

Academic Perspective on ESG investing – ESG Data & Rating

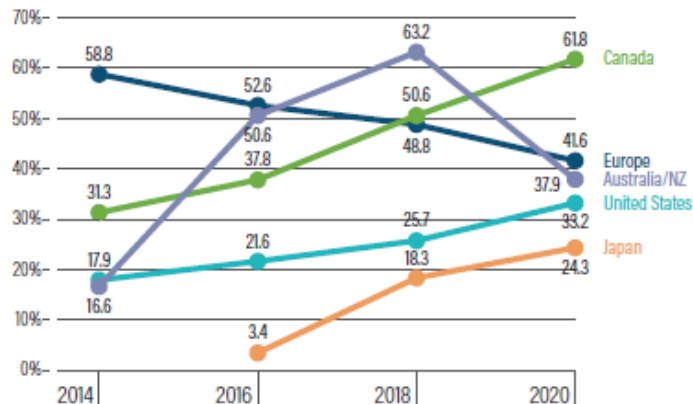
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Outline

- Background of ESG Investing
- What is ESG Data?
- ESG Rating Provider (Agency)
- Divergence of ESG Rating?

Background of ESG Investing

- Recently, there has been a rapidly increasing appetite for environmental, social, and governance (ESG) investing.
- According to the report by Global Sustainable Investment Alliance, global sustainable investment reached USD 35.3 trillion in five major markets, a 15% increase in the past two years (2018-2020) and 55% increase in the past four years (2016-2020).
- Also, COVID-19 pandemic has been accelerating the trend.



