

NORQUANT ESG

a quantitative approach to sustainable investing

1. Sustainable investing

Interest in sustainable investing has increased dramatically over the past couple of years. While ethical considerations always have played a part in investing, and there always has been a balance between profits and ethical considerations, long term trends over the last decades and more recent developments, have really brought sustainability to the forefront. Specifically:

- a. As global living standards have increased, and the percentage of people living in poverty has decreased quickly, investors show increased preference for environmental, social and governance (ESG) issues.
- b. Increased democratization and a long-term trend of more transparency in companies and institutions have made it easier to identify unsustainable and unethical practices.
- c. Telecommunications and the internet have revolutionized access to information, tied global markets together and made it possible for investors to make informed decisions about increasing their exposure to ESG-friendly investments.
- d. Most importantly, rapid man-made changes to the environment and climate have highlighted the urgency of a sustainable shift. Sustainability is not a luxury anymore but has become an existential part of investing.

While there is a broad consensus about the main goals of sustainable investing, such as embodied in the UN's Compact Criteria, the implementation of ESG is still in a relatively early phase. Initiatives range from excluding the worst stocks, an area where NBIM has shown leadership with its exclusion list, to actively investing in ESG themes, to active engagement with companies, up to philanthropic investing/projects. The years ahead will likely bring an even stronger focus on sustainable investing, and a more structured approach through a stronger framework and more legislation such as EU's taxonomy.

2. About NorQuant

NorQuant was started with a vision to help investors get better returns at lower costs. New insights from academia and evidence from practitioners have shown a rules-based, scientific approach can improve investors' results. NorQuant believes these insights, combined with new technology and access to information, open possibilities for more efficient production and implementation of investment strategies.

Over the past few years NorQuant has built a world class team consisting of former NBIM quantitative analysts with strong experience developing and implementing quantitative investment and trading algorithms for the Oilfund. Among our team we have PhDs in Finance and Artificial Intelligence and analysts with Master's degrees in Math, Statistics and Physics.

Our researchers have strong programming skills and we have extensive practical experience implementing and running strategies and funds and bringing them to the market.

NorQuant believes our rules-based scientific approach will be crucial for advancing the development of more efficient investment strategies, especially in the area of sustainable investing.

3. Our research project: Machine Learning for Sustainable Investing.

NorQuant is committed to advancing a scientific approach to sustainable investing with cutting-edge research. In 2020 we started a 4-year research project: Machine Learning for Sustainable Investing.

The goal of the project is to implement and improve upon state-of-the-art research. Using modern mathematical methods and large amounts of data (especially ESG and climate data), we look for non-linear effects, interactions between factors, and dynamic changes/market regimes. Specifically, our project aims to promote knowledge about what drives stock returns, expose greenwashing and create improved ESG strategies and indices.

NorQuant is proud of the continued support we receive for our project from the Norwegian Research Institute and we see this as a quality stamp of NorQuant's research.

4. Norsk Forening for Kvantitativ Finans

In parallel with starting NorQuant, the founders of NorQuant took the initiative to establish Norsk Forening for Kvantitativ Finans (www.nfkf.no). The goal of the non-profit NFKF is to promote a quantitative rules-based approach in finance.

NorQuant's took the initiative to start NFKF because we believe major improvements in an industry rarely come just by a self-regulating industry or investor demand, just by government control and regulations, or just through academic research, but rather that change is driven by all these together, through cooperation and an exchange of ideas in a broad community. NorQuant is committed to help building this community.

NFKF has been active on LinkedIn and has two groups with several thousand members, mainly Norwegian financial professionals: Kvantitativ Finans and Maskinl ring for Finans. NFKF organizes free webinars and seminars, and has had several events about ESG investing, with expert speakers from leading practitioners and academics. Currently, NorQuant is one of three sponsors of NFKF. Thomas Nygaard, founder of NorQuant, is the Chairman of NFKF, and Vu Le Tran, senior researcher at NorQuant, is a Board Member of the association.

5. NorQuant ESG, our sustainable fund

One of the first tangible results of the activities NorQuant has employed in the field of sustainable investing is a fund that reflects our beliefs and that we hope will contribute to more sustainable development, while offering investors a competitive return. Our new fund, NorQuant ESG, offers

investors a diversified portfolio of liquid European stocks with a solid ESG profile and a goal of a stable return in excess of its benchmark, MSCI Europe Sustainability.

To do that, NorQuant ESG applies both passive screening and an integrated, quantitative, factor-based methodology.

A. A universe of high-quality European companies.

NorQuant ESG only invests in liquid stocks traded at the major European exchanges. This helps to ensure our fund consists of stocks of companies with high quality reporting and information standards, and that those stocks can be efficiently traded.

B. Passive screening of industries and individual companies

The next step in the investment process is to exclude stocks from controversial industries. NorQuant ESG does not invest in companies that have revenue greater than 5% in the following controversial industries:

- Adult Entertainment
- Alcohol
- Thermal coal
- Defense
- Firearms
- Fossil fuels
- Gambling
- GMO
- Nuclear
- Tobacco

Excluding these industries from NorQuant ESG investment universe ensures a significant focus on sustainable companies.

In addition to excluding all companies from these controversial industries, NorQuant ESG also targets individual companies, by strictly following NBIMs exclusion list and never investing in companies on this list.¹

C. An active quantitative integrated ESG approach

After application of these passive screens, NorQuant ESG also actively promotes sustainable companies. To do that, we use ESG ratings provided by globally leading rating firms, based on the United Nation's Global Compact criteria: Human Rights, Labor Rights, Environment, and Anti-Corruption. These scores are used as quantitative inputs for our algorithms to actively favor companies with higher ratings on UN's Global Compact criteria.

The goal of NorQuant ESG is a portfolio with a solid ESG profile that delivers a good return. Therefore, the use of ESG criteria is integrated with NorQuant's quantitative strategies to harvest premiums from factors.

¹ The NBIM exclusion list can be found at <https://www.nbim.no/en/the-fund/responsible-investment/exclusion-of-companies/>

These factors can for example be stocks that have a low volatility, have shown a good performance record, or have other positive attributes. NorQuant's algorithms combine these quantitative factors in an integrated approach to construct a portfolio of high-quality ESG-friendly companies with the goal of a stable return in excess of our reference index, MSCI Europe ESG Universal Index.

D. Putting it all together

The selection of liquid major European stocks and excluding controversial industries and individual stocks results in a pool of ESG-friendly stocks. NorQuant then uses UN's compact scores to actively favor stocks that score high on these criteria. Combining these scores in an integrated, quantitative model with other factors results in a diversified stable portfolio of 100 stocks with a good ESG profile and helps NorQuant ESG to achieve both sustainable and financial objectives. The fund is updated on a quarterly basis. New insights from our research are continuously integrated in the fund's strategy. The reference index of NorQuant ESG is MSCI Europe ESG Universal Index.

6. Conclusion

Sustainable investing has grown quickly over the past couple of years and is rapidly addressing major challenges faced by investors and society in general. NorQuant believes we can play a part in this major shift towards sustainability by using our team's experience, our networks and our research to help investors get access to sound investment strategies with competitive returns that help steer development towards a sustainable future.

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