

Enhance Outcomes With AI and Machine Learning

- + We share how to improve the stability of income in an equity income portfolio by gauging sentiment around company dividend policy using natural language processing (NLP).
- + NLP tools can turn an insurmountable task for a portfolio manager or analyst into a manageable process with easily digestible and practical output to help assess the sustainability of company dividends.

A stool with three legs: data, AI and how to use them for better investment outcomes

We've all heard about big data and the challenges of analysing ever-increasing data sets. With a growing influx of financial data and massive amounts of unstructured data coming online in recent years, it is an incredibly difficult if not impossible task for any human to wade through it all in a timely way.

This is where the rise of artificial intelligence (AI) plays its part. Data and AI go hand in hand. Machine learning algorithms can help analyse vast amounts of information swiftly and accurately. By identifying intricate patterns and correlations

that human analysts might overlook, these technologies can enable better risk assessment, portfolio optimisation and predictive analytics.

AI was the hot topic of 2023, helping drive meteoric returns in the Magnificent 7. According to Bloomberg, there were 1.3 million news articles containing reference to AI! ChatGPT made its debut in late 2022 and quickly rose to fame. It has played a pivotal role in showcasing machine learning applications to the public due to its remarkable capabilities in processing and generating human-like text. As users interacted with ChatGPT and witnessed its ability to recognise context, answer questions and generate coherent responses, they were introduced to the vast potential of NLP and machine learning technologies.

Generative AI tools can be fun to play around with on your smart phone app, but there's so much more to harness. For professional investors, they can provide adept users with a truly competitive edge, helping lead to better client outcomes—but only if they are implemented appropriately!

There are many ways we use AI to enhance investment outcomes for clients. In this note, we focus on how to improve the stability of an equity income portfolio by gauging sentiment around company dividend policy.



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USE CASE: IMPROVE THE STABILITY OF AN EQUITY INCOME PORTFOLIO

01: DATA

Did you know there were approximately 20 million news stories on the companies within the Russell 3000 Index in 2023? Company news can give clues on whether a company may increase, decrease or cut its dividend. But when managing a portfolio covering potentially hundreds or thousands of companies within a research universe, keeping track of and digesting news on each company can become a challenge.

02: USING AI

Company dividends provide income to shareholders and contain information that conveys their financial well-being and shareholder value. Correctly assessing the sustainability of a company's dividend can benefit investors by improving the likelihood of sustaining stable income at the portfolio level. This is where machine learning can help. Powered by NLP, we can track news for companies across large universes and systematically identify positive and negative sentiment related to dividend policy.

03: HOW WE DO IT

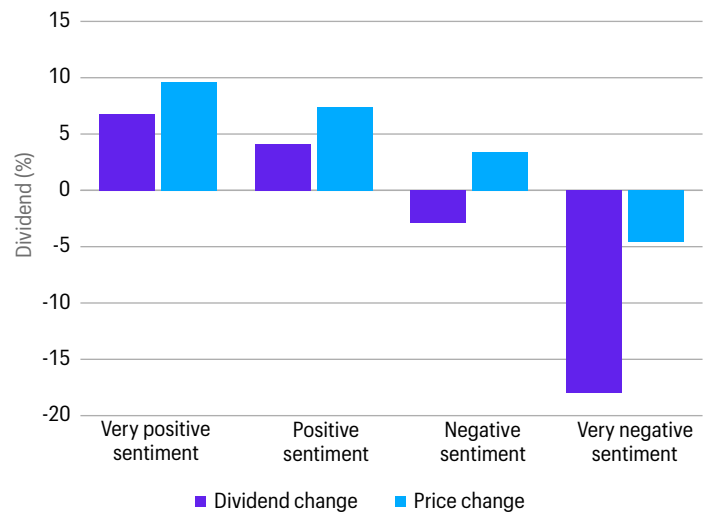
Our research shows that positive sentiment ahead of a company's dividend announcement has led to a higher probability of a positive change in both a company's dividend and price. The relationship is the reverse for negative sentiment, leading to a negative change in dividend and price, as the chart shows.

The tool processes over 30,000 news articles each day from multiple independent news sources, focusing only on articles related to dividend policy. Company sentiment is then scored from very positive to very negative, enabling portfolio managers to focus on potential opportunities or manage risks in their portfolios. The approach is transparent and affords our portfolio managers the ability to drill down into the specific news articles that drive the sentiment classification, saving time and allowing them to incorporate their own views.

