

MEMORANDUM

TO: File No. S7-17-22
File No. S7-16-22

FROM: Pamela Ellis, Senior Counsel, Division of Investment Management

RE: Teleconference with students and faculty from the Georgia State University College of Law

DATE: May 2, 2023

On April 18, 2023, staff for the U.S. Securities and Exchange Commission (the “SEC”) held a videoconference with students and faculty from the Georgia State University College of Law (“GSU”).

Participants included SEC staff from the Division of Investment Management: Sarah ten Siethoff (Deputy Director), Michael Spratt (Associate Director), Brian Johnson (Assistant Director), Sara Cortes (Senior Special Counsel), Jennifer McHugh (Senior Special Counsel), Zeena Abdul-Rahman (Branch Chief), Christopher Staley (Branch Chief), Asaf Barouk (Senior Counsel); Pamela Ellis (Senior Counsel), Robert Holowka (Senior Counsel), Amy Miller (Senior Counsel), Alexis Palascak (Senior Counsel), Nathan Schuur (Senior Counsel), and Samuel Thomas (Senior Counsel); and the Division of Economic and Risk Analysis: Cindy Alexander (Senior Financial Economist).

Participants from GSU included:

Dr. Dan Quiggin
Professor Anne Tucker
Zach Mickelson
Aryana Bhanji
John Lesko
Justice Smith
Connor McClain
Noam Kleinman
Wazir Hossain

The participants discussed, among other things, the Commission’s proposals titled *Enhanced Disclosures by Certain Investment Advisers and Investment Companies about Environmental, Social, and Governance Investment Practices*, Investment Company Act Release No. 34594 (May 25, 2022), 87 FR 36654 (Jun. 17, 2022) and *Investment Company Names*, Investment Company Act Release No. 34593 (May 25, 2022), 87 FR 36594 (Jun. 17, 2022).

Participants submitted the following materials (attached):

- Appendix A -- Applied Legal Analytics Law Student Showcase – ESG Funds & Proposed SEC Disclosure Rules (Apr. 18, 2023)
- Appendix B -- Comments on Proposed ESG Funds and Names Rule – Applied Legal Analytics Lab (Apr. 18, 2023)



Applied Legal Analytics Lab Student Showcase

ESG Funds & Proposed SEC Disclosure Rules
April 18th

Introduction



Applied Legal Analytics Lab

- 3-credit hour, upper-level analytics course
- Purpose: Use data to answer a real-world legal question in 14 weeks

SEC Proposed Rules

- New disclosure requirements for “ESG” funds
- New restrictions on naming funds

Data

- 2010-2022 Registered US Mutual funds
- 497k summary prospectuses, required annual filings



ESG Data & Fund Growth

Justice Smith

Defining ESG



- **E**nvironmental, **S**ocial, and **G**overnance (**ESG**) investing
 - SEC's Proposed Rules for Enhanced Disclosure
 - ESG fund buckets: Integration, Focus, Impact
- Collaborative labelina approach

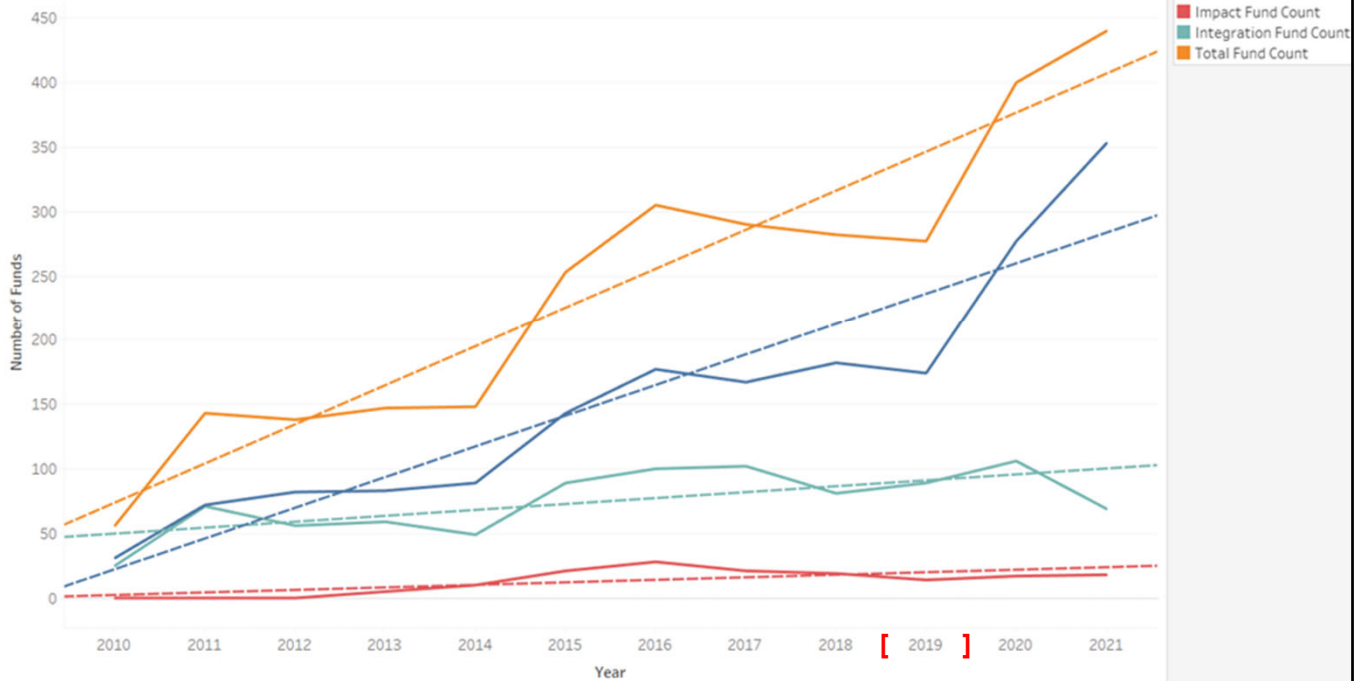


ESG Fund Growth Over Time



Filing Year	Total Count	Integration Count	Focus Count	Impact Count
2010	56	25	31	0
2011	143	71	72	0
2012	138	56	82	0
2013	147	59	83	5
2014	148	49	89	10
2015	253	89	143	21
2016	305	100	177	28
2017	290	102	167	21
2018	282	81	182	19
2019	277	89	174	14
2020	400	106	277	17
2021	440	69	353	18

Fund Count



Growth Rates



Growth Rate				
Filing Year	Total	Integration	Focus	Impact
2010	-	-	-	-
2011	155.36%	208.70%	148.28%	-
2012	-3.50%	-20.00%	36.67%	-
2013	6.52%	7.27%	16.90%	-
2014	0.68%	-16.95%	25.35%	100.00%
2015	70.95%	89.36%	81.01%	110.00%
2016	20.55%	12.36%	42.74%	33.33%
2017	-4.92%	4.08%	-3.09%	-25.00%
2018	-2.76%	-19.80%	15.92%	-9.52%
2019	-1.77%	12.66%	-1.14%	-26.32%
2020	44.40%	23.26%	64.88%	21.43%
2021	10.00%	-33.01%	33.21%	5.88%

	Average Growth Rate
Total	26.87%
Integration	24.36%
Focus	42.45%
Impact	26.23%

Proportion of Fund Growth



- What is the proportion of each ESG label compared to total ESG funds?
- Do the relative proportions change overtime?
- Is there a statistically significant difference in how the proportions have changed?

	Integration	Focus	Impact
2010	44.64%	55.36%	0.00%
2021	15.68%	80.23%	4.09%



Unsupervised Clustering Analysis

John Lesko
Georgia State University Legal Analytics Lab
4/18/2023

Why unsupervised learning?

