

Is there a better way to invest sustainably?

--ESG Investing Team

ENST 405 Sustainability Exchange Fall 2020

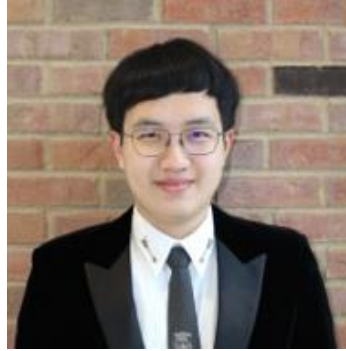
Final Report



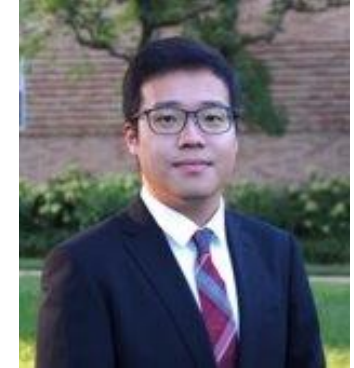
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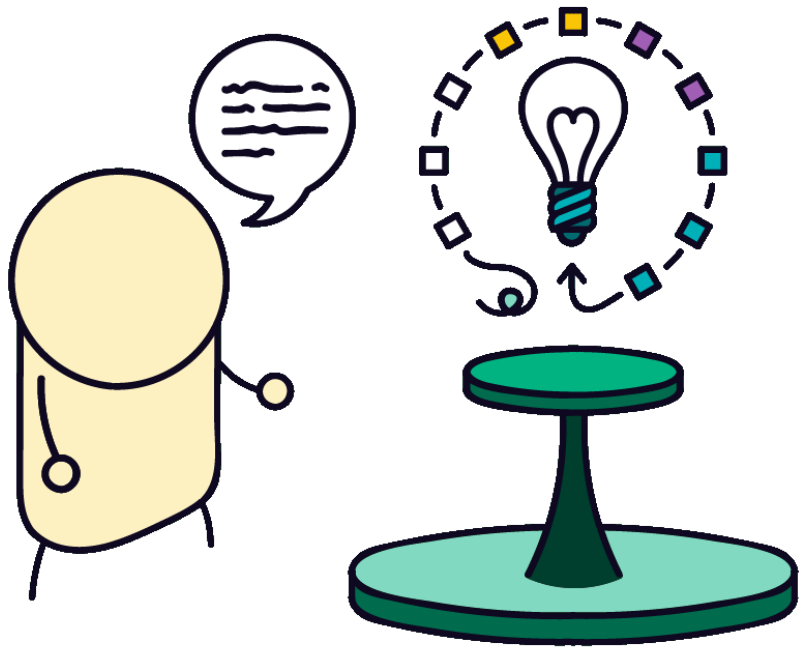
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1 Project Overview

Objectives

Investment

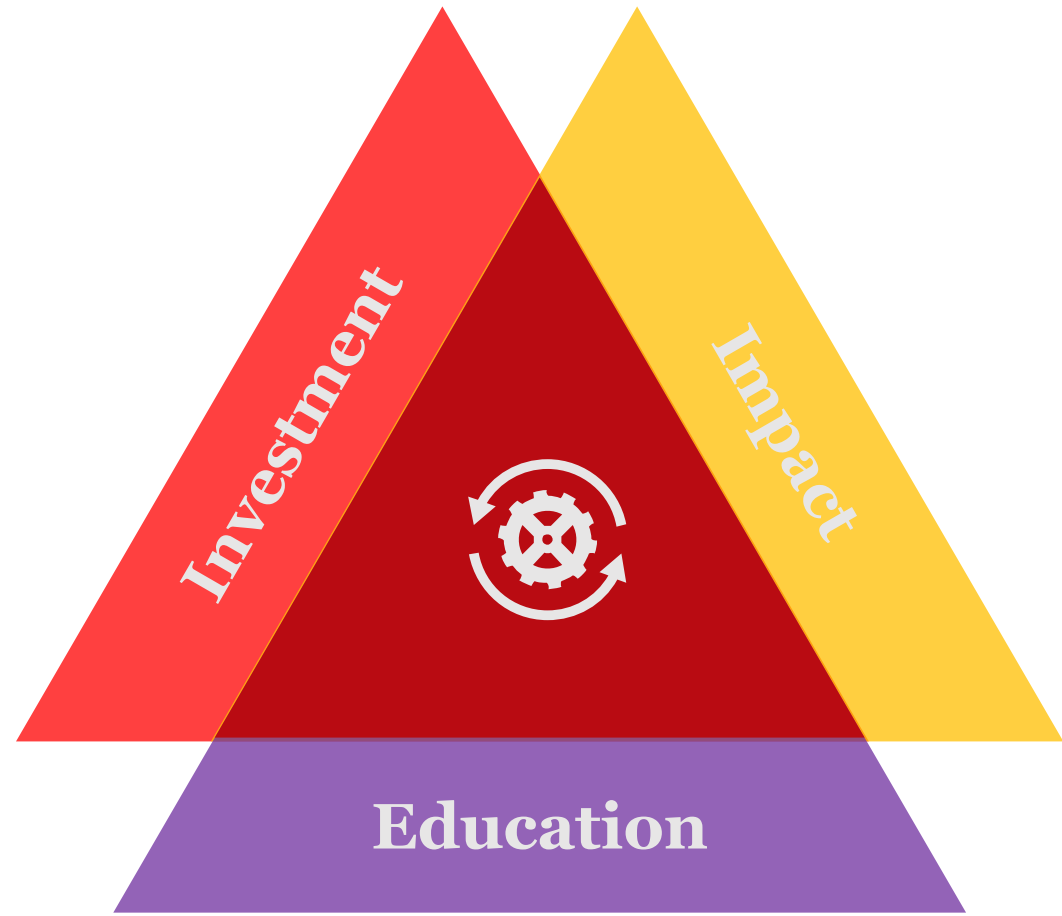
- Determine if there is a better way to invest sustainably than McCartney Wealth Managements current approach

