

# SUSTAINABILITY OR PERFORMANCE? RATINGS AND FUND MANAGERS' INCENTIVES

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# This paper

- Can greater transparency affect the capital allocation of mutual funds
- ...when the trade off between sustainability and performance?
- Introduction of Morningstar globe ratings to rank funds based on the sustainability of their portfolios
  - In the aftermath of their introduction, flows to the funds that received the highest sustainability ratings increased (Hartzmark and Sussmann, 2019)
  - We show that in the longer-term the ratings led to a trade-off between sustainability and performance....
  - ....and we explore how investor reacted

# Morningstar Sustainability Ratings

- **Globe ratings** – introduced on March 1, 2016
  - Range from one (low) to five (high) globes
  - Weighted average of company-level ESG scores from Sustainalytics
  - Based on the percentile rank of a fund's portfolio sustainability score, relative to other funds in the same Morningstar category
  - The fund's sustainability score has always been available to Morningstar users
- Existing literature
  - In the six months following the introduction of the Morningstar sustainability ratings, the funds with the highest globe ratings experienced higher inflows; the converse was true for the funds with the lowest ratings (Hartzmark and Sussman, 2019).

# Morningstar Performance Ratings

- Star ratings

- A quantitative backward-looking measure of a fund's performance, ranging from one (low) to five (high) stars.
- Based on a fund's percentile rank relative to peer funds in the same Morningstar category.

- Existing literature

- Investor flows respond to external rankings of fund performance (see, e.g., Del Guercio and Tkac, 2008; Ben-David, Li, Rossi, and Song, 2019; Evans and Sun, 2021)

# Preview of Results

- After the introduction of the sustainability ratings, funds changed their investment policies to **achieve higher globe ratings**
- This created buying (selling) pressure and **stocks with high (low) sustainability ratings** became **overvalued** (undervalued)
- Funds attempting to improve their star ratings purchased (sold) stocks that became undervalued (overvalued)
  - Behavior more pronounced for funds with stronger incentives to improve their star ratings, e.g., closer to the cutoff for a higher rating or competing with fewer peers

# Preview of Results II

- Trade off between sustainability and performance emerges
  - Funds **improving their globe ratings** are more likely to experience a **star rating downgrade**
  - **Funds purchasing (selling) stocks with low (high) sustainability ratings**, which were sold (bought) by sustainability-driven funds, achieve **better performance** and improve their star ratings
- In the immediate aftermath of the introduction of the globe ratings, both high (low) globe and star ratings have positive (negative) effects on flows
  - The magnitude of the effect is larger for the star ratings
- The effect of the globe ratings on flows vanishes over time
  - Funds nearly stop trading in a way to improve their globe ratings
  - Trading pressure on high ESG stocks disappear

How does the introduction of the globe ratings affect the stock demand of funds that aim to be sustainable?

An interquantile increase in the stock' effective ESG score is associated with 3.5 larger increase in the fund's position (relative to the average change)

	(1)	(2)	(3)	(4)	(5)
	Position Change ( $f,i,t$ )				
	2016.3-2017.9	2016.3-2016.12	2017.1-2017.9	2016.3-2016.12	
				Few Peers	Many Peers
Effective ESG Score	-0.001 (-0.415)	-0.010** (-2.281)	0.008** (1.972)	-0.019** (-2.462)	0.016*** (3.294)
Border Funds # Effective ESG Score	0.031** (2.321)	0.033* (1.768)	0.026 (1.427)	0.064** (2.438)	0.013 (0.616)
Ln Market Cap	0.180** (1.984)	0.363*** (3.448)	-0.016 (-0.161)	0.504*** (2.996)	0.011 (0.090)
Book to Market	-0.042 (-0.331)	0.092 (0.555)	-0.506*** (-3.151)	0.254 (0.813)	-0.511*** (-2.624)
Leverage	-0.049 (-0.344)	-0.391* (-1.945)	0.125 (0.636)	0.162 (0.484)	0.688*** (2.584)
ROA	-12.796*** (-9.265)	-15.896*** (-8.208)	-8.483*** (-4.828)	-22.849*** (-7.118)	-5.154** (-2.448)
Sales Growth Rate	1.323*** (7.788)	1.202*** (5.376)	1.440*** (6.035)	2.094*** (5.325)	1.779*** (5.602)
Ret (t-1)	-5.859*** (-13.410)	-3.528*** (-7.436)	-9.375*** (-17.210)	-6.443*** (-8.637)	-6.202*** (-10.049)
Constant	-2.232 (-1.481)	-5.306*** (-3.024)	1.328 (0.813)	-7.296*** (-2.586)	-0.555 (-0.284)
Observations	884514	459257	425257	204258	247593
Adjusted R-squared	0.214	0.211	0.218	0.236	0.142
Fixed effects	Fund*YQ	Fund*YQ	Fund*YQ	Fund*YQ	Fund*YQ



