Master of Science
Sustainable Management and Technology

SUSTAINABLE AND ENTREPRENEURIAL FINANCE

Rolling window: "out of sample"

Notes from previous Assignment

If you use a benchmark SMP500: price index without paid dividends

Firms with Nan's did fault.
Idea: run ML classification on defaulted companies

Assignment 2 message:
Take the same sample of firms
IF some don't have co2 emissions, find 100 with co2 emissions and run all code from assignment 1 again.

Eric Jondeau and Shema Mitali

SUSTAINABLE FINANCE

Lecture 5: ESG Investing

Eric Jondeau

Objectives of the lecture

We now focus on the second main topic of sustainable finance: ESG investing

1. What are the main objectives of ESG investing?

- Investor’s preference (“Doing good while doing well”)
- Risk management (“Climate risk is investment risk”, Larry Fink, 2021) Especially for ClimChnge
- Long-term performance Some oil&gas reserves may move into resources

On the contrary if we're not able to get energy from renewable sources, energy prices will increase, and the oil&gas companies will earn a lot of money.

2. Main approaches

- ESG integration, exclusion, or best-in-class Select companies according to your values, Maybe not very high impact on companies
- Engagement Push companies in the right direction
- Impact investing Invest for the impact. Invest in smaller firms.

Social part of ESG: in principle the profit will benefit from the good social policy.

3. Main steps of the lecture

- We describe the market for ESG investing
- We illustrate the main strategies of ESG investing
- We show how it works in practice (CRML website)

Objectives of the lecture

Readings

Berg, F., J. Koelbel, and R. Rigobon (2022): Aggregate Confusion: The Divergence of ESG Ratings, *Review of Finance*, 26 (6), 1315-1344

Alessandrini, F., and E. Jondeau (2020) "ESG Investing: From Sin Stocks to Smart Beta" (2020), *Journal of Portfolio Management*, Ethical Investing 2020, 46 (3), 75-94

Alessandrini, F., D. Baptista Balula, and E. Jondeau (2022), "ESG Screening in the Fixed-Income Universe", *Journal of Investment Management*, 20(4), 65-86

Objectives of the lecture

➔ **Concepts and Definitions**

- **ESG Scoring**
- **ESG Strategies**
- **ESG Regulation**

Concepts

Three concepts with a similar meaning

UN development goals would be fall into another catagory.

Sustainable investing

(Many dimensions, a lot like ESG)

Sustainable investing is an investment approach that considers environmental, social and governance (ESG) factors in portfolio selection and management

Socially responsible investing (SRI)

Socially: ambigous, but not just about the S, also the government

Socially responsible investing (SRI) is an investment strategy that is considered socially responsible, because it invests in companies that have ethical practices

Environmental, Social and Governance (ESG)

Environmental, Social, and Corporate Governance (ESG) refers to the factors that measure the sustainability of an investment

7 ESG Strategies

What firms and sector would we exclude

1 Exclusion

2. Values

Negative/exclusionary screening

Norms-based screening

3. Selection

Renewable energy,
Health care...

4. Thematic

Try to invest by integratng
components of ESG

5. Integration

Best-in-class/positive screening

Sustainability themed/thematic investing

ESG integration

6. Engagement

7. Impact

Corporate engagement and shareholder action

Impact investing and community investing

7 ESG Strategies

1. Negative/exclusionary screening

Exclusion from a fund or portfolio of certain sectors, companies, countries or other issuers based on activities considered not investable. Exclusion criteria can refer to product categories (e.g., weapons, tobacco), company practices (e.g., animal testing, violation of human rights, corruption) or controversies

Where is the treshold for when to keep the big energy firms when they have both coal and solar panel tech.
20-30% coal => excluded.

2. Norms-based screening

Screening of investments against minimum standards of business or issuer practice based on international norms such as those issued by the UN, ILO, OECD, and NGOs

Relatively old list...

Note: It's hard to depart from the benchmark, so by excluding a lot, you are!

In Europe, the top exclusion criteria are (1) controversial weapons (Ottawa and Oslo treaties), (2), tobacco, (3) all weapons, (4) gambling, (5) pornography, (6) nuclear energy, (7) alcohol, (8) genetically modified organisms and (9) animal testing (Eurosif, 2019) (coal)

...Nuclear about to change in this list...

7 ESG Strategies

3. Best-in-class/positive screening

Can implement: exclusion and best in class.
Overweight best in class

Investment in sectors, companies or projects selected for positive ESG performance relative to industry peers, and that achieve a rating above a defined threshold.

4. Sustainability themed/thematic investing

Investing in themes or assets specifically contributing to sustainable solutions – environmental and social (e.g., sustainable agriculture, green buildings, lower carbon tilted portfolio, gender equity, diversity).

5. ESG integration

Systematic and explicit inclusion by asset managers of ESG factors into financial analysis

7 ESG Strategies

6. Corporate engagement & shareholder action

Employing shareholder power to influence corporate behavior, through direct corporate engagement (i.e., communicating with senior management and/or boards of companies), filing or co-filing shareholder proposals, and proxy voting guided by comprehensive ESG guidelines

7. Impact investing and community investing

Impact investing: Investing to achieve positive, social, and environmental impacts – requires measuring and reporting against these impacts, demonstrating the intentionality of investor and underlying asset/investee, and demonstrating the investor contribution

Community investing: Where capital is specifically directed to traditionally underserved individuals or communities, as well as financing that is provided to businesses with a clear social or environmental purpose. Some community investing is impact investing, but community investing is broader and considers other forms of investing and targeted lending activities.

Market of ESG Investing

Global sustainable investing assets (USD billions)

REGION	2016	2018	2020
Europe*	12,040	14,075	12,017
United States	8,723	11,995	17,081
Canada	1,086	1,699	2,423
Australasia*	516	734	906
Japan	474	2,180	2,874
Total (USD billions)	**22,839**	**30,683**	**35,301**

35 trillion

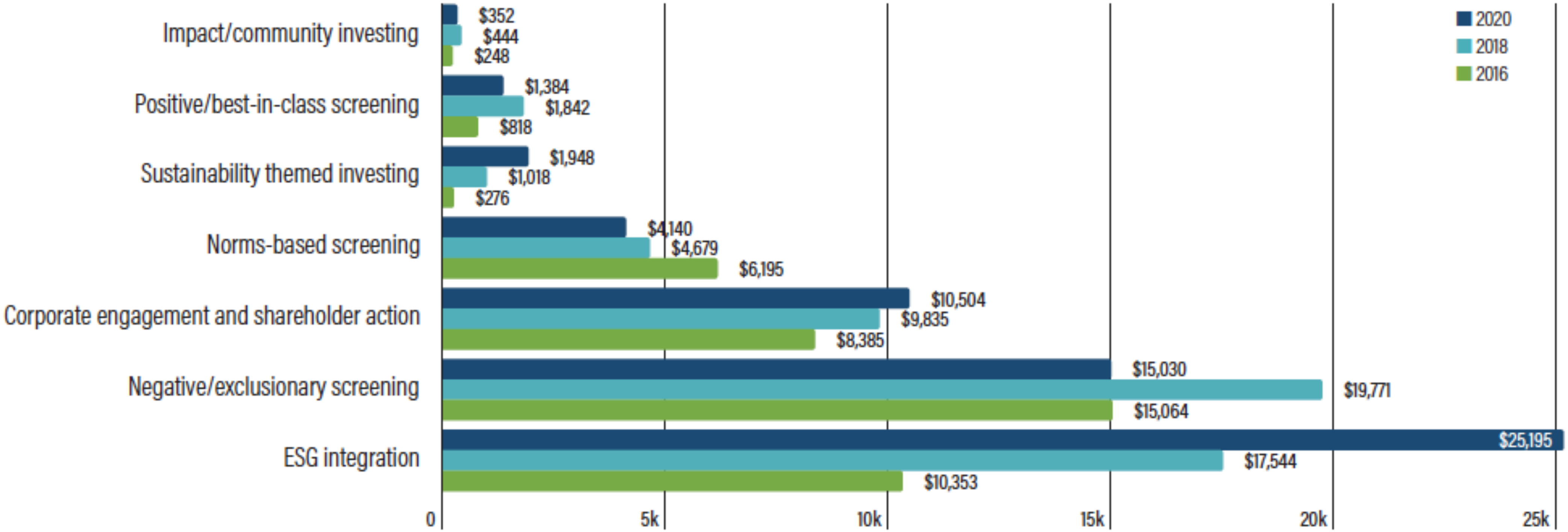
Global assets under management (USD billions)

REGIONS	2016	2018	2020
Total AUM of regions	81,948	91,828	98,416
Total sustainable investments only AUM	22,872	30,683	35,301
% Sustainable investments	27.9%	33.4%	35.9%
Increase of % sustainable investments (compared to prior period)		**5.5%**	**2.5%**

Source: GSIA (2021), Global Sustainable Investment Review.

