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The Value Factor is a Recipe for Small Returns

By: Roberto M. Croce, PhD

The early academic work in factors was critical to better understanding the market. However, it was also naïve in terms of investment implications. One particular factor from the Fama-French three-factor model, HML (High book value Minus Low book value first published in The Cross-Section of Expected Stock Returns, Journal of Finance 1992) or the value premium, is being misappropriated by practitioners to sell "smart beta" value products that the academic research, when fully understood, makes no suggestion would be successful.

There is not now, nor has there ever been, empirical support for naively tilting long-only equity portfolios toward the value factor. Many investors simply fail to realize that positive performance of the academic value factor, HML, is due to small cap stocks.

What's in a Factor

HML is long-short – it goes long cheap stocks and short expensive ones. A considerable portion of the performance comes from the short side of the factor. Consider the make-up of the small cap portion of HML. Half of the factor is comprised of small cap stocks, where:

- The average market cap of theoretical long positions is $500 million

- The market cap of theoretical short positions is $800 million

Compare that with the total investable universe and an obvious structural hurdle is clear: there aren't enough small cap companies to hold the dollars flowing to value-tilted portfolios.[1] It is not even remotely investable at scale.

|	Small Cheap	Small Expensive	Large Cheap	Large Expensive
Total Market Capitalization (mm)	$431,541.60	$662,296.54	$2,314,540.80	$18,060,149.97
In English	$431 billion	$662 billion	$2.3 trillion	$18 trillion
Fraction of Total US Stocks	1.5%	2.3%	7.9%	61.9%
Weight in HML Factor	50%	-50%	50%	-50%

Source: Ken French Data Library, Mellon Calculations. January 2020.

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When we deconstruct US equity performance more granularly by size and valuation, we see that, for large cap stocks, value has never been a significant predictor of performance. The same is true for large international stocks. Quantitative investors blindly using value as a predictor of excess returns are neglecting some key considerations.

The below figure shows the Sharpe ratio, by valuation quintile, for the smallest and largest 20% of US stocks by market capitalization.[2] The positive performance of the academic HML factor is driven by the very small stocks in green in the figure, and where small cheap stocks outperform small expensive stocks by about 0.4 Sharpe. Investors in value indices are overwhelmingly buying the blue line, where expensive stocks actually outperform cheap ones.

Value Factor (HML)