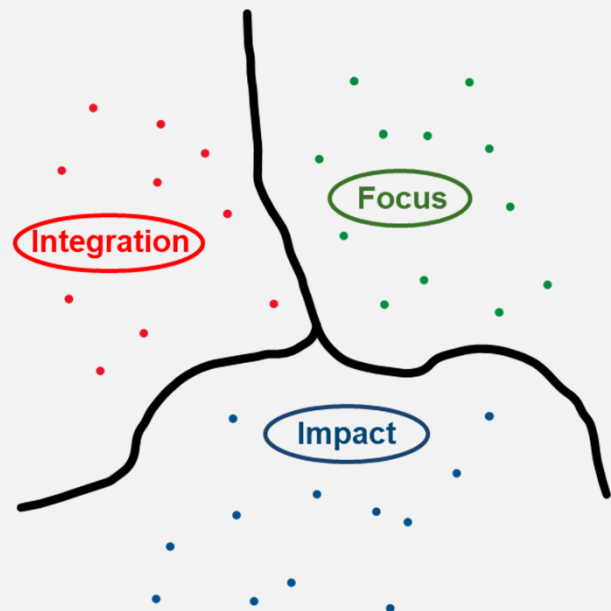


Motivation

- Data has no labels identifying type or outcome
- Automatically group related text
- No predetermine training sets or classifications

Analysis

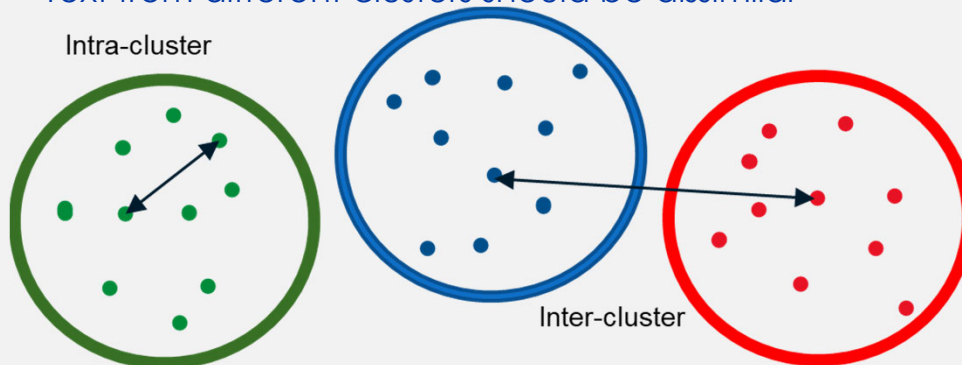
- Compare results to ESG nomenclature
- Add algorithmic tool to analyzing fund disclosures



What is text clustering?



- **Clustering:** the process of grouping a set of objects (fund disclosure text) into classes of similar objects
 - Text within a cluster should be similar
 - Text from different clusters should be dissimilar



Clustering Results



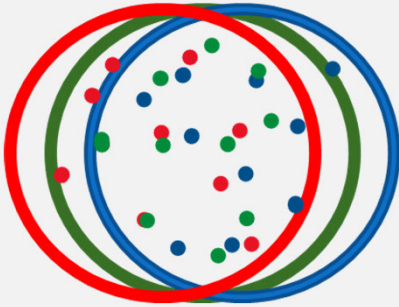
The International Sustainable Leaders Fund seeks to achieve its investment objective of seeking long-term growth of capital by investing primarily in equity securities of foreign companies that the Adviser deems to have sound and improving prospects and which demonstrate that they are current or emerging sustainable leaders through their management of environmental, social and governance ("ESG") risks and opportunities in accordance with the Adviser's criteria. In pursuing the Fund's investment strategies, the Adviser employs a fundamental, bottom-up equity investment process, which is based on first-hand research and disciplined company evaluation and which takes into consideration a company's management of ESG risks and opportunities and the company's ESG performance. The Adviser's stock analysts work closely with dedicated ESG specialists who sit within each regional investment team and provide industry-leading expertise and insight at the company level. In addition, engagement with company management is a key part of the Adviser's research process and ongoing stewardship program. The Adviser will identify stocks for their long-term, fundamental value based on quality and price. With respect to "quality", the Adviser will assign each company a proprietary overall quality rating and also an ESG-quality rating ranging from 1 to 5 (1 indicating leaders and 5 indicating laggards) enabling the Fund's investment SEQ+2_FOLD010" FILE="21-34580-1 ba.asp" USER="CD" team to identify current and emerging sustainable leaders. Companies eligible for investment by the Fund must be rated 3 or better by the Adviser on both the overall quality rating and ESG-quality rating. In the overall quality filter, the Adviser seeks to determine whether the company has good growth prospects and a balance sheet that supports expansion. In the ESG-quality filter, the Adviser evaluates the ownership structures and governance and quality of the companies as well as potential environmental and social risks and opportunities that the companies may face. The Adviser's sustainability criteria are based on a proprietary scoring methodology, which includes an assessment of how a company manages its most material ESG risks and opportunities and the Adviser's subjective judgment as to which companies are current or emerging sustainable leaders. Examples of areas under scope when assessing a company's ESG quality include the following: • Board Diversity • Capital Allocation • Capital Return • Carbon Emissions • Climate Risk • Corporate Governance • Corporate Strategy • Cyber Security • Deforestation • Diversity Issues • Employee Safety • ESG Disclosures • Human Rights • Labor Management • Market Communication • Remuneration • Succession Planning • Waste Management • Water Management In carrying out its assessments of ESG quality, the Adviser's equity analysts incorporate internal data sources, including a proprietary quantitative house score, external sources (e.g., MSCI reports), thematic expertise from the Adviser's central ESG team and regional expertise from the Adviser's on-desk ESG analysts. The Adviser relies heavily on its own in-depth research and analysis over third party ESG ratings. Binary exclusions are also applied to exclude a defined list of unacceptable activities. Based on MSCI business involvement screening research, the Fund will seek to not invest in companies that have: • failed to uphold one or more principles of the UN Global Compact; • an industry tie to (including companies that provide support systems and services, as well as those with direct (i.e., owners and producers) and indirect (i.e., parents and subsidiaries) involvement in) controversial weapons (cluster munitions, landmines, biological / chemical weapons, depleted uranium weapons, blinding laser weapons, incendiary weapons, and/or non-detectable fragments); • a revenue contribution of 10% or more from the manufacture or sale of conventional weapons or weapons systems; • a revenue contribution of 10% or more from tobacco or are tobacco manufacturers; • a revenue contribution of 10% or more from the extraction of unconventional oil and gas (including oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane and excluding conventional oil and gas productions); or • a revenue contribution from thermal

exclusions are applied to exclude a defined list of unacceptable activities

Clustering Results



- Distinguishing ESG language is hard
- Fund Disclosure language is very similar across the board



Clusters	Sil. Score	2019	2020	2021
2	0.05	0.17	0.17	0.06
3	0.07	0.18	0.18	0.06
4	0.10	0.19	0.19	0.07
5	0.11	0.20	0.20	0.10

-1: Incorrectly Labelled
0: Overlap
1: Distinct clusters

Cluster Silhouette Scores



Supervised Model: Random Forest

Georgia State University Legal Analytics Lab
Zach Mickelson
4/18/2023

Decision Tree: Overview

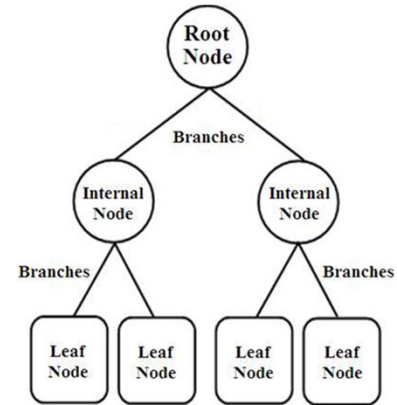


- Supervised Model

- Applies a series of splitting rules to arrive at a response.

- Tree Structure.

- Root Node (condition)
- Internal Nodes (condition)
- Branches (split)
- Leaf (response)

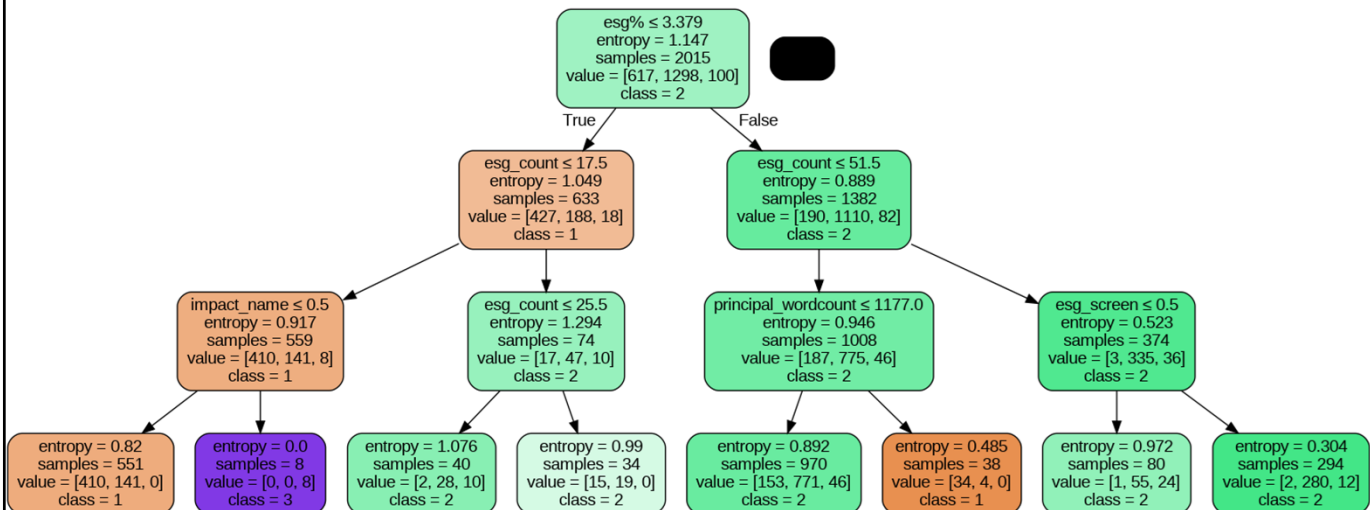


- Splits (Sorting)

- Sorts the samples by checking if conditions are met.
 - Either the condition
 - is met (True - sort Left)
 - or
 - not met (False - sort Right).