# ESG Ratings and Trading Pressure

## Ex post definition

- Abnormal trading of funds that end up improving their globe ratings (G)

$$Agg\ Abnormal\ ESG\ Trading(i, t) = \sum_{f=1}^F Abnormal\ Trading(f, i, t), \quad \text{if } f \in G$$

Where

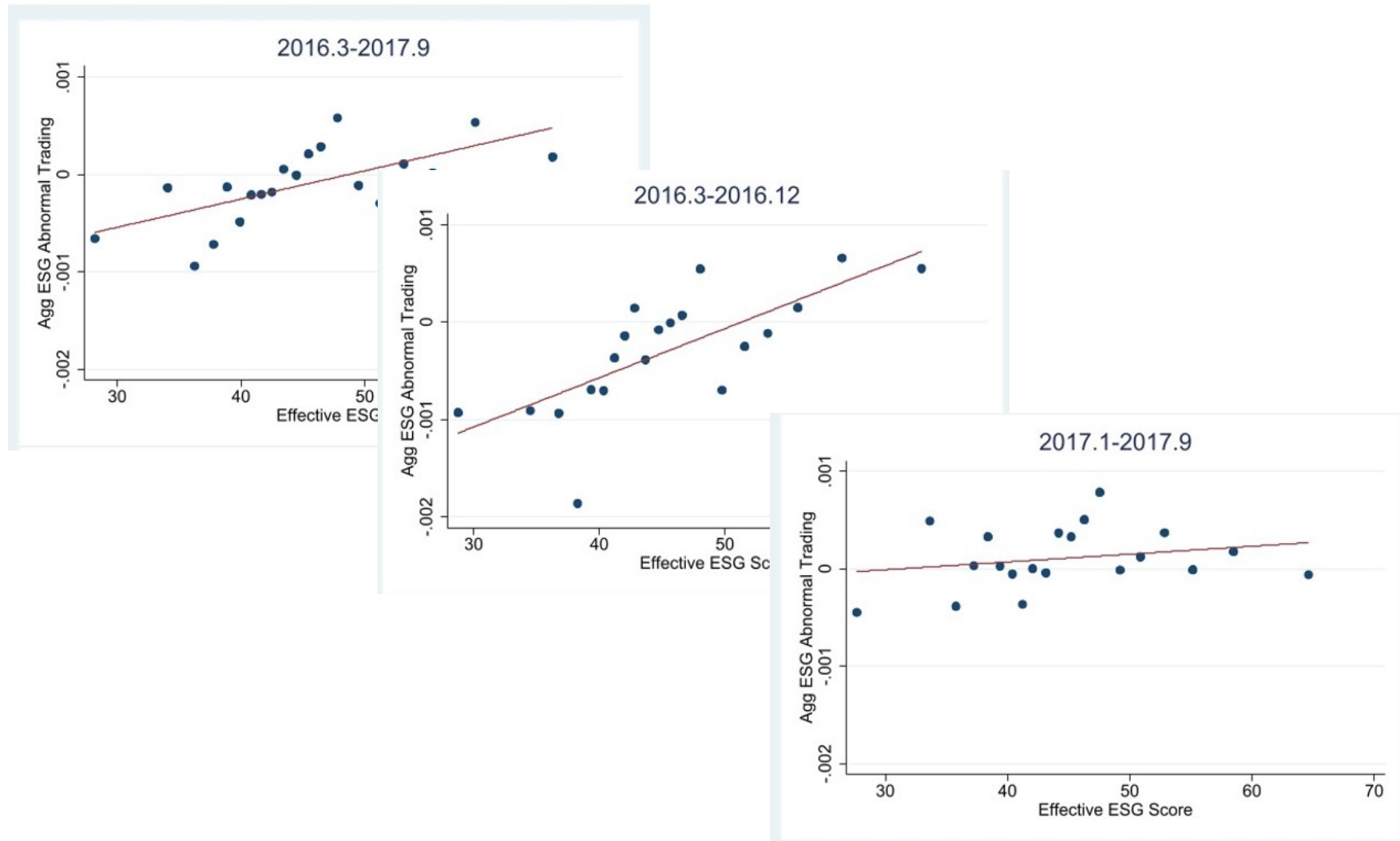
$$Trading(f, i, t) = \frac{NumShares(f, i, t) - NumShares(f, i, t - 1)}{Shares\ Outstanding(i, t - 1)}$$

