## HOW INVESTMENT ANOMALIES WORK

Jeremy Schwartz - Global Chief Investment Officer 10/03/2019

For the fifth consecutive year, we were able to broadcast our *Behind the Markets* podcast live from the Wharton-Jacobs Levy Center's annual conference for quantitative finance in New York.

A broad theme of the conference, including this year's award-winning research, focused on investment anomalies, and we had three great guests discuss their work:

- Ray Ball, of the University of Chicago's Booth School of Business, was presented with the Wharton-Jacobs Levy Prize for Quantitative Financial Innovation. Over 50 years ago, Ball wrote a seminal paper linking accounting data to stock price returns, including how stock price changes follow changes in underlying earnings.
- Matthew Ringgenberg, an associate professor of finance at the University of Utah, presented a paper titled "Anomaly Time."
- Mihail Velikov, an assistant professor of finance at the Smeal College of Business at Penn State University, gave a trading cost perspective on anomalies.

## Anomaly Work

Ringgenberg loves asset pricing research and the great outdoors, so Utah was a perfect place for him to move to. He has looked at the hundreds of publications on investment anomalies that have recently come under attack for failing to replicate the trend post-publication. Ringgenberg's work centers upon whether these anomalies are real or just spurious correlations.

His paper questions the approach many academics use in conducting their studies and finds that the rebalancing assumptions for academics often differ dramatically from the real world. When using point-in-time data from Compustat, Ringgenberg found that anomalies were, in fact, real. He focused on anomalies that used only accounting data in their assessments, such as growth in assets and sustainable profit margins, rather than prices.

Ringgenberg's work concluded that one has to trade very quickly after information is released, and over time one has to trade even sooner, as the anomaly returns come in the first few weeks after data is updated.



Velikov also studied anomalies, but from a trading cost perspective. Velikov studied under Robert Novy-Marx at the University of Rochester, where he was also focused on the trading costs of anomalies. In his paper with Andrew Chen of the Federal Reserve, Velikov looked at over 120 different investment anomalies. These anomalies averaged 60 <u>b</u> asis points (bps) a month of gross (pre-trading cost return) during the period evaluated in their papers and only 30 bps per month after the papers were published. When factoring in some of the trading costs, Velikov's work implied there was more like 4-12 bps per month to be earned by the average investor in the average anomaly. The paper highlighted the need to be smart about rebalancing and trading costs when trading on factor research.

Finally, the third guest on our program was Ray Ball, one of the original quantitative finance researchers. Back in the late 1960s, there was a view that accounting measures were useless for evaluating stock prices, but there was also a lack of systematic analysis at the time. Ball filled this gap with a rigorous look at how stock prices tracked earnings releases, and he found that earnings were a critical variable for driving stocks.

When asked what paper of his Ball is most proud of, he mentioned that he wrote a paper that began the trend in quantitative financial research analyzing anomalies in the late 1960s. One of the "anomalies" he found for the <u>efficient market hypothesis</u> is that stock prices continue to keep rising after a positive earnings announcement rather than readjusting immediately. Ball apologizes for the "anomaly zoo" that followed his early work.

Ball updated a 50-year review of his original work recently, looking at how his model applied to 16 Pacific region countries, like Malaysia, Japan, Indonesia and Singapore. The results were replicated, both in the last 30 years and across the selected region of countries.

These were great conversations, and we thank our guests for joining us. Please listen to the conversations below.



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<u>Factor</u>: Attributes that based on its fundamentals or share price behavior, are associated with higher return.

<u>Efficient Market Hypothesis</u>: Current share prices correctly reflect all available information about publicly traded firms and continually incorporate the emergence of new information on a nearly instantaneous basis; there are no bubbles, and firms are neither expensive nor inexpensive.