Market of ESG Investing

Global growth of sustainable investing strategies 2016-2020

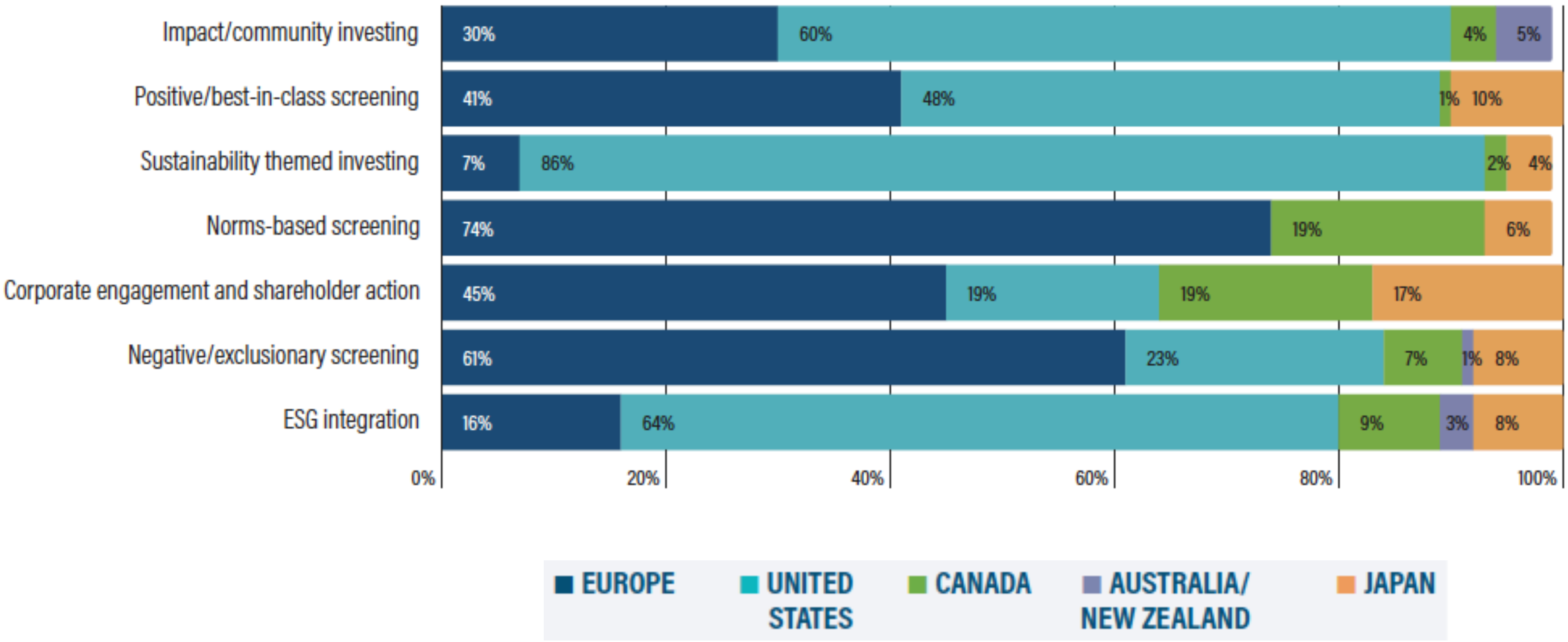


Source: GSIA (2021), Global Sustainable Investment Review.

Market of ESG Investing

Negative exclusion much more common in the EU

Regional share in global use of sustainable investing strategies 2016-2020



Source: GSIA (2021), Global Sustainable Investment Review.

Objectives of the lecture

- Concepts and Definitions

➔ **ESG Scoring**

- ESG Strategies

- ESG Regulation

Concepts of ESG Investing

- **ESG analysis**: extra-financial analysis $\neq$ financial analysis
- **ESG scoring**: quantitative measures of ESG dimensions
- **ESG ratings**: provide a grade (e.g., AAA, AA, A) to an issuer ($\approx$ credit ratings)
- **ESG screening**: process of scanning and filtering issuers based on ESG analysis and scoring ($\approx$ stock screening, bond screening, stock picking)
- **ESG investment process**: define how the investment process integrates ESG
- **ESG reporting**: provide ESG information and measures on the investment portfolio (e.g., ESG risk of the portfolio vs ESG risk of the benchmark, repartition of ESG ratings, top/bottom ESG issuers)

Some ESG Rating Agencies

Fundamental data providers: Broad range of publicly available raw data, from company reports or company websites

- Refinitiv
  previous DataStream
- Bloomberg

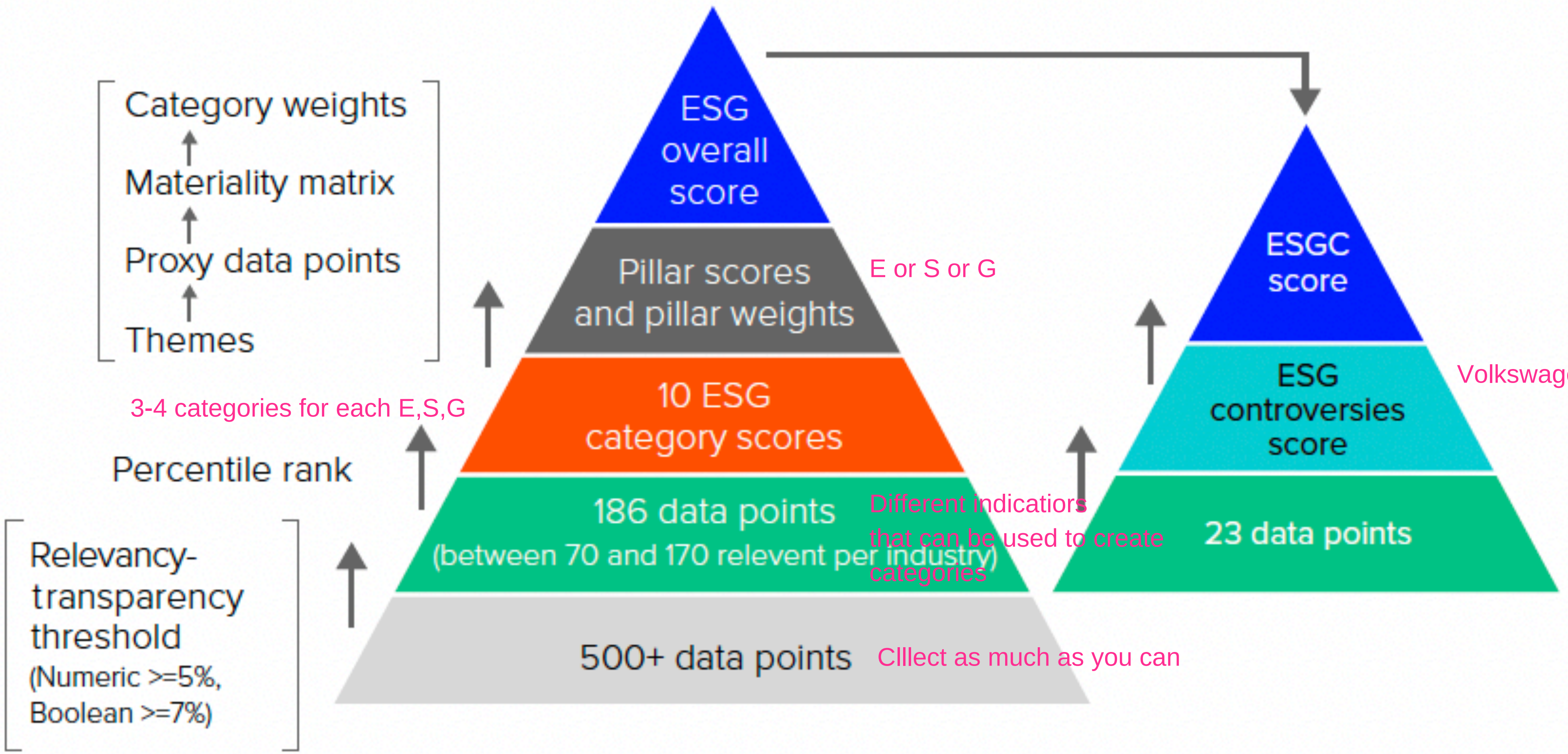
Comprehensive data providers: Combination of publicly available data from media, non-governmental organizations and company reports, and own proprietary questionnaires