Impact

- Assess the measurable impact of the current sustainable portfolios
- Evaluate how impactful better corporate governance is on both environmental and social factors of ESG
- Determine what impact the COVID-19 pandemic has had on ESG investing

Education

- Develop a plan for ESG investing to engage and educate investors



What is ESG Investment?

ESG Investment is the consideration of environmental, social and governance factors alongside financial factors in the investment decision-making process.



Stakeholder Map

01 **Make Informed Decisions**
MSCI Index Provider, Blackrock



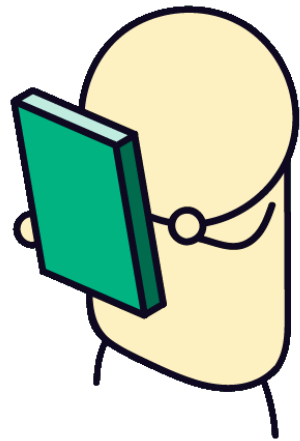
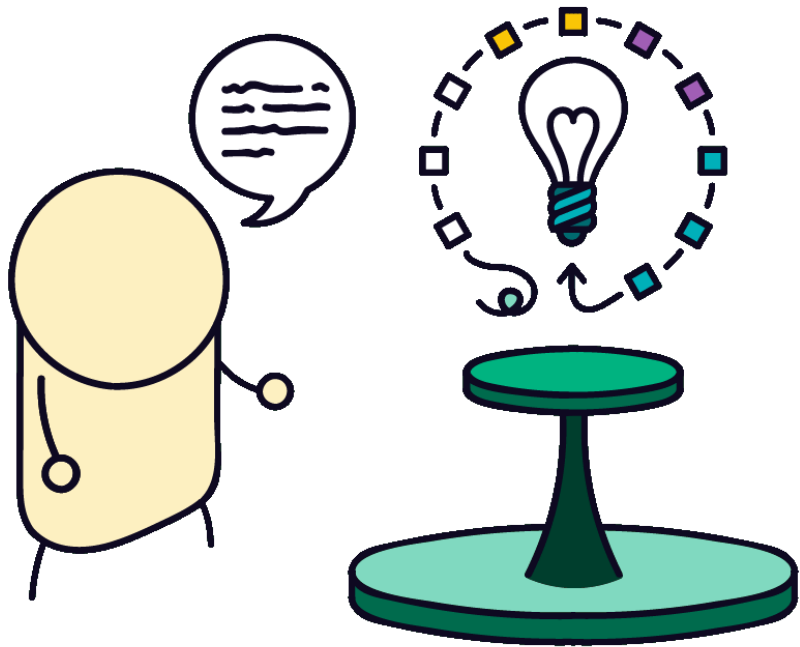
02 **Manage with Transparency**
Our valued client, Professor Solberg

