plunging downward.

Focus on Failures

Like most patterns, cups fail because of the inability of the stock to rise by at least 5% before declining. Figure 9.5 shows this situation. The nicely shaped cup forms after an extended price rise from 33 to 45. The two cup edges are at about the same price level. The handle seems to form a small cup of its own. Prices move up sharply in late September and break above the right cup lip and continue higher, but only briefly. The stock tops at 47.88, moves horizontally for about 3 weeks, then starts down. Two months later, the stock hits a low of 37.63. The rise after the breakout is slightly less than 5%. I classify as a failure a stock that does not continue moving more than 5% in the direction of the breakout.

Statistics

Table 9.2 shows general statistics for cup-with-handle patterns.

Number of formations. Cups in a bear market are like birds at a feeder when a cat is around—few cups occur. This rarity is because of the identification guidelines that require a 30% rise leading to the cup plus an upward breakout. Not all stocks decline in a bear market, so cups do occur—they just underperform those in a bull market.

Reversal or continuation. By definition, with price rising into the pattern and an upward breakout, a continuation of the prevailing price trend is suggested. Sometimes, however, the cup will reverse the price trend. This

Table 9.2
General Statistics

Description	Bull Market, Up Breakout	Bear Market, Up Breakout
Number of formations	412	59
Reversal (R), continuation (C)	20 R, 392 C	0 R, 59 C
R/C performance	15% R[a], 35% C	0% R, 23% C
Average rise	34%	23%
Rises over 45%	117 or 28%	8 or 14%
Change after trend ends	–30%	–34%
Busted pattern performance	–28%[a]	–29%[a]
Standard & Poor's 500 change	16%	–5%
Days to ultimate high	167	63

Note: Minus sign means decline.

[a]Fewer than 30 samples.

occurs as part of a bounce from a downward price trend. The performance from these reversals is well below continuations and they are rare.

Average rise. The pattern is an average performer, falling just shy of the average rise from all other chart pattern types.

Rises over 45%. How well does the pattern perform? Over a quarter of the patterns (28%) rise more than 45% in a bull market. In a bear market, the rate is nearly half that. The values are about normal for bullish chart patterns.

Change after trend ends. When the upward trend ends, what happens? Prices drop over 30%. Keep that in mind when someone tells you to buy and hold a stock showing a cup-with-handle pattern. The drop also means that you return nearly all of your gains in a bull market. Pick price targets carefully and sell when appropriate. Hanging onto a profitable position too long may spell disaster. Remember that the longer you are in the market, the more risk you take.

Busted pattern performance. Few samples make the numbers in the table, but they show how far prices decline after a busted pattern. If you see prices climb then reverse, consider a short sale only if the industry and market agree with the direction of the new trend.

Standard & Poor's 500 change. In a bull market, the index gained 16%, and in a bear market, the index dropped 5%. Coupling this finding with the average rise, we see the effect of the general market trend on a stock's performance. In short, a bullish pattern does better in a bull market than in a bear one. No kidding, right?

Days to ultimate high. How long does it take price to reach the ultimate high? In a bull market, the climb lasts 167 days (5.5 months) on average. The lower price rise in a bear market is easier to reach, thus the climb is shorter too, lasting just 63 days (2 months). If you prorate the bear market numbers, you will find that the climb in a bear market must be steeper than the rise in a bull market.

Table 9.3
Failure Rates

Maximum Price Rise (%)	Bull Market, Up Breakout	Bear Market, Up Breakout
5 (breakeven)	22 or 5%	4 or 7%
10	68 or 17%	10 or 17%
15	117 or 28%	18 or 31%
20	158 or 38%	27 or 46%
25	199 or 48%	34 or 58%
30	224 or 55%	41 or 69%
35	256 or 62%	44 or 75%
50	308 or 75%	51 or 86%
75	356 or 86%	57 or 97%
Over 75	412 or 100%	59 or 100%

Table 9.3 shows cup failure rates. I removed from consideration all cups with downward or horizontal breakouts. As with other chart pattern types, cups show a break-even failure rate that climbs rapidly as the maximum price rises. I mean that 22, or 5%, of the cups in a bull market fail to rise more than 5%. Over a quarter (28%) fail to rise at least 15%, and half do not make it to a 30% gain. Cups in a bear market show a similar trend with the failure rates a bit higher.

Table 9.4 shows breakout- and postbreakout-related statistics.

