# Finsearch'24

## Mid-Term Report

## ROLE OF **ESG** METRICS IN INVESTMENT STRATEGIES

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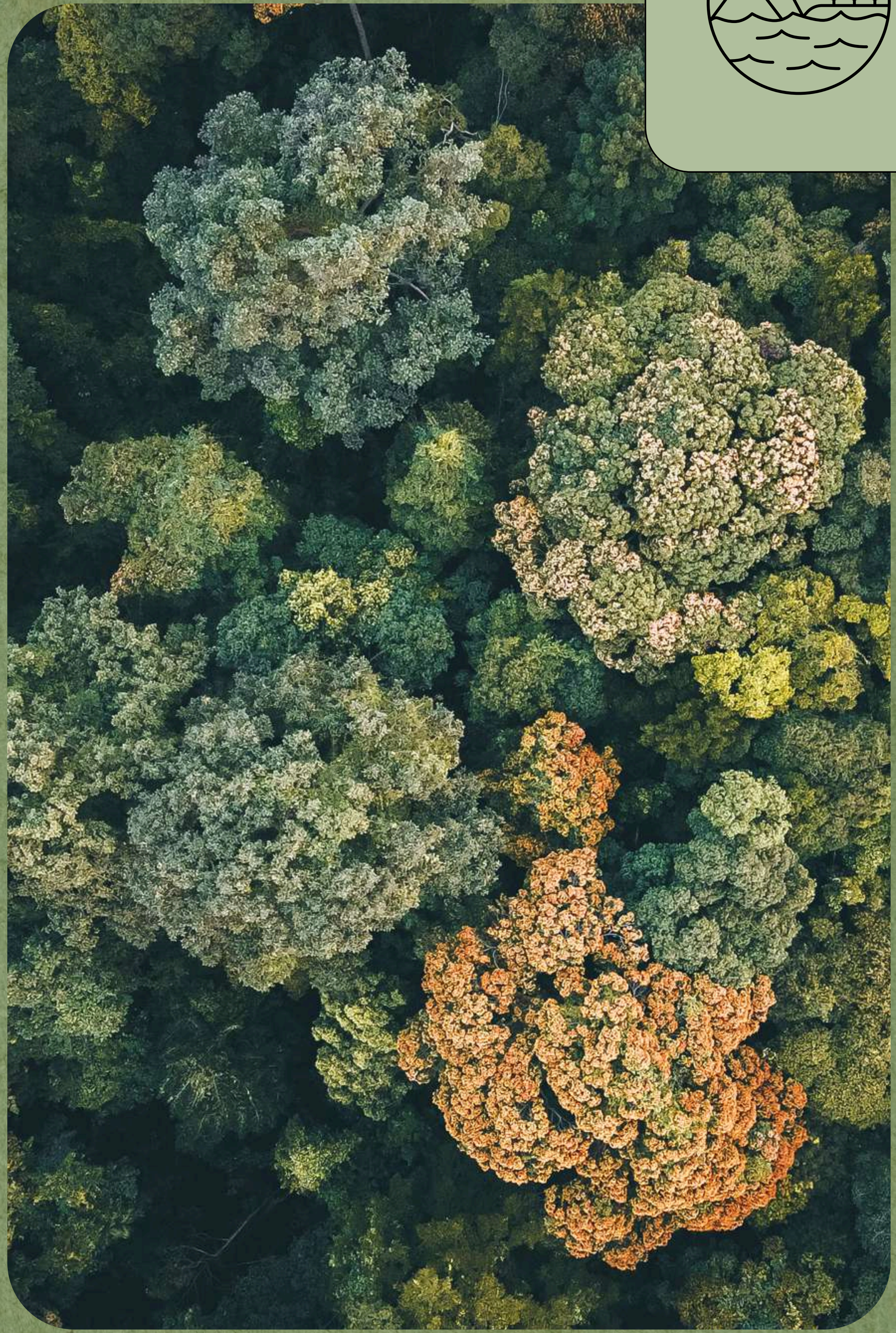


# Introduction

ESG refers to **Environment**, **Society** and **Governance**. ESG is a topic which has gained recent limelight, although it has evolved over the years. It is about analyzing how a company's, firm's or an organization's operations impact the environment (climate, pollution, etc.), the society (it's employees as well as the people in the society) and the corporate governance (the leadership model and transparency of that company).

ESG started gaining importance over the years because of the rapid climate change and increasing social unrests. Integrating ESG into the day-to-day financial decisions has become important to sustain a long term value in a rapidly changing world & to manage risks and opportunities associated with this integration.


