ESG Favoritism in Mutual Fund Families

Anna Zsofia Csiky · WU
Rainer Jankowitsch · WU
Alexander Pasler · WU
Marti G. Subrahmanyam · NYU

39th Workshop of the Austrian Working Group on Banking and Finance

WU
WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

09 / 2024

Incentives

- Trend towards integrating ESG considerations into the investment process
  $\rightarrow$ ever-expanding ESG open-end fund industry

- Enhanced mutual fund market concentration $\rightarrow$ intensified role of fund families
  From 35% of the total mutal fund and ETF assets being managed by the five largest complexes in the U.S. in 2005, it rose to 55% in 2022. (Investment Company Institute, 2023)

- Family-level strategies?

- **Favoritism:** fund firms coordinating actions across member funds to prioritize family interests.

What Do We Do?

Research Question

Do fund families strategically coordinate actions to boost the performance of their ESG mutual funds at the expense of their non-ESG mutual funds?

- Find evidence for cross-fund subsidization within mutual fund families, with ESG funds' performance enhanced by nearly 2% annually at the expense of regular funds
- Investigate the relation between ESG favoritism and fund/family characteristics
- Conclude that the timing of ESG favoritism is related to climate concerns and flow performance
- Identify two potential mechanisms of ESG favoritism: cross-trading and preferential IPO allocations

Related Literature

- *Gaspar et al. (2006)* found evidence of preferential treatment for high-value funds, resulting in extra performance (0.7 - 3.3% per year) compared to low-value funds within the same family.

- *Adrianto et al. (2018)* documented indication of strategic cross-subsidization of winning funds at the expense of losing funds in SRI fund families.

- *Li et al. (2023)* reported that including ESG funds in the family increases focus on high ESG stocks and a spillover effect on non-ESG sibling funds; ESG funds exhibited better overall performance (1% per year) compared to non-ESG siblings but not compared to standalone non-ESG funds.

Why ESG Mutual Funds are Favored?

- ESG investing received expansive popularity in the last two decades
- ESG has substantial value-generating potential for the fund family
  - $\Rightarrow$ reputational advantage, a marketing tool, a differentiated product to reach an additional market segment , or in virtue of *Pástor et al. (2022)* a source of utility for investors
- Socially responsible mutual fund investors are willing to pay significantly higher fees *(Riedl and Smeets, 2017; Baker et al., 2022)*
- Lower monthly volatility of cash flows in socially responsible open-end funds *(Bollen, 2007)*
- Greater convexity in the flow-performance relationship of ESG mutual funds *(Bollen, 2007; Li et al., 2023)*
- Socially responsible fund flows are less sensitive to returns, and their investors find fees less important than shareholders of conventional funds *(Benson and Humphrey, 2008)*

Data

- Mutual fund sample from Morningstar Direct
  - equity open-end funds domiciled in the U.S. with USD base currency
  - oldest share class of each fund
  - non-index funds
  - sample period 2000 - 2022
  - monthly time series variables: total net assets, monthly return, net expense ratio, Morningstar Category
  - discrete variables, e.g.: branding name
  - sample free of survivorship-bias
- MSCI ESG scores
- CRSP Mutual Funds Holdings
- IPOs list from Bloomberg

Identifying ESG Funds

ESG Fund

Funds are classified as ESG

- if their name contains certain keywords (e.g., *ESG*, *Impact*, *Sustainability*)
- if the fund has a clear focus on ESG or sustainability in their investment process, captured by the Sustainable Investment variable

- **Fund family**: funds are considered to belong to one family if they share the same branding name
- **Style**: we consider funds to have similar investing style if they are in the same Morningstar Category [Large, Mid-Cap, Small]×[Value, Blend, Growth]