Set Up

04 **Keep Update**
Our colleagues and friends



03 **Best Solution for Client**
TA and Codirectors



2 Literature Review

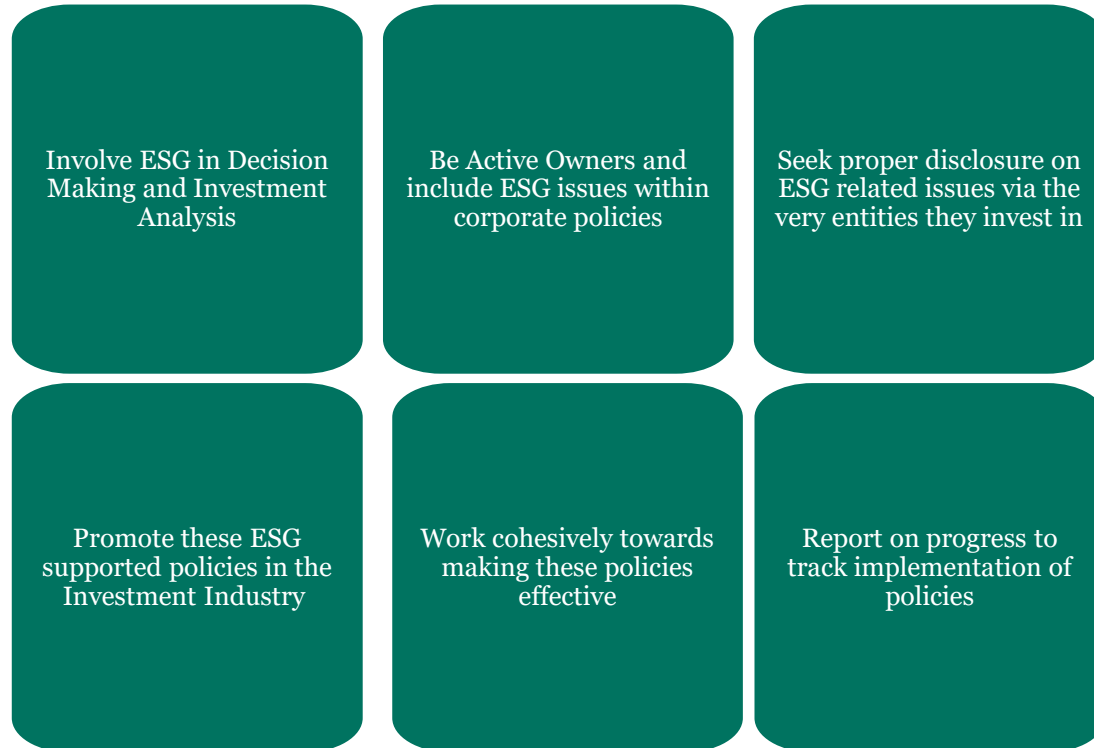
Why ESG?

- 1) Sustainability is one of the most significant trends in financial markets
- 2) Sound sustainability standards lower the cost of capital of companies
- 3) Solid ESG practices result in better operational performance of firms
- 4) **Stock price performance of companies is positively influenced**
- 5) Investors and managers consider sustainability in decision making has positive economic effect
- 6) Active ownership will have more influence by voting shares
- 7) The future of sustainable investing is likely to be active ownership

United Nations Principles for Responsible Investing

- Believes that an economically efficient, sustainable global financial system is a necessity for long-term value creation
- Achieved through growing visibility and with a sense of urgency
- Understanding of Investors roles in shaping real world outcomes and holding them accountable contribute to expectations
- Meeting International Standards leads to better financial risk management

How Do They Incorporate ESG in their Philosophies?



Principles for Responsible Investing

Foundation

State Duty to Protect

- State must protect human rights
- Includes business enterprises and other organizations under their jurisdiction

Corporate Responsibility to Respect

- Avoid infringing on human rights
- Address any adverse human right outcomes

Access to Remedy

- Allow affected people to heal through remedies
- Trauma can be due to business related activities