(a)

Introduction to trees.



Random Forest: Overview / Model Parameters



- Builds several trees on training set.
 - Takes random sample of predictors at each set.
 - Each tree is unique within the forest.
- Parameters:
 - 300 DTs
 - Max depth 12
 - 8 Minimum Samples / Split
 - Leaf minimum 4



Terminal Node (Interpretation)



- **Class (color code)**
 - 1 = Integration (Orange)
 - 2 = Focus (Green)
 - 3 = Impact (Purple)
- **Entropy (color code)**
 - Darker (more accurate)
 - Lighter (less accurate)
 - White (ambiguous / high error)
- **Metrics**
 - Node # – Unique Identifier
 - Entropy – Measure of disorder
 - Used to make splitting rules.
 - Value – samples inside classes

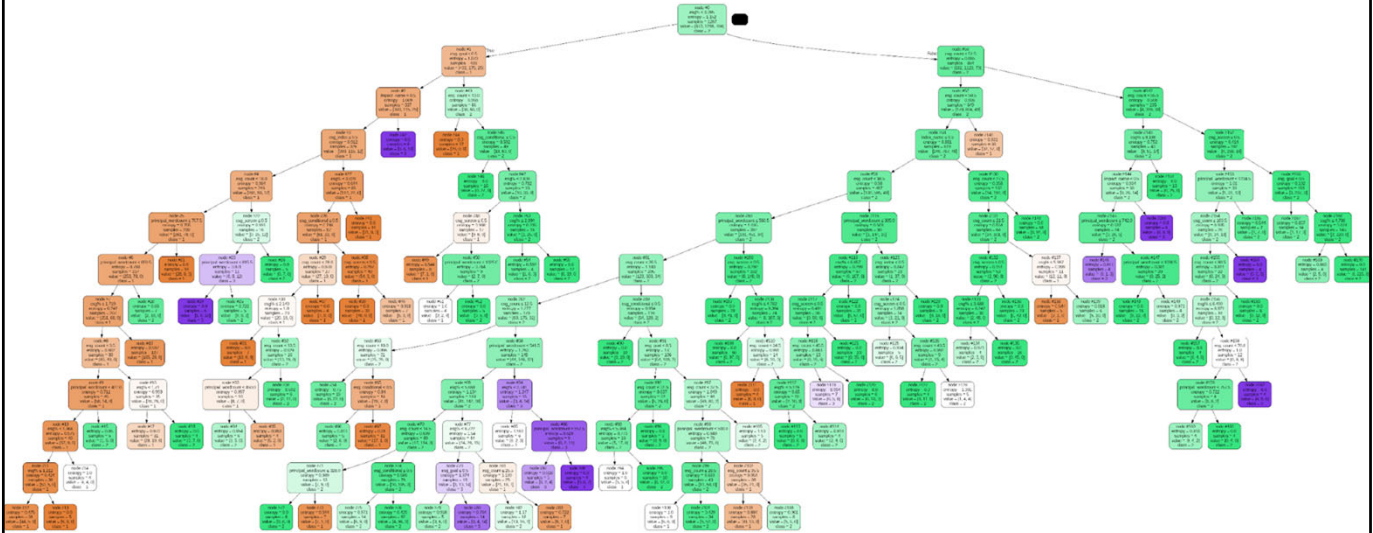
node #121
entropy = 0.0
samples = 4
value = [8, 0, 0]
class = 1

node #115
entropy = 0.0
samples = 7
value = [0, 8, 0]
class = 2

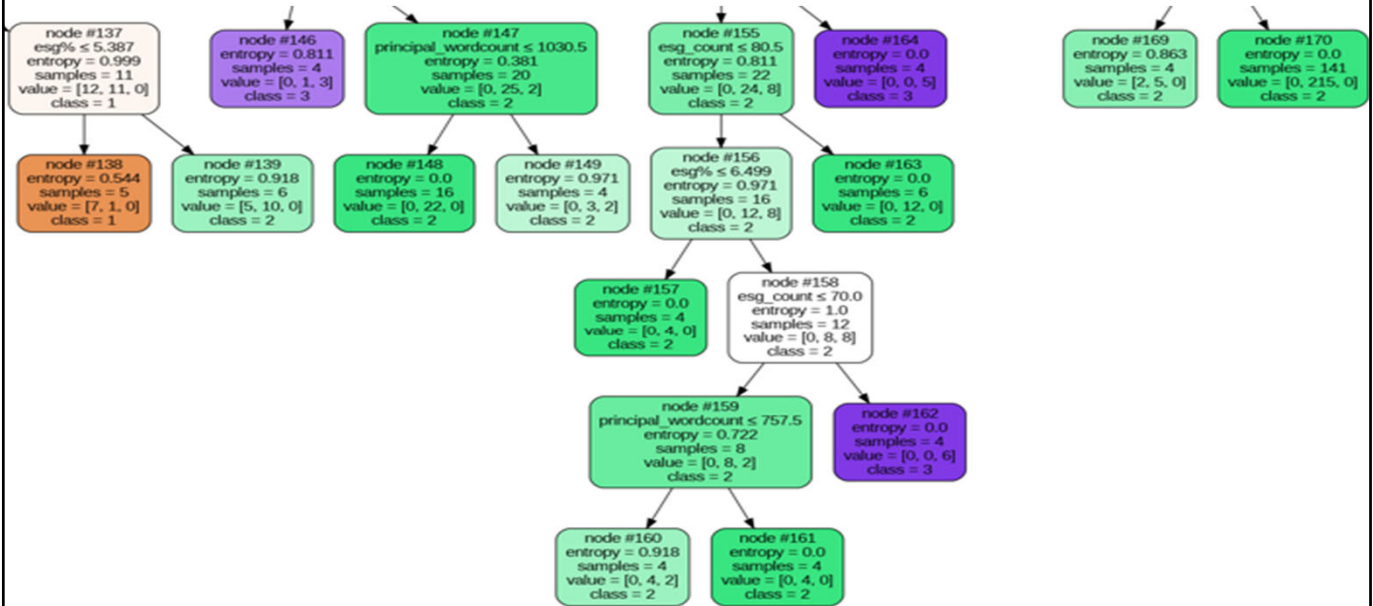
node #100
entropy = 0.469
samples = 11
value = [0, 2, 18]
class = 3

node #69
entropy = 1.0
samples = 5
value = [3, 3, 0]
class = 1

Random Forest Model: Tree 1 of 300



Lower Right Side



Model's Accuracy



- Accuracy = 0.913194
- F1 Score = 0.890764
 - Precision = 0.920980
 - Recall = 0.898453



Confusion Matrix: visual representation of error by category

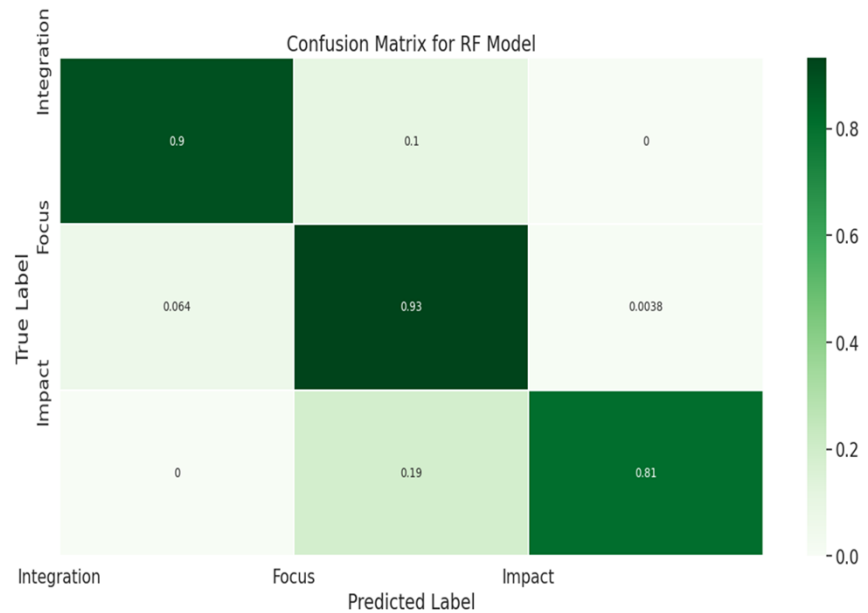


Note: Impact Categorization.

