



Does 1 and 1 really make 3 in value investing?

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- Traditional value strategies have resulted in relatively poor performance since the 07-09 Financial Crisis
- Some researchers and practitioners therefore claim to have found enhanced value strategies, that often combine valuation metrics with some kind of quality measurement to filter out "value traps"
- We find that a simple systematic enhanced value strategy does not outperform a comparable allocation to pure play value and quality portfolios
- Investors integrating both styles are unlikely to find alpha but merely end up with partial exposure to two factors

April 6, 2021

The poor performance of the value factor since the Great Financial Crisis has sparked a lot of interest in publications and investment products that advertise enhanced value strategies. These strategies usually differentiate between good and bad value stocks (also referred to as value Traps) by combining traditional valuation based screens with some kind of quality metric. We have tested a typical enhanced value strategy for the North American and European equity markets and find that the combination of value and quality metrics yields no improvement compared to a 50/50 allocation to comparable pure play value and quality portfolios.

1 The quest for the holy grail

With companies like Tesla or the FAANG stocks driving the markets from one all-time-high to another, value investors searching for cheap stocks have had a hard time. The idea that so called cheap stocks, meaning stocks that trade for low valuation multiples such as Price/Book or Price/Earnings, outperform their antagonists is as old as modern equity investing. The approach most prominently represented by the legendary investor Warren Buffett has inspired generations of investors.

In academia, Eugene Fama and Kenneth French ennobled the idea of a value premium with their famous three factor model (Fama and French, 1992). Nevertheless the performance of the value style after the Great Financial Crisis has been so poor that more and

more academics and practitioners have started to wonder whether buying cheap stocks still works (see for instance: *Is (Systematic) Value Investing Dead?*). Obviously though, the idea that in the long-run cheaper stocks (low valuation multiples) outperform more expensive stocks (high valuation multiples) is highly intuitive. Beyond that the value factor comes with a reasonable risk based explanation. Cheap businesses are usually cheap for a reason, for instance because they operate in a fundamentally challenged industry or face management or litigation issues.



It is usually assumed that investors who systematically pick up these stocks are exposed to greater bankruptcy risk. This risk based explanation for the value premium is complemented by a behavioral finance based argument. By definition Cheap firms tend to be rather unglamorous (low growth, capital intensive...) making it easy to dislike them.

For this reason it seems reasonable that they may be mispriced (too cheap for what they are) due to nega-

tive sentiment and the various career and reputation risks investors who buy them face. Researchers trying to "save" the value factor have therefore focused on two approaches to enhance the strategy.

- One approach focuses on the measurement of value. It assumes that traditional value metrics, especially the Price/Book multiple, may not adequately reflect the value factor anymore. This is supported by the notion that the large tech firms despite of their rapid growth and high profitability tend to report relatively low book values since their value consists of immaterial items such as brand names and data. Furthermore it is argued that the important network effects in tech lead to natural monopolies resulting in higher growth and margins that traditional value investors tend to underestimate. According to this school of thoughts, investors should therefore focus on the development of valuation metrics that better reflect the value of modern businesses. This can for instance be strategies that emphasize forward looking metrics that reflect future growth or earnings and cashflow based multiples as well as Price/Book multiples based on adjusted book value that tries to capture immaterial assets. Stephan Kessler, 2019 for instance analysed this topic extensively by testing more than 3000 strategies based on differently configured value metrics and found significant differences in performance including rather poor results for the popular Price/Book multiple.
- Another school of thought attempts to design better value strategies by differentiating between "good" and "bad" value stocks or stocks that are justifiably cheap because they are fundamentally challenged (value traps) and stocks that are exaggeratedly cheap. Even one of the fathers of value investing, Benjamin Graham, noted that investors in search for cheap stocks risk buying into dying businesses that look cheap but in fact are still to expensive given their dire outlook (Klerck, 2020). The solution is usually assumed to be a combination of value metrics with some kind of quality indicator. Advocates of such enhanced value strategies assume for instance that struggling firms that however are still profitable and have low financial leverage are more likely to survive dry spells and make a comeback at some point in time. This idea forms the basis of a wide range of more or less famous enhanced value strategies such as Joel Greenblatt's "Magic Formula".

2 Testing enhanced value

In this paper we are focusing on the second approach. For this we have tested and compared the performance

of 8 distinct strategies on firms in Western Europe and the US. While many researchers have focused on the comparison between simple value portfolios and a combination of quality and value (see for instance *Good versus Bad Value Stocks*), we also analyse how the integrated value/quality portfolio compares to a pure play quality approach.