Goals

Causation

- Through own business activities
- Seen through effect on staff

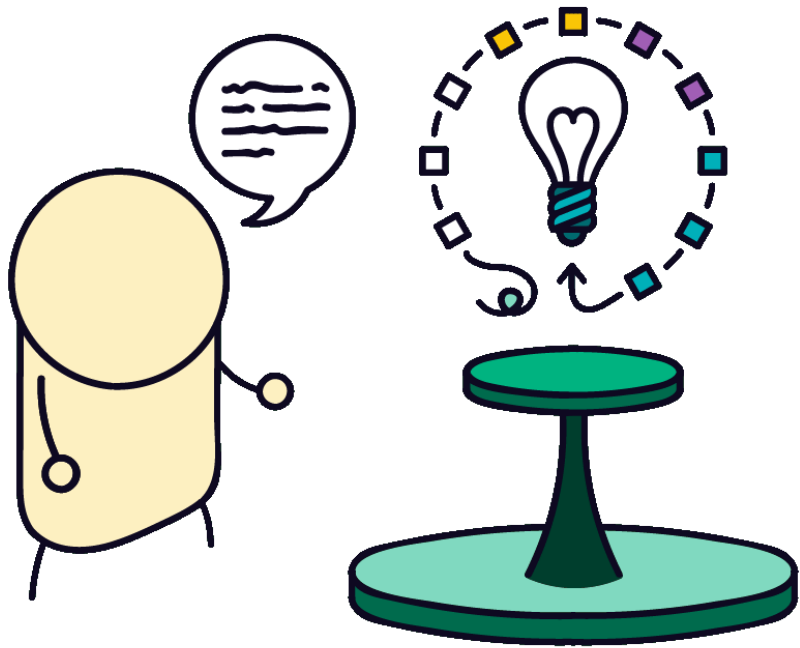
Contributed to

- Through a business you're associated with
- Through a business relationship

Direct Link

- Manufactured products
- Services provided

FOUNDATION AND GOALS



3 Quantitative Analysis

Leading Fund Manager Analysis

Dimensional Funds Advisors (DFA)

Investment Objectives:

target specific environmental goals (greenhouse gas emissions) within a robust investment framework designed for higher expected returns.

Principle Investment Strategies:

purchases securities with a great emphasis on small capitalization, value, and/or high profitability companies while adjusting the composition of the portfolio based on sustainability impact considerations

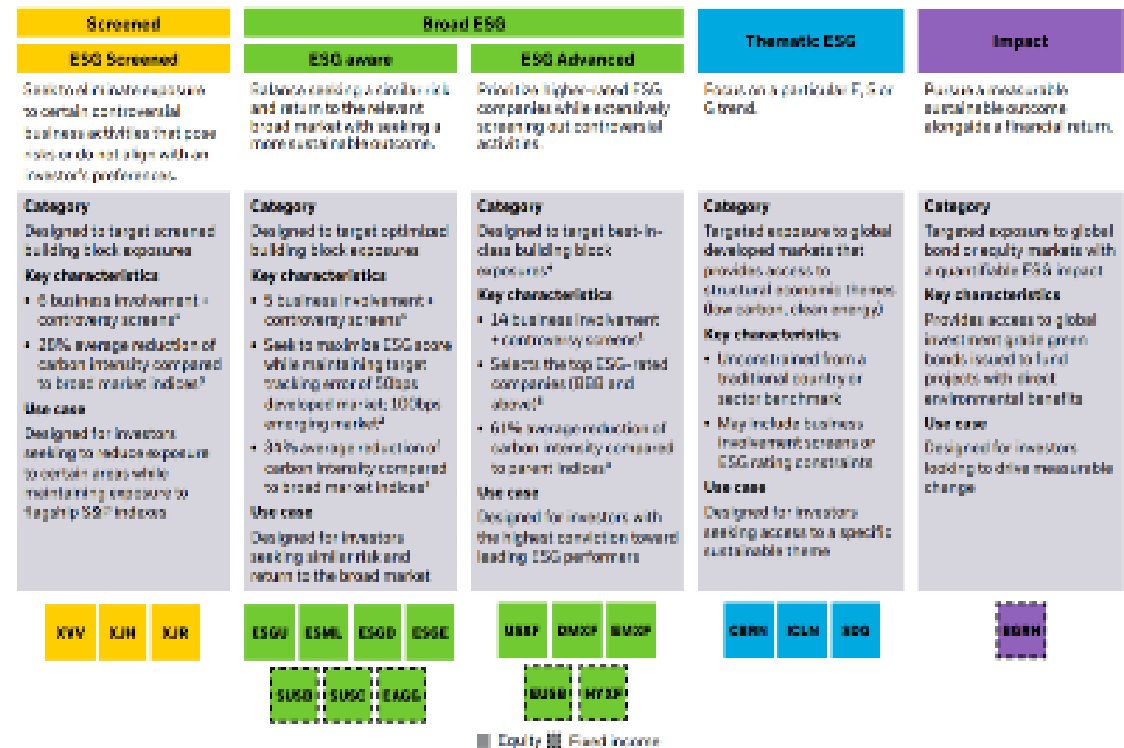
Leading Fund Manager Analysis

BlackRock

Investment Objectives:

sustainability and climate-integrated portfolios can provide better risk-adjusted returns to investors over the long-term, and that sustainability-related data provides an increasingly important set of tools to identify unpriced risks and opportunities within portfolios

Principle Investment Strategies



Leading Fund Manager Analysis

Vanguard

Investment Objectives: Delivering long-term value using reliable reporting and research