For example, there have been several cases where the team has decided to hold a position in the portfolio given their very positive sentiment scores. In contrast, very negative sentiment scores help underscore negative views a portfolio manager may have on a company due to an unfavourable view on its sector.

NLP tools can turn an insurmountable task for a portfolio manager or analyst into a manageable process with easily digestible and practical output to help assess the sustainability of company dividends.

DIVIDEND % HAS VARIED BASED ON INVESTORS' SENTIMENT BEFORE DIVIDEND ANNOUNCEMENT



Sources: Allspring, Ravenpack, and Bloomberg Finance L.P.



Taming AI? Keeping it under control? Managing the machine.

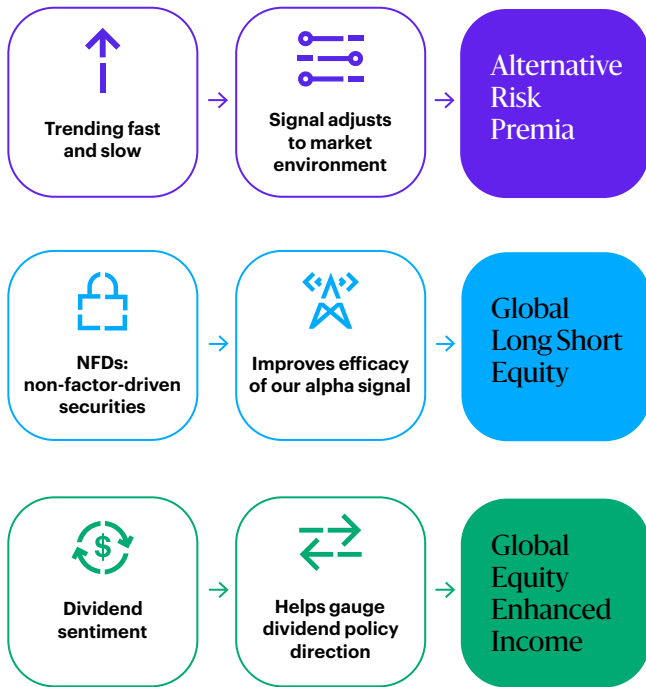
Whilst machine learning can offer valuable advantages, it also comes with some potential pitfalls that investors need to be aware of, including overfitting, data bias and lack of human judgement (see info box).

To mitigate these pitfalls, it's crucial for investors to identify managers that have experience in building and investing through systematic models.

Our Systematic Edge team has had a successful history in managing systematic strategies since the early 2000s. Over this time, we've researched and published numerous papers in the machine learning space. Machine learning tools and techniques are featured across many of our strategies, as seen below.

LATEST INNOVATIONS: MACHINE LEARNING

Cutting-edge research, for the benefit of our clients



Potential pitfalls of a machine learning approach

Overfitting: this occurs when the model is too finely tuned to historical data and performs poorly on new, unseen data.

Data bias: machine learning algorithms heavily rely on historical data for training. If the data used is biased, it can lead to skewed predictions.

Black box models: some sophisticated machine learning algorithms are considered "black box" models because their inner workings are not easily interpretable.

Changing market dynamics: models that perform well in one market environment might struggle to adapt to sudden changes or unforeseen events, potentially leading to suboptimal investment decisions.

False sense of security: the high accuracy rates during backtesting can create a false sense of security. Investors may become overconfident in the model's abilities, leading them to neglect other critical aspects of investment analysis.

Lack of human judgement: relying solely on machine learning models may exclude the valuable insights and expertise that human analysts bring to the table.

High costs and complexity: implementing machine learning models requires significant resources.



As with most enhancements to our investment process, our portfolio managers use dividend sentiment as another tool in their toolbox to assess companies, rather than blindly following the result. Sentiment scores are powerful additions but on their own are insufficient to decide on whether a company makes it into the portfolio. The tool acts as one part of the puzzle to build the entire picture.

Is this the end of the human portfolio manager?

We believe the integration of advanced machine learning techniques and alternative data in the investment industry empowers investors to make informed and strategic choices, ultimately leading to improved investment performance and better outcomes for investors.

Whilst getting the right data and AI tools is a good start, success in this area requires a careful and thoughtful systematic approach. This is where an experienced systematic investment team can help.

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