Table 9.4
Breakout and Postbreakout Statistics

Description	Bull Market, Up Breakout	Bear Market, Up Breakout
Formation end to breakout (handle length)	34 days	26 days
Percentage of breakouts occurring near the 12-month low (L), center (C), or high (H)	L1%, C5%, H93%	L2%, C8%, H90%
Percentage rise for each 12-month lookback period	L100%[a], C29%[a], H34%	L45%[a], C18%[a], H23%
Throwbacks	58%	42%[a]
Average time to throwback ends	11 days	11 days
Average rise for patterns with throwback	30%	25%[a]
Average rise for patterns without throwback	40%	21%
Performance with breakout gap	39%	20%[a]
Performance without breakout gap	33%	23%
Average gap size	$0.29	$0.29

[a]Fewer than 30 samples.

Formation end to breakout. How long does it take price to reach the breakout from the right cup lip, that is, a close above the right side high? In both markets, it takes about a month. The distance from the right cup lip to the breakout is also the handle length.

Yearly position. As you can see in the table, the vast majority of breakouts occur near the yearly high. Since the breakout is at the top of a 30% rise leading to the cup, the results are no surprise.

Yearly position, performance. Where in the yearly price range do the best performing cups reside? I consider the results meaningless because of the low sample counts. If you believe the statistics, those cups with a breakout near the yearly low soar well above the gains posted by the middle or high ranges. I looked closer at this observation and found that there were 6 cups involved (bull market only) and most showed gains any trader would love.

Throwbacks. A throwback occurs about half the time if you average the two values. This is still too infrequent to rely on. In other words, do not depend on a throwback allowing you another opportunity to buy into the situation.

When a throwback occurs, it takes 11 days for the stock to return to the breakout price. In a bull market, a throwback hurts performance. In a bear market, a throwback helps performance, but the sample count is low. In most chart pattern types, throwbacks are detrimental.

Gaps. Gaps help performance in a bull market but hurt it in a bear market, as Table 9.4 shows.

Table 9.5 shows a frequency distribution of time to the ultimate high. You can see that in a bull market, over half of all cups take more than 70 days to reach the ultimate high. In a bear market, only a third of the patterns will still be climbing toward the high after 70 days.

On the other end of the scale, few patterns flame out early. Usually a quick rise to the ultimate high does not result in a large gain, so higher numbers on the right of the table are a plus. The table shows that 15% of the cups in a bear market will top out in the first week. Half the patterns will drop at least 20% before day 35. The 20% decline is part of the definition of the ultimate high. See the Glossary for more details on the ultimate high.

Table 9.6 shows size-related statistics.

Height. Do tall patterns perform better than short ones as they do in many other chart pattern types? Yes. To compute cup height, measure from the higher of the cup lips to the formation low, and then divide by the high of

Table 9.5
Frequency Distribution of Days to Ultimate High

Days:	7	14	21	28	35	42	49	56	63	70	>70
Bear market	15%	3%	10%	10%	10%	5%	3%	2%	2%	5%	34%
Bull market	10%	5%	4%	5%	2%	1%	4%	4%	3%	4%	57%

Table 9.6
Size Statistics

Description	Bull Market, Up Breakout	Bear Market, Up Breakout
Tall pattern performance	37%	26%[a]
Short pattern performance	32%	20%
Median height as a percentage of breakout price	27.41%	36.80%
Narrow pattern performance	36%	20%
Wide pattern performance	33%	26%
Median length	155 days	132 days
Average formation length	166 days	151 days
Short and narrow performance	33%	20%[a]
Short and wide performance	31%	19%[a]
Tall and wide performance	34%	29%[a]
Tall and narrow performance	43%	19%[a]
Short handle performance	37%	23%[a]
Long handle performance	32%	20%[a]
Median handle length	23 days	22 days
Higher right cup lip performance	34%	19%
Equal cup lip performance	32%[a]	20%[a]
Higher left cup lip performance	35%	29%[a]

[a]Fewer than 30 samples.

the right cup lip (the breakout price). Compare the result to the median in the table. For best performance, select tall cups.

Width. Narrow patterns perform better in a bull market but wide ones outperform in a bear market. I used the median length as the separator between narrow and wide.

Average formation length. The cup length was similar regardless of market conditions, measuring over 5 months long. Recall that the cup must be between 7 weeks and 65 weeks (49–455 days).

Height and width combinations. In a bull market, cups both tall and narrow outperform. In a bear market, tall and wide cups perform best, but the sample count is low. The worst performing cups are short and wide.