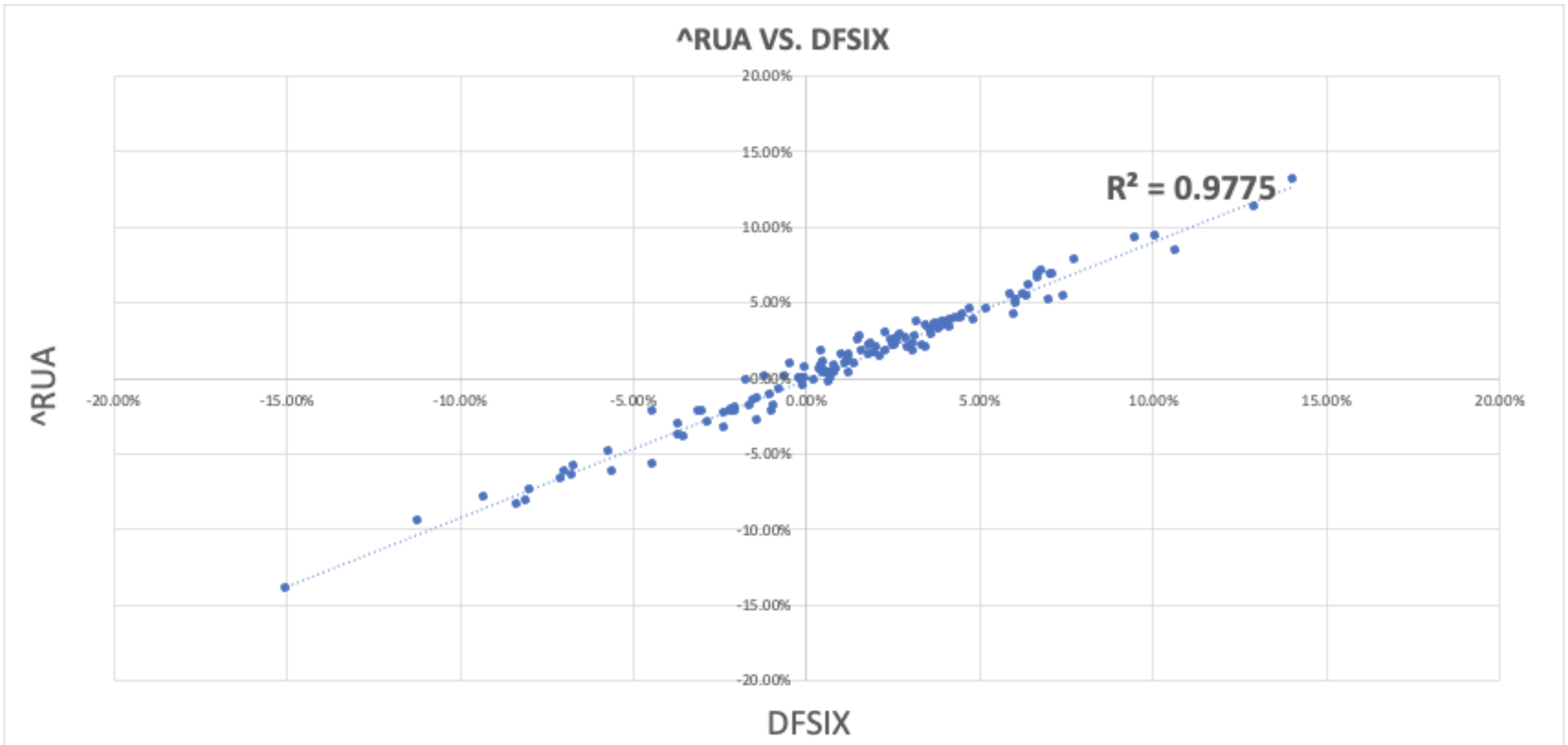
Principle Investment Strategies: Vanguard's ESG funds invest in stocks and bonds with differing investment styles and objectives

- 1 Active Fund: proprietary, bottom-up fundamental research

How to Analyze an Investment Portfolio

- **Avg Returns** – Percent change of closing value from the previous time period's close
- **R-Squared** – How closely the performance of a fund matches its benchmark
- **Alpha** – Excess returns after adjusting for market volatility
- **Beta** – The risk of a fund compared to the market
- **Standard Deviation** – The dispersion of data from the expected value
- **Sharpe Ratio** – Performance adjusted by risk