Proportion of sustainable investing assets relative to total managed assets



35.9% of total assets under management are sustainable investments



Global sustainable investment at \$35.3 trillion

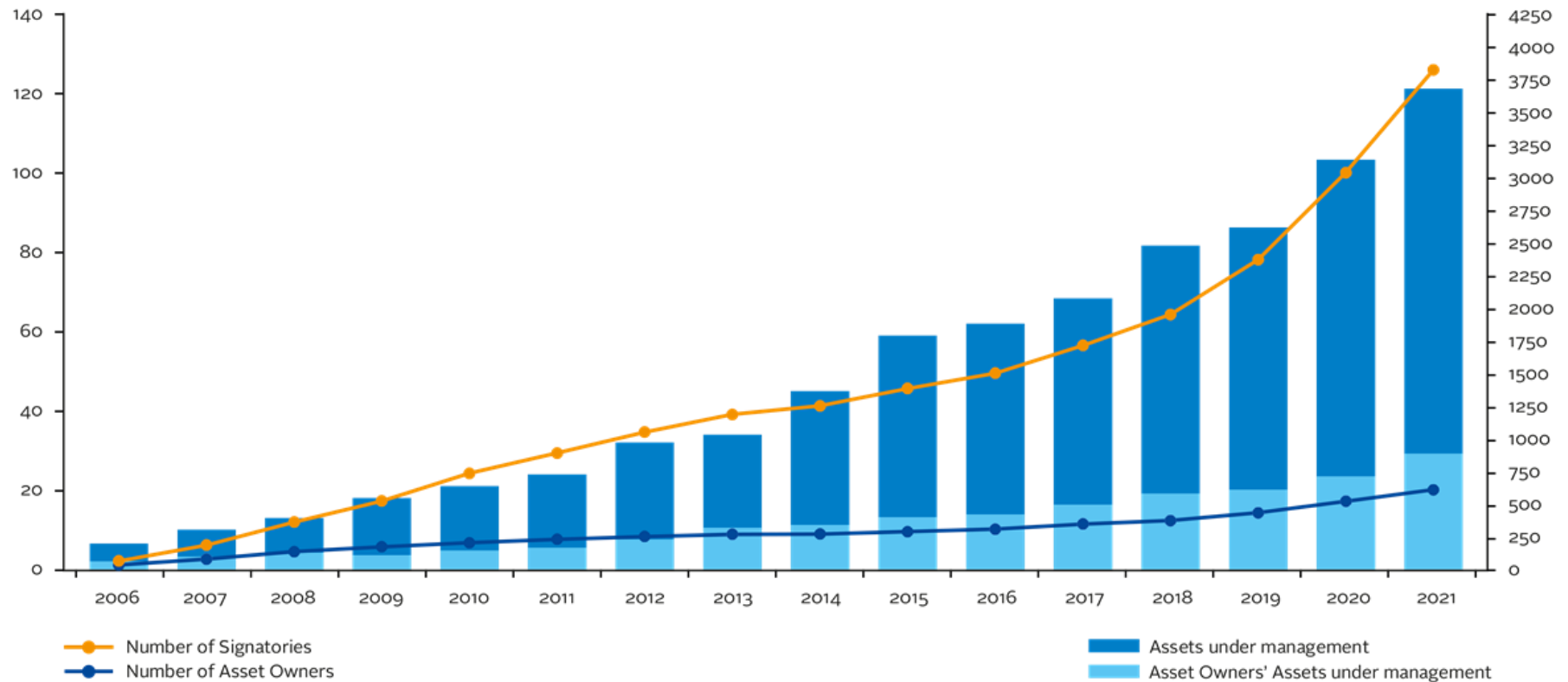
Recent Asset Pricing Theories on ESG

- There are several studies on taste-based portfolio theory and asset pricing in the presence of green investors.
- *Baker, Bergstresser, Serafeim, and Wurgler (2018), Baker, Hollield, and Osambela (2020), Zerbib (2020), Pastor, Stambaugh, and Taylor (2021), and Pedersen, Fitzgibbons, and Pomorski (2021)*

Background of ESG Investing (cont.)

Assets under management (US\$ trillion)

N° Signatories

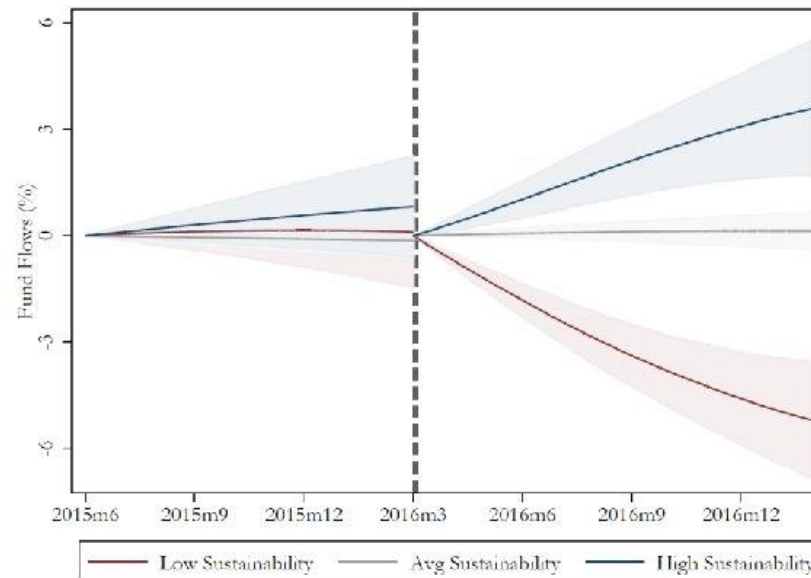


The PRI is the world's leading proponent of responsible investment

Background of ESG Investing (cont.)

- When it comes to ‘individual investor’...
- Sustainable investing is growing fast and mutual funds that invest according to ESG ratings experience sizable inflow (Hartzmark and Sussman, 2019, Journal of Finance)

