



## How to Avoid Value Traps

### Issue

To paraphrase Buffett, value investing is simple, but not easy. Statistically cheap stocks have historically outperformed on average, but value investors must endure long stretches of underperformance. Furthermore, a low stock price often reflects challenging business issues, forcing value investors to determine if and when these issues might be overcome and if they are properly reflected in the current price. Apparently inexpensive stocks that fail to recover in a reasonable time frame are often called “value traps”.

Can quantitative screening criteria be used to systematically discern which value stocks are more likely to rebound vs which are more likely to struggle? Is it best to use factors that focus on corporate fundamentals, or are factors capturing market sentiment more effective? Is it possible to build value stock baskets that have higher returns and less risk than value stocks as a whole?

### Research Approach

To control the scope of this study, we selected three commonly used price ratios to measure valuation: Book/Price, Sales/Price, and Last 4Q EPS/Price. Each month from December 2001 – April 2019, we ranked all MSCI U.S. IMI members (~2300 names) by B/P, S/P, and E/P, and those ranked in top 20% by each metric were defined as “value stocks”.

We then hand-picked 25 diverse criteria from the RIR Factor Library as potentially useful for separating winners from losers *within* our three value stock universes. These 25 factors include measures of financial leverage and liquidity, profitability, earnings quality, sales and EPS growth, EPS surprise, brokerage analyst sentiment and uncertainty, short interest, price momentum, trading volume, company size, return volatility, and valuation (using FCF and GARP factors). We evaluated each factor’s effectiveness over subsequent 12-month holding periods using four performance measures: Information Coefficient (correlation between factor ranks and subsequent returns), average excess returns, average standard deviation of returns, and average hit ratio (% of stocks outperforming the test universe average).

### Results

Table 1 shows average return magnitude, consistency, and variability of our three value stock definitions vs the overall MSCI IMI universe. Clearly, how one defines value has significant performance implications. The “deep value” stocks with high B/P and S/P outperformed by a wide margin, but both value stock groups were very volatile. It is interesting to see that most high B/P stocks actually underperformed (i.e., 43.9% hit ratio), indicating that strong B/P average returns were driven by a minority of big winners. Value stocks with high E/P had their own performance pattern, delivering modest outperformance with below average volatility, but big winners were also the source of average E/P outperformance.

Table 1: Value Stock Performance			
	Avg 12M Return	Avg 12M Hit Ratio	Stdev 12M Return
Book/Price Top20%	14.7%	43.9%	53.3%
Sales/Price Top20%	17.0%	54.5%	59.3%
4QEPS/Price Top20%	12.9%	44.9%	38.5%
MSCI U.S. IMI Universe	12.5%	49.2%	42.9%

The statistics in Table 1 suggest that being able to discriminate return and risk within value stocks should be rewarding, but these results also suggest that effective screening criteria might vary depending on how value is defined. For example, eliminating the riskiest stocks might be the key to performance enhancement within the deep value stocks, while identifying big losers might be the best way to improve performance within high E/P value stocks. However, we found that the 25 factors outlined earlier produced return and risk prediction results that were quite consistent no matter how value was defined.

In terms of overall return and risk prediction, three factors stood out as being most effective: 3M Analyst EPS Forecast Revisions, Short Interest/Shares Out, and 3M Trading Volume/Shares Out. Table 2 shows the average performance of these sentiment factors when ranked into quartiles within the three value stock groups. Note that screening out stocks with negative estimate revisions, high short interest, and low trading liquidity (highlighted in red) would have been highly effective in helping avoid low return-high risk value traps. More restrictive screening for value stocks with positive

estimate revisions, low short interest, and high trading liquidity (highlighted in green) would historically have provided value stock subsets with significantly higher returns, higher hit ratios, and lower volatility the average value stock.

