New angles

Machines say: 'Ignore the spread in merger arb'

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Closely watched arbitrage spread poor predictor of a merger deal's success, quant firm finds. Faye Kilburn reports

For merger arbitrageurs, the so-called arbitrage spread is a key indicator of risk. But one investment firm has discovered, using machine learning, that the spread carries zero information most of the time.

Merger arbitrage is a strategy of investing – long and short – in the stock of companies involved in a merger or takeover, with the aim of profiting from the successful completion of the deal.

The bidder usually has to pay a premium for the target company's shares, leading to a spread between the buyer's offer and the market price. As merger talks progress, the spread changes depending on whether the market thinks the deal will go through. Conventional wisdom has it that the wider the spread the less certain the deal. The bigger spread also means anyone investing at that point will reap higher rewards if the merger does take place.

But Deepak Gurnani at Versor Investments, a $1.8 billion quantitative firm, says it has found that 80% of the time the spread has "no usefulness" as a predictor of whether the merger will succeed.

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>
> Roy Behren, Westchester Capital Management

"One of the rules the market would tell you is that spread is an excellent indicator of the risk of the deal, but machine learning has proven that it is at best an average indicator," says Gurnani, the firm's founder and managing partner.

"What we find is that 80% of the time, spread does not provide any information; 20% of the time, the spread does provide information... Essentially, 80% of the time, the information provided by spreads is actually embedded in other pieces of information – for example, region, nature of deal etc – that have historically been a more reliable indicator of whether the deal will terminate or complete."

Versor's machine learning-aided research into the probability of mergers going through has also discouraged the firm from investing in deals involving private equity backers since, in times of stress, these mergers tend to collapse more often than other deals.

"We are not getting compensated for taking that extra risk," Gurnani says.

Thirdly, Versor avoids any merger arbitrage involving emerging markets because its machine learning algorithms have shown that, whenever the acquirer is not from the US, Canada or western Europe, it is much harder to predict whether the deal will succeed.

How to train your ML dragon

To train its machine learning algos, Versor built a proprietary database of merger deals going back to the year 2000.

The database contains information on more than 4,000 mergers and takeovers, both successful and failed. The data includes things like the balance sheets of the target and the acquirer, spreads throughout the progress of the deal, what industry the deal belongs to, the size of the target versus the acquirer, what kind of regulatory approvals were needed, whether the deal attracted a competing bid and ultimately, whether the merger went through.

Versor employs several different machine learning algos to create a blended forecast of the success of a given deal, although it declined to disclose what specific types of algos it uses.

Versor also uses natural language processing, a type of machine learning, to read news so its database is updated as soon as one company approaches another.

"When the merger is announced, it gets picked up in our database through news wires. We are applying natural language processing to those news wires," Gurnani says.

Not everyone, though, believes machine learning has a place in merger arbitrage.

"This not a strategy that can easily or accurately be managed programmatically or systematically," says Roy Behren, co-president and co-chief investment officer at $5 billion Westchester Capital Management, which has engaged in merger arbitrage for more than 25 years.

"There are certain factors that may be attractive [to arbitrageurs] and certain factors that may make a transaction more unattractive, but the assessment of those factors requires research and qualitative work," he explains.

Gurnani responds that the aim at Versor is not to replace fundamental analysis but combine it with a systematic approach.

"It's really a combination of a fundamental, economic theory-based approach with a systematic process using technology, large databases and machine learning processes," he says.

Merger arbitrage has grown in popularity in the last five years. The latest available data from BarclayHedge, covering the second quarter of this year, shows that $88.4 billion is currently invested in the strategy, up from $53.6 billion at the end of 2016.

The enthusiasm has been paying off. Merger arbitrage funds posted a rise in returns in each of the past five years, including 2021 to date, according to the Barclay Merger Arbitrage Index.

Other current trends also bode well for the strategy: Gurnani notes that only about 5% of merger deals collapsed in 2020 compared with the long-term average of around 10%. Meanwhile, spreads – and so the potential spoils – are wider than the long-term average.

"Spreads have widened in 2021 – with administration change in Washington – due to increased uncertainty about the regulatory and anti-trust environment," he says. ∎