- MSCI-ESG Contacts firms and ask them Q's
- Sustainalytics How risky is it for the firm. Impact of planet on the firm
- Vigeo-Eiris
- TruValue Lab (daily update)
- Refinitiv-ESG Dont ask Q's, scrape the web
- ISS ESG
- RobecoSAM
- RepRisk (daily update)

Specialized data providers: In-depth and highly contextualized data covering one or two ESG aspects, such as human rights or climate change (carbon emissions)

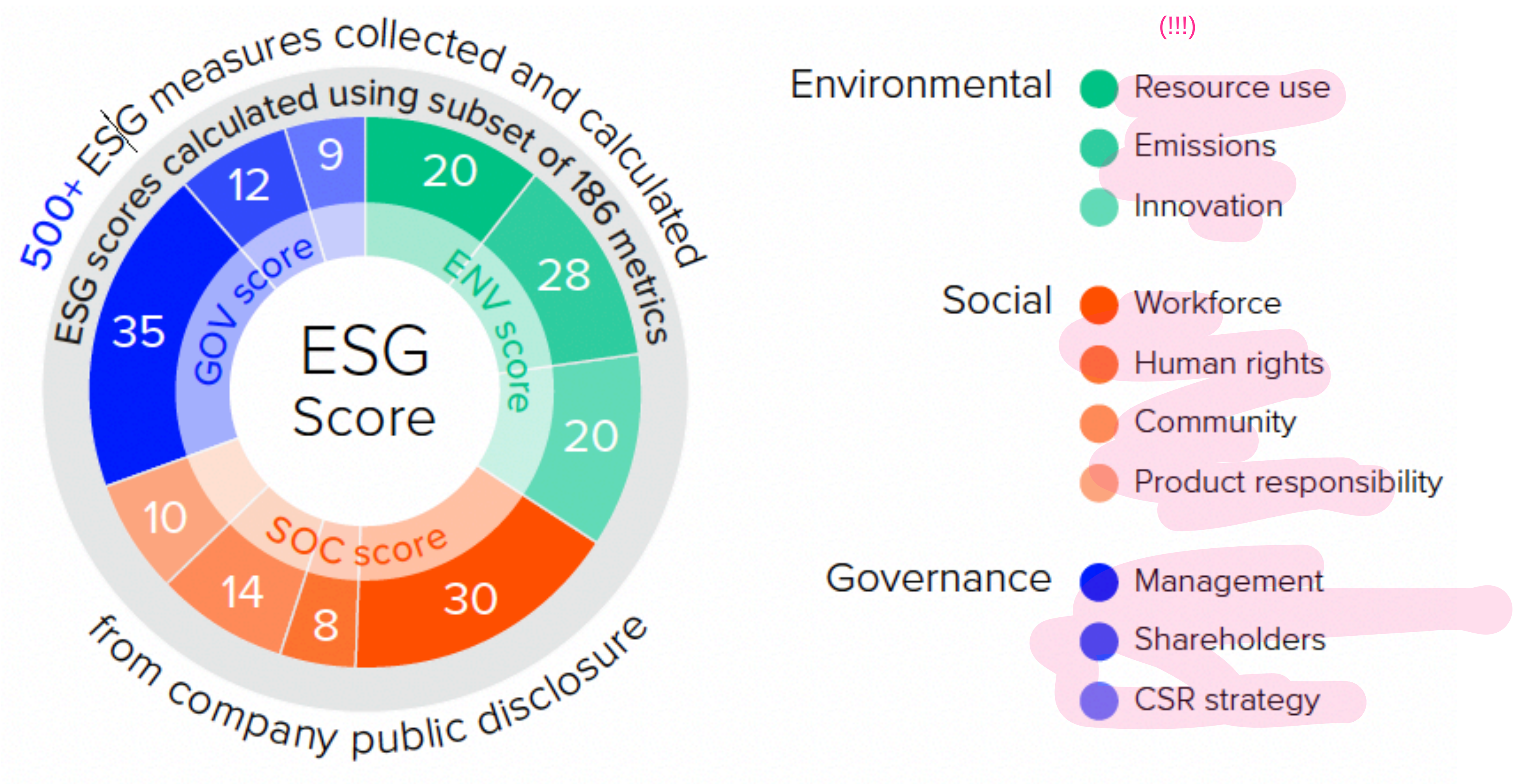
Main source of resource
- CDP (Carbon Disclosure Project)
- TruCost (S&P Global) Use data from CDP, try to improve it and include Scope 3
- Urgentem

Refinitiv-ESG Scoring Methodology



Source: Refinitiv (2021), Environmental, Social and Governance (ESG) Scores from Refinitiv

Refinitiv-ESG



Source: Refinitiv (2021), Environmental, Social and Governance (ESG) Scores from Refinitiv

Scoring System: Refinitiv

Step 1: ESG Category Scores

Key issues: what if threres no data: no answers => its bad

Most indicators as boolean

- Boolean data ("Yes", "No", "Null")
  - Positive polarity Yes=1 No/Null=0
  - Negative polarity Yes/Null=0 No=1

- Numeric data: Relative percentile ranking

Some firms just mention words such as "water" and the scraper assigns 1 / good.

- For each indicator *k*, in a given industry, we compute the score of firm *i* as follows:

Only count half of the good
A way to downgrade the impulsion
to say that you do well

$$\text{Score}_{i,k} = \frac{\text{nb firms } j \text{ with } X_{j,k} < X_{i,k} + \dfrac{\text{nb firms } j \text{ with } X_{j,k} = X_{i,k}}{2}}{\text{nb of firms}}$$

Example 1: There are 12 firms in the industry. For the question "Does the company have a policy to improve emission reduction?" (positive polarity), 5 firms have such a policy, 3 firms do not, and 4 do not disclose this information. Therefore, the score for the 5 firms with a policy is (7+5/2)/12=0.7917. All the other firms obtain a score equal to 0.

Scoring System: Refinitiv

Example 2: For numerical indicator, there is in general no tie between firms. So, the formula is usually equivalent to the relative rank.

Remark: the normalization (ranking) is done at the sector level, not at the universe level.

→ ESG scores are usually relative (w.r.t. a sector), not absolute

→ **Best-in-class** or **Worst-in-class** logic

The score of firm i for the category j is the sum of the scores for all indicators in the category:

$$\text{Score}_{i,j} = \sum_{k=1}^{K_j} \text{Score}_{i,k}$$

where K_j is the number of indicators for category j

Scoring System: Refinitiv

Survive by having a great I and R score, but poor Emission score.