- Increased error likely due to a small sample size.
- 153 out of 2,879 fund prospectuses used for the model.

BONUS:

- No misclassification between Impact and Integration categories.



Recommendation



- Recommended for Classification, **BUT**
 - Next Steps
 - Possible Avenues for Model Improvement.
 - Explore Other Areas of Prospectuses
 - Risk Strategy
 - Fund Family
 - Etc.
 - Explore Marketing Materials
 - Possible Applications
 - Compliance
 - Enforcement



A Natural Language Processing (NLP) Analysis of ESG

Wazir Hossain

Research Question



- How are the mutual funds in our corpus distributed based on Environmental, Social, and Governance labels?
- Why does this matter?

Methodology

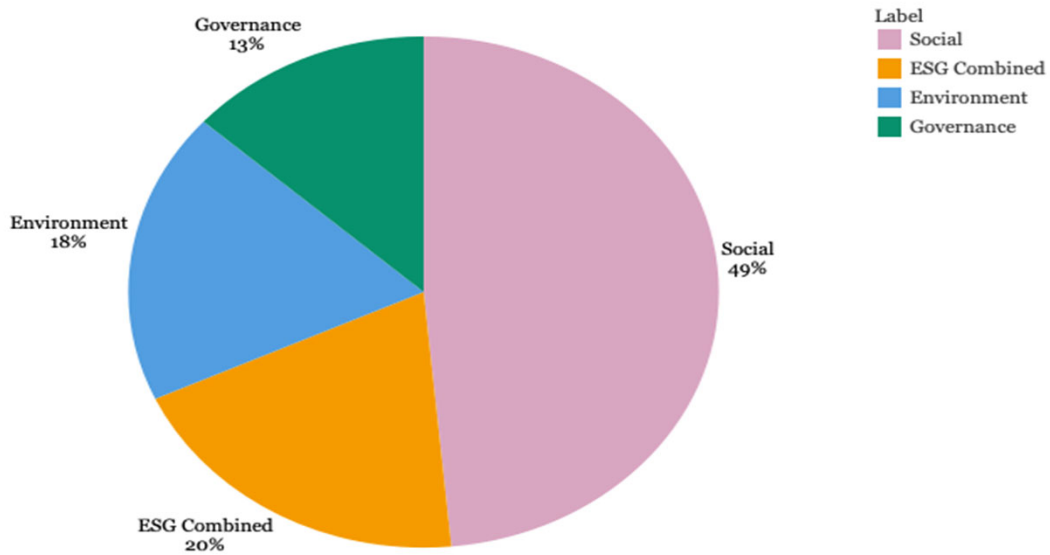


- ESG dictionary + preprocessing;
- Round 1 categorization: rule-based algorithm;
- Round 2 categorization: Z-Score differentiation method;
- Removed irrelevant data points; and
- Evaluated data and errors.

Results



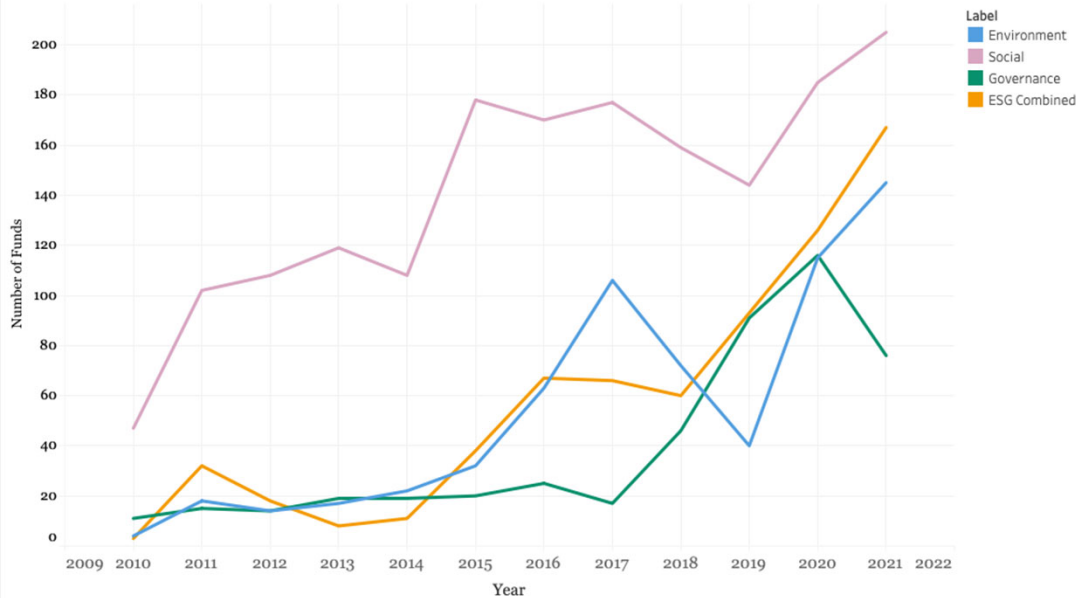
Composition of Funds



Distribution of ESG



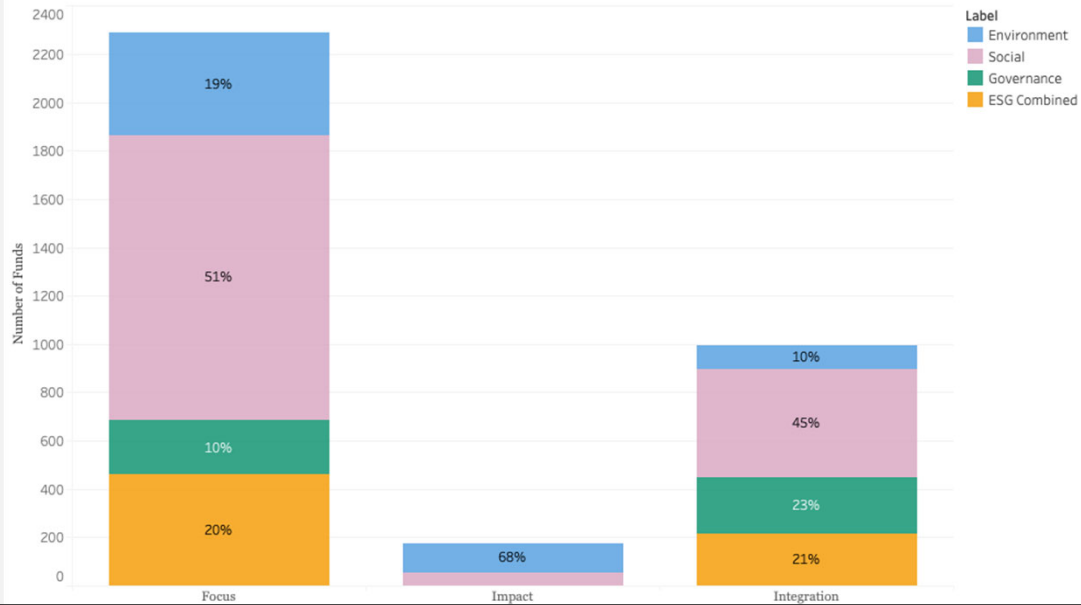
ESG Over Time



ESG within Focus, Impact, Integration



ESGception



Use of Data



- Investor Insights on Distribution Over Time
- Distribution of ESG within Impact, Integration, and Focus Funds
- Setting Specific Disclosures



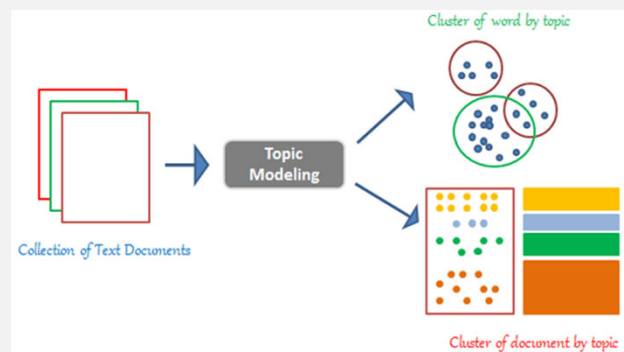
Topic Modeling

Noam Kleinman

Topic Modeling - Why are we here?