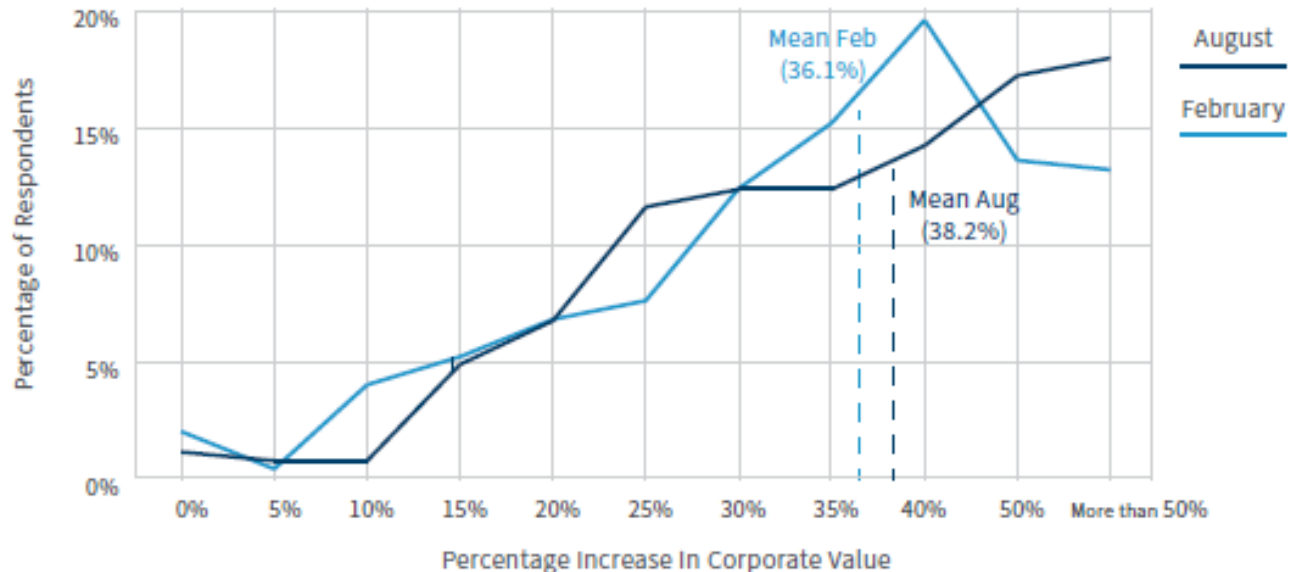
The paper in one picture



Background of ESG Investing (cont.)

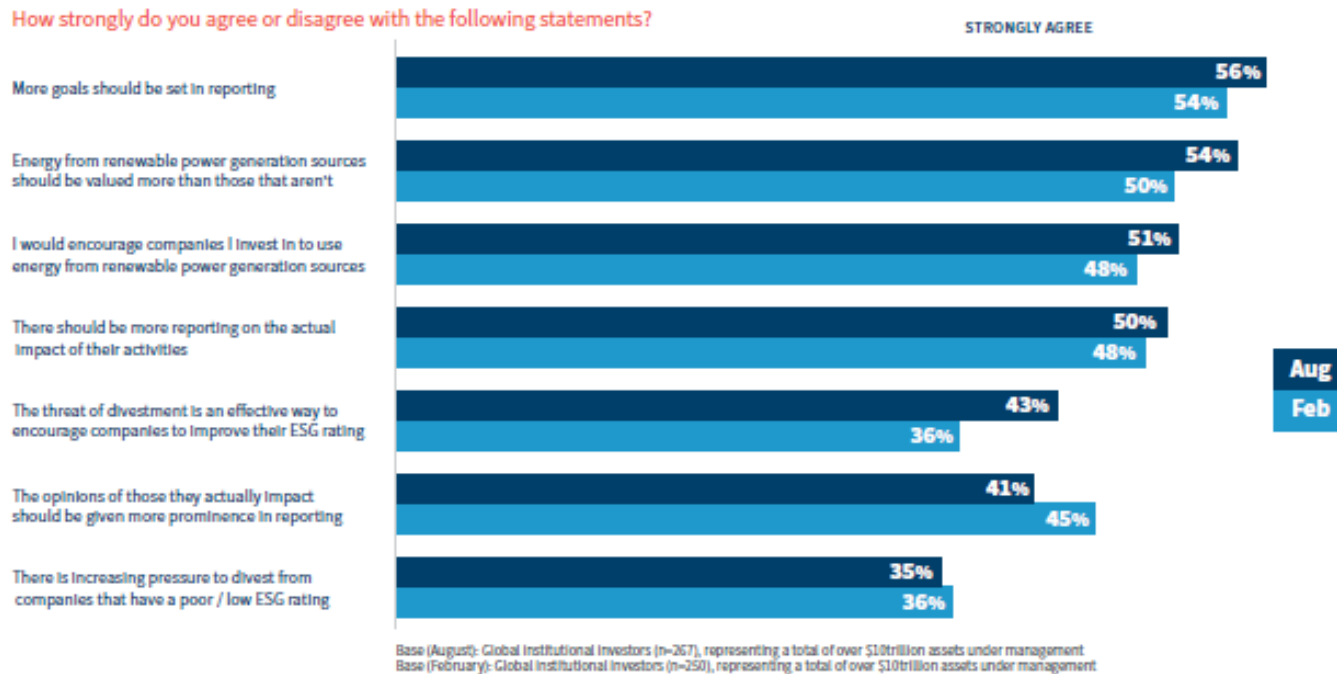
- COVID-19 has increased institutional investors' focus on ESG.