Step 2: Materiality Matrix

Materiality: comes from the US

For each theme within a category, we measure if this theme is **material** for a given industry. This provide the category weights to be used in computing scores.

Two ways to compute the materiality matrix:

- **Industry median:** for numeric indicator (say, carbon emissions), the materiality is based on the rank of a given industry for the median carbon emissions in the industry
- **Transparency weight:** for Boolean indicators, the materiality is based on the level of disclosure in a given industry (proportion of "Yes").

Example: Category weights for some industries ($w_{j,E} + w_{j,S} + w_{j,G} = 1$)

Sum of E+I+R

Industry_j	Emission	Innovation Invest in renewbles	Resource use	E pillar ($w_{j,E}$)	S pillar ($w_{j,S}$)	G pillar ($w_{j,G}$)
Banking services	0.02	0.10	0.02	0.14	0.50	0.36
Coal	0.20	0.02	0.19	0.41	0.28	0.30
Construction materials	0.15	0.12	0.15	0.42	0.34	0.24
Oil and gas	0.11	0.10	0.13	0.34	0.42	0.24
Water and related utilities	0.15	0.13	0.15	0.43	0.31	0.25

Scoring System: Refinitiv

Step 3: Pillar score and ESG score

The pillar score (say, E score) of a firm i in industry j is given by:

$$\text{Score}_i^{(E)} = \sum_{k=1}^{N_E} w_{j,k} \, \text{Score}_{i,k}$$

where $w_{j,k}$ is the relative weight of the score k for industry j (0.15/0.43 for Emission in Water industry) and $\text{Score}_{i,k}$ is the score k for firm i.

The overall ESG score of a firm i in industry j is given by:

$$\text{Score}_i^{(ESG)} = w_{j,E} \, \text{Score}_i^{(E)} + w_{j,S} \, \text{Score}_i^{(S)} + w_{j,G} \, \text{Score}_i^{(G)}$$

where $w_{j,E}$ is the relative weight of the E pillar for industry j (0.43 for E pillar in Water industry) and $\text{Score}_{i,E}$ is the E pillar score for firm i

Mixing a lot of variables, so its hard to decipher and understand what actually made a given company so good

Scoring System: Refinitiv

Step 4: Ratings

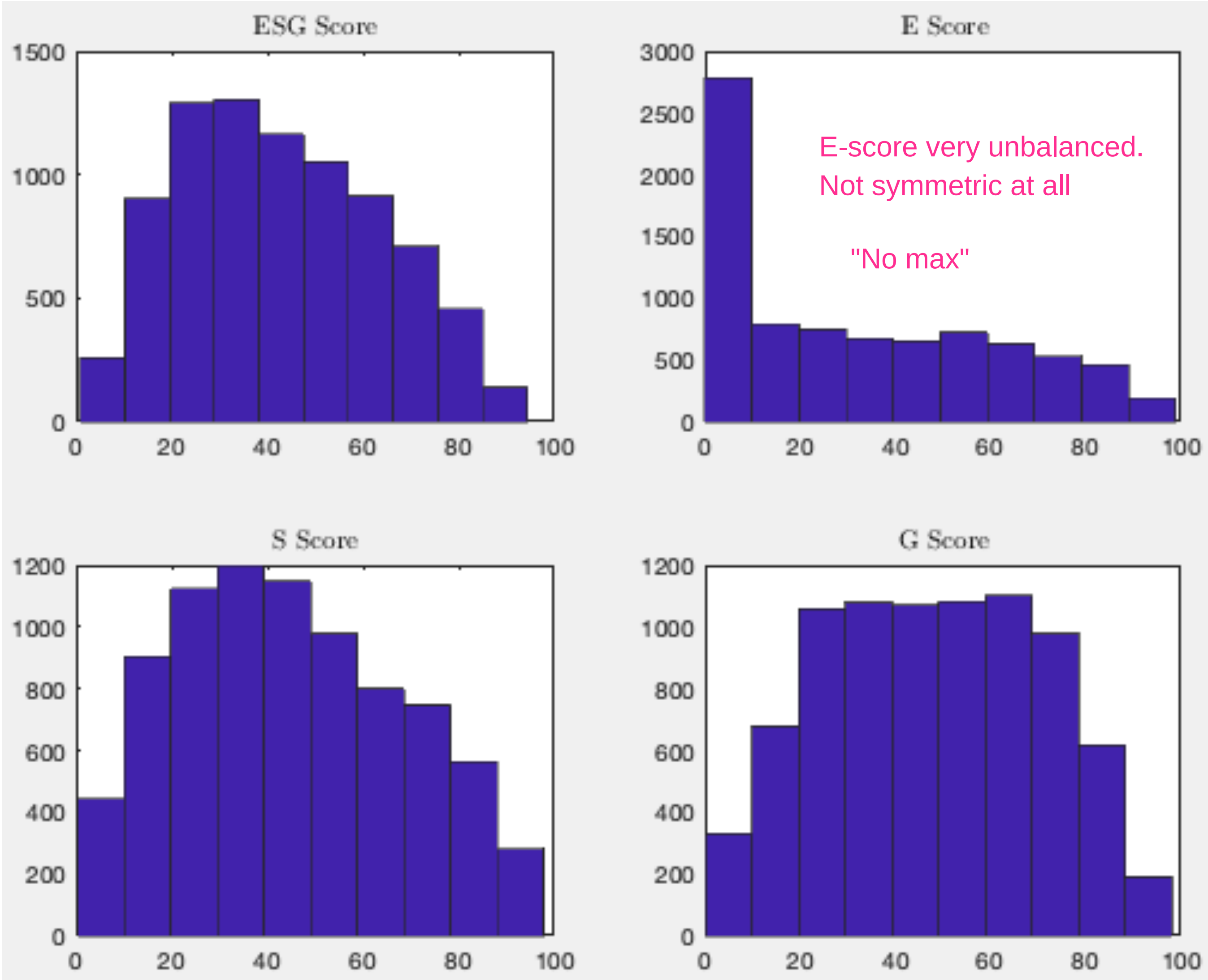
Score range	Grade	Description
0.0 <= score <= 0.083333	D -	"D" score indicates poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly.
0.083333 < score <= 0.166666	D	
0.166666 < score <= 0.250000	D +	
0.250000 < score <= 0.333333	C -	"C" score indicates satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly.
0.333333 < score <= 0.416666	C	
0.416666 < score <= 0.500000	C +	
0.500000 < score <= 0.583333	B -	"B" score indicates good relative ESG performance and above-average degree of transparency in reporting material ESG data publicly.
0.583333 < score <= 0.666666	B	
0.666666 < score <= 0.750000	B +	
0.750000 < score <= 0.833333	A -	"A" score indicates excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly.
0.833333 < score <= 0.916666	A	
0.916666 < score <= 1	A +	

ESG laggards

ESG leaders

Source: Refinitiv (2021), Environmental, Social and Governance (ESG) Scores from Refinitiv

Distribution of Scores with Refinitiv ESG (end of 2019)



Score of 0:
not doing anything

Issues with ESG Scores

Diagnosis by IOSCO (International Organization of Securities Commissions) (2021)

- Little clarity and alignment on definitions, on what ratings intend to measure
- Lack of transparency about the methodologies underpinning the ratings
- Wide divergence within the ESG rating
- Uneven coverage of products offered, with certain industries or geographical areas benefitting from more coverage than others, thereby leading to gaps for investors seeking to follow certain investment strategies
- Potential conflicts of interest where the ESG ratings provider or an entity closely associated with the provider performs consulting services for companies that are the subject of these ESG ratings
- Lack of communication with companies that are the subject of ESG ratings

Issues with ESG Scores

Berg, Koelbel, and Rigobon (2019), "Aggregate Confusion: The Divergence of ESG Ratings"

Comparison of scores provided by several data providers:

SA (Sustainalytics), VI (Vigeo-Eiris), KL (MSCI-KLD), RS (RobecoSAM), and A4 (Refinitiv Asset4)