Example Analysis: DFSIX VS. Russell 3000

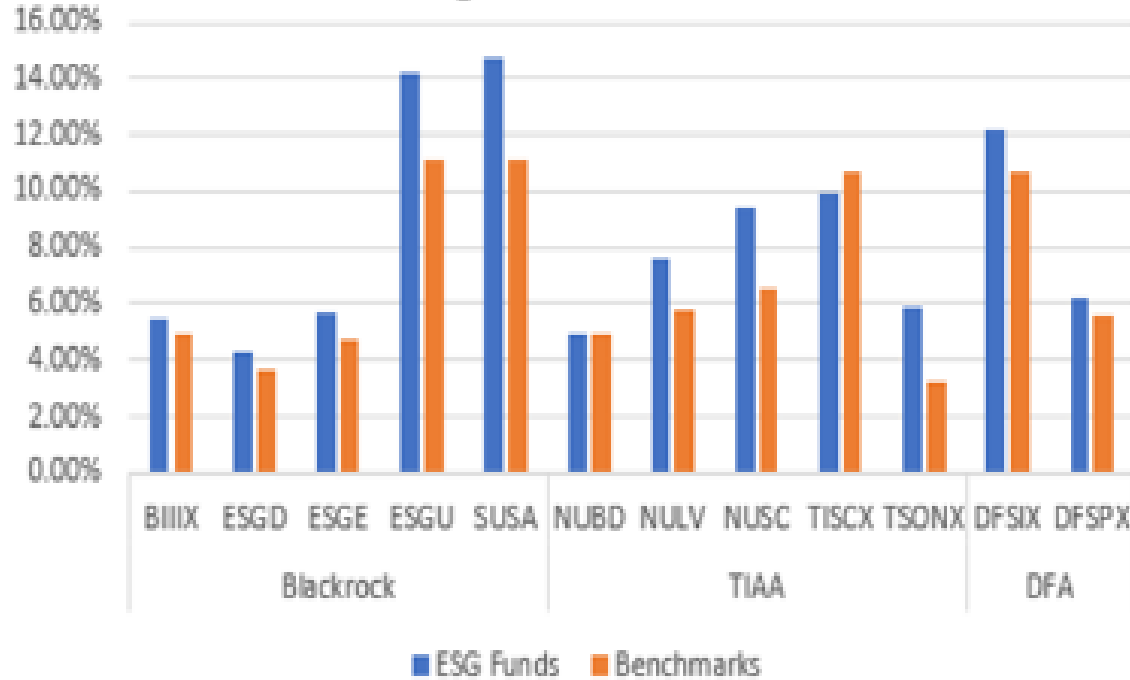


Example Analysis: DFSIX VS. Russell 3000

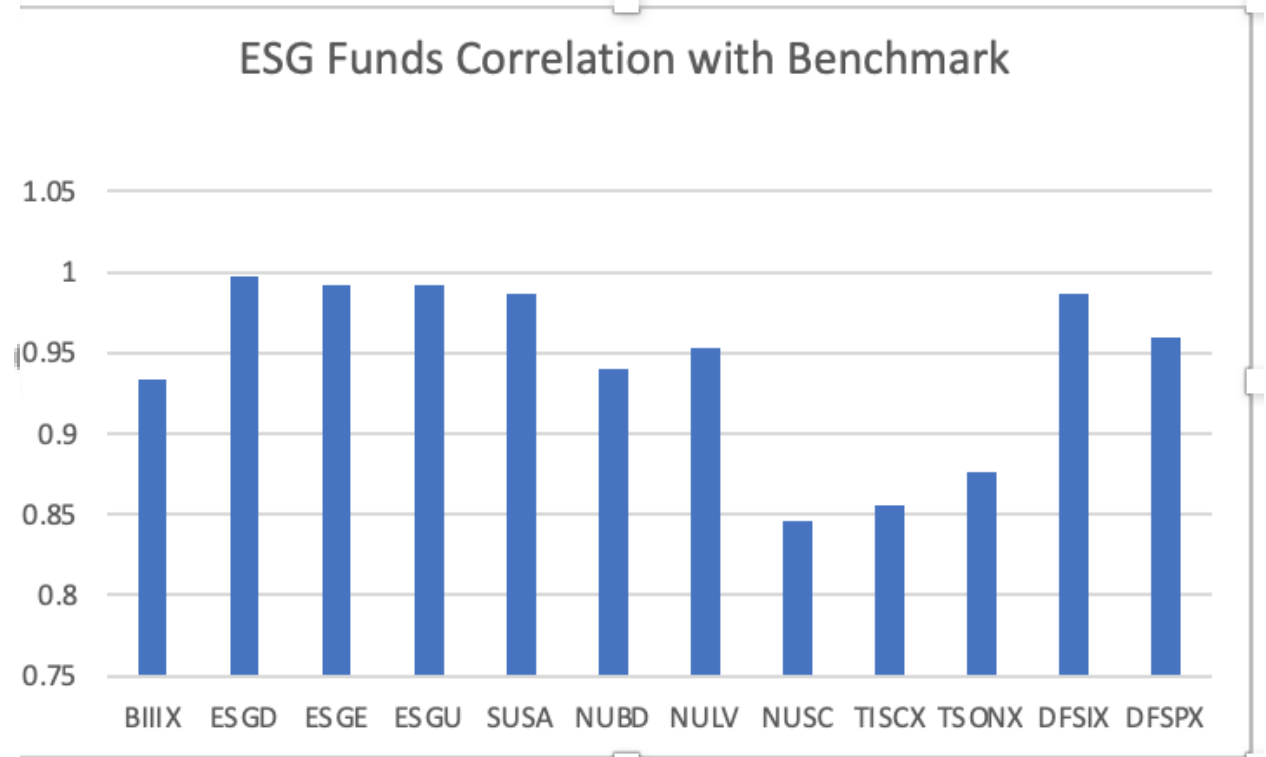
- Monthly Returns
 - DFSIX: 1.2%
 - Russell 3000: 1.02%
- Alpha = .25%
 - The fund is doing well compared to the benchmark
- Beta = .909
 - This is less than 1. Thus, this is slightly less volatile than the market
 - Greater potential for higher returns