What extra percentage of corporate value would you attribute to a company if they had an extremely positive/high ESG rating?



Background of ESG Investing (cont.)

- COVID-19 has increased institutional investors' focus on ESG.



Background of ESG Investing (cont.)

- According to the report by Morningstar (Q4 2021), assets in sustainable funds hit a record high of USD 1.258 billion as of the end of September 2020 with Europe surpassing the USD 1 trillion mark.
- Global sustainable fund assets expanded by 9% in the fourth quarter to USD 2.74 trillion at the end of December 2021.
- Investor's interest in ESG issues has been driving the increase in inflows the sustainable funds, there was a 12% increase relative to the third quarter (Q3 2021).

Exhibit 6 Sustainable Fund Flows Compared With Conventional Fund Flows (USD Billion)

USD, Bn	Sustainable Funds		Conventional Funds		Overall Fund Universe	
	Q3*	Q4	Q3*	Q4	Q3	Q4
2021						
Allocation	16.3	16.6	29.2	21.6	45.5	38.3
Alternative	0.1	0.4	5.3	4.4	5.4	4.9
Commodities	0.0	0.2	0.9	0.7	1.0	0.9
Convertibles	0.4	0.4	0.4	-0.5	0.8	-0.1
Equity	56.0	70.0	12.6	15.0	68.6	84.9
Fixed Income	20.9	24.7	70.8	38.0	91.7	62.6
Miscellaneous	0.5	0.7	-0.6	0.2	0.0	0.8
Property	-0.1	0.1	2.4	2.9	2.3	3.0
Total	94.2	113.1	121.1	82.2	215.3	195.3

Source: Morningstar Direct, Manager Research. Data as of December 2021. * Q3 data has been restated as explained above.

Background of ESG Investing (cont.)

- Along with the growing interest from investors and institutional investors has come growing scrutiny.
- In Europe, the Sustainable Finance Disclosure Regulation (SFDR) is a set of EU rules which aim to make the sustainability profile of funds more comparable and better understood by end-investors.
- In the U.S., the Securities and Exchange Commission (SEC) has been considering to propose mandatory ESG disclosure requirements.



Background of ESG Investing (cont.)

- There is growing evidence that investors and financial intermediaries are increasingly factoring ESG assessments into investment decisions.
- There has been a **growing influence** of ESG data and ratings.
- Thus, the importance of quality of well-structured ESG data and ratings has been important.

What is ESG Data?