**Table 2: Avg Performance of EstRev, ShrtInt, \$TradVol**

Value	12M %ExcRet				12M %HitRate				12M %StdevRet			
Defin	Qr1	Qr2	Qr3	Qr4	Qr1	Qr2	Qr3	Qr4	Qr1	Qr2	Qr3	Qr4
B/P	2.4	1.7	0.3	-4.1	67.8	66.7	48.7	27.9	43.2	46.2	49.6	58.4
S/P	1.9	0.3	0.3	-2.5	70.7	55.7	48.8	31.0	50.0	52.6	55.3	64.7
E/P	1.9	0.3	-0.3	-2.0	65.2	56.1	44.3	35.2	31.3	32.4	35.6	43.5

Excess Ret & Hit Rate are relative to each Value Stock group (not MSCI univ)

Before moving on, we'll note that Operating CF/Equity, FCF/Enterprise Value, 4Q Operating Margin Change, and 6M Short Interest Change were also useful return and risk discrimination factors within value stocks.

If the analytical focus is only on risk reduction, the best predictors of relative return volatility among value stocks were Market Capitalization, 12M Stock Price Volatility, and EPS Forecast Dispersion. Value stocks ranked in the first quartile by these factors had average subsequent return volatility of only 29.5% (but slightly negative excess returns), while those ranked worst had average subsequent volatility of 66.4%. Value managers who rely primarily on fundamental analysis to pick stocks could benefit from using these factors to eliminate the riskiest stocks from further research consideration.

So far we've highlighted ten factors as being useful for screening within value stocks. What about the other 15 factors? A few were moderately effective in one way or another. For example, Earnings Quality (i.e., accounting accruals) and 1Y Forecasted EPS Growth were somewhat useful for predicting relative returns, but they were inversely related to future volatility. Long-term Debt/Assets and ROE were moderately useful in predicting future volatility, but perhaps surprisingly, Beta was not.

We would also like to mention several factors that were surprisingly ineffective in sorting return and/or risk among value stocks. Factors that measure recent external financing activity – 4Q LTD and 4Q Share Change – were uncorrelated with subsequent returns or volatility. The same observation holds for the 4Q Sales Change, 4Q EPS Change, and Last Q EPS Surprise factors that gauge recent top and bottom line growth. Finally, we found that price momentum factors were very unreliable for sorting value stocks. While price momentum was useful most of the time for predicting subsequent return and risk, these factors were absolutely

horrible going into and coming out of the 2001-2002 and 2008-2009 bear markets.

### Conclusions

Buying baskets of stocks that rank cheap on price-based metrics has historically been a successful strategy, but only for investors willing to endure long losing streaks and many individual stock blow-ups in their portfolios. Many academics and some practitioners use this evidence to argue that value stock outperformance is nothing more than “risk premium”. Regardless of whether value stock outperformance stems from mispricing or higher risk, statistically cheap stocks are an interesting hunting ground for stock pickers – lots of big winners and lots of big losers lurk within.

A pool of stocks with high idiosyncratic (i.e., stock-specific) risk is not where one might expect quantitative analysis to shine. But in this study, we have shown that quantitative factors can be effective discriminators of future return and risk within value stocks defined by book value, revenues, or EPS. Among fundamental factors, measures of quality (e.g., profitability, leverage) were somewhat predictive, but external financing and growth measures were not. Overall, we observed that investor sentiment and risk factors were generally more useful than fundamental factors, presumably because sentiment changes often lead changes in reported financials.

We find it interesting and satisfying to find that analyst forecast revisions and short interest were two of the most effective return and risk predictors within value stocks. Quantitative analysis is sometimes criticized for being based on backward-looking measures, but forecast revision and short interest factors capture forward-looking information from two informed market participants – brokerage analysts and hedge funds. Wise quants always include forward-looking factors in their models, and such factors are particularly useful for sorting among value stocks.

This study suggests a general approach more than a specific prescription for how value investors can avoid value traps. RIR's January 2019 Research Brief showed that the return and risk characteristics of value stocks vary according to how value is defined. Combining the insights from that study with this one, it is clear that smart quantitative analysis can help investors avoid value traps, and even shift the entire return and risk distribution of value stocks in a positive direction.