## ESG Investing

Investing in company stocks is a way to promote a company's operations. Hence, ESG investing is a way through which investors make investments that not only align with **ESG metrics** but also provide the **desired returns**. However, the importance placed on ESG factors versus financial returns varies depending on the individual criteria and priorities of each investor.

# History of ESG Investing

## 1950s-80s

An economist starts the discussion on business ethics and social responsibility. 1960s movements force companies to consider social issues for the first time. In 1971, the first fund that only invests in responsible companies is established

## 1990s

The UN Environmental Program (UNEP) gets financial insitutions to commit to their role in creating sustainable economies. The yearly COP conferences begin. And the Kyoto Protocol makes lowering GHG emissions, and the environment, a shared responsibility

## 2000s

In 2004, the UN coins the term ESG in the Who Cares Wins Report. With another report, the two give way to the launching of Principles for Responsible (PRI). Corporate scandals like Enron and BP prompt the need for accountability and transparency.

# History of ESG Investing

## 2010s

In 2011, the Sustainable Accounting Standards Board (SASB) is founded. In 2015, the Taskforce on Climate-Related Financial Disclosures (TCFD). And in 2016, Global Reporting Initiative's GRI Standards. These are among the top reporting frameworks for ESG.

## Present

ESG is now part of mainstream business strategy, and investing and reporting are hot topics. The world has moved on from environmental sustainability alone. People expect more and more from companies and their commitments.

# Steps for ESG Investing

Before diving into the steps involved in ESG investing, we need to know some terminologies:

- **ESG Rating**: Each company or organization is given a rating based on it's impact (positive or negative) on ESG. There are different ESG agencies involved which give different types of ratings based on different ESG frameworks which they use.

- **ESG Risk Score**: ESG Risk score measures the level of risk that ESG factors pose to a company's financial performance and long-term sustainability. It focuses on the negative impacts and vulnerabilities a company might face due to ESG issues.

- **ESG Framework**: ESG framework is basically a framework which helps in calculating ESG ratings and scores for a company. There are different types of frameworks which define a set of metrics or indicators related to each of E,S and G and analyze the companies based on these indicators. Each of the indicators is given a weightage depending on how much relevant that indicator is for the type of company or the sector which that company caters to. For example, a Renewable Energy Company will impact carbon neutrality or pollution more than social inequality and hence, former metrics must be given more weights. These weighted indicators are then aggregated into a single ESG rating.

We assess thousands of data points across 33 ESG Key Issues that focus on the intersection between a company's core business and the industry-specific issues that may create significant risks and opportunities for the company. The Key Issues are weighted according to impact and time horizon of the risk or opportunity. All companies are assessed for Corporate Governance and Corporate Behavior.

| MSCI ESG Score | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ENVIRONMENT PILLAR | | | | SOCIAL PILLAR | | | | GOVERNANCE PILLAR | |
| Climate Change | Natural Capital | Pollution & Waste | Env. Opportunities | Human Capital | Product Liability | Stakeholder Opposition | Social Opportunities | Corporate Governance | Corporate Behavior |
| Carbon Emissions | Water Stress | Toxic Emissions & Waste | Clean Tech | Labor Management | Product Safety & Quality | Controversial Sourcing | Access to Finance | Board | Business Ethics |
| Product Carbon Footprint | Biodiversity & Land Use | Packaging Material & Waste | Green Building | Health & Safety | Consumer Financial Protection | Community Relations | Access to Health Care | Pay | Tax Transparency |
| Financing Environmental Impact | Raw Material Sourcing | Electronic Waste | Renewable Energy | Human Capital Development | Privacy & Data Security | | Opportunities in Nutrition & Health | Ownership | |
| Climate Change Vulnerability | | | | Supply Chain Labor Standards | Responsible Investment | | | Accounting | |
| | | | | | Chemical Safety | | | | |

Universal key issues applicable to all industries

# MSCI's Key Issue Framework

# Steps for ESG Investing

An investor should follow these steps to pursue ESG investing:

1. Decide an ESG based criteria for investing. For example, you can choose to invest in those companies that aim towards carbon neutrality or towards reducing GHG emissions.
2. Assess different companies based on their ESG scores and ratings that align with your criteria.
3. Simultaneously, try to analyze how the financial performance of companies depend on the ESG ratings. Remember that your investment should provide you at least a decent return along with meeting the ESG requirements.
4. To gain advice, you can approach various ESG consultancy firms which will provide you with an investment plan that will help you to get your desired return as well as meet your ESG criteria.