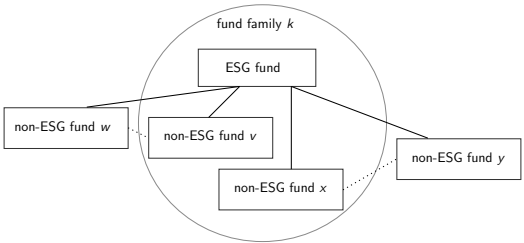
Summary Statistics in Family

	ESG	Non-ESG
Monthly Return (%)	0.777	0.796
Monthly Net Return (%)	-0.014	-0.002
Net Assets (Mill. USD)	546	1224
Net Expense Ratio (%)	0.959	0.939
YTD Return (%)	0.557	0.599
Age (Years)	14.77	16.93
Number of Funds	72	817

ESG AUM Share

Methodology & Fund Matching

- **Idea:** Is the return differential of ESG and non-ESG funds different within and outside the fund family?
- **Fund matching:**
  1. pair each ESG fund with all non-ESG funds in the same fund family
  2. match each non-ESG fund with the closest fund outside the fund family with the same investment style based on Mahalanobis distance using ytd performance, age, and fees
  3. pair each ESG fund additionally with all such matched funds outside the fund family
- Compute difference in net-of-style returns



ESG Favoritism

	Actual Pairs	Matched Pairs
2005 - 2022	-0.006	-0.169***
2005 - 2015	-0.007	-0.143***
2016 - 2022	-0.006	-0.199***

$\Longrightarrow$ 2.0% annual underperformance of ESG funds compared to non-ESG funds outside the family

$\Longrightarrow$ significantly stronger effect after 2015

$\Longrightarrow$ no in-family ESG fund outperformance

ESG Favoritism - Regression Framework

$$\text{Net\_return}_{i,t}^{ESG} - \text{Net\_return}_{j,t}^{non\text{-}ESG} = \alpha + \beta \text{Same\_family}_{i,j} + \zeta \text{Same\_style}_{i,j} + \text{Controls} + \epsilon_{i,j,t}, \quad (1)$$

where $\text{Net\_return}_{i,t}^{ESG}$ is the return of the ESG fund i in a given month t, and $\text{Net\_return}_{j,t}^{non\text{-}ESG}$ is the return of the non-ESG fund j. Same_family is a dummy variable which is 1 if the ESG fund and the non-ESG fund are in the same family. Same_style is a dummy variable which is 1 if the ESG fund and the non-ESG fund follow the same investment style. We control for size, age, and size and age of the funds' families.

ESG Favoritism

	(1)	(2)
Same family	0.172^{***}	0.144^{***}
	(0.012)	(0.010)
Same style	−0.002	0.001
	(0.015)	(0.016)
Controls	No	Yes
Year FE	Yes	Yes
Family FE	Yes	Yes
Style FE	Yes	Yes
Observations	195,333	192,914
Adjusted R^2	0.012	0.016

$\Longrightarrow$ 1.7% annual performance of ESG funds due to strategic cross-fund subsidization

Alternative matching

Fund/Family Characteristics and Strategic Cross-Fund Subsidization

- **ESG Fund Characteristics**
- **Regular Fund Characteristics**
- **Family Characteristics**

ESG Fund Characteristics and Strategic Cross-Fund Subsidization

Fees		
Below Average	Above Average	p-Val.Diff.
0.151***	0.134***	0.553

YTD Return		
Below Average	Above Average	p-Val.Diff.
0.171***	0.122***	0.025

Age		
Below Average	Above Average	p-Val.Diff.
0.136***	0.161***	0.209

Back

Fund/Family Characteristics and Strategic Cross-Fund Subsidization

- **ESG Fund Characteristics** Table
  stronger evidence for favoritism of funds that have *lower YTD return* compared to style benchmark

- **Regular Fund Characteristics** Table
  stronger evidence for favoritism at the expense of funds that are *lower value* to their families, e.g.: *older* funds and funds with *lower ESG score*

- **Family Characteristics** Table
  stronger evidence for favoritism in families that are *smaller* (AUM & number of funds) and *older*

Family Characteristics and Strategic Cross-Fund Subsidization

Size of Family		
Bottom 25%	Top 25%	p-Val.Diff.
0.245***	0.140***	0.092

Number of Funds in Family		
Below Average	Above Average	p-Val.Diff.
0.215***	0.143***	0.005

