

# Project\_Lab\_Topic\_ESG

March 1, 2024

## 0.0.1 Investible Universe

NASDAQ, NYSE stocks with ESG rate

## 0.0.2 Trading window

mid-2010 (ESG rating becomes popular and more companies begin to receive ESG ratings) 2013 - 2024

## 0.0.3 Outliers

exclude the companies that has big variance in rating (very different rating between agencies) - top10% variance in the list

## 0.0.4 Methodology:

1. Average the ESG rating from different agencies
2. ESG factor
  - $r^{esg(1)}$  denotes the portfolio of stocks in the lowest ESG(G)rate decile
  - $r^{esg(10)}$  denotes the portfolio of stocks in the highest ESG(G)rate decile.
  - LONG AND SHORT:  $r^{esg(10)} - r^{esg(1)}$
  - LONG ONLY:  $\frac{1}{3}(r^{esg(10)} + r^{esg(9)} + r^{esg(8)})$
3. Run subsample (2013-2016, 2017-2020, 2021-2024) to see whether rating has positive mean
4. See its correlation with Farma French factors
5. Run regression model: with and without ESG factor

## 0.0.5 Assessment

1. Cowles Test for checking significance: test the coefficient is significant
2. Bootstrapping for robustness

## 0.0.6 Trading Strategy

1. Use existing ETF in the market to build the portfolio