There are different ESG investing strategies through which an investor or an investing firm can make an ESG related impact through their investments. Some of them are:

- Positive Screening
- Negative Screening
- ESG Integration

# Effect of ESG risk scores on stock performance

In order to assess the impact of stock performance on ESG risk scores we took a dataset from Kaggle which had data for ESG risk scores of 400+ companies belonging to the S&P 500. We extracted 1-year stock performance data from the yfinance library and plotted the trends. ESG scores can be classified into three buckets -

- Low ESG risk - Between 0 and 20
- Medium ESG risk - Between 20 and 30
- High ESG risk - 30+

A ESG risk rating contains three components - Environmental risk rating, governance risk rating and social risk rating. We made a plot analysis on a risk level basis, component basis as well as an industry basis. Our benchmark is annual performance of S&P 500 weighted index which comes out to be close to 25%.


stock performance vs ESG risk rating
1 year stock performance
250
200
150
100
50
0
-50
-100
0
5
45
35
40
ESG risk rating

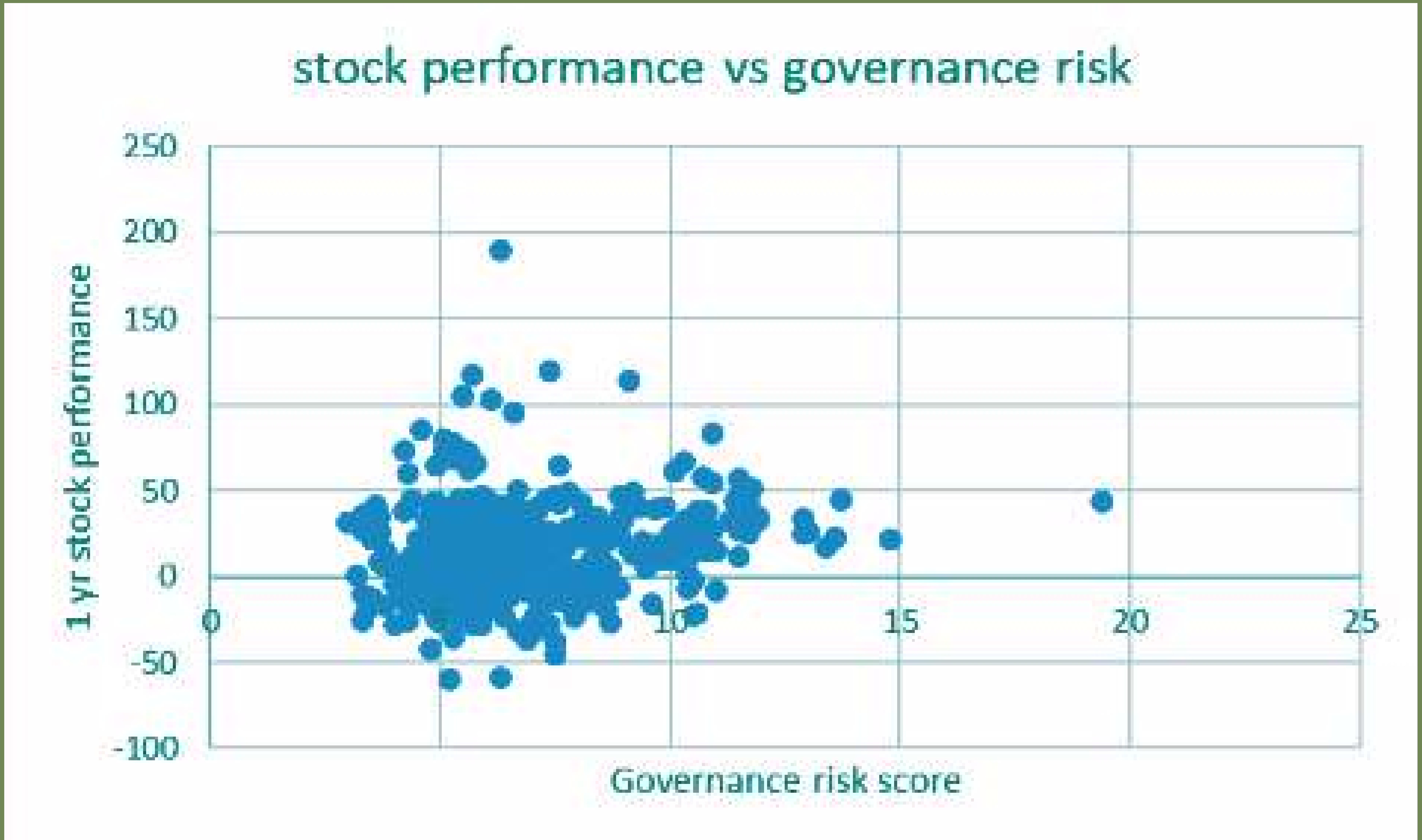

We looked at the ratio of number of stocks in the bucket upon total number of stocks in that bucket to look at how stock performance is affected by ESG ratings.