Environmental

Climate crisis
Carbon emissions
Water efficiency
Renewable Energy



Social

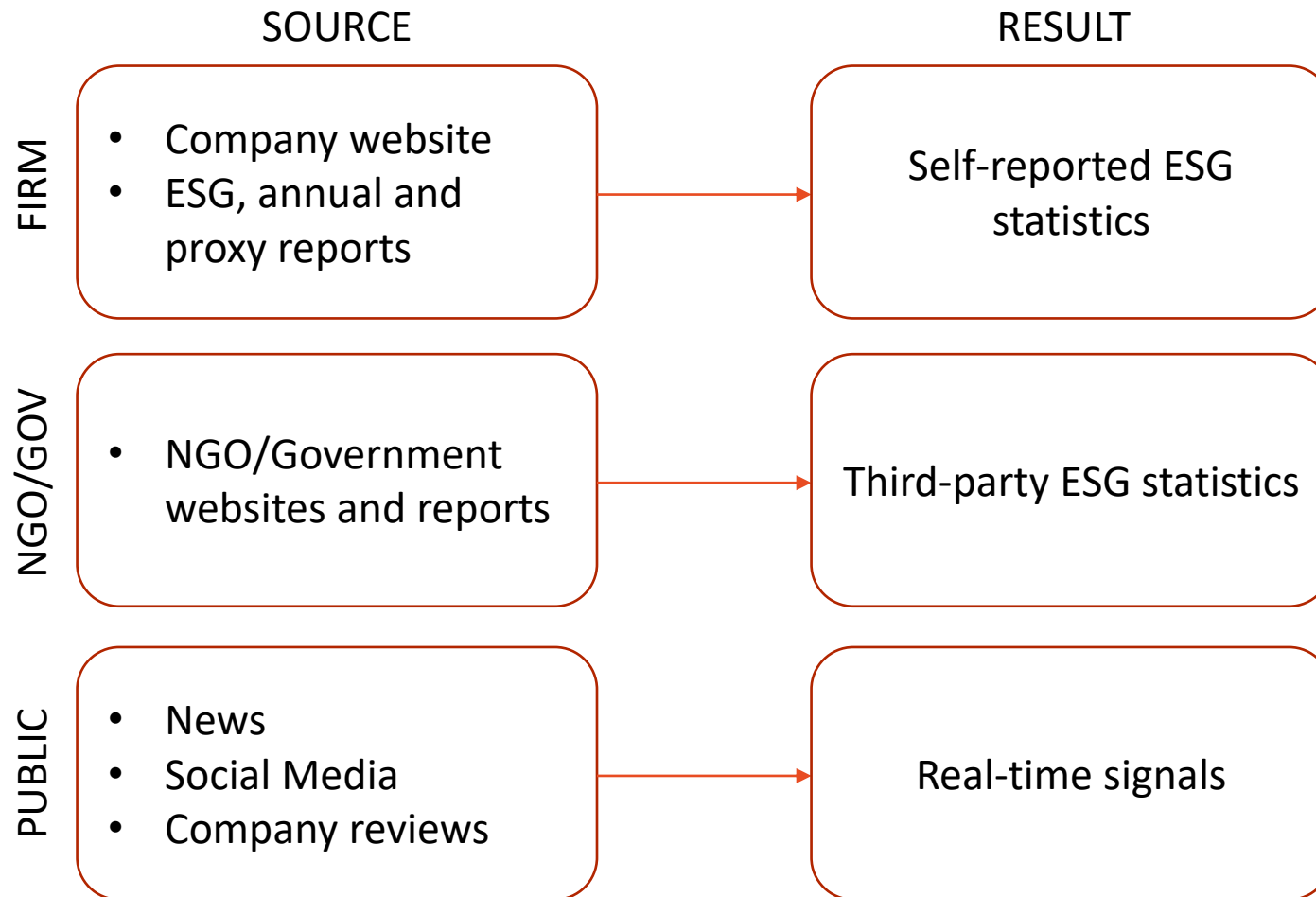
Equal opportunities
Health and safety
Human rights
Customer & products responsibility
Child labor



Governance

Business ethics
Board independence
Executive compensation
Shareholder democracy

Which information? How to collect?



Example: ESG Report



Overall

\$4.7B
green bonds

Apple remains the largest corporate issuer of green bonds, underscoring our strong commitment to the environment.

35% ↓
reduction of emissions

We've reduced Apple's overall carbon footprint by nearly 35 percent since our emissions peaked in 2015. And we've now committed to carbon neutrality by 2030.

UN Climate Neutral Now Award

The United Nations recognized our achievements in reducing carbon emissions.

Operations

100% ♻️
renewable electricity

We continue to use 100 percent renewable electricity at Apple stores, data centers, and offices across 44 countries.

70+
suppliers committed to clean energy

More than 70 suppliers have committed to 100 percent renewable electricity for Apple production.

CDP A rating

For our work to reduce carbon emissions, we were recognized for the sixth consecutive year in CDP's Climate Change "A List."