2.1 Study design

| Portfolios | |
|----------------------|--------------------------|
| Best | Worst |
| Value | Expensive |
| High quality | Low quality |
| Value + High quality | Expensive + Low quality |
| Value + Low quality | Expensive + High quality |

Table 1: Portfolios formed on value and quality metrics

In this context we define value as an equal weighted mix of Earnings Yield (the reverse of Price/Earnings) and Free Cashflow Yield (the reverse of Price/Free Cashflow). This takes into consideration some of the findings of Stephan Kessler, 2019 that favor earnings and cashflow based metrics. We note the fundamental flaws of Price/Book multiples and therefore sustain from using it.

We define quality as a mixture of high EBIT margin (EBIT/Sales) and low financial leverage (defined as Debt/Equity). To obtain tradable portfolios, we exclude all stocks with a market cap of less than EUR 1bn as well as all stocks with a share price of less than EUR 1 and a 30 day average trading volume of less than 0.5m shares. Furthermore we form two distinct samples based on firms incorporated in North America and Western Europe thus resulting in 16 portfolios. Stocks are ranked sequentially and excluded according to the value and quality metrics in a way that results in portfolios of approximately 200 stocks as of today and still about 100 in the year 2000.

The size of our factor portfolios is thus comparable to that of a usual portfolio run by a systematic investor. By testing roughly equally sized portfolios we also ensure greater comparability especially with respect to observed risk. To maintain approximately equal portfolio

| Selected percentiles/cutoff values | | |
|------------------------------------|---------------|---------------|
| Approach | Europe | North America |
| 1 Step | 25% | 10% |
| 2 Step | 50% each step | 35% each step |

Table 2: Portfolio top respectively bottom cutoff percentiles

size across all 8 strategies and both regions we selected the following cutoff percentiles. All portfolios are equal weighted and rebalanced on a monthly basis. We note that this results in high turnovers which investors in

practice will try to avoid. We also disregard transaction cost. This means for the simple value and quality portfolios (Value, Expensive, High Quality, Low Quality) we use the top, respectively bottom ranked 10% of stocks in North America. For the comparable European portfolios we use the top, respectively bottom 25% of European stocks. For the integrated value/quality portfolios (Value & High Quality, Value & Low Quality, Expensive High Quality, Expensive & Low Quality) we use a two step process that, in each step, selects the stocks that fall into the top, respectively bottom 35% range in North America. For the comparable European portfolios we use the top, respectively bottom 50% of European stocks.

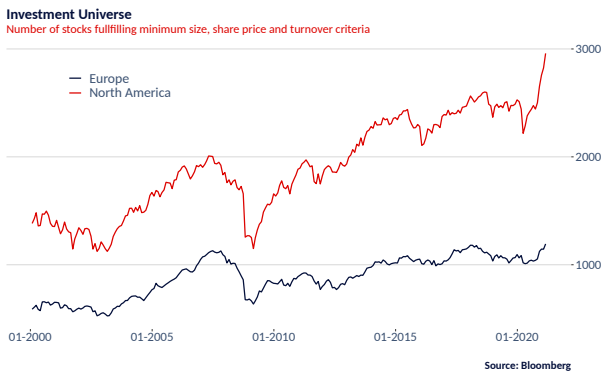


Figure 1: Number of stocks in universe
Source: Bloomberg, Amadeus Quantamental

The cutoff values are thus more restrictive for North America than for Western Europe due to the higher number of stocks in this region. Figure 1 shows the number of stocks that fulfill the minimum requirements concerning market capitalization, share price and turnover and that are thus included in the universe.

2.2 Portfolio Performance

Figure 2 and Figure 3 summarize the cumulative performance of the European and North American portfolios formed on the selected value, quality and combined metrics. The charts clearly show why so many investors still get excited about the value factor.