Correlation between ratings at aggregate ESG level and at E, S, and G level

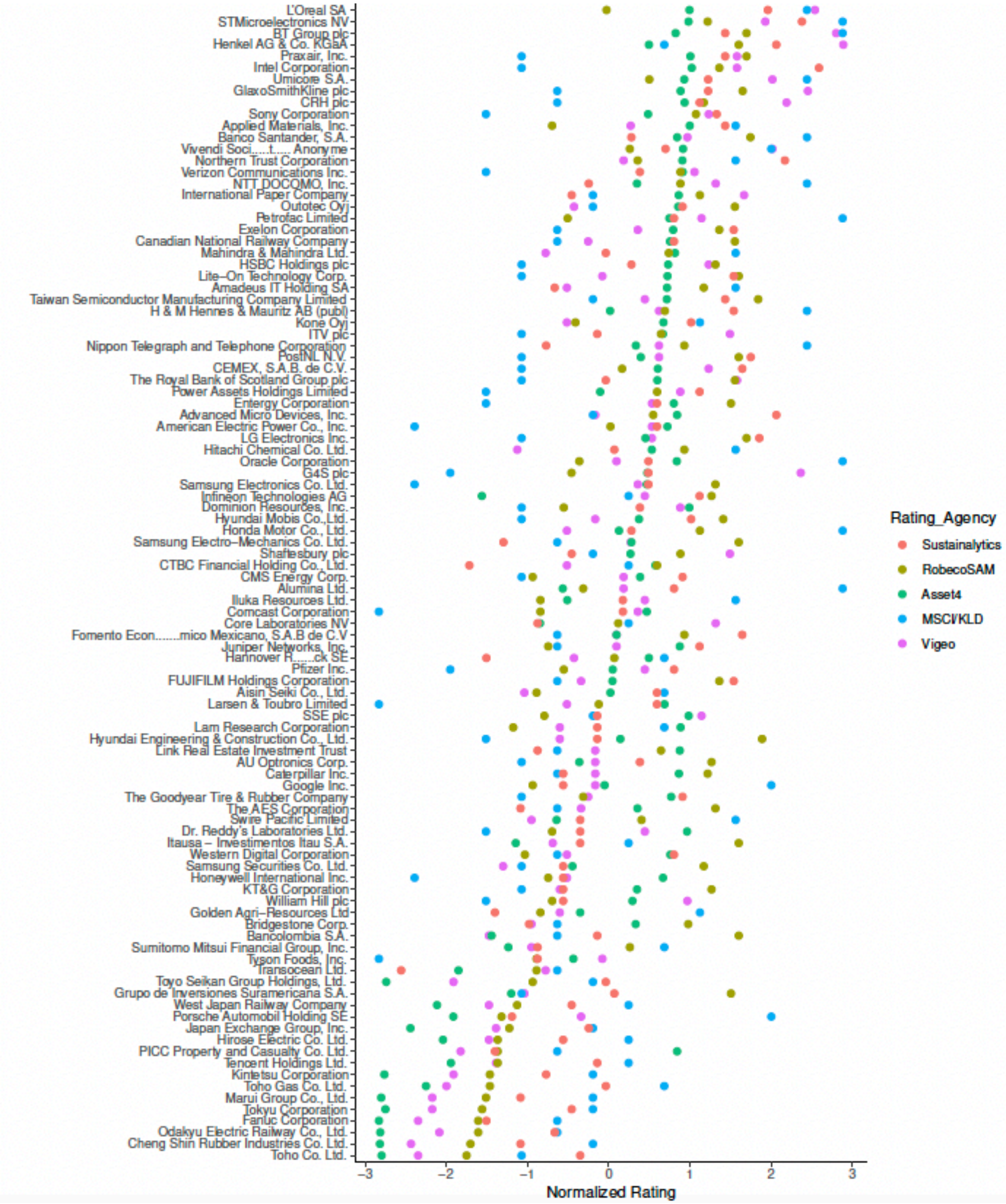
	SA - VI	SA - KL	SA - RS	SA- A4	VI - KL	VI - RS	VI - A4	KL - RS	KL - A4	RS - A4
ESG	0.73	0.53	0.68	0.67	0.48	0.71	0.71	0.49	0.42	0.64
E	0.70	0.61	0.66	0.65	0.55	0.74	0.66	0.58	0.55	0.70
S	0.61	0.28	0.55	0.58	0.33	0.70	0.68	0.24	0.24	0.66
G	0.55	0.08	0.53	0.51	0.04	0.78	0.77	0.24	-0.01	0.81

Average correlation between aggregate ESG scores: 0.61
Average correlation between all E, S, and G scores: 0.52

Remark: Correlation between credit ratings from Moody's and Standard & Poor's: 0.986

100 firms with the lowest median average distance within the common sample

100 firms with the highest median average distance within the common sample



Source of Disagreement

No unique way to test and measure different indicators

Disagreement is decomposed into three sources:

- 53% is due to **measurement**: raters measure the same ESG attribute with different indicators. For example:
  - Labor practices could be evaluated based on workforce turnover, or number of labor cases against the firm
  - Female friendliness could be measured by the gender pay gap, the percentage of women on the board, or the percentage of women in the workforce
- 44% is due to **scope**: different raters include different attributes
  - Most raters consider a firm's greenhouse gas emissions when evaluating its environmental record, but only some will include electromagnetic radiation
  - One rating agency may include lobbying, another might not
- 3% is due to **weight**: different raters place different weights on the individual components when calculating the overall score

Sovereign ESG Data

On a Country leve

Sovereign data can be used for evaluating a portfolio of sovereign bonds.

World Bank's framework: (number of indicators)

Environment (27)	**Social (22)**	**Governance (18)**
Emissions & pollution (5)	Education & skills (3)	Human rights (2)
Natural capital endowment & management (6)	Employment (3)	Government effectiveness (2)
Energy use & security (7)	Demography (3)	Stability & rule of law (4)
Environment/climate risk & resilience (6)	Poverty & inequality (4)	Economic environment (3)
Food security (3)	Health & nutrition (5)	Gender (4)
	Access to services (4)	Innovation (3)

Source: https://datatopics.worldbank.org/esg/methodology.html and https://datatopics.worldbank.org/esg/framework.html

Objectives of the lecture

- Concepts and Definitions
- ESG Scoring

➔ **ESG Strategies**

- ESG Regulation

ESG Investing in World Equity

Alessandrini and Jondeau (2020), "ESG Investing: From Sin Stocks to Smart Beta"

Period: January 2007-December 2018

Excluding high emitters is not that punishing

Universe: World equity

- MSCI-ESG universe
  - Approx. 1'700 firms in 2007
  - Approx. 7'000 firms in 2018

- We restrict the universe to the MSCI-ACWI benchmark (approx. 2'700 firms) that covers large and mid-cap stocks across 23 developed and 24 emerging markets

- **Scores**:
  - Between 0 and 10, 10 is the best
  - Individual E/S/G scores
  - Score adjusted for the industry