Design

100% ♻️
recycled rare earth elements in iPhone

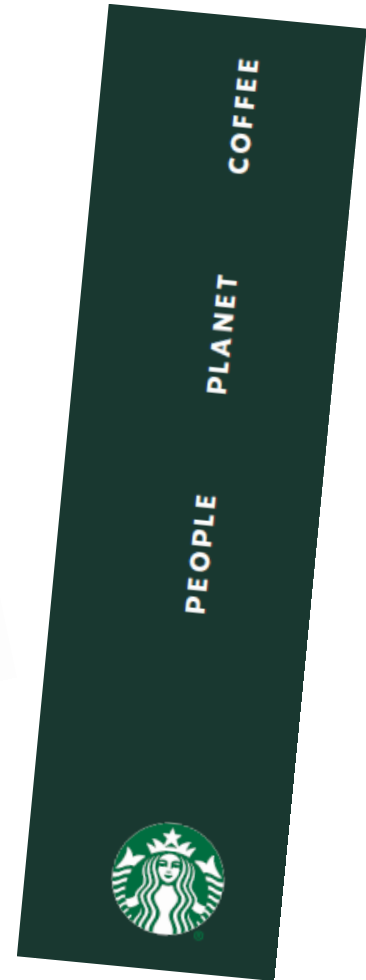
The Taptic Engine in iPhone 11, iPhone 11 Pro, and iPhone 11 Pro Max is built from 100 percent recycled rare earth elements—a first for Apple and for any smartphone.¹

40%
recycled content in MacBook Air

The 13-inch MacBook Air with Retina display, introduced in July 2019, contains over 40 percent recycled content.

A+
Mind the Store

Apple was the only retailer to receive the top rating in the "Mind the Store" campaign for our work to eliminate harmful chemicals in products and packaging.



ESG Rating Provider

- The ESG Rating Provider (Agencies) are organizations that investigate a firm's environmental, social, and corporate governance policies to determine its sustainability.
- Given growing importance of ESG data and ratings, there have been a growing number of players. But, there are several key players.¹

1. ISS acquired Oekom Research in 2018; MSCI acquired GMI Ratings in 2014 and Carbon Delta in 2019; Moody's acquisition of Vigeo Eiris in 2019; S&P acquired Trucost in 2016 and ESG rating business of RobecoSAM in 2019; Morningstar acquired Sustainalytics in 2020; Deutsche Borse;s acquisition of ISS in 2020.

ESG Rating Provider (cont.)

Table 1 – Main ESG Data and Ratings Providers

Research Process	Sustainalytics	MSCI	ISS ESG	V.E (Moody's)	S&P ESG	Refinitiv	FTSE Russell	CDP	RepRisk	Arabesque
Team Size	200+	270+	180+	120+	100+	150+	-	150+	100+	35
Coverage	12,000+	14,000+	6,000+	5,000+	7,000+	9,000+	7,000+	9,000+	170,000+ **	7,000+
Score Upper	100	AAA	A+	100	100	100	5	A	100 AAA	100
Score Lower	0	CCC	D-	0	0	0	0	F	1 D	0
Rating Cycle	Annual*	Annual*	Annual*	Annual*	Annual*	Weekly	Annual	Annual	Daily	Daily
Ratings Made Public	●	●	●	●	●	●	●	●	●	●
Indices Supplied	Solactive, STOXX, S&P	MSCI, Bloomberg	STOXX, Solactive	Euronext	S&P, DJSI	Refinitiv	FTSE	Euronext, STOXX	FTSE, DowJones, S&P	S&P
Data Verification by Companies	●	●	●	●	●	●	●	●	●	●
Second Party Opinion*	●	●	●	●	●	●	●	●	●	●

● Yes ● No

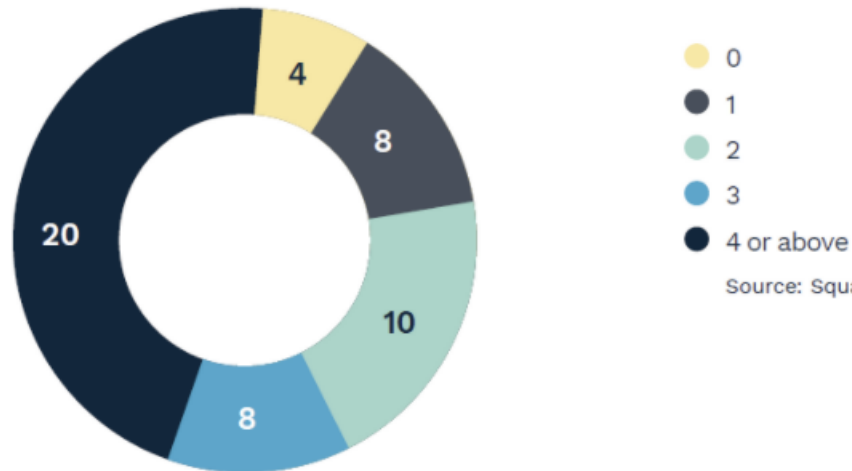
Source: SquareWell

*Although full review of all rated companies is conducted annually, company information such as involvement in controversies is updated on a daily basis, which could lead to a score change any time during the year.