ESG Funds vs Benchmarks

3 Year Average Return: ESG vs Benchmarks



ESG Funds Correlation with Benchmark



ESGU & SUSA vs S&P 500 Analysis



	Beta			Alpha		
	1 yr	3 yr	5 yr	1 yr	3 yr	5 yr
DFSIX	0.67	0.76	0.8	0.02	0.01	0.01
TISCX	1	1.01	1	-0.02	-0.01	-0.01
Russell 3000	1	1	1	0	0	0
	R-squared			Standard Deviation		
DFSIX	0.57	0.67	0.71	30.23%	21.46%	18.13%
TISCX	1	0.94	0.92	34.24%	24.05%	20.10%
Russell 3000	1	1	1	31.60%	21.78%	18.13%

Takeaways 1:
ESG funds
outperform in
short run

Small Cap E,S,G Scores to Price Returns

Russel 2000 Index (Sourced from CSRHub):

<i>CORRELATION - 5yr Price Change</i>	<i>Overall</i>	<i>E - Environment</i>	<i>S - Social</i>	<i>G - Governance</i>
Communication	27.42%	31.26%	13.56%	9.53%
Consumer Discretionary	4.84%	11.56%	0.10%	-1.36%
Consumer Staples	-14.17%	-18.47%	-9.58%	8.32%
Energy	2.85%	15.93%	-9.39%	-2.46%
Financials	12.14%	13.80%	9.64%	-0.74%
Health Care	21.26%	17.61%	19.19%	9.14%
Industrials	7.67%	15.15%	1.85%	-3.80%
Information Technology	5.12%	11.05%	-4.41%	7.79%
Materials	14.28%	3.18%	22.50%	5.78%
Real Estate	19.84%	13.98%	21.64%	4.21%
Utilities	40.75%	50.86%	21.17%	24.07%
<i>OVERALL</i>	10.26%	10.12%	8.99%	2.66%

Large Cap E,S,G to Price Returns

S&P 500 (Sourced from CSRHub)

<i>Correlation - 5yr Price % Change</i>	<i>Overall</i>	<i>E - Environment</i>	<i>S - Social</i>	<i>G - Governance</i>
Communication Services	-27.325%	-26.217%	-23.781%	-29.277%
Communication Discretionary	5.586%	14.033%	-0.241%	-5.699%
Consumer Staples	-17.213%	1.397%	-29.642%	-15.411%
Energy	2.842%	-6.090%	4.779%	6.470%
Financials	-22.445%	-27.925%	-16.841%	-7.521%
Health Care	-34.856%	-39.445%	-29.506%	-19.147%
Industrials	-11.313%	-5.009%	-19.048%	-1.388%
Information Technology	7.688%	5.883%	7.880%	7.633%
Materials	12.249%	10.816%	13.174%	-1.945%
Real Estate	-22.111%	-36.488%	-3.044%	-22.710%
Utilities	9.793%	3.196%	15.413%	13.970%
OVERALL	-0.86%	0.64%	-1.67%	-3.17%

Takeaways 2:

- (1) Small-cap Stocks: Certain Industries (like utilities and Information technology) show a positive correlation, while industries (like health care and communication services) show a negative correlation**
- (2) Large-cap Stocks: ESG scores are not correlated to price changes**

