

MAER: A MULTI-FACTOR STOCK SELECTION MODEL

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MAER: A multi-factor approach to stock selection

One of the key concepts underlying the Mill Street Research stock selection model, MAER (from its original name, the Monitor of Analysts Earnings Revisions), is a multi-factor approach. That is, **we find better results when multiple return drivers align than for any single factor by itself**. This is also true of our asset allocation models as the same principles apply.

We are, of course, not alone in this view as many other firms employ a multi-factor approach as well. Conceptually, this stands to reason under the simple assumption that there is likely to be more than one “real” factor affecting returns, i.e., an actual behavioral anomaly that can produce risk-adjusted excess returns over time. If one assumes that there is more than one legitimate factor (however many there might be), then **using any single factor alone (even if it is assumed to be the strongest single factor) will almost by definition run the risk of being diluted or outweighed by failing to account for the other factors**.

On the following page, we describe some of the benefits we find in using a multi-factor approach and the factors we use in the MAER Ranking Model.

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The benefits of combining multiple factors

Perhaps the most obvious example of the multi-factor approach for stock selection is **the use of momentum and value factors together**, which we do in the MAER model. Stocks with strong momentum (a good thing on average for intermediate-term returns), whether earnings momentum or price momentum, will often have higher valuations (a bad thing on average). Conversely, statistically cheap stocks (low price relative to fundamentals) will often score poorly on momentum-related metrics.

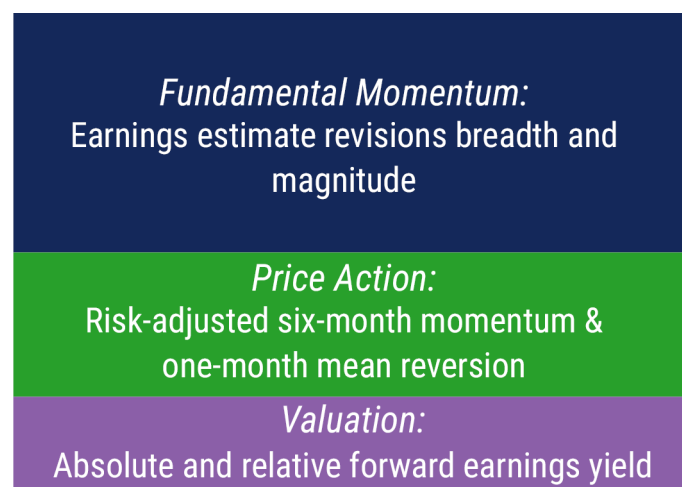
Assuming both momentum and value factors are legitimate drivers of returns (even if they might each work best under different conditions, and abstracting from the exact implementations), **using either one by itself almost guarantees that the other factor will offset some of the potential outperformance** (buying expensive stocks in the momentum portfolio, or value stocks with poor momentum). This is why many quant models use a multi-factor approach and aim to incorporate weakly- or negatively-correlated inputs such as momentum and value (though factor correlations are not always stable, as recent history reminds us).

The same principle applies even within a broad factor category like momentum. The MAER model, for instance, uses **earnings estimate revisions trends (earnings momentum) as the primary driver** but also uses a proprietary risk-adjusted price momentum input as well. **Combining earnings and price momentum yields better results than either individually**, as it helps find stocks whose price action is in fact supported by fundamental trends (and thus more likely to persist), and conversely avoids stocks whose price action does not align with the trend in analyst forecasts.

Our price momentum factor, which we call Alpha Momentum, also removes much of the beta and style influence from the price momentum calculation and thus **adjusts for the beta bias often found in standard price momentum strategies**. Since exposure to beta itself is not a persistent source of excess returns (indeed low beta/low volatility is a well-known factor strategy), reducing its impact on our momentum calculation also improves risk-adjusted returns for the model by correcting for the unintended bets on beta (which can be positive or negative depending on the market environment) that standard momentum strategies typically carry, i.e., the impact of infrequent but harmful “momentum crashes” that afflict momentum strategies is sharply reduced. And the MAER model also includes both absolute and relative valuation metrics in order to avoid the most expensive stocks and identify those for which favorable fundamental trends may not be fully priced in.

Thus one of the most important principles we use in our model construction is to **keep in mind not only which factor(s) to use** for our intermediate-term (3-6 month) forecasting horizon, **but also which we might be missing that could impact the model's efficacy**. While the debate about which factors are the “true” drivers of returns may never be settled, our research, along with that of others, suggests estimate revisions, price momentum and valuation are useful for stock selection on an intermediate-term (3-6 month) time horizon and are best used together to avoid diluting the efficacy of the individual factors. More details about our work are available on request.

Building Blocks of Mill Street's MAER Stock Ranking Model



The size of each block reflects the relative importance in the model.

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