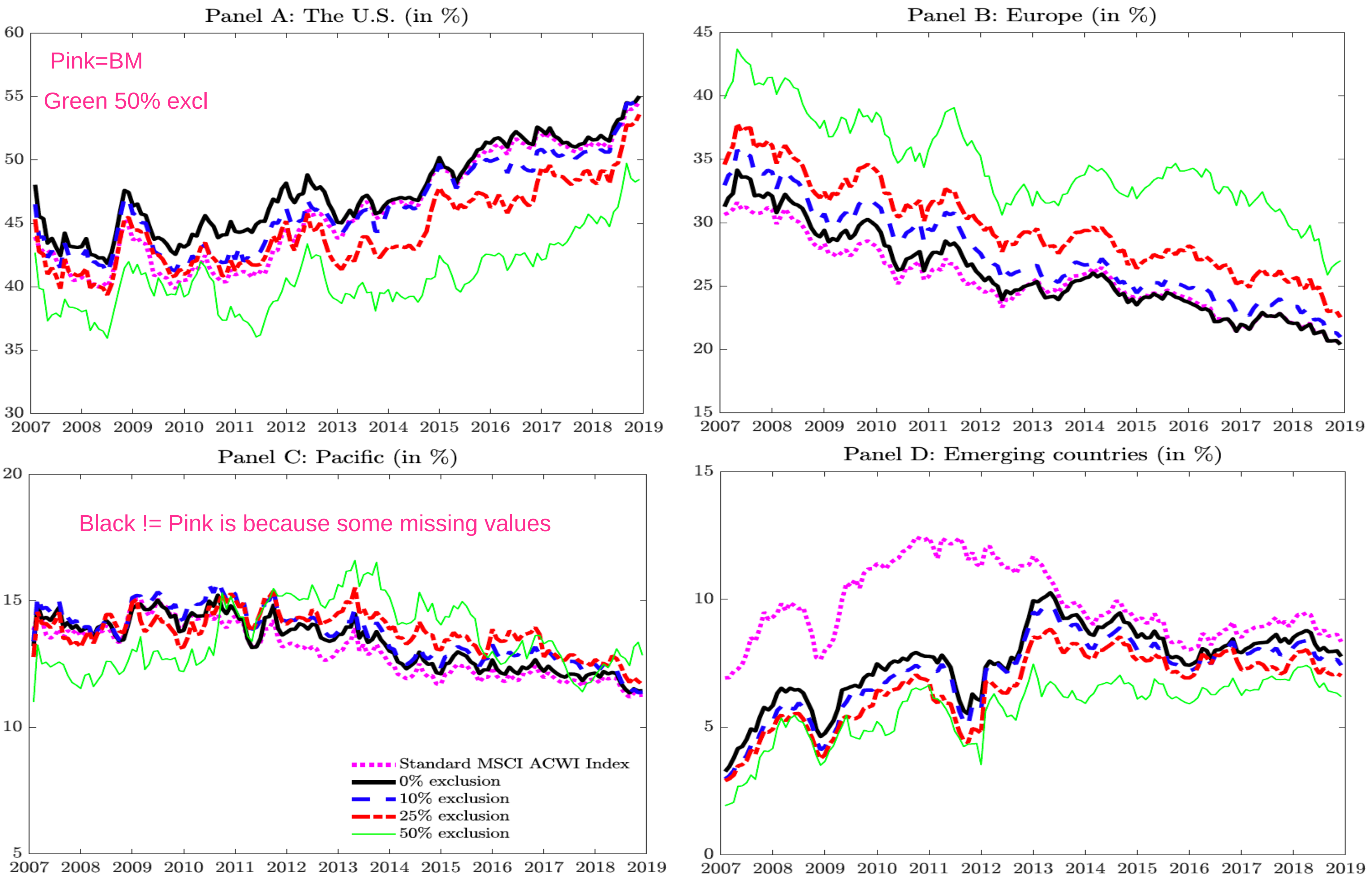
We consider several alternative specifications
- Different scores (ESG, E, S, G)
- Different filters (firms with 10%, 25%, 50% worst scores are excluded)

ESG Exclusion in World Equity

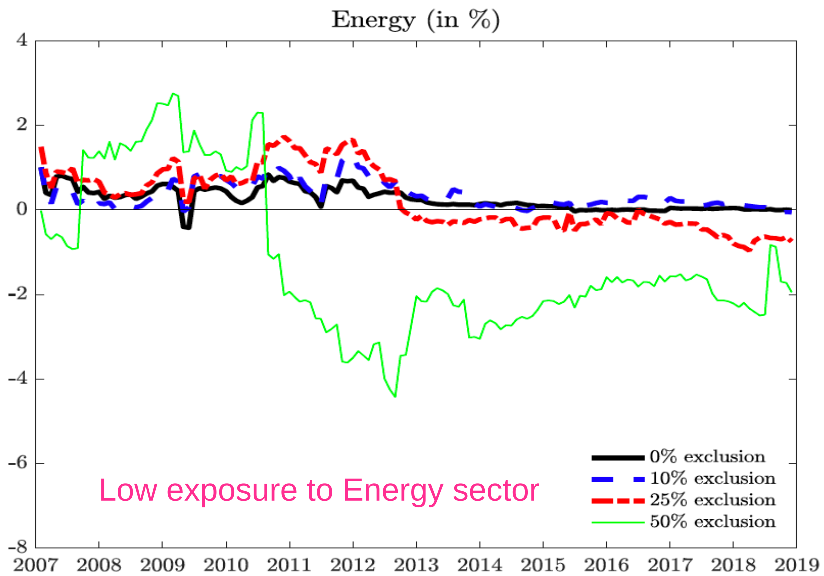
Exclude from the top of ordered list

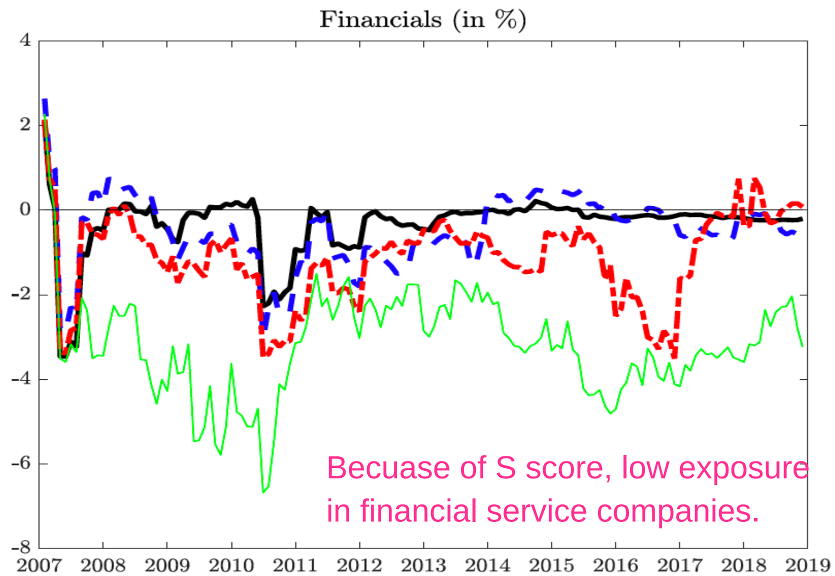
	0% excluded	10% excluded	25% excluded	50% excluded	0% excluded	10% excluded	25% excluded	50% excluded
	Average ESG				**Environment**			
Average score	**5.57**	5.92	6.36	**7.16**	**5.83**	6.07	6.39	**6.98**
Annual return	5.74	5.54	5.60	5.63	5.74	5.70	5.88	6.33
Annual volat.	15.70	15.67	15.61	15.62	15.70	15.68	15.67	15.51
Sharpe ratio	**0.32**	0.31	0.31	**0.31**	**0.32**	0.32	0.33	**0.36**
Tracking error	0.65	0.84	1.05	1.43	0.65	0.78	1.00	1.44
	Social				**Governance**			
Average score	**5.06**	5.32	5.66	**6.23**	**5.61**	5.93	6.27	**7.01**
Annual return	5.74	5.59	5.48	5.51	5.74	5.44	5.40	5.62
Annual volat.	15.70	15.69	15.73	15.87	15.70	15.63	15.56	15.77
Sharpe ratio	**0.32**	0.31	0.30	**0.30**	**0.32**	0.30	0.30	**0.31**
Tracking error	0.64	0.74	0.93	1.42	0.68	0.93	1.11	1.42

