Summary

Media Makes Momentum

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The momentum effect is among the strongest and most pervasive return anomalies. While its existence has been convincingly documented in different time periods, countries, indices, and asset classes, a central issue is still far from being resolved: what are the underlying causes of momentum? Why exactly do winner stocks of the recent past tend to outperform loser stocks of the recent past? We employ an extensive media data set to shed new light on this long-standing debate.

Recent research demonstrates that media coverage directly affects the way in which investors collect, process, and interpret information. Collectively, findings suggest “a potentially important role for the media in shaping the behavior of the stock market” (Hong and Stein (2007), p. 118). The interesting link to the momentum literature lies in the fact that investors’ attention and information processing also play a crucial role in prominent behavioral theories of momentum as we describe in detail in the paper. For our study, we rely on a novel and carefully constructed data set of newspaper articles. It comprises approximately 2.2 million news stories in four leading national as well as 41 local U.S. newspapers from 1989 to 2010, which we match to 7,815 firms. The essence of our findings is captured in the following figure:

The cumulative profits for a winner minus loser long-short portfolio are displayed separately for stocks in the highest media coverage quintile (red solid line) and lowest quintile (black solid line). Media coverage is based on the number of firm-specific articles in the New York Times, the USA Today, the Wall Street Journal, and the Washington Post, published in the six months of the
return formation period. Importantly, we rely on a residual from cross-sectional regressions which control for firm variables known to drive the probability of being covered (most notably firm size). The basic advantage is that we can better isolate the true impact of (excess) appearance in the media.

The plot reveals a clear and economically strong positive relation between residual media coverage and the size of initial momentum profits and subsequent reversal. The winner minus loser spread amounts to approximately 6.3% after six months in the high media coverage portfolio, but only to 2.1% in the low media coverage portfolio. The resulting 4.2% return difference closely corresponds to a monthly return spread of 68 basis points (bp) that we obtain using the standard momentum portfolio construction approach. The difference in momentum profits mostly can be attributed to the winner side, it is economically large (the unconditional momentum return over the sample period is just 65 bp per month), and highly statistically significant with a t-statistic of 3.7.

However, this media-based momentum is not a permanent effect. Ten months after portfolio formation, the reversal begins for both momentum portfolios, but it is substantially stronger in the high media coverage portfolio. As a consequence, the cumulative return difference between both portfolios shrinks towards zero after 36 months. The overall pattern in figure 1 is very robust. Given the endogeneity of press articles, we are careful in making sure that we do not simply pick up a spurious correlation between media coverage and momentum. For instance, newspapers may be more attentive towards firms that did particularly well or poorly in the recent past. If the extremity of past returns was also systematically related to momentum profitability, then not controlling for this effect would lead to the incorrect conclusion that media coverage per se, and not its interaction with formation period returns, causes stronger momentum. However, controlling for formation period returns and further firm characteristics that have previously been related to momentum profits confirms that it is indeed media coverage per se that enhances momentum.

Our baseline findings of momentum and reversal effects that are (all else equal) more pronounced for firms with high media coverage are suggestive of an overreaction explanation in the spirit of Daniel, Hirshleifer, and Subrahmanyan (1998). The authors advocate a model in which momentum arises as a result of two central investor biases: overconfidence and self-attribution. Mistaken beliefs lead investors to overweight (underweight) subsequent public signals that confirm (contradict) their initial private information. Confirming news will be considered as evidence of one’s own skills, whereas disconfirming news will largely be neglected. As a consequence, overconfidence increases even further and prices temporarily overshoot, before the mispricing is gradually corrected.

Coverage in popular newspapers catches investor attention and may also be seen as an indicator that a firm is in the spotlight of public discussion. At the same time, and as recent literature shows, press articles in popular newspapers often contain rather vague, ambiguous, or simply stale information that is less value-relevant. This suggests that media coverage (in contrast to e.g. newswires) might be considered to be a good proxy for attention to stale news about a firm. Moreover, there is ample evidence that individuals tend to be particularly overconfident and overreactive in settings where more judgment is required in order to evaluate ambiguous information. While the first signal in Daniel, Hirshleifer, and Subrahmanyan (1998) is referred to
as “private”, it really reflects intangible or vague information that could appear in public sources. Hence, in the context of the model, articles in newspapers measured during the momentum formation period might be best thought of as the first signal that acts as a confirmation device when later public, tangible, informative signals arrive.

In addition to our baseline analysis, we design several tests aimed at exploring how investor overconfidence, a central ingredient in the model, influences the magnitude of media-based momentum. In this in-depth analysis, we exploit unique features of our media data as an attention proxy.

As such, we first evaluate the qualitative content of the articles using the dictionary method developed in Loughran and McDonald (2011). Their approach relies on the number of positive and negative words in a given text. Our results, which are depicted in figure 1 as well (red dashed line), indicate that both media-based momentum and subsequent reversal are stronger among the subset of stocks for which the article tone matches the formation period return. This finding is consistent with the idea that an initial media-based signal for a winner stock might be seen as more (less) favorable if the tone is also particularly positive (negative). Second, we find that our results are roughly twice as large for stocks with high information uncertainty as for stock with low uncertainty. Third, we use local newspaper coverage to document that media-based momentum tends to be stronger among U.S. states with higher individualistic tendencies, a personal trait that is arguably positively related to overconfidence (see e.g., Chui, Titman, and Wei (2010)). Overall, substantial evidence indicates that the media’s role on momentum profits can be explained by investor overreaction and that overconfidence appears to be a major driver behind this effect.

In addition to our contribution to the momentum literature, our paper is also linked to the emerging literature on the role of media in financial markets. Indeed, there is a controversial debate on whether media coverage makes capital allocations more efficient. On the one hand, coverage has been argued to disseminate information to a broad audience and to potentially lead to faster diffusion of new information. On the other hand, recent work has also identified a “dark” side of media coverage by arguing that it can induce temporary stock price distortions. This stream of the literature suggests that popular press coverage may contribute to investor biases, such as overreaction to stale information. Indeed, our results suggest that it is not always the “neglected corners” where the violation of the weak form of market efficiency is particularly pronounced. Instead, excess media coverage seems to exacerbate investor biases so that momentum and reversal effects can be strongest for firms in the spotlight of public attention.

References


