

GLOBALIZATION OF INFORMATION MOMENTUM

January 2023

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To reduce portfolio volatility and provide greater diversification relative to the Value factor, we refined the input set and introduced a new Growth factor called Information Momentum into our US strategies in 2021 (see [Information Momentum Refined: Less Volatility, More Diversification](#)). We expanded beyond earnings-related information, near-term fundamentals and measures that rely on sell-side analysts, to include a wide range of data, such as industry-specific metrics, which have longer-term implications. The result was a refined Information Momentum factor that is negatively correlated with our Value factor and is more robust, less volatile and a more powerful predictor of stock prices than typical Growth factors.

The motivation for refining the factor was to introduce incremental Growth insights utilizing different techniques and data sources. The intention was to produce a factor that captured Growth insights but that was more 'stable,' allowing portfolios to have greater Growth exposure without increased turnover. Given the encouraging results of the factor since its introduction, we broadened our research exploration of the factor across the EAFE and Emerging Markets universes.

Recap of Information Momentum

At PGIM Quantitative Solutions we quantify Growth via fundamental information (see [News, Not Trading Volume, Builds Momentum](#) and [Price Momentum or Information Momentum](#)). Stock prices are driven by revisions in earnings multiples and in fundamentals (expectations), which change as new information becomes available. Information-driven price behavior helps avoid 'crash risks' associated with multiple expansion (and what impacts performance of traditional Price Momentum measures). As such we can capture the 'good' momentum without the heightened risk.

There are several approaches to measuring new fundamental information: earnings revisions and price target revisions as well as information and sentiment gleaned from earnings conference calls.

However, a limitation of these conventional indicators is that they are typically focused on short-term events. For example, revisions to 12-month EPS capture information relevant to only the next 12 months. The incomplete explanatory power of these conventional Growth indicators suggests that something else lies behind stock price performance that has not been fully measured.

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We believe a more thorough explanation for stock performance may lie in a richer set of information events, specifically, information found outside of conference calls and sell-side analysts' interpretations of revisions to earnings and price targets. By extending beyond earnings-related information, near-term fundamentals and measures that rely on sell-side analysts, we've refined the Information Momentum factor and improved our Growth factor category, leading to better diversification within our alpha model.

Why it works

Price movements in stocks should be appropriately reflected by the occurrence of key fundamental events. Price movements that occur outside the scope of key events are more likely to be noise (i.e., transitory price movements). Two particular characteristics make it possible to exploit the momentum of information events: First, markets often underreact to new information; that is, markets don't fully price in new information when it is revealed. Therefore, investors are often able to take advantage of additional price movements over time. Second, information is often autocorrelated such that good information begets more good information. The same is true for bad information. Thus, investors who respond early may benefit later as prices react to additionally released information.

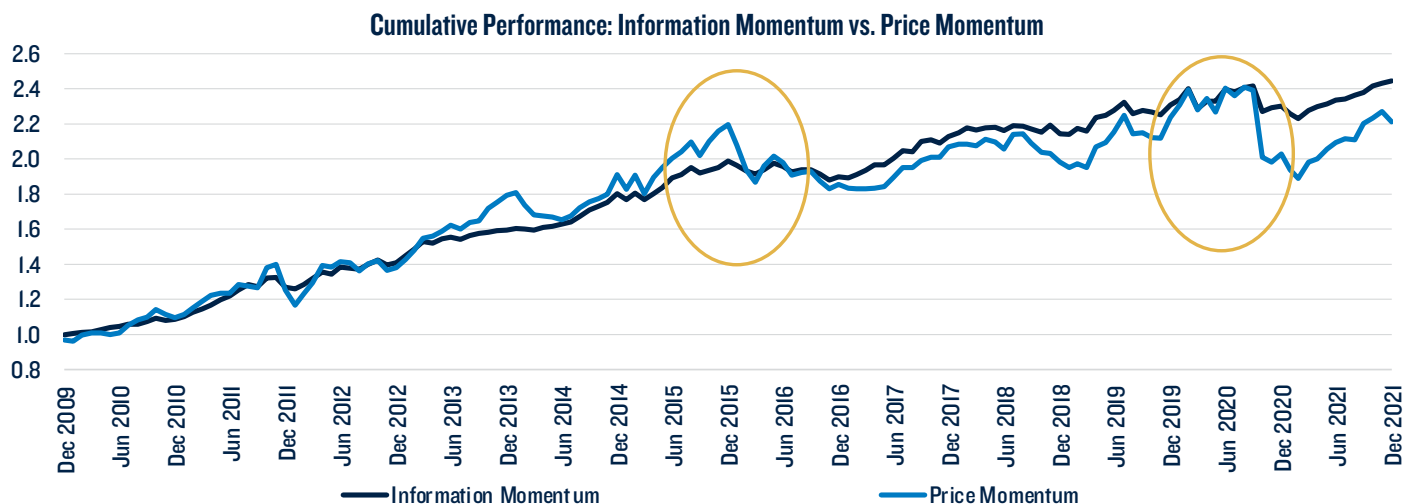
Going Global with Information

A challenge of globalizing the Information Momentum factor is ensuring a robust set of information events. To address this, we incorporated two data-related enhancements into our original Information Momentum factor. First, we added an additional event data source. Second, we incorporated new fundamental events into our original set of events.