Age of Family		
Young	Old	p-Val.Diff.
0.114***	0.197***	<0.001

Size Heterogeneity of Family		
Below Average	Above Average	p-Val.Diff.
0.162***	0.158***	0.881

Number of ESG Funds in Family		
Below Average	Above Average	p-Val.Diff.
0.154***	0.163***	0.694

ESG Fund AUM Share in Family		
Below Average	Above Average	p-Val.Diff.
0.268***	0.163***	0.052

Back

Strategic Timing of ESG Favoritism

$$\begin{aligned}\text{Net\_return}_{i,t}^{ESG} - \text{Net\_return}_{j,t}^{non\text{-}ESG} = \\ \alpha + \beta\text{Same\_family}_{i,j} + \gamma\text{Same\_family}_{i,j} \times X_{i,j,t} \\ + \zeta\text{Same\_style}_{i,j} + \text{Controls} + \epsilon_{i,j,t},\end{aligned} \tag{2}$$

where $X_{i,j,t}$ denotes a time-series variable representing climate change concerns or fund flow measures.

Media Climate Change Concerns by Ardia et al. (2023) and ESG Favoritism

	(1)	(2)
Same family	0.106^{***}	0.108^{***}
	(0.014)	(0.011)
Same family | Post COP21	0.082^{***}	
	(0.017)	
Same family | MA_{12} MCCC		0.101^{***}
		(0.012)
Same style	0.001	-0.006
	(0.016)	(0.015)
Controls	Yes	Yes
Year FE	Yes	Yes
Family FE	Yes	Yes
Style FE	Yes	Yes
Observations	192,914	187,817
Adjusted R^2	0.016	0.018

Variable description + High/Low MCCC

Fund Flows and ESG Favoritism

	(1)	(2)
Same family	0.151***	
	(0.010)	
Same family | Net Flows	−0.019***	
	(0.003)	
Same family | Flow Outperf.		0.084***
		(0.025)
Same family | Flow Underperf.		0.208***
		(0.024)
Same style	0.004	0.005
	(0.016)	(0.016)
Controls	Yes	Yes
Year FE	Yes	Yes
Family FE	Yes	Yes
Style FE	Yes	Yes
Observations	184,499	184,485
Adjusted R^2	0.019	0.016

Variable description

Impact of ESG Fund Inception

$$\text{Net\_return}_{i,k,t}^{non\text{-}ESG} - \text{Net\_return}_{j,l,t}^{non\text{-}ESG} = \alpha + \delta 1_{\{\tau_k > 0\}} + \text{Controls} + \epsilon_{i,j,t}, \tag{3}$$

where τ_k measures the years since the inception of the ESG fund in family k. We restrict the sample to $\tau_k \in [-5, 5]$. Hence, $1_{\{\tau_k > 0\}}$ is a dummy variable which is 1, if an ESG fund in family k exists in period t, and 0 otherwise.

Impact of ESG Fund Inception

	(1)	(2)
Post ESG Fund Inception	-0.092^{**}	-0.094^{**}
	(0.042)	(0.045)
Controls	No	Yes

$\Longrightarrow$ 9.4 bp monthly underperformance of within-family compared to outside-family non-ESG funds after ESG fund inception

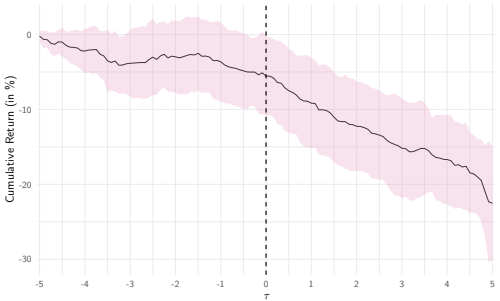


Figure: Cumulative Return Differential since ESG Fund Inception.