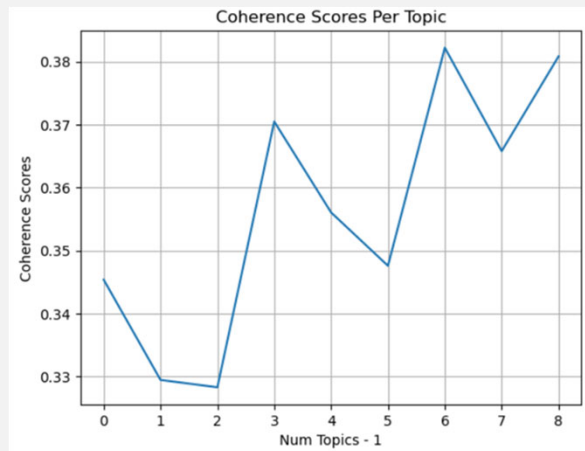
- Repeating group of statistically significant tokens
- Extract and clean text
- Optimal K
- Issues with Topic Modeling
 - Legal jargon
 - Boilerplate
 - Required Disclosures
 - Complex Dictionary



Methodology



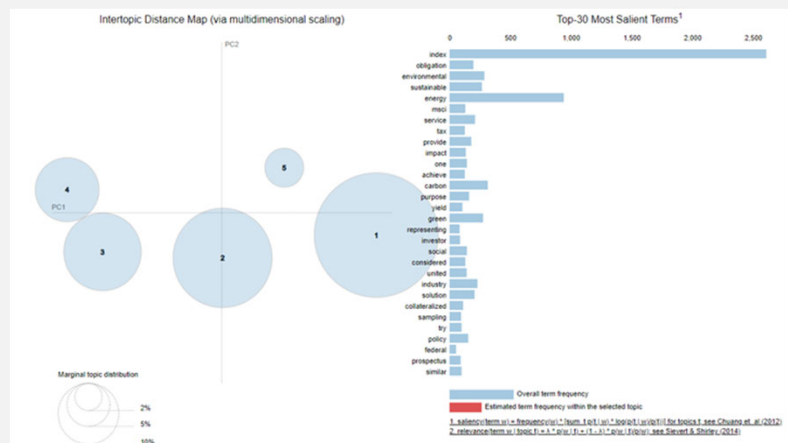
- Stop word dictionary
- Optimal K
 - Logarithmic Trendline
 - Alpha Value
- Visualization
- Analyze and Adjust



Results



- Impact
 - Carbon Emissions
 - Energy Tech
 - Water



Results pt. 2



- Overall ESG
 - Focus Categories
 - Legal Jargon
- Integration
- Focus
 - Screens/Indexes
 - Mid Cap Stocks
- Issues with measuring frequency

Topic 1 -

index : 0.01937522
 allocation : 0.015174721
 esg : 0.010218365
 sustainable : 0.008051306
 investor : 0.007341021
 contract : 0.0067624585
 social : 0.0067614187
 environmental : 0.0066049816

Topic 2

index : 0.01902222
 esg : 0.012065897
 sustainable : 0.0101108765
 allocation : 0.0077670724
 governance : 0.0073617054
 social : 0.0071684206
 contract : 0.006850113
 environmental : 0.006421096

Topic 3

index : 0.016733374
 esg : 0.011924246
 fundamental : 0.009206044
 allocation : 0.007929077
 social : 0.007545174
 sustainable : 0.0071184444
 investor : 0.0066464623
 environmental : 0.006503037



Do Fund Disclosures Affect Fund Flows?

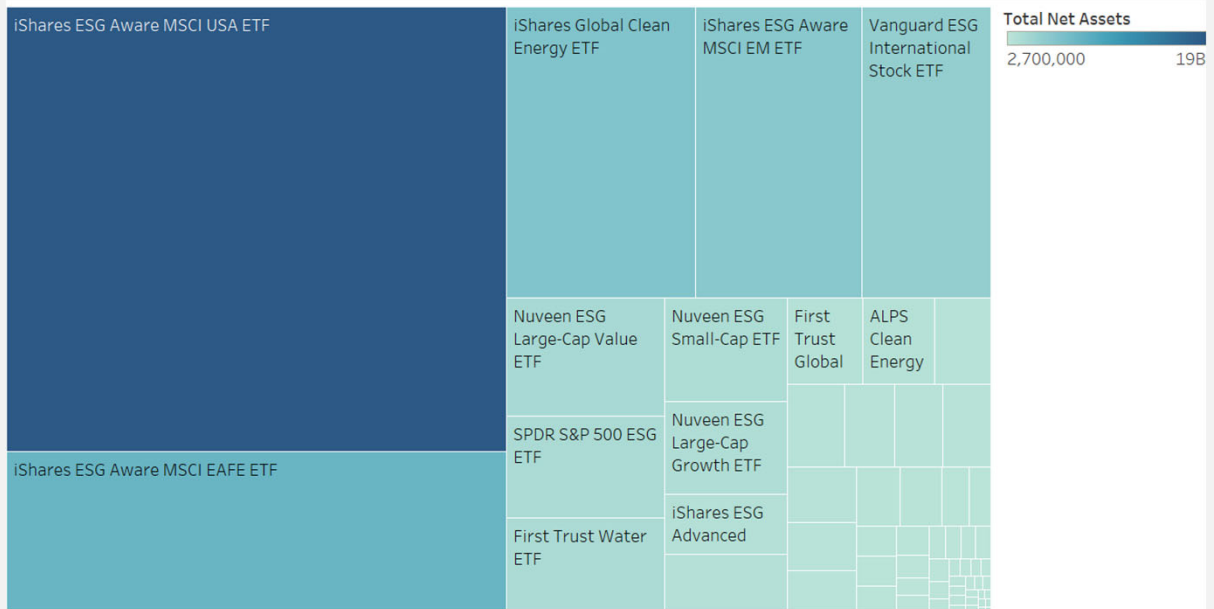
Aryana Bhanji

Hypothesis



Does the presence of certain ESG words in a fund disclosure affect fund flows?

Net Assets

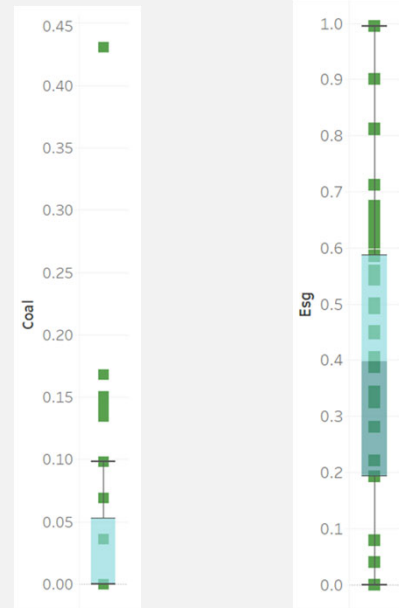


Fund Name. Color shows sum of Total Net Assets. Size shows sum of Total Net Assets. The marks are labeled by Fund Name.

Method - tf-idf



- Filtering the data
- Running tf-idf (term frequency-inverse document frequency)
 - Using sklearn & TfidfVectorizer

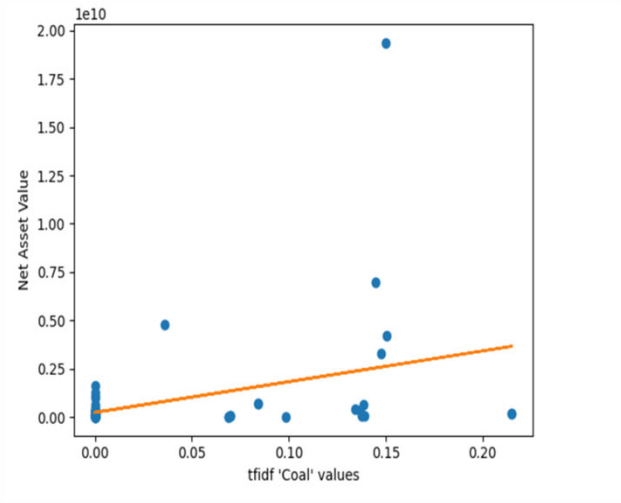
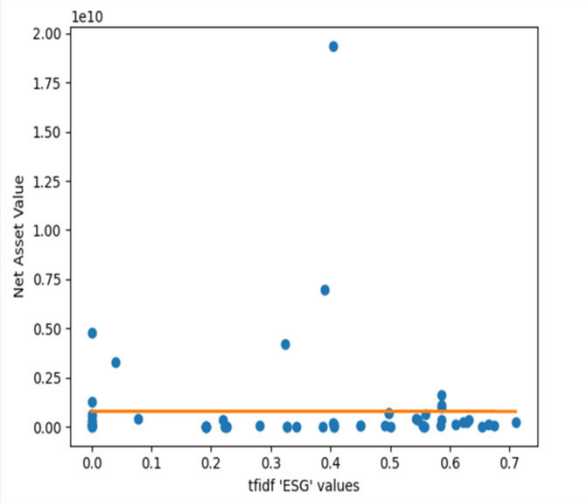