**Includes private companies

ESG Rating Provider (cont.)

Chart 1 – The Number of ESG Ratings and Data Providers Used By The Largest 50 Asset Managers

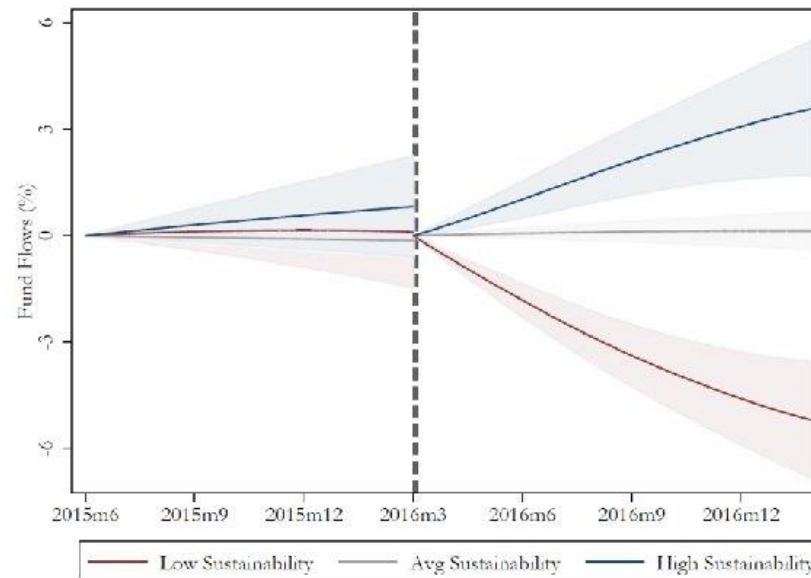


Source: SquareWell, The Playing Field

Institutional investors care...

- Sustainable investing is growing fast and mutual funds that invest according to ESG ratings experience sizable inflow (Hartzmark and Sussman, 2019, Journal of Finance)

The paper in one picture



Conflicts of Interest?

- In the past two years, U.S. firms in the financial-services sector have spent more than \$3.5 billion buying green-ratings firms and data providers. (The Wall Street Journal)
- In many cases, firms that rate or evaluate companies based on issues such as climate risk also sell services to help companies address these issues.
- Like the credit rating industry, there can be potential conflicts of interests.

The ESG Mirage

The largest ESG rating company doesn't
all about whether the world might mess
reads "Sustainable Investing Is Really About
Saijel Kishan.
Dec 10, 2021

Wall Street's Green Push Exposes New Conflicts of Interest

Auditors, bond raters and others aim to profit by both judging and advising companies on their ESG scores

the world. It's
Mark Leydorf
Simpson, Akshat Rath, and

Conflicts of Interest?

- Morningstar gives out performance awards that are available for only to companies that pay it for an ESG assessment.
- Credit-rating firm's sales of ESG services create a further, set of potential conflicts.
- Moreover, credit-ratings agencies are more likely to be reluctant to downgrade companies that pay them big fees.

The ESG Mirage

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Academic studies with ESG Rating

- There is a growing number of academic studies that rely on ESG ratings.

e.g. Servaes and Tamayo (2013), Flammer (2015, 2021), Albuquerque et al. (2018), Avramov et al. (2021)

- Flammer (2021, Journal of Financial Economics) examines corporate green bonds and finds that green bond issuers improve their environmental performance post issuance (an increase in the firm's ESG rating).
- Avramov et al. (2021, Journal of Financial Economics) analyzes the asset pricing and portfolio implications of an important barrier to sustainable investing: uncertainty about the corporate ESG profile. By employing the ESG ratings from six ESG rating provider as proxy for ESG uncertainty, they provide supporting evidence for model prediction.