$$Abnormal\ Trading(f, i, t) = Trading(f, i, t) - \overline{Trading(i, t)}$$

## Ex ante definition

- Aggregate buying and selling pressure of funds that are in a neighborhood of the globe rating cutoffs

# Demand Pressure and Stock ESG Ratings



# Stock-level Trading Pressure and Stock ESG Ratings

	(1)	(2)	(3)	(4)
	Abnormal ESG Trading			
	2016.3-2017.9	2016.3-2016.12	2017.1-2017.9	2016.3-2017.9
Effective ESG Score	0.268*** (3.805)	0.464*** (3.684)	0.064 (0.967)	0.057 (0.847)
Effective ESG Score # First 9 mo				0.416*** (2.921)
Ln Market Cap	-0.119 (-0.303)	0.013 (0.021)	-0.235 (-0.506)	-0.149 (-0.379)
Book to Market	-1.822 (-0.873)	-4.877 (-1.555)	2.740 (1.368)	-1.730 (-0.833)
Leverage	-3.036 (-0.823)	-4.275 (-0.685)	-1.991 (-0.553)	-3.054 (-0.828)
ROA	16.166 (0.567)	6.090 (0.127)	31.845 (1.036)	16.449 (0.576)
Sales Growth Rate	0.007 (0.003)	1.457 (0.474)	-2.214 (-0.566)	0.140 (0.058)
Ret (t-1)	2.204 (0.433)	6.474 (0.884)	-4.156 (-0.743)	2.375 (0.467)
Constant	-9.166 (-1.263)	-20.133* (-1.796)	1.411 (0.165)	-9.124 (-1.259)
Observations	5846	3058	2788	5846
Adjusted R-squared	0.003	-0.004	0.028	0.004
Fixed Effects	Ind*YQ	Ind*YQ	Ind*YQ	Ind*YQ

# Sustainability-driven Trading Pressure and Stock Returns

- Why the incentives to pursue a better sustainability score vanish?
- Any effects on stock returns?
  - We consider a portfolio long stocks with negative sustainability-driven trading pressure and short stocks with positive sustainability-driven trading pressure

# Long-Short Portfolio

Long stocks with Agg ESG<0 and short stocks with Agg ESG>0

	(1)	(2)	(3)	(4)
	2016.7-2016.12	2017.1-2017.9	2016.7-2016.12	2017.1-2017.9
	Equal-weighted		Value-weighted	
Mkt-RF	-0.0123 (-1.098)	0.0255 (1.535)	-0.0077 (-0.233)	-0.0363 (-1.381)
SMB	-0.0118 (-0.368)	0.0127 (0.460)	-0.1028*** (-2.759)	0.0344 (0.760)
HML	-0.0583*** (-3.146)	-0.0104 (-1.282)	-0.0682** (-2.483)	0.0258 (1.429)
Mom	-0.0581** (-2.544)	0.0346*** (2.639)	-0.0505 (-0.759)	0.0140 (0.372)
Alpha	0.0093** (2.250)	-0.0083 (-1.516)	0.0214* (1.668)	-0.0225* (-1.760)
Observations	127	188	127	188
R-squared	0.298	0.101	0.107	0.033

Annualized return between 2.3% and 5.4% in the first half of the sample



# Tradeoff Between Star and Globe Ratings

	(1)	(2)	(3)	(4)
	$\Delta$ Globe Rating	$\Delta$ Star Rating		
	2016.3 - 2017.9	2016.3 - 2017.9	2016.3-2016.12	2017.1 - 2017.9
ESG Pressure Trading	1.398*** (11.682)	-0.094 (-1.089)	-0.401*** (-2.748)	0.067 (0.614)
Total Trading (% TNA)	-0.376*** (-9.746)	-0.016 (-0.625)	0.076* (1.670)	-0.062* (-1.959)
Observations	21913	21893	7967	13926
Adjusted R-squared	0.057	0.051	0.064	0.043
Other controls	Yes	Yes	Yes	Yes
Fixed effects	Cat*YM	Cat*YM	Cat*YM	Cat*YM

