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PRACTITIONER'S BRIEF

THERE'S A PLACE, AND A TIME, FOR STOCK MISPRICINGS

CHINA, DURING OIL PRICE SPIKES

By Rich Blake

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> *This article is based on the paper "Oil Prices and Stock Market Anomalies" by Muhammad Cheema and Frank Scrimgeour, both professors at the School of Accounting, Finance and Economics, University of Waikato in Hamilton, New Zealand.*

> *This paper was presented at the 23rd Annual (2019) New Zealand Finance Colloquium and is currently posted on the CFA Institute Asia-Pacific Research Exchange (ARX). It's the recipient of the CFA Institute ARX Best Paper Award.*

Over the decades, academic researchers have exhaustively explored stock market anomalies.

These windows of upside – fleeting pockets of mass mispricing – have been subdivided into alpha-explanatory categories sometimes called mispricing factors or just factors (e.g., "momentum").

An entire segment of the money management industry ("smart beta") has flourished around identifiable anomalies such as momentum (when recent winners outperform recent losers).

Curiously, however, according to much scholarly research, anomalies seem to have gone missing in China. Picking up the trail are Muhammad Cheema and Frank Scrimgeour, both professors at the School of Accounting, Finance and Economics, University of Waikato.

Pouring over existing evidence, they asked why the second-largest economy in the world would be so weakly impacted by anomalies relative to the United States and Europe.

Could it be that there were, indeed, anomalies in China if you knew where to look or, rather, *when to look*? What Cheema and Scrimgeour found is the subject of this installment of the ARX Practioner's Brief.

WHAT'S THE INVESTMENT ISSUE?

How to spot incorrectly priced stocks in China, it turns out, is closely intertwined with a market peculiarity of a different sort, this one pertaining to crude oil prices affecting the direction of the stock market – which, quantitatively, seems to occur only in China.

"The positive impact of crude oil prices on the Chinese stock market is widely documented," the authors write in their paper, "Oil Prices and Stock Market Anomalies," published earlier this year. "Whereas there is a scant evidence available on the positive impact of crude oil price on the US and European stock markets."

Although consensus has not been reached as to whether the relationship between oil prices and Chinese stocks is positive or negative, one prevalent school of thought holds that falling oil prices can be interpreted by investors as evidence of declining economic activity. Thus, rising oil prices would, by contrast, signal an economy on the rise. In this sense, at least it would seem, investor expectations are what might be positively influencing stock returns.

The authors aren't necessarily out to test this thesis; instead, accepting it as a given, they are keen to figure out what it means in relation to anomalies – specifically, might they be stronger following an increase in oil prices?

HOW DO THE AUTHORS TACKLE THIS ISSUE?

Focusing on those pricing anomalies deemed to be most firmly established in academic literature, the authors settle on 12: momentum, of course, as well as net stock issues, composite equity, accruals, net operating assets, gross profitability, asset growth, return on assets, investment to assets, maximum daily return, idiosyncratic risk, and low volatility. From this dozen, the authors build a "mispricing score" filter, which is based on composites of all 12 anomalies. Next, they sort Chinese stocks over a long-term period (May 1996–December 2017) based on the mispricing scores, which have been based on the multi-mispricing-factor models put forth in the past decade by the Wharton School's Robert Stambaugh and Yu Yuan.

Putting the Stambaugh–Yuan multifactor approach to work in China against the backdrop of rising/falling oil prices, Cheema and Scrimgeour run simulations of long positions on underpriced stocks and short positions on overpriced stocks. They also screen stocks based on each anomaly, asserting that the return difference between the long and short position represents the return predictability of each of the 12 anomalies.

THE FINDINGS

Half of the anomalies do not appear to be positively correlated, whereas long-short returns of anomalies are in line with the evidence that anomalies are weak in China relative to the United States and other developed markets.

Stocks, however, as evaluated using composite mispricing scores, do generate positive and significant long-short returns and alpha, which, according to the authors, "shows that the mispricing is prevalent in the Chinese stock market." (At least, it is when Stambaugh–Yuan mispricing methods are used).

More important, though, the pair do find, as they set out to, that anomalies, indeed, *are stronger following rising oil prices* when optimistic investors are exuberant and prone to mispricing, compared with times of falling oil prices.

WHAT ARE THE IMPLICATIONS FOR INVESTORS AND INVESTMENT PROFESSIONALS?

Whether under the marketing banner of so-called smart beta products, enhanced indexing, or alternative beta or by any name, there has been a dramatic increase in factor-based beta-like (lower fee) investment vehicles in the United States. Last year, smart beta exchange-traded funds (ETFs), popular among individual investors as well as wealth advisers, attracted $75 billion, accounting for half of the inflows into all US equity ETFs. Meanwhile, the twin trend of ETFs and indexing is finally coming to China. Vanguard launched its first China-focused ETF in May 2018. Around 50 China ETFs with some $18 billion currently trade in the United States.

At the moment, by some estimates, China accounts for only around 2% of the approximately $5 trillion in global ETF assets. The authors have helped to lay the groundwork for a new factor-based investing approach in China with a multi-anomaly screen (buttressed by an oil-price macro consideration).

This, too, is perhaps a fleeting opportunity, particularly considering China's aggressive push into renewable energy.

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