Handle length. In the first edition of the *Encyclopedia*, I discovered that cups with shorter handles performed better than do those with long ones. In other words, if the rise to the breakout is quick, expect better performance.

Higher cup lip. I separated cups into those with a higher right lip, cups with equal highs, and those with higher left cup lips. Those with higher left cup lips performed better after the breakout than the other two combinations.

Table 9.7 shows volume-related statistics.

Table 9.7
Volume Statistics

Description	Bull Market, Up Breakout	Bear Market, Up Breakout
Rising volume trend performance	34%	18%
Falling volume trend performance	34%	28%
U-shaped volume pattern performance	38%	28%[a]
Dome-shaped volume pattern performance	30%	16%[a]
Neither U-shaped nor dome-shaped volume pattern performance	37%	26%[a]
Heavy breakout volume performance	34%	25%
Light breakout volume performance	37%	17%[a]

[a]Fewer than 30 samples.

Volume trend. The volume trend only seemed to matter in a bear market, where cups with a falling volume trend outperformed those with a rising volume trend.

Volume shapes. Cups with U-shaped volume performed better post-breakout than the other volume shapes.

Breakout volume. Cups with light breakout volume performed well in a bull market, but those with heavy breakout volume did better in a bear market.

Trading Tactics

Table 9.8 lists trading tactics.

Table 9.8
Trading Tactics

Trading Tactic	Explanation
Measure rule	Compute the formation height by subtracting the lowest low reached in the cup from the high at the right cup lip. Add the difference to the high at the right cup lip and the result is the target price to which prices will climb, at a minimum. Only 50% of the formations rise that far in a bull market; 27% hit the target in a bear market. Use half the cup height to get a more realistic price target (met 76% of the time in a bull market; 55% in a bear market).
Buy inner cup	If you discover a cup within a cup, buy on the breakout of the inner cup (when prices rise above the inner cup lip). Be prepared to sell at the price of the old high.
Stop loss	Place a stop-loss order 0.15 below the handle to limit losses. Raise the stop to breakeven or just below the nearest support zone when prices rise.

Measure rule. The measure rule predicts the price to which the stock will rise, at a minimum. The traditional method involves determining the height of the formation from lowest low in the cup to the high at the right cup lip. Adding the difference to the high at the right cup lip results in the target price. However, this method only has a 50% success rate (half the formations reach their price targets in a bull market—fewer, 27%, in a bear market). For a better target, compute the cup height and take half of it. Then continue as before. The stock reaches the new, lower-priced target 76% of the time in a bull market; 55% in a bear market. This is still shy of the 80% number I consider reliable, but it gives a more accurate indication of the likely price rise.

Figure 9.6 is an example of the two measure rules in practice. Compute the cup height by taking the difference between the right cup high (point A at 19) and the cup low (point B at 10). Add the difference (9) to the right cup lip to get the price target (28). Mid-May sees prices hit the target but plummet the following week.

A more conservative price target uses half the formation height. This method gives a target of just 23.50, reached during early July. The stock climbs to the nearer target quickly and without the severe declines experienced on the way to the more risky price target.

Buy inner cup. Figure 9.6 also shows an inner cup. If you are going to trade this formation and can identify an inner cup, buy it. An inner cup appears