Potential Mechanisms of Strategic Cross-Fund Subsidization

- Strategic allocation of best managerial talent
- Low switching fees encouraging investor flows within family
- Strategic timing of trades of illiquid stocks
- Cross-trading strategies Table
  $\Longrightarrow$ one-standard-deviation increase in opposite trades would enhance annual ESG fund performance by 0.24%
- Preferential IPO allocations Table
  $\Longrightarrow$ ESG funds are assigned more IPOs (8.2 IPO/fund for ESG, 2 IPO/fund for regular funds on average)
  $\Longrightarrow$ first-day return contributes significantly more to monthly performance for ESG funds

Conclusion

- We provide evidence for cross-fund-subsidizing strategies within mutual fund families to boost ESG funds' performance at the expense of non-ESG sibling funds (nearly 2% per year).
- We report stronger evidence for ESG favoritism in underperforming ESG funds.
- We find stronger indications of older, underperforming, larger regular funds with lower ESG score being used for ESG favoritism.
- We document that strategic timing in ESG favoritism is connected to climate change awereness and ESG fund flows.
- We find evidence for two potential mechanisms of ESG favoritism:
  - cross-trading strategies,
  - preferential IPO allocations.

Bibliography

Adrianto, F., Chen, E.-T. J., and How, J. C. (2018). Cross-subsidization in SRI fund families. *Available at SSRN 3243002*.

Ardia, D., Bluteau, K., Boudt, K., and Inghelbrecht, K. (2023). Climate change concerns and the performance of green vs. brown stocks. *Management Science*, 69(12):7607–7632.

Baker, M., Egan, M. L., and Sarkar, S. K. (2022). How do investors value ESG? *National Bureau of Economic Research (w30708)*.

Benson, K. L. and Humphrey, J. E. (2008). Socially responsible investment funds: Investor reaction to current and past returns. *Journal of Banking & Finance*, 32(9):1850–1859.

Bollen, N. P. (2007). Mutual fund attributes and investor behavior. *Journal of Financial and Quantitative Analysis*, 42(3):683–708.

Gaspar, J.-M., Massa, M., and Matos, P. (2006). Favoritism in mutual fund families? Evidence on strategic cross-fund subsidization. *The Journal of Finance*, 61(1):73–104.

Investment Company Institute (2023). Factbook 2023.

Li, S., Ruan, H., Titman, S., and Xiang, H. (2023). ESG spillovers. *National Bureau of Economic Research (w31248)*.

Pástor, L., Stambaugh, R. F., and Taylor, L. A. (2022). Dissecting green returns. *Journal of Financial Economics*, 146(2):403–424.

Riedl, A. and Smeets, P. (2017). Why do investors hold socially responsible mutual funds? *The Journal of Finance*, 72(6):2505–2550.

Alternative Matching Procedures

	(1)	(2)	(3)	(4)
Same family	0.144^{***}	0.211^{***}	0.122^{***}	0.231^{***}
	(0.010)	(0.032)	(0.013)	(0.031)
Same style	0.001	0.106^{**}	-0.002	0.021
	(0.016)	(0.048)	(0.013)	(0.057)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Family FE	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes
Observations	192,914	15,325	224,848	17,342
Adjusted R^2	0.016	0.017	0.014	0.017

The fund matching for the samples in Models (1) and (2) is based on the Mahalanobis distance. The fund matching for the samples in Models (3) and (4) is based on the Euclidean distance. In Models (1) and (3), the ESG funds are paired with all non-ESG funds in the family and their respective matches outside the family. In Models (2) and (4), the ESG funds are each randomly paired with a single non-ESG fund in the family and its respective match outside the family.

Back

In-Family Regular Fund Characteristics and Strategic Cross-Fund Subsidization

Fees		
Bottom 25%	Top 25%	p-Val.Diff.
0.198^{***}	0.237^{***}	0.070

ESG Score		
Bottom 25%	Top 25%	p-Val.Diff.
0.267^{***}	0.173^{***}	<0.001

YTD Return (Style)		
Bottom 25%	Top 25%	p-Val.Diff.
0.261^{***}	0.204^{***}	0.044

Tracking Error		
Bottom 25%	Top 25%	p-Val.Diff.
0.190^{***}	0.258^{***}	0.016

Age		
Bottom 25%	Top 25%	p-Val.Diff.
0.061^{***}	0.248^{***}	<0.001

Net Assets		
Bottom 25%	Top 25%	p-Val.Diff.
0.188^{***}	0.229^{***}	0.048

Back

Auxiliary Variables

Post COP21 is a dummy variable indicating the period post COP21, from 2016 onwards.