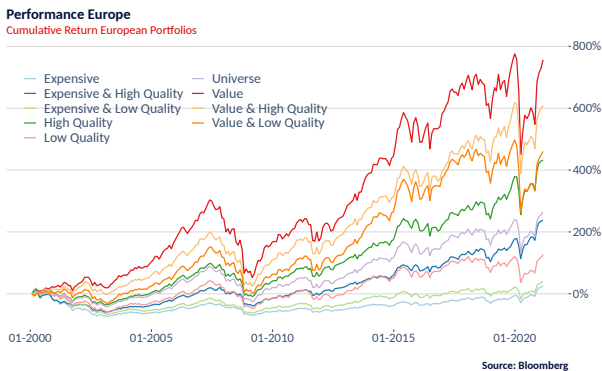


Figure 2: Cumulative return Western Europe
Source: Bloomberg, Amadeus Quantamental

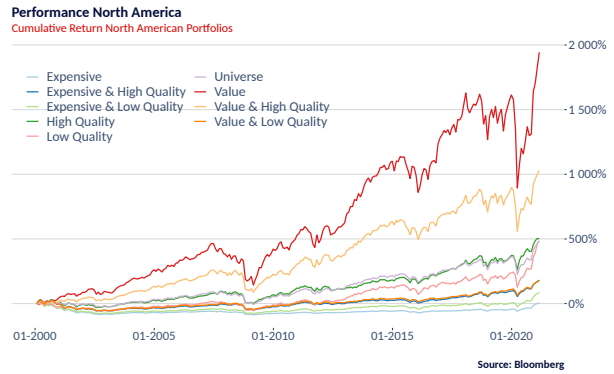


Figure 3: Cumulative return North America
Source: Bloomberg, Amadeus Quantamental

Since 2000, which admittedly marks the height of the Dot-Com bubble, value stocks have performed remarkably well. A comparison with the performance of the respective universe (Figure 4 and Figure 5) also highlights though that the performance of the factor has experienced large swings with phases of strong outperformance being followed by painful periods of heavy underperformance. Interestingly, while our pure play quality portfolio has clearly outperformed the universe in Western Europe, this is not the case in the US.

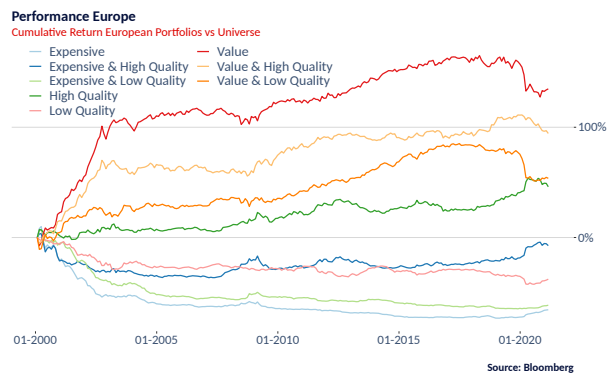


Figure 4: Relative return Western Europe
Source: Bloomberg, Amadeus Quantamental

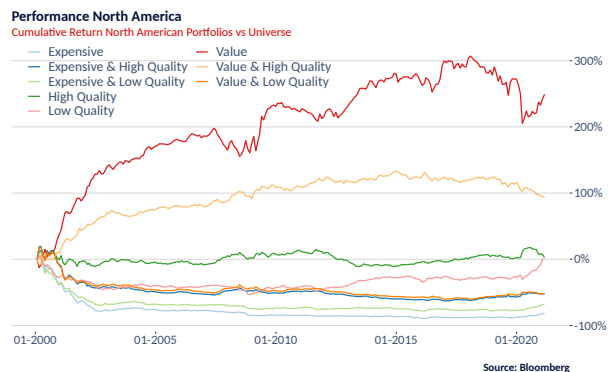


Figure 5: Relative return North America
Source: Bloomberg, Amadeus Quantamental

2.3 A word about risk

Figure 6 and Figure 7 report average risk over the covered sample period. We measure portfolio risk as the standard deviation of total portfolio return. Not surprisingly we find that the High quality portfolios (higher margin and lower debt) are less volatile than the lower quality portfolios. This is the case in the US as well as in Europe.

We also find that the integrated value high quality portfolio is less risky than the pure play value portfolio. This confirms that investors can indeed reduce risk by adding quality metrics to their value screens. For the North American sample the integrated value High quality even shows lower average risk than the pure play quality portfolio. The antagonist of the pure play value portfolio (Expensive) scores poorly not only in terms of returns but also in terms of risk across both regions.