Divergence of ESG ratings (Berg et al. (2022))

- Berg et al. (2022) document the rating divergence of environmental, social, and governance (ESG), based on six key ESG rating agencies: KLD, Sustainalytics, Moody's ESG, S&P Global, Refinitiv (Asset4), and MSCI.

Correlations between ESG Ratings

Correlations between ESG ratings at the aggregate rating level (ESG) and at the level of the environmental dimension (E), the social dimension (S), and the governance dimension (G) using the common sample. The results are similar using pairwise common samples based on the full sample. SA, SP, MO, RE, KL, and MS are short for Sustainalytics, S&P Global, Moody's ESG, Refinitiv, KLD, and MSCI, respectively.

	KL SA	KL MO	KL SP	KL RE	KL MS	SA MO	SA SP	SA RE	SA MS	MO SP	MO RE	MO MS	SP RE	SP MS	RE MS	Average
ESG	0.53	0.49	0.44	0.42	0.53	0.71	0.67	0.67	0.46	0.7	0.69	0.42	0.62	0.38	0.38	0.54
E	0.59	0.55	0.54	0.54	0.37	0.68	0.66	0.64	0.37	0.73	0.66	0.35	0.7	0.29	0.23	0.53
S	0.31	0.33	0.21	0.22	0.41	0.58	0.55	0.55	0.27	0.68	0.66	0.28	0.65	0.26	0.27	0.42
G	0.02	0.01	-0.01	-0.05	0.16	0.54	0.51	0.49	0.16	0.76	0.76	0.14	0.79	0.11	0.07	0.30

Divergence of ESG ratings (cont.)

- Chatterji et al. (2016) provides two reasons for the divergence: (1) how ESG raters define what they intend to measure; (2) whether it is measured reliably.
- Christensen et al. (2021) examine whether a firm's ESG disclosure helps explain disagreement from ESG ratings. They find that ESG disclosure generally exacerbates ESG rating disagreement instead of resolving it.
- Brandon et al. (2021) has asked a fundamental question about whether ESG rating disagreement affects stock returns. They find that stock returns are positively related to ESG rating disagreement.

Divergence of ESG ratings (cont.)

- Berg et al. (2022) argues that there are three distinct sources of divergence; (1) *Scope divergence*, (2) *Measurement divergence*, (3) *Weight divergence*
- They categorize 709 indicators provided by the different data provider into a common taxonomy of 64 categories.
- They find that measurement divergence is the main driver of ESG rating divergence. Furthermore, their findings show that the disagreement of ESG rating is mainly driven by a fundamental disagreement about the underlying data rather than a matter of varying definitions.

Divergence of ESG ratings (cont.)

- ESG ratings from different providers significantly disagree.
- This disagreement has important consequences.
 1. Difficult to evaluate the ESG performance of firms, funds, and portfolios
 2. ESG rating divergence can discourage firm from improving their ESG performance. (Mixed signals from rating agencies → lead to underinvestment)
 3. **The divergence of ratings poses a challenge for empirical research, as using one rater versus another may alter a study's results and conclusion!**

Thank you for your attention!

- Munhee Han

Reference

- Boffo, R., and R. Patalano (2020), “ESG Investing: Practices, Progress and Challenges”, OECD Paris.
- GSIA (2021), “Global Sustainable Investment Review 2020”, Global Sustainable Investment Alliance.
- Morningstar Manager Research (2022), “Global Sustainable Fund Flows—Q4 2021 | January 2022”, Morningstar.
- Hirai, A., and A. Brady (2021), “Managing ESG Data and Rating Risk”, Harvard Law School Forum on Corporate Governance
- Berg, F., Koelbel, J., Rigobon, R., (2022), “Aggregate confusion: the divergence of ESG ratings”, Massachusetts Institute of Technology
- “Where Will ESG Investing Be in Five Years?” The Wall Street Journal, November 18, 2021

Reference

- Chatterji, A. K., Durand, R., Levine, D. I., and Touboul, S. (2016). Do ratings of firms converge? Implications for managers, investors and strategy researchers. *Strategic Management Journal*, 37(8):1597–1614.
- Christensen, D. M., Serafeim, G., and Sikochi, A. (2021). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *The Accounting Review*.