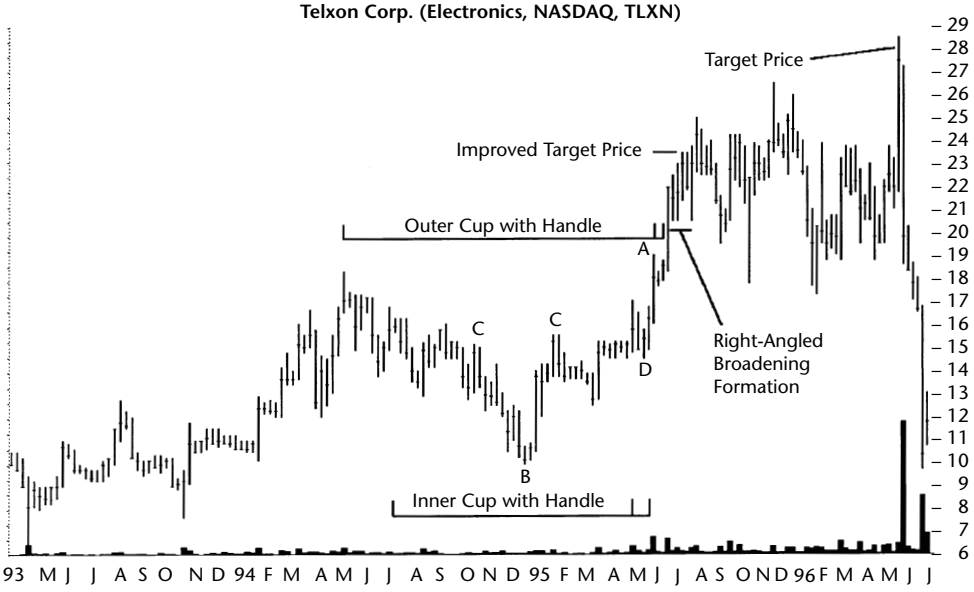


Figure 9.6 Example of the two measure rules in practice. Compute the formation height, divide by 2, and add the value to the right cup lip to get a conservative price target. Trade the inner cup-with-handle formation for a better entry price. A right-angled ascending broadening top appears during June and July 1995.

as two widely spaced minor highs that are at about the same price level. You score as the stock advances to the old high (the outer, left cup lip) and further if the outer cup-with-handle formation succeeds. Playing the inner cup shown in Figure 9.6 would have boosted profits about $2 a share or 12%.

Stop loss. Once you initiate a trade, place a stop-loss order 0.15 below the handle low. The handle is a place of support and sometimes declines will stop at that point. Placing a stop just below the low point will get you out of those situations when the stock continues tumbling.

When the stock rises, move your stop to 0.15 below the support zone nearest your break-even point. That way, if the stock declines, you will be protected. Continue raising the stop as prices climb. This technique forces you to eventually take profits but saves you from watching them fritter away during a reversal.

Sample Trade

Cody is in high school. He is not sure what he wants to do for a living, but he still has a few years to figure it out before he graduates. When he is not chasing cheerleaders, he either has his nose buried in the financial pages or is reviewing charts on the computer screen. His interest in stocks follows in his father's footsteps: The man works for a brokerage firm and taught Cody the ropes.

Although Cody does not belong to the investment club at school, he pals around with the players. One day, he overheard them talking about the stock pictured in Figure 9.6. At first he did not think much about it until he looked deeper. That is when he saw it: a cup-with-handle pattern.

He was not convinced the stock was a good trade, and but did not have the money to buy it anyway. He decided to paper trade it to see what he could learn. On the daily time scale, he saw an inner cup forming at point C, so that is the one he decided to trade.

Week after week, he waited for the buy signal but it did not come. Eventually, the stock climbed above the right cup lip but he missed it. When he pulled up the stock chart on his computer, a throwback had already occurred. So he waited for prices to climb above the cup lip again.

That happened on May 9, his girlfriend's birthday. Sensing a positive omen, he made a notation to buy the stock, on paper, at the closing price the following day (filled at 15.25). When he met his girlfriend the next day, she was not impressed with the birthday present he gave her, and the stock closed lower as well.

Two weeks later, the stock was moving up. Cody placed his stop 0.15 below the handle low, at 14.38 (point D, which also marks the purchase point). When the stock climbed above the outer cup, he raised the stop to 0.15 below the handle low or 17.50. Then he noticed a problem forming: a right-angled

broadening top formation. To him that was a bearish signal, so he moved his stop up to just below the base at 20.25. Then he waited.

He got word that the stock was in trouble from his pals. They were not too happy with the company for some reason. When he pulled the stock up on his computer screen, he noticed that it had hit his stop in late August when prices momentarily dipped. Cody whipped out his calculator and tallied up his gains. He made $5 a share for a gain of over 30%. He chuckled to himself that next time he would use his paper profits to buy his girl something other than cubic zirconium.

For Best Performance

The following list includes tips and observations on selecting cup-with-handle patterns for best performance. Refer to the associated table for more information.

- Use the identification guidelines to select cups—Table 9.1.
- Select cups in a bull market and avoid those in a bear market—Table 9.2.
- Cups in a bull market have a lower failure rate—Table 9.3.
- Select cups with breakouts near the yearly low—Table 9.4.
- After the breakout, prices take longer to reach the ultimate high in a bull market, giving them a better chance of a larger gain—Table 9.5.
- Pick tall cups—Table 9.6.
- Choose cups with short handles and higher left cup lips—Table 9.6.
- Cups with U-shaped volume perform best—Table 9.7.