For low risk - 64/187 (0.34)

For mid risk - 52/184 (0.28)

For high risk- 17/50 (0.34)

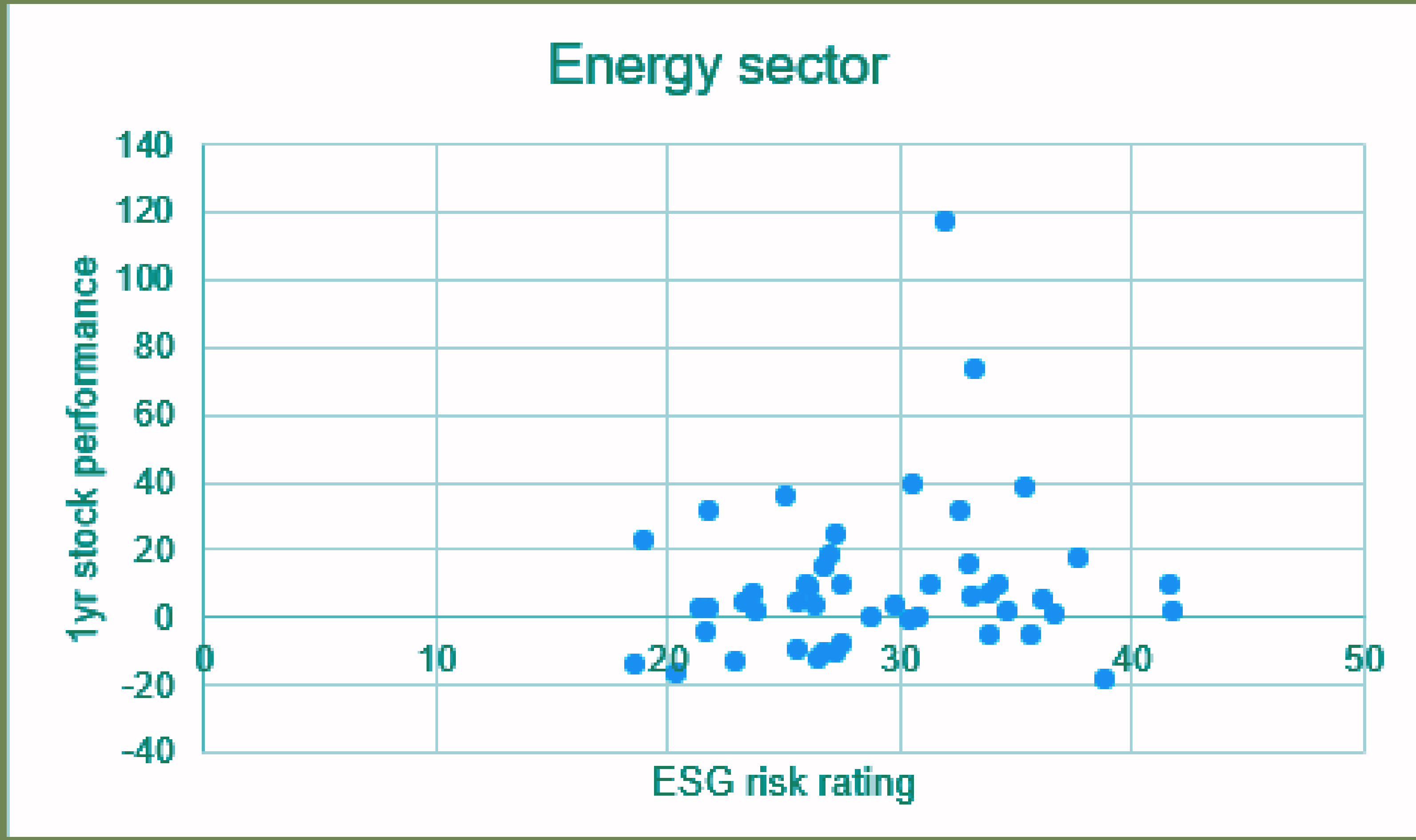

The data suggests that if we randomly pick a stock given an ESG bracket, our probability of beating the S&P 500 index wouldn't depend a lot on the bracket we pick in the first place. A similar plotting excercise was done at a component level and an example is shown below