# Tradeoff Between Globe Ratings & Performance

	(1)	(2)	(3)
	FF4 Alpha		
	2016.3 - 2017.9	2016.3-2016.12	2017.1 - 2017.9
ESG Pressure Trading	-0.320 (-1.093)	-1.666*** (-3.336)	0.359 (1.091)
Total Trading (% TNA)	0.069 (0.833)	0.546*** (3.752)	-0.223** (-2.375)
Observations	25327	9966	15361
Adjusted R-squared	0.178	0.181	0.183
Other Controls	Yes	Yes	Yes
Fixed effects	Cat*YM	Cat*YM	Cat*YM



# Effects of Ratings on Fund Flows

	(1)	(2)	(3)
	Flow (% TNA)		
	2016.3-2017.9	2016.3-2016.12	2017.1-2017.9
One Globe	-0.001 (-1.242)	-0.002* (-1.940)	-0.000 (-0.135)
Two Globe	0.000 (0.080)	-0.001 (-0.723)	0.000 (0.589)
Four Globe	0.001 (1.267)	0.001 (1.460)	0.000 (0.427)
Five Globe	0.002** (2.025)	0.002** (2.134)	0.001 (1.012)
One Star	-0.007*** (-5.830)	-0.006*** (-4.543)	-0.007*** (-4.498)
Two Star	-0.004*** (-6.818)	-0.004*** (-4.949)	-0.005*** (-5.610)
Four Star	0.006*** (11.317)	0.007*** (9.186)	0.006*** (8.718)
Five Star	0.016*** (13.400)	0.016*** (11.749)	0.016*** (10.852)
Observations	27658	12360	15298
Adjusted R-squared	0.174	0.186	0.166
Controls	Yes	Yes	Yes
Fixed effects	Cat*YM	Cat*YM	Cat*YM

Effects similar if we distinguish between institutional and retail classes

# Alternative explanations

- New equilibrium with lower rating turnover
- Sustainability score vs. sustainability ratings

# Ratings Turnover

	Globes		Star	
	<i>Upgrade</i>	<i>Downgrade</i>	<i>Upgrade</i>	<i>Downgrade</i>
Panel A: all changes				
2016.3 - 2016.12	11.95%	10.43%	6.65%	7.06%
2017.1 - 2017.9	9.81%	9.73%	6.00%	6.35%
Panel B: change to/from top/bottom rating				
2016.3 - 2016.12	2.55%	2.18%	1.49%	1.67%
2017.1 - 2017.9	2.82%	2.85%	1.33%	1.30%

# Effects of Upgrades/Downgrades on Flows

	(1)	(2)	(3)
	Flow (% TNA)		
	2016.3-2017.9	2016.3-2016.12	2017.1-2017.9
Globe Downgrade	-0.001 (-1.422)	-0.000 (-0.462)	-0.001 (-1.464)
Globe Upgrade	-0.001 (-1.291)	-0.001 (-0.797)	-0.001 (-0.996)
Star Downgrade	-0.003*** (-3.882)	-0.003*** (-2.800)	-0.003*** (-2.736)
Star Upgrade	0.002*** (3.216)	0.003*** (2.779)	0.002* (1.778)
Observations	27601	12339	15262
Adjusted R-squared	0.165	0.186	0.148
Controls	Yes	Yes	Yes
Fixed effects	Cat*YM	Cat*YM	Cat*YM

# Effects of Sustainability Score on Flows

	(1)	(2)	(3)
	Flow (% TNA)		
	2016.3-2017.9	2016.3-2016.12	2017.1-2017.9
Portfolio Sustainability Score	0.000***	0.001***	0.000
	(2.766)	(3.473)	(0.827)
Observations	27579	12326	15253
Adjusted R-squared	0.158	0.170	0.150
Controls	Yes	Yes	Yes
Fixed Effects	Cat*YM	Cat * YM	Cat * YM

# Conclusion

- Ratings have feedback effects on the actions of market participants
- Rating financial intermediaries on the basis of the sustainability of their portfolios may appear to be an effective mechanism that allows investors to allocate their funds in accordance with their environmental and social preferences.
- If most investors care to an even larger extent about performance, a trade-off between portfolio sustainability and performance may arise
- Sustainability ratings may become irrelevant