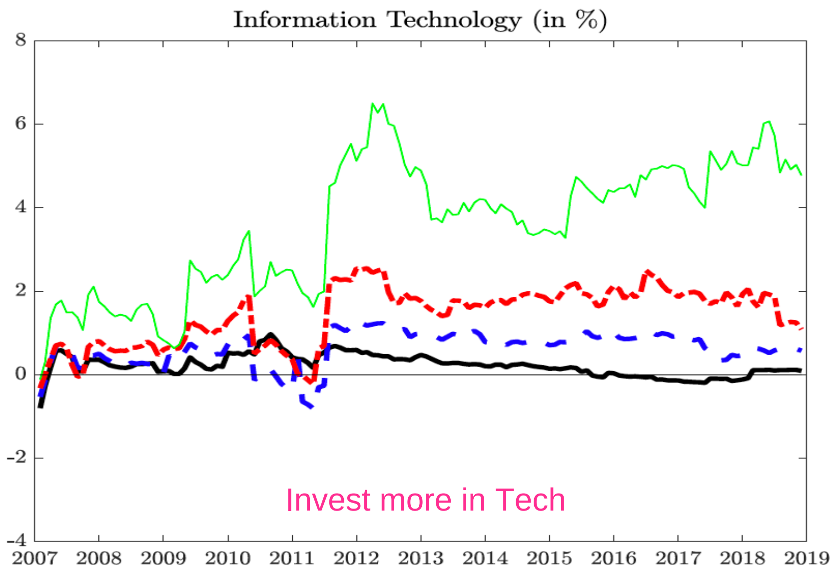
Regional Exposures – Average ESG Score



Sectoral Exposures – Average ESG Score







ESG Investing in World Bonds

Alessandrini, Baptista Balula, and Jondeau (2022), "ESG Screening in the Fixed-Income Universe"

Period: January 2014-December 2020

Universe: World bonds
- Bloomberg Barclays Global Aggregate Corporate Index
- Approx. 6'405 securities in 2014 (817 firms)
- Approx. 11'117 securities in 2020 (1'121 firms)

- Matching with MSCI-ESG data

Several alternative specifications
- Different currency segments (USD, EUR)
- Different scores (ESG, E, S, G)
- Different filters (firms with 10%, 25%, 50% worst scores are excluded)

ESG Exclusion in World Bonds – USD Segment

	0% excluded	25% excluded	33% excluded	50% excluded	0% excluded	25% excluded	33% excluded	50% excluded
	Average ESG				**Environment**			
Average Score	**4.97**	5.83	6.10	**6.69**	**6.16**	7.12	7.38	**7.94**
Annual return	4.31	4.33	4.34	4.36	4.31	4.35	4.36	4.34
Annual volat.	5.22	5.20	5.09	5.07	5.22	4.91	4.88	4.68
Sharpe ratio	**0.66**	0.67	0.69	**0.69**	**0.66**	0.71	0.72	**0.75**
Tracking error	0.09	0.24	0.35	0.51	0.09	0.60	0.66	0.84
	Social				**Governance**			
Average Score	**4.45**	5.04	5.21	**5.58**	**4.89**	5.57	5.74	**6.10**
Annual return	4.31	4.34	4.35	4.33	4.31	4.38	4.41	4.39
Annual volat.	5.22	5.24	5.24	5.24	5.22	5.47	5.52	5.61
Sharpe ratio	**0.66**	0.67	0.67	**0.67**	**0.66**	0.65	0.64	**0.63**
Tracking error	0.09	0.18	0.19	0.23	0.09	0.29	0.33	0.46

ESG Best-In-Class in World Bonds

Strategy:

(1) Exclude firms with the lowest ESG score corresponding to 25% of the market value of the portfolio in a given region-sector

(2) Reinvest the proceeds in firms with the highest ESG score in the same region-sector

This approach has two advantages:

1- It overweighs firms with high scores relative to firms with low scores. In the short term, it reduces the cost of financing of high-score firms

2- It maintains the region-sector risk exposures of the initial portfolio

Potential drawback:

1- It may not maximize the increase in score relative of exclusion strategy

ESG Best-In-Class in World Bonds – USD Segment

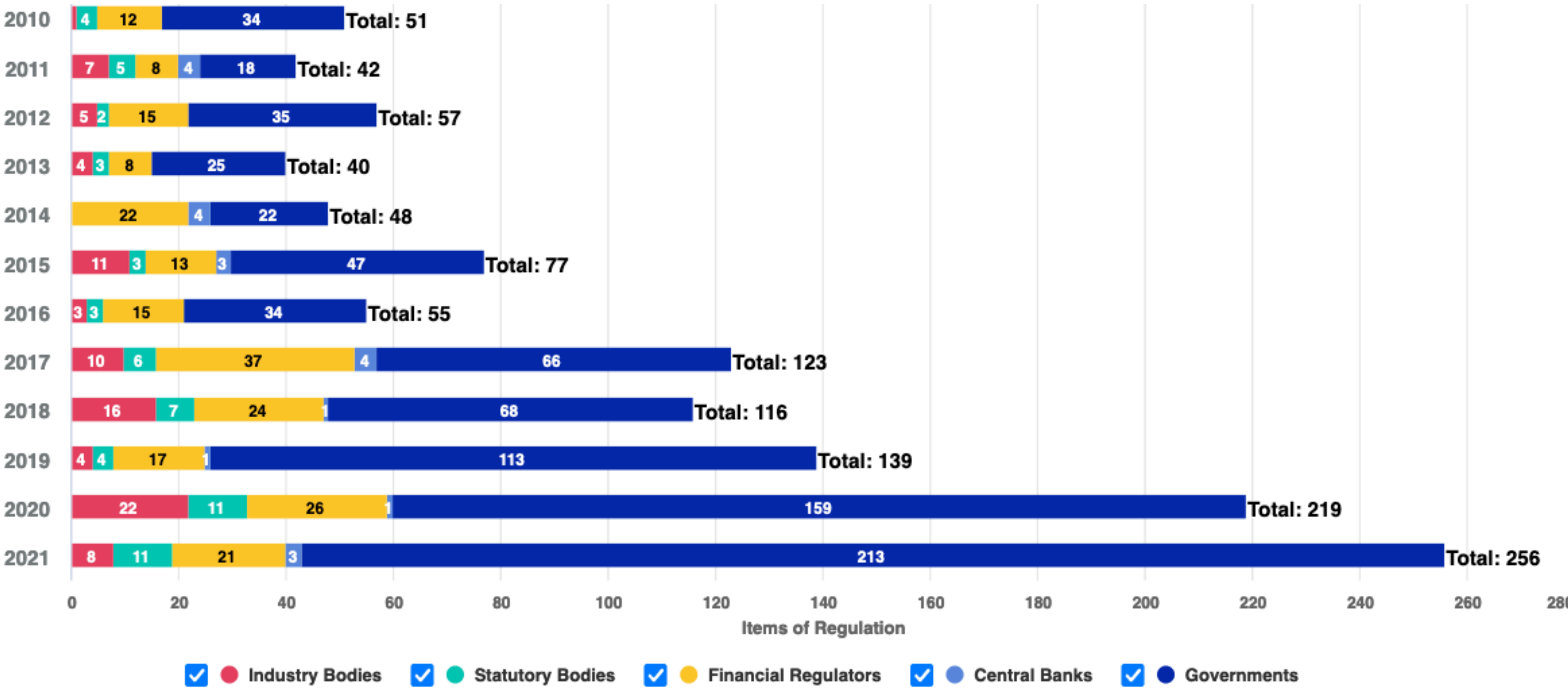
	0% excluded	25% excluded	33% excluded	50% excluded	0% excluded	25% excluded	33% excluded	50% excluded
	Average ESG				**Environment**			
Average Score	**4.97**	6.07	6.24	**6.39**	**6.16**	7.17	7.31	**7.43**
Annual return	4.31	4.34	4.35	4.35	4.31	4.29	4.27	4.28
Annual volat.	5.22	5.13	5.16	5.06	5.22	5.12	5.08	5.06
Sharpe ratio	**0.66**	0.68	0.68	**0.69**	**0.66**	0.67	0.67	**0.68**
Tracking error	0.09	0.28	0.25	0.33	0.09	0.31	0.37	0.45
	Social				**Governance**			
Average Score	**4.45**	5.19	5.30	**5.38**	**4.89**	5.63	5.77	**5.90**
Annual return	4.31	4.34	4.35	4.35	4.31	4.35	4.36	4.36
Annual volat.	5.22	5.18	5.17	5.15	5.22	5.25	5.31	5.30
Sharpe ratio	**0.66**	0.67	0.68	**0.68**	**0.66**	0.67	0.66	**0.66**
Tracking error	0.09	0.19	0.22	0.28	0.09	0.10	0.14	0.16

Objectives of the lecture

- Concepts and Definitions
- ESG Scoring
- ESG Strategies

➔ **ESG Regulation**

ESG Regulation by Regulator



Source: MSCI (2022), https://www.msci.com/who-will-regulate-esg.