Sharpe Ratio of US Stocks Sorted on Size and Valuation
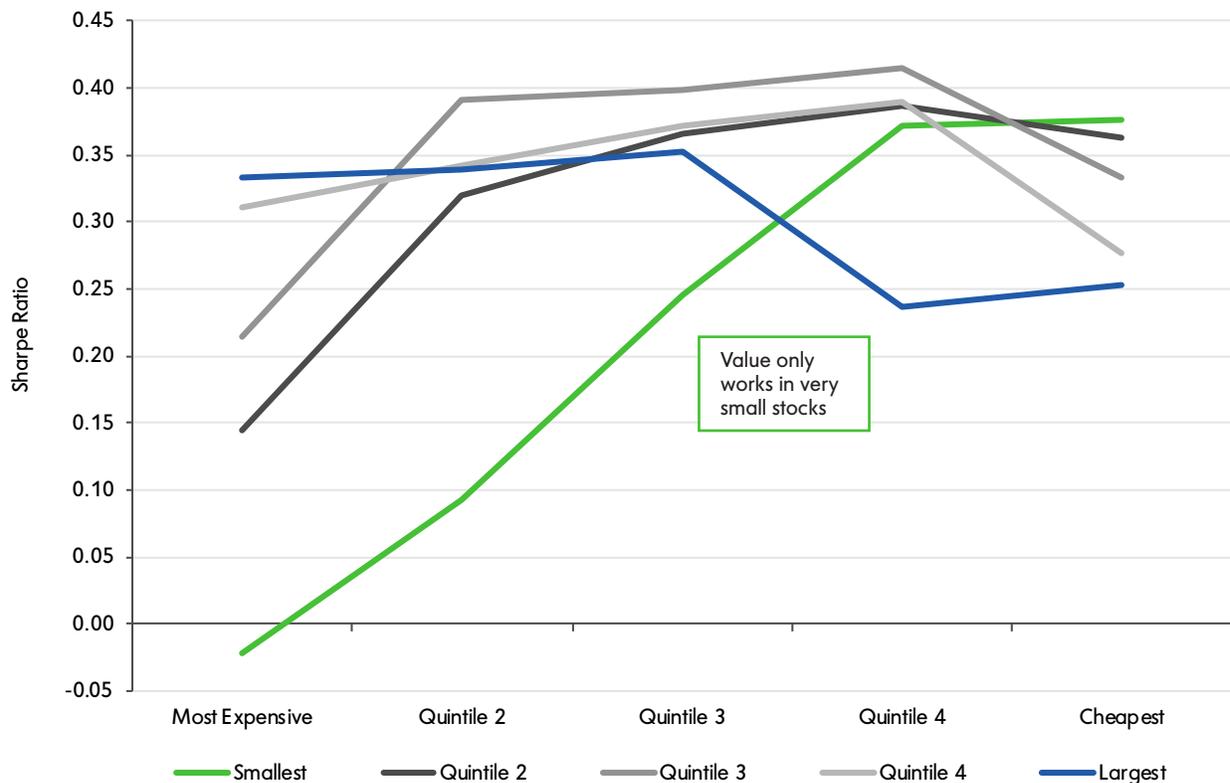
Market Capitalization	Most Expensive	Quintile 2	Quintile 3	Quintile 4	Cheapest
Smallest	-0.02	0.09	0.25	0.37	**0.38**
Quintile 2	0.14	0.32	0.37	0.39	0.36
Quintile 3	0.21	0.39	0.40	0.41	0.33
Quintile 4	0.31	0.34	0.37	0.39	0.28
Largest	**0.33**	0.34	0.35	0.24	0.25
Market Portfolio	0.36				

Source: Ken French Data Library, Mellon Calculations. July 1926 through October 2019.

While it's especially true for the value factor, most factors are poorly behaved, meaning that the expected Sharpe ratio is not linearly related to the level of the factor. Simply buying securities with the highest factor scores is not consistently effective. In fact, stocks with intermediate levels of HML – stocks that are neither very cheap nor very expensive – have historically performed a bit better than those at either extreme.

Across all common factors, simply avoiding securities in the poorest quintile of any metric significantly outperforms a portfolio naively sorted by the factor. We believe sorting on factor scores and buying the maximum in each factor is an inferior approach to applying a holistic understanding of where various equity factors are most effective. We believe that stock selection driven by a combination of factor scores with a nuanced understanding of how these factors have behaved historically, both on average and at their worst, is necessary in order to build portfolios with a real, demonstrated basis for expecting outperformance.

Factors can be effective at improving a portfolio's risk/return profile. Further, value plays an important role in many contexts, but we believe blindly applying factors without a nuanced understanding of the underlying conditions will have an adverse effect on returns.

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Rob is the senior portfolio manager for the Risk Parity and Managed Futures strategies at the firm. He is responsible for managing our suite of liquid alternative strategies and the development and maintenance of the underlying quantitative models. Prior to joining the firm in 2018, Rob was a managing director of quantitative strategies at Salient Partners. He was the lead portfolio manager on Salient's risk parity and managed futures strategies and co-portfolio manager on several other funds. In addition, Rob and his team built Salient's quantitative software and hardware platform from the ground up and continue researching potential strategy improvements and new products. Prior to joining Salient in 2011, Rob taught macroeconomics and finance at Ohio State University, published academic research and served as a research assistant. In 2010, Rob interned in the Strategic Research group at the Teacher Retirement System of Texas.

Rob earned both a master's and doctoral degrees in economics from Ohio State University and a Bachelor of Science in economics from Penn State University.

Endnotes

[1.] Investable universe is all US stocks traded on the NYSE, American Stock Exchange, or NASDAQ.

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Disclosure