Obstacles



- Manual Data Collection
 - Cumbersome
 - Data not free and/or missing values
- Solution: Toy Model
 - 2023 NAV data
 - Subset of data (~ 200 funds)

Regression Results



SEC Comment Analysis

Connor McClain

SEC Commenting Process



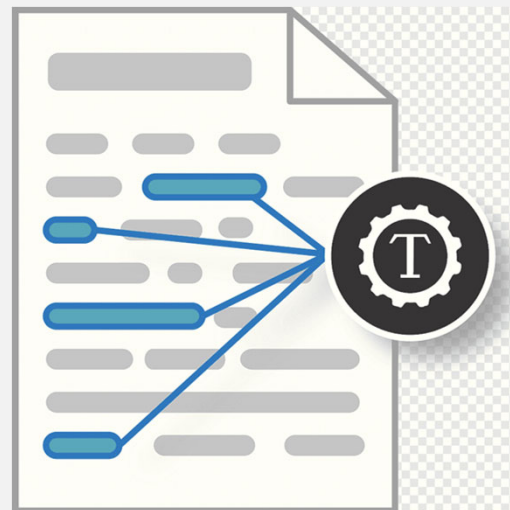
Rulemaking process

Proposed rule published May 25, 2022

Comments from May 2022 - March 2023



Who cares about comments, anyway?



Useful Metrics



Wordcount

Sentiment Analysis

Subjectivity Scores

SENTIMENT ANALYSIS

FACTS

NE
"Just book
at thi

NLTK

ANALYZING... VADER

Real Python

TextBlob

Process



Scraping comments

Grouping Comments

Minimal Text Cleaning

Run Analyses

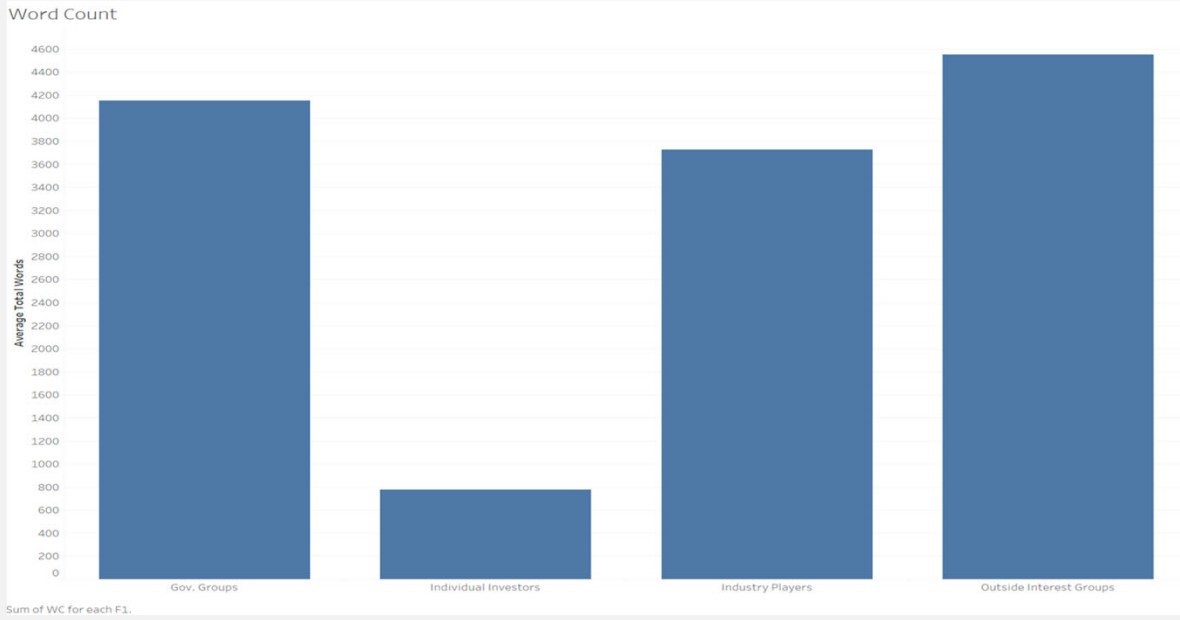
Group 1	Group 2	Group 3	Group 4
			Industry
		ps	P
		Florida	Ex: n
			Morgan
			TextBlob

NLTK

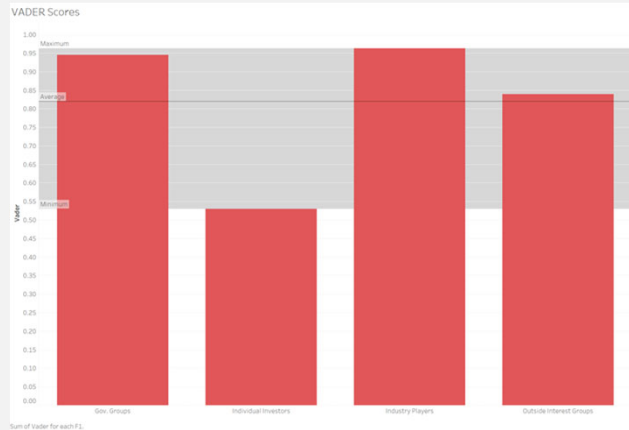
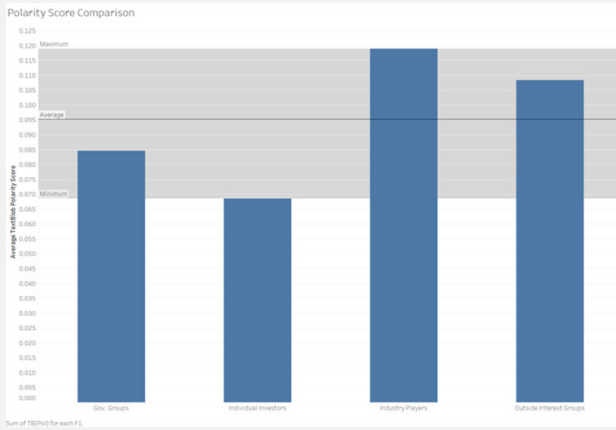
ANALYZING... VADER

Real Python

Results - Wordcount



Results - Sentiment Analysis



Results - Subjectivity



Who cares about the comments, anyway?



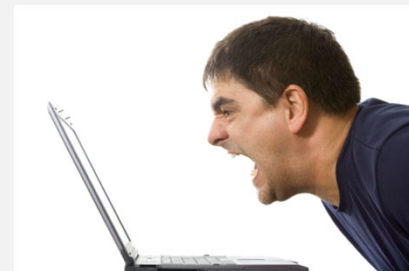
Sentiment

**Union of
Concerned
Scientists**

Objectivity



Subjectivity



Level of detail

Thank you!



Questions/Feedback?

- Discussion if there is time
- email: amtucker@gsu.edu

Next up:

- SEC rulemaking meeting 10:00 am





Comments on Proposed ESG Funds & Names Rules

Applied Legal Analytics Lab
April 18, 2023

Introduction



Applied Legal Analytics Lab

- Students answer a real-world legal question in 14 weeks

Data

- 2010-2022 Registered U.S. Mutual funds
- Principal Risk & Investment Strategy narrative descriptions

Labels

- Sorted funds into Integration, Focus, and Impact groups based on investment strategy statements

Methodologies for individual research questions

- Mixture of hand-coding, natural language processing, supervised learning, unsupervised learning, and statistical analysis



Definitional Boundaries

Zach Mickelson

Request for Comment #3



- Is the proposed definition of an Integration Fund appropriate and clear?
 - Is the proposed definition over- or under- inclusive?
- Proposed Definition:
 - An Integration Fund. . . Would be a fund that **considers one or more ESG factors** along with other, non-ESG factors. . . , but those ESG factors are generally no more significant than other factors in the investment selection process. . . .
 - Proposed Rule p. 26.
- Short Answer:
 - **Yes**, I believe the proposed definition is too broad in scope.

Can Issuer Risk be an ESG Factor?