Figure 6: Average annualized standard deviation of returns Europe
Source: Bloomberg, Amadeus Quantamental

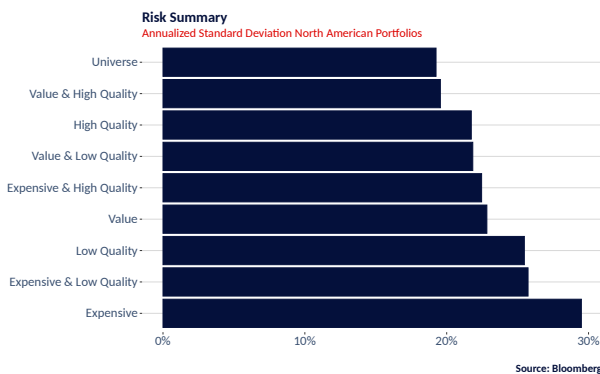


Figure 7: Average annualized standard deviation of returns
Source: Bloomberg, Amadeus Quantamental

3 Mixing betas does not create alpha

Our tests confirm that a combination of value and quality has brought strong performance and a lower risk than a pure play value approach. This could indeed indicate, what many researchers claim, that by systematically filtering value stocks for High quality, investors

manage to filter out so called value traps and end up with superior portfolios. However, we go one step further and compare the performance of our integrated value High quality portfolios with the performance of a 50/50 allocation to the pure play value and the pure play quality portfolio (referred to as the mixed portfolio). The results are reported in Figure 8 and Figure 9. In both regions we observe a remarkably high correlation between both approaches. In the US, the mixed approach actually outperformed the integrated portfolio.

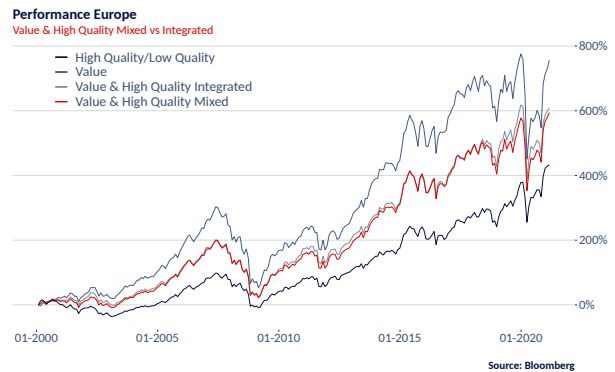


Figure 8: Mixed vs Integrated Europe - "Mixed" means 50% pure play value 50% pure play high quality
Source: Bloomberg, Amadeus Quantamental



Figure 9: Mixed vs Integrated North America - "Mixed" means 50% pure play value 50% pure play high quality
Source: Bloomberg, Amadeus Quantamental

In other words it doesn't matter whether an investor applies a quality filter to a value screen or separately buys the cheapest and the highest quality stocks. In both cases the output is a Multi-Factor portfolio that provides partial exposure to both styles. Aside from benefiting from the lower volatility of defensive quality stocks, this Multi-Factor portfolio tends to be less risky because of diversification across the two factors.

However, if the integration of value quality was some kind of "Magic Formula" that effectively filters out value traps we would expect it to outperform the mixed portfolio which means to generate alpha. The reality is disillusioning. Adding the quality filter to the value strategy does not generate superior performance but merely dilutes the value strategy.

4 Conclusion - diversification benefits but no magic

We have analyzed whether the addition of quality metrics to a value screen results in superior risk adjusted returns. For this we have tested the performance of 8 distinct value, quality and integrated value/quality portfolios formed on North American and European stocks. While we can confirm that the integration of quality in a value strategy results in lower risk, we also find that this integrated approach does not outperform a mixed approach that separately allocates to pure play value and quality portfolios. This indicates that the integration of value and quality metrics does not result in alpha generation but merely provides the investor with exposure to a different set of style betas.

Obviously such a Multi-Factor strategy can dominate single factor approaches mainly due to diversification benefits - or let's say 1+1 can make 2.5. Our results are in-line with the findings of David Blitz from Robeco who shows that there is no clear domination between mixed and integrated approaches to factor investing (*Mixed versus integrated multi-factor portfolios*). Investors may prefer one approach over the other depending on various factors such as their IT and trading systems. For a stock picking investor, an integrated approach may be easier to implement. It is also more viable as a pre-screening tool for more fundamentals driven investors. On the other hand, market participants who seek factor exposures through ETFs or attempt to time their factor bets are likely to prefer a more flexible mixed strategy.

Most importantly we find that investors should be very cautious in regard to (often expensive) "magic formula" products that claim to have discovered superior, alpha generating value strategies.

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