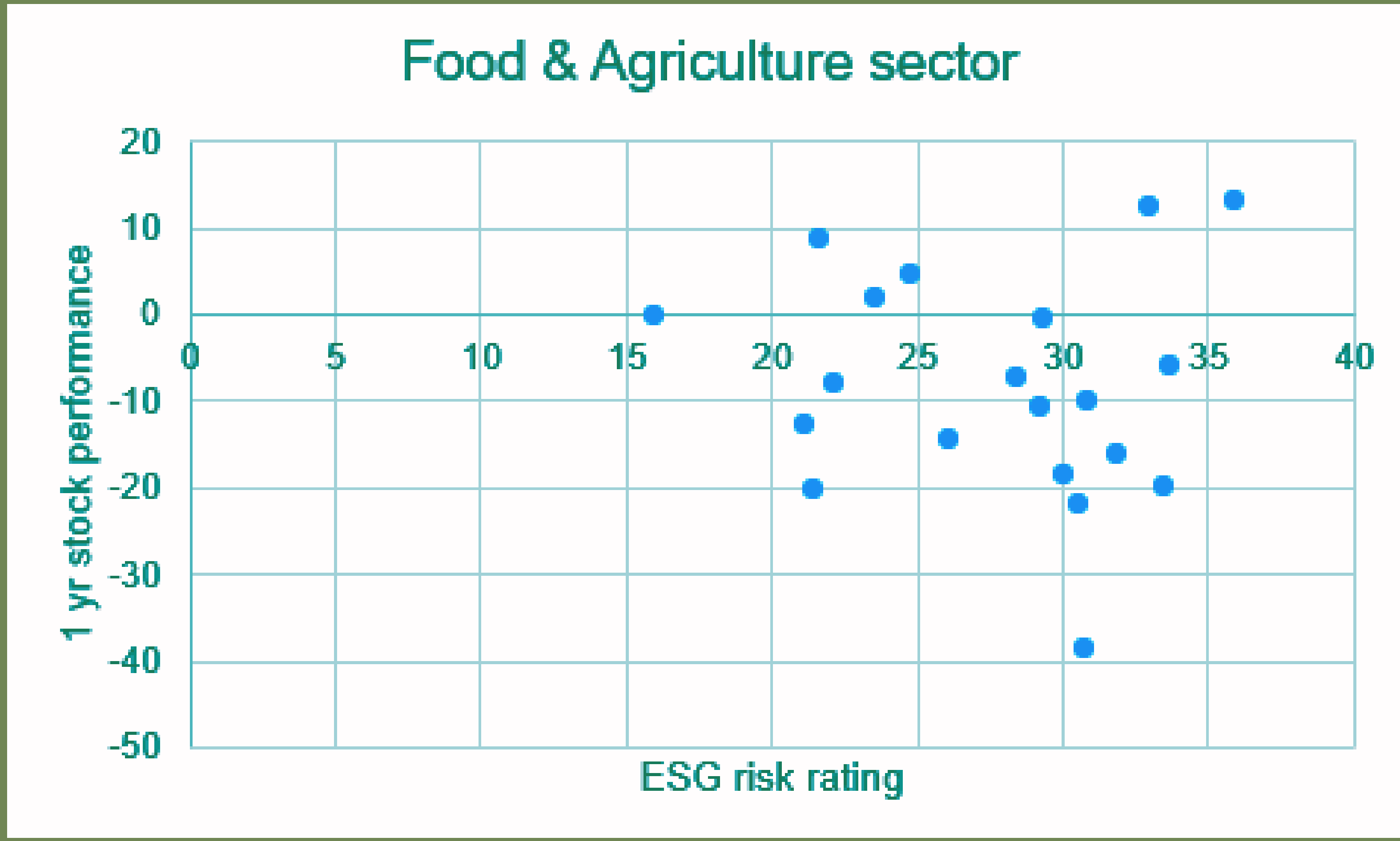



When we look at stocks with a governance risk rating between 10 and 20, we found that 30/48 (a ratio of 0.63) companies beat S&P 500 indicating that higher governance risk leads to better stock performance.

Although the high performing stocks are in low governance risk region (5-10 rating)

# How ESG risk scores affect different sectors




The plots above show two sectors - Energy sector (Oil, Gas, utilities) and food & agro sector(farm products, beverages, packaged foods) both of whom are prone to high ESG risk ratings. However energy sector stocks perform very well despite high ESG risks while food& agriculture sector stocks perform poorly. This indicates that a company operating in food and agro space might be able to improve it’s stock performance by lowering it’s ESG risks.

# Thank you very much!

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