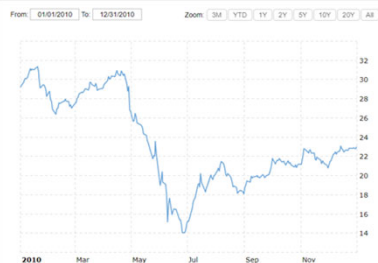
2010 BP Deepwater Horizon



2021 Activision Blizzard Sexual Harassment / Hostile work environment.



2022-? Disney / Reedy Creek



Issuer Risk



“The value of a security may decline for a number of reasons which directly relate to the issuer, such as poor management performance; reduced demand... **investigations or other controversies**.... Certain **unanticipated events**, such as **litigation** or natural disasters, can have dramatic adverse effect on the value of an issuer's securities.”

- PFM Multi-Manager International Equity Fund Summary Prospectus, pps. 57-8 (2022-04-29) (emphasis added).

ESG Factors - What does it mean?



- Inherently subjective / fluidity between factors.
 - “[T]here is also the practical difficulty that the ESG rubric is too fluid, and the application of ESG factors too subjective. . . .
 - Reconciling Fiduciary Duty and Social Conscience, 72 Stan. L. Rev. 381, 450 (2020).
- Broad Disagreement Casts a Wide Net.
 - Women’s Rights v. Traditional Family Values
 - Low Emissions v. Nuclear Power.
 - Diversity v. Meritocracy.

Possible Solutions



- **Opt-In**
 - Allow potential Integration funds to self-identify.
 - If a fund does not self-identify, prohibit the fund from marketing itself as an ESG fund.
 - See Ceres Comment Letter, p. 4 (08/16/2022).
- **Firmer Definition / Test**
 - Do you have a strategy specifically aimed at one or more ESG factors in making investment selections or in engagement activities and proxy voting (as applicable)?
 - Center for American Progress Comment Letter (08/16/2022)

Nuclear Option



- **Eliminate the Integration Category.**
 - Self-Explanatory Approach.
 - For example, See Center for Monetary and Financial Alternative Comment Letter, pps. 3-4 (08/16/2022).
 - Downsides of this approach.
 - This is the fastest growing category of funds (although not the bulk of the market by this team's definition).
 - Caveat: This is a common sentiment among comments, but this lab's findings suggest otherwise (likely due to our decisions concerning category criteria).
 - Greenwashing most likely to occur in this proposed category.



Definitional Boundaries take 2

Aryona Bhanji

Comment 163



Should we, as proposed, use the definitions of the terms “Integration Fund” and “ESG-Focused Fund” as they appear proposed in Item 4(a)(2)(i) of Form N-1A? Would this approach make it easier to comply with this reporting requirement? Should we adopt a different definition of these terms?

- **Yes**, we should keep these definitions, but in addition a non-exhaustive list of examples

Integration v. Focus Funds



Integration Funds	Focus Funds
<ul style="list-style-type: none"> • One or more ESG factors • Other non-ESG factors in investment decisions • ESG factors may not be determinative for stock inclusion or exclusion • ESG factors typically no more significant than other factors 	<ul style="list-style-type: none"> • Includes funds that apply inclusionary or exclusionary screens • Funds focus on achieving particular ESG impact • Focus on ESG related engagement with the issuers in which they invest

Examples: Difficult to Categorize



- **Proprietary ESG scoring model** that assess a company based on **600 ESG raw metrics** including metric tons of carbon emissions, breadth of ESG disclosure, third-party scoring data, and the UN PRI Sustainable Development Goal alignment. However, **ESG criteria is one of several factors** used to identify security evaluation.
 - *AdvisorShares North Square McKee ESG Core Bond ETF*

- **Screen to include the largest 500 to 700 U.S. companies** based on market capitalization, but **also uses the Sustainalytics ESG Risk and Controversy** ratings to measure the degree of risk driven by ESG factors (corporate governance, material ESG issues including carbon, human rights, resource use, and land use and biodiversity, and idiosyncratic or "unpredictable issues"), **and the fund then doesn't invest in companies that have a risk score of 40 points or more.**
 - *Gotham ESG Large Value Fund*

- Find the most attractive U.S. companies that fit within sustainable investment themes. Factors include the **companies financial strength and prospective earnings growth**, quality of management, valuation, but **may include environmental impact, corporate governance, ethical business plans, diversity, etc.**
 - *EQ/AB Sustainable U.S. Thematic Portfolio -*



Definitional Boundaries take 3

John Lesko

How should the SEC approach this problem?



Request for comment:

Should we mandate that funds choose from a list of alternative terms to improve comparability, and, if so, what terms should those be?

How should the SEC approach this problem?



Short answer: **Yes**

Full answer: **Maybe**

For funds with name hint label: FOCUS	
<ul style="list-style-type: none"> Search for the phrases listed in the principal strategy. 	
Anchor words	Additional rules
Avoids, avoid, avoided	But only if the text in the word window contains the word tobacco, gambling, nuclear, alcohol, or fossil fuels, ESG or environmental, social or governance
"does not invest"	
"automatically excludes"	
"companies eliminated"	
"exclude a defined list of unacceptable activities"	



ESG Data & Fund Growth

Justice Smith

Comments 28 & 38 & Data Summary



SEC Comments

28. Would there be instances where a fund might face ambiguity as to whether a strategy on the list accurately describes a technique the fund utilizes?

38. Should we, as proposed, require funds to describe any exceptions to their screening mechanism?

Data Summary

- Total number of filings: 2,879
- Integration fund filings: 896
- Focus fund filings: 1830
- Impact fund filings: 153

	Average Growth Rate
Total	26.87%
Integration	24.36%
Focus	42.45%
Impact	26.23%

Fund Language Examples



“Squishy” language

- “The [Fund] **seeks to exclude** from its investment portfolio those companies that are identified by the Portfolio’s social issue screens, as described further below.”
- “The [Fund] **may modify** this list of social issue screens, at any time, without prior shareholder approval or notice.”
 - International Social Core Equity Portfolio



SEC Comments

Connor McClain

SEC Comment Analysis



Goals:

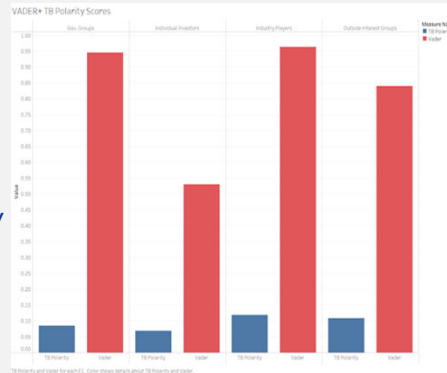
- 217 Comments
- Insights
- ID Patterns
- Streamline

Analyzed:

- Sentiment/Polarity
- Subjectivity

Tools Used:

- VADER
- TextBlob



Sliding scale of “screening language”



“Will not invest”

- PIMCO ESG Income Fund

“Won’t invest in screened out funds”

- AIG ESG Dividend Fund

“Are not eligible”

- 1290 VT Socially Responsible Portfolio

“Seeks to avoid companies...”

- PLAXIS GROWTH INDEX FUND

Strong



Ambiguous

Positive Screening



Negative Screening

“Are not eligible”

- 1290 VT Socially Responsible Portfolio

“Will not invest”

- PIMCO ESG Income Fund

“Seeks to avoid companies”

- PLAXIS GROWTH INDEX FUND

“Won’t invest in screened out funds”

- AIG ESG Dividend Fund

Positive Screening

“The Advisor’s screening process uses **positive screening** to preference companies that demonstrate positive or improving performance on ESG criteria”

- Responsible ESG U.S. Equity Portfolio

“The Advisor **emphasizes company-specific positive selection criteria** over broad-based negative screens in assessing a company’s exposure to ESG factors”

- PLAXIS GROWTH INDEX FUND

Request for Comment #39



39. Should we require all funds to disclose the percentage of the portfolio to which the screen applies, even if it is 100%? Are there funds that currently apply a screen only to a portion of their portfolio?

Should we include an explicit requirement that the fund explain its approach to applying a screen to only part of a portfolio, as proposed?

Answer:

- No evidence of funds indicating a screen only applies to a portion of their portfolio
- Assuming screening language can be identified – these explanations should be required



Topic Modeling & ESG Distribution

Noam Kleinman & Wazir Hossain

Comment 52



Are Impact Funds appropriately considered a subset of ESG-Focused Funds, or are they sufficiently distinct that they need a separate set of disclosure requirements in the prospectus beyond the specific proposed instruction for Impact Funds?