By incorporating additional data sources and broadening the set of information events, our global Information Momentum factor enjoys strong coverage. Coverage has consistently improved over time to a level of more than 95% across all major indexes. We further examined coverage at the sector level to evaluate whether the prevalence of information events varies across sectors. Encouragingly, we found coverage across all global sectors to also be above 90% in recent years, indicating unbiased identification of events across all sectors.

A benefit of focusing on fundamental information (on which Information Momentum is based) rather than sentiment is that our Information Momentum factor not only has lower performance volatility but also lower drawdowns. Figure 1 demonstrates these differences in drawdowns for the MSCI ACWI IMI universe. We plot the cumulative spread performance of Information Momentum and Price Momentum. While total cumulative performance is generally comparable throughout the period, there are several pronounced differences: At the beginning of 2016 as markets began to reflate following the global growth shock of late 2015, Price Momentum experienced a significant drawdown. Similarly, in 2020 following the COVID shock and subsequent rebound, Price Momentum again struggled. In contrast, Information Momentum navigated these episodes much more effectively. This reinforces the concept that Information Momentum helps exploit 'good' momentum and avoid 'bad' momentum. This is also reflected in factor score correlations. Information Momentum has a correlation of approximately 50% with Price Momentum, demonstrating that Information Momentum filters out the sentiment.

Figure 1:

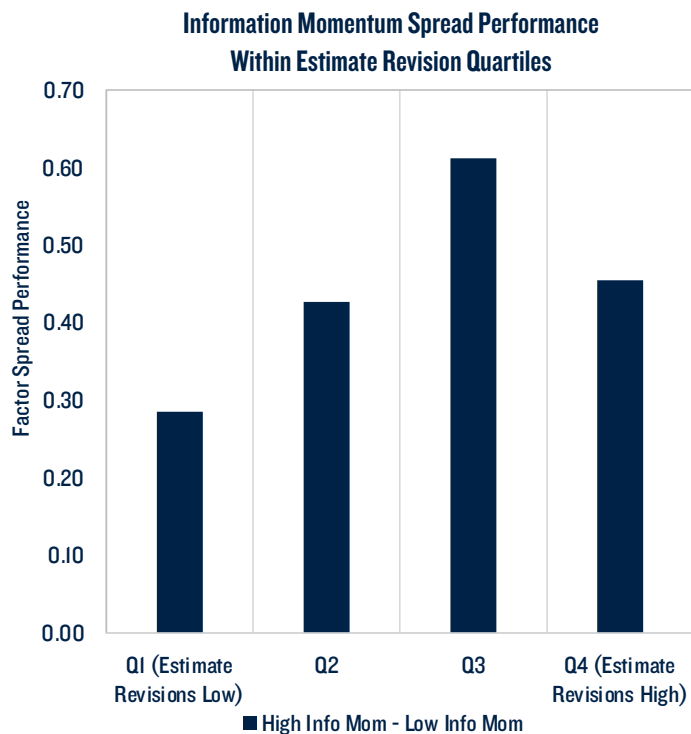


Sources: PGIM Quantitative Solutions, Bloomberg, Datastream, IBES, MSCI, S&P. Data from 1/1/2010 – 1/31/2022. For illustrative purposes only.

Combining Estimate Revisions and Information Momentum

Estimate Revisions and Information Momentum are positively correlated, but Information Momentum utilizes a broader set of fundamental events, and therefore has incremental explanatory power to Estimate Revisions. To discern how information is incremental to Estimate Revisions, we begin by sorting our investment universe (MSCI ACWI IMI) into quartiles based on Estimate Revisions. We then sort each estimate revision quartile based on Information Momentum. The question we seek to answer is whether there is a meaningful performance difference between high Information Momentum and low Information Momentum stocks within each Estimate Revision quartile. We found that the Information Momentum factor showed incremental insights within each Estimate Revision quartile (Figure 2), which is important because this reflects the additional information events captured by Information Momentum and the distinctive method used to extract the information content of an event (rather than relying on analysts' EPS revisions). This is consistent with the correlations we observe between factors. Information Momentum and Estimate Revisions are correlated at approximately 30%, so while they align with our broad growth theme, they capture different elements. This indicates that the Information Momentum factor could complement our existing growth factors and help strengthen growth exposures in portfolios we manage.

Figure 2:



Sources: PGIM Quantitative Solutions, Bloomberg, Datastream, IBES, MSCI, S&P. Data from 1/1/2010 – 1/31/2022. For illustrative purposes only.

Putting it All Together

Following our success of diversifying Growth insights in the US, we extended our research to global universes. We evaluate a rich set of information events beyond what analysts reveal – earnings related and non-earnings related – to determine how this information could drive future price movements. The Information Momentum factor captures a broader set of growth insights and allows for greater portfolio stability. Across a broader global universe our research finds similar results to our initial US study; that the factor has similar returns to both Estimate Revisions and Price Momentum, but lower tracking error compared to Price Momentum and much lower decay than Estimate Revisions. Given these encouraging results we are continuing our research to determine whether the globalized Information Momentum factor will translate into better performance and diversification benefits across our EAFE and Emerging Markets portfolios, as has been the case in our US portfolios, providing smoother returns when the Value factor is underperforming.

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