MA_{12} MCCC is the one-year moving average of the standardized Media Climate Change Concern Index (MCCC) of Ardia et al. (2023).

High (Low) MCCC is a dummy variable that takes the value of 1 if the relative difference of MCCC and its one-year moving average is above (below) the 75th (25th) percentile.

Flow Outperf. (Underperf.) is a dummy variable that takes the value of 1 if the fund flows of the ESG fund currently exceed (lag) the average fund flow of the family.

Back MCCC Back Fund Flows

Media Climate Change Concerns by Ardia et al. (2023) and ESG Favoritism

	(1)	(2)	(3)
Same family	0.106***	0.108***	0.104***
	(0.014)	(0.011)	(0.020)
Same family | Post COP21	0.082***		
	(0.017)		
Same family | MA_{12} MCCC		0.101***	
		(0.012)	
Same family | High MCCC			0.007
			(0.032)
Same family | Low MCCC			0.133***
			(0.039)
Same style	0.001	−0.006	−0.005
	(0.016)	(0.015)	(0.015)
Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Family FE	Yes	Yes	Yes
Style FE	Yes	Yes	Yes
Observations	192,914	187,817	187,817
Adjusted R^2	0.016	0.018	0.017

Back MCCC

Opposite Trades and ESG Favoritism

$$\begin{aligned}\text{Net\_return}_{i,t}^{ESG} - \text{Net\_return}_{j,t}^{non-ESG} = \alpha + \beta\text{Same\_family}_{i,j} + \gamma O_{i,j,t} \\ + \delta\text{Same\_family}_{i,j} \times O_{i,j,t} \\ + \zeta\text{Same\_style}_{i,j} + \text{Controls} + \epsilon_{i,j,t},\end{aligned}$$

where $O_{i,j,t}$ represents a measure of opposite trades between funds i and j. This measure is based on antagonistic changes in the two funds' portfolio holdings per quarter.

Opposite trades measure | Opposite trades example

Opposite Trades and ESG Favoritism

	(1)	(2)
Same family	0.107***	0.113***
	(0.031)	(0.031)
Opposite trades	−0.074**	
	(0.031)	
Opposite trades | Same family	0.092***	
	(0.031)	
Opposite trades min		−0.073**
		(0.030)
Opposite trades min | Same family		0.097***
		(0.031)
Same style	0.034	0.033
	(0.035)	(0.035)
Controls	Yes	Yes
Year FE	Yes	Yes
Family FE	Yes	Yes
Style FE	Yes	Yes
Observations	150,971	150,971
Adjusted R^2	0.029	0.029

Preferential IPO Allocations

	ESG	non-ESG
Mean 1st-day Return (%)	25.70	30.86
Mean Allocation (%)	36.74	13.37
Mean Underpricing Dollar to TNA (%)	0.36	0.27
Number of IPOs	590	1,644
Number of Funds	50	639

Back

Opposite Trades Measure

We proxy opposite trades in two ways based on the holding changes of fund i and j in the quarter month t falls into. For each stock with opposite changes in the number of shares held between two funds in a given quarter, we take the minimum across the two funds of the absolute market value change in the holdings due to the trades. Then, for our first opposite trades measure Opposite trades, we take the mean of all those market value changes. For the second opposite trade measure Opposite trades min, a more conservative proxy, we take the minimum of those market value changes across all stocks with opposite changes between the two funds. We normalize both measures by the total net assets of the ESG fund.

Back Opposite Trades Example

Opposite Trades Example

	Avg. Value ($) of Stock	Quarterly changes (number of shares)		Opposite changes (number of shares)	Opposite trades ($)
		Fund A	Fund B		
Stock X	20	-100	+150	100	2.000
Stock Y	110	+50	-40	40	4.400
Stock Z	50	-230	-120	-	-

- Opposite trades min (unscaled) = 2.000 $
- Opposite trades (unscaled) = 3.200 $

Back