- Topic Modeling
- Focus Funds have sub-categories based on profit
- Impact funds have unique sub-categories as well

Focus Topic

esg : 0.03410083
 index : 0.034087118
 social : 0.010329215
 environmental : 0.0075824424
 governance : 0.005864222
 policy : 0.004949127
 msci : 0.004931577
 weapon : 0.004175923

Focus Topic

index : 0.047234878
 esg : 0.022324989
 social : 0.013332754
 msci : 0.010185962
 governance : 0.009544542
 sustainable : 0.0066263294
 environmental : 0.0063751847
 mid : 0.0055743037

Impact Topic

index : 0.06959661
 energy : 0.026314544
 green : 0.010770558
 sustainable : 0.007674387
 industry : 0.0073629464
 clean : 0.0064810542
 service : 0.0062783635
 carbon : 0.005675121

Comment 52



- Top 10 Words Are The Same
- Top 25 Words Show Greater Difference
- Unique N-Grams Defined
- Specific Goals

Comment 52



IMPACT N-GRAMS (top 25)				FOCUS N-GRAMS (top 25)			
index	2743	underli index	221	fund	24500	fund s	4770
invest	2415	u s	218	invest	22050	underli index	4509
fund	2256	fund may	170	index	19717	u s	3750
secur	1889	fund s	142	compani	15287	fund may	3543
s	1485	debt secur	141	s	14659	fund invest	2147
underli	1318	market capit	137	secur	13601	index fund	1973
may	1048	may invest	136	may	9196	may invest	1958
includ	1003	secur underli	135	esg	8639	market capit	1909
energi	982	s govern	114	market	6992	fund seek	1728
compani	936	invest least	102	includ	6682	compani s	1702
asset	623	index may	99	underli	6331	net asset	1664
industri	613	index fund	88	asset	6003	environment social	1604
market	612	index provid	83	manag	5168	esg criteria	1498
bond	563	net asset	83	portfolio	4420	invest compani	1430
provid	521	respons invest	80	social	4299	s invest	1404
u	514	invest grade	78	seek	3966	invest least	1387
rate	485	renew energi	78	govern	3945	index provid	1310
least	479	fund seek	77	u	3777	social govern	1283
seek	467	green bond	77	advis	3678	may also	1261
govern	393	sustain energi	75	capit	3640	equiti secur	1240
use	384	parent index	74	use	3584	respons invest	1094
weight	349	total asset	74	stock	3531	emerg market	1068
manag	341	energi solut	74	industri	3511	underli fund	1036
issuer	341	depositari rece	72	criteria	3493	portfolio manag	1001
environment	321	least net	72	rate	3396	fix incom	956
		142	72			track invest result	956

Comment 52



IMPACT UNIQUE N-GRAMS (FREQUENCY DIVIDED BY FOCUS FREQUENCY)				FOCUS UNIQUE N-GRAMS (FREQUENCY DIVIDED BY IMPACT FREQUENCY)							
hydropow	23	support environment	74	green bond index	102	gamb	618	esg criteria	1498	msci esg research	490
landfil	19	energi use	70	energi use leader	47	weapon	599	underli fund	1036	meet fund s	450
tidal	15	provid energi	49	carbon emiss potenti	42	screen	581.5	s esg	805	fund s esg	407
wave	15	energi produc	49	renew energi produc	39	class	483	sub advis	637	fund s asset	394
bodi	14	municip oblig	43	energi produc distributor	39	firearm	451	msci esg	631	s esg criteria	371
closest	14	energi innov	43	energi effici provid	39	blackrock	448	esg research	629	underli calvert fund	355
cement	13	produc distributor	39	invest purpos green	37	team	441	esg perform	522	u s larg	347
pbd	13	effici provid	39	purpos green bond	37	flow	417	esg characterist	486	u s equiti	300
electrif	12	purpos green	37	broad rang fix	37	optim	416	respons index	452	calvert u s	288
cleaner	11.33333333	rang fix	37	rang fix incom	37	usa	415	meet fund	450	s larg cap	284
appendix	11	bond project	37	corpor bond project	37	fulli	401	s asset	437	msci eaf index	259
pbw	10	project bond	37	bond project bond	37	environ	391	asset alloc	433	fund seek achiev	256
tradabl	9	invest below	37	invest below invest	37	longer	389	nuclear power	427	larg capit compani	254
ordinari	8	primarili green	37	invest primarili green	37	controversi	384.3333333	s social	421	asset equiti secur	245
hydroelectr	7.5	defin green	37	primarili green invest	37	labor	382	cash flow	415	market capit billion	245
steel	6.5	footprint bond	37	green invest fund	37	vendor	375	underli calvert	413	seek achiev invest	220
rational	6	bond support	37	invest fund defin	37	board	364	msci usa	371	social core equiti	218
behind	6	project structur	37	fund defin green	37	record	358	equiti fund	366	core equiti portfolio	218
flag	6	structur secur	37	defin green invest	37	good	350	categori includ	361	assess categori includ	215
distributor	5.571428571	collater asset	37	green invest includ	37	eaf	340	calvert fund	361	govern esg criteria	209
neglig	5.285714286	asset support	37	environment footprint bond	37	short	320	key issu	360	fund s social	208
powershar	5	theme secur	37	footprint bond support	37	employe	312	asset class	348	seek invest compani	203
children	5	neglig direct	37	bond support environment	37	russel	308	s larg	347	invest object invest	201
elderli	5	direct environment	37	support environment project	37	incorpor	306	assess categori	339	calvert global water	201
veteran	5	leader energi	30	environment project structur	37	militari	284	s equiti	313	index approxim proport	196

Comment 165



Should we, as proposed, require ESG funds to indicate whether they consider E, S, or G factors? Should we, as proposed, allow them to check all that apply?

- No clear separation of E, S and G
- Method is subject to researcher parameter
- Future analysis: term *frequency* vs. term *importance*

Topic 1 -

index : 0.08527662
 esg : 0.015623713
 msci : 0.012985745
 social : 0.008082623
 environmental : 0.007126456
 governance : 0.0070078108
 included : 0.00495399
 policy : 0.0048938394

Topic 2 -

index : 0.018838996
 esg : 0.01817445
 social : 0.015613732
 governance : 0.010304719
 sustainable : 0.009322217
 environmental : 0.006882434
 sustainability : 0.0067761973
 impact : 0.005408963

Topic 3 -

index : 0.08494131
 esg : 0.02506746
 water : 0.0072588096
 social : 0.0071720975
 msci : 0.0071719773
 environmental : 0.0067255525
 billion : 0.006366326
 governance : 0.005442314

Topic 4 -

esg : 0.03410083
 index : 0.034087118
 social : 0.010329215
 environmental : 0.0075824424
 governance : 0.005864222
 policy : 0.004949127
 msci : 0.004931577
 weapon : 0.004175923

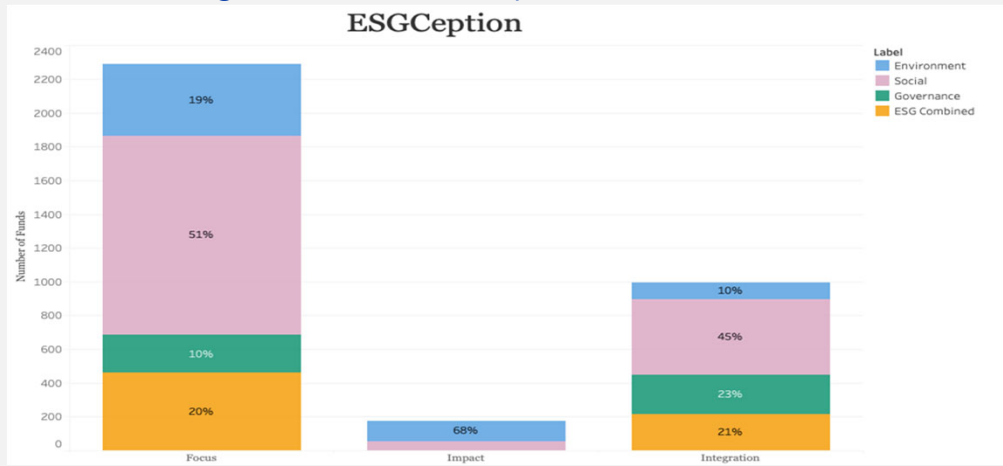
Topic 5 -

esg : 0.031171199
 social : 0.012980276
 index : 0.0111496495
 environmental : 0.0100817615
 governance : 0.008909611
 fundamental : 0.006429136
 sustainable : 0.0063055744
 purpose : 0.0052533173

Comment 165



- Separation of E,S and G factors based on Z-Score
- Focus Type Checkbox
- Investor Insight on Fund Priority



Thank you!



Questions/Feedback?

- Discussion
- email: amtucker@gsu.edu