ESG Regulation in the European Union

Systematic and centralized approach toward climate transition and sustainability disclosure

New **EU taxonomy** establishes six environmental objectives (July 2020)

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

An economic activity must meet 4 overarching conditions to qualify as environmentally sustainable.

EU ESG Regulation for Asset Managers

Sustainable Finance Disclosure Regulation (SFDR) in Nov. 2019

Firm-level disclosures

- information on firm's policies on the integration of sustainability risks in their investment decision-making processes
- due diligence statement on how the firm considers principal adverse impacts of investment (PAI) decisions on sustainability factors

Product level disclosures

- pre-investment disclosures to EU investors before investing in the product
- three different ESG fund-types:
  - **Art. 6 fund**, called a "not green fund" or "grey/brown fund," for products that do not consider ESG factors, as contemplated by the Disclosure Regulation. Just a normal fund
  - **Art. 8 fund**, called a "light green fund," for products that promote a sustainable investment as one objective amongst other objectives. 1 Among the list of the six cat's on previous slide
  - **Art. 9 fund**, called a "dark green fund," for products that have sustainable investment as their main objective, such as an impact of climate fund. Main objective: Impact on climate.

EU ESG Regulation for Firms

Corporate Sustainability Reporting Directive (CSRD) in April 2021

Objective: improve the coverage and reliability of sustainability reporting

- “Double materiality” principle: Companies must disclose information that is material for the enterprise as well as for its societal stakeholders and/or the environment

Example: Companies must disclose the extent to which their activities are compatible with the goal of limiting global warming to 1.5 degrees Celsius

- Companies must report their sustainability performance using EU-wide disclosure standards

ESG Regulation in the United States

Laissez-faire approach with sustainable investing and disclosure being guided by voluntary, private-sector-led processes, protocols, and guidelines.

- Voluntary mechanisms: Corporations are routinely accused of "greenwashing" their sustainability reports by overstating their positive environmental and social impact and downplaying negative ones.

- ESG investors with little assurance, legal or otherwise, that their money has been put to the intended use

Securities and Exchange Commission (SEC) will probably adopt mandatory ESG disclosure rules, which will be different from EU's approach

- Regulation will target only publicly listed companies

- SEC will mandate disclosure of a narrow range of outcomes related to climate risk and human capital

- SEC will likely adopt less comprehensive, third-party disclosure standards

ESG Associations: GSIA

Global Sustainable Investment Alliance (GSIA) (http://www.gsi-alliance.org)

GSIA members:

- The European Sustainable Investment Forum (Eurosif)
- Responsible Investment Association Australasia (RIAA)
- Responsible Investment Association Canada (RIA Canada)
- UK Sustainable Investment & Finance Association (UKSIF)
- The Forum for Sustainable & Responsible Investment (US SIF)
- Dutch Association of Investors for Sustainable Development (VBDO)
- Japan Sustainable Investment Forum (JSIF)

ESG Associations: (UN) PRI

Principles for Responsible Investment (PRI) (https://www.unpri.org)

- Early 2005: UN Secretary-General Kofi Annan invited a group of the world's largest institutional investors to join a process to develop the Principles for Responsible Investment

- April 2006: The Principles were launched at the New York Stock Exchange

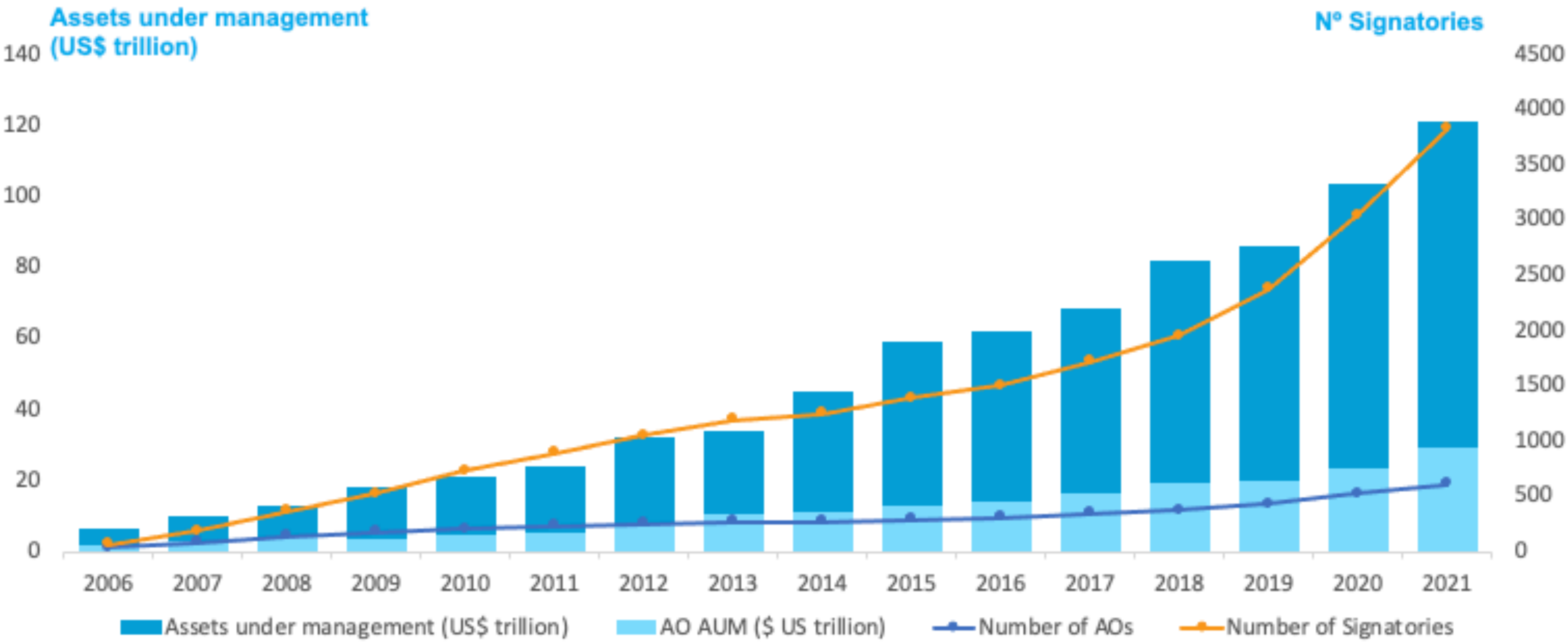
- 6 ESG principles

ESG Associations: (UN) PRI

The Principles were developed for investors. Signatories contribute to developing a more sustainable global financial system. They have attracted a global signatory base representing a majority of the world's professionally managed investments.

- **Principle 1**: We will incorporate ESG issues into investment analysis and decision-making processes
- **Principle 2:** We will be active owners and incorporate ESG issues into our ownership policies and practices
- **Principle 3:** We will seek appropriate disclosure on ESG issues by the entities in which we invest
- **Principle 4:** We will promote acceptance and implementation of the Principles within the investment industry
- **Principle 5:** We will work together to enhance our effectiveness in implementing the Principles
- **Principle 6:** We will each report on our activities and progress towards implementing the Principles

UNPRI: Number of Signatories



Source: UNPRI, 2021, https://www.unpri.org/pri/about-the-pri. AO: asset owners.