S&P 500 1yr % Change



Over-Emphasis on Highly Successful Tech Stocks



Takeaway 3: FAANG stocks and other big tech stocks are overweighted in ESG funds

Correlation With Market Cap

RUSSEL 3000 Top and Bottom 5%

High+Low	Overall	E	S	G
Market Cap	28.82%	33.14%	25.24%	17.87%
1yr	-11.55%	-12.37%	-9.95%	-12.04%
3yr	4.22%	4.55%	3.17%	6.52%
5yr	17.62%	16.61%	16.42%	19.95%

AVERAGE RESULTS FOR TOP 5% OF ESG SCORES

Market Cap	1y Price Change	3y Price Change	5y Price Change
\$ 124,562,512,622.73	8.93%	32.78%	95.63%

AVERAGE RESULTS FOR BOTTOM 5% OF ESG SCORES

Market Cap	1y Price Change	3y Price Change	5y Price Change
\$ 5,250,620,486.77	33.83%	24.88%	40.60%

Total S&P 500

Total S&P 500	Overall	E - Environment	S - Social	G - Governance
Market Cap	19.09%	26.67%	10.35%	7.39%
1y	-1.41%	3.05%	-3.48%	-8.41%
3y	-2.72%	0.12%	-4.10%	-6.05%
5y	-0.86%	0.64%	-1.67%	-3.17%

AVERAGE RESULTS FOR TOP 10% OF ESG SCORES

Market Cap	1y Price Change	3y Price Change	5y Price Change
\$ 124,360,465,220.00	7.74%	40.54%	101.20%

AVERAGE RESULTS FOR BOTTOM 10% OF ESG SCORES

Market Cap	1y Price Change	3y Price Change	5y Price Change
\$ 35,884,054,134.62	9%	38%	117%

*Sourced from CSRHub and the Bloomberg Terminal

Conclusion:

There is a strong correlation between ESG score and Market cap (the higher ranked companies tend to be larger) for the top and bottom 5% scored companies in Russel 3000 and S&P 500 Index.

However, when adjusting for market cap and analyzing the high and low score separately, there is still no correlation with returns



4 Portfolio Construction

Portfolio

Industries	# of stocks
Communication Services	6
Consumer Discretionary	11
Consumer Staples	15
Energy	5
Financials	15
Health Care	19
Industrials	13
Information Technology	20
Materials	5
Real Estate	4
Utilities	12

Experimental Portfolio in ESG

Testing: Return only dependent on ESG scores

- Criterion:
 - Avoid FAANG Stocks overweight
 - Equal Weight
 - ESG scores above 60 for each industry
 - Top 5 percentile
 - Except for Energy
 - High Bloomberg ESG disclosure rate
 - Diversified among industries

	ESG Portfolio	S&P500
1 year return	7.93%	15.3%
3-year return	29.54%	36.79%
5-year return	73.58%	74.1%
volatility	22.58%	25.89%
Sharpe ratio	0.31	0.56

ESG Portfolio vs S&P 500

- Less return
- Less volatile
- Less Sharpe ratio
- FAANG stock advantage is the reason why ESG mutual funds outperform their benchmarks in the short run



5 Case Study

The Way Investors Go About Choosing An ESG Portfolio: A Case Study Of Apple and Netflix

- **Apple** has an ESG score of **60.4**
- This score is primarily **pulled up** by their **'E' or Environmental factor** (76)
- Apple continuously and outwardly announces "green" efforts and actions
- This firm is transparent about their business activities that affect the environment
- **Netflix** has an ESG score of **48.3**
- This score is primarily **dragged down** by their **'G' or Governance factor** (43)
- Netflix's approach to governance is "one-sided."
- Stockholder interests ignored, decisions made by directors kept in secret, proxy votes ignored wherever legally possible.



What Organization Is Setting ESG Standards and Why It Matters

Global Reporting Initiative (GRI)

→ **WHAT APPLE USES**

- Broad universe of ESG issues that impact ALL stakeholders
- Focus on specific company operations and direct ESG outcomes
- More specific and stringent analysis
- More widely used

Sustainability Accounting Standards Board (SASB)

→ **WHAT NETFLIX USES**

- A subset of GRI Standards
- Focus on financial impact to company
- Serves mainly investors' interests
- Less widely used



6 Conclusion & Insights

Conclusion:

- (1) ESG funds perform well in short run
- (2) ESG funds are less volatile than the benchmarks, which means lower risks
- (3) There is little correlation between ESG factor and equity return
- (4) Overweighting on the tech stocks causes appreciation on ESG funds

Insights:

Even from the data side, ESG score is low correlated with equity return, but combining the literature research and more interests and ESG considerations from institution investors, individual investors, regulators, and governments, we believe ESG Investment is potential to drive the long-term value.