



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Are ethical and green investment funds more resilient?

---

International Conference  
on Statistics for  
Sustainable Finance

14/09/2021

Disclaimer: The views expressed are those of the authors and do not necessarily reflect those of the ECB



**Laura Capota,**  
Margherita Giuzio, Sujit Kapadia, Dilyara Salakhova

# Overview

**1** Motivation and review of literature

**2** Specification

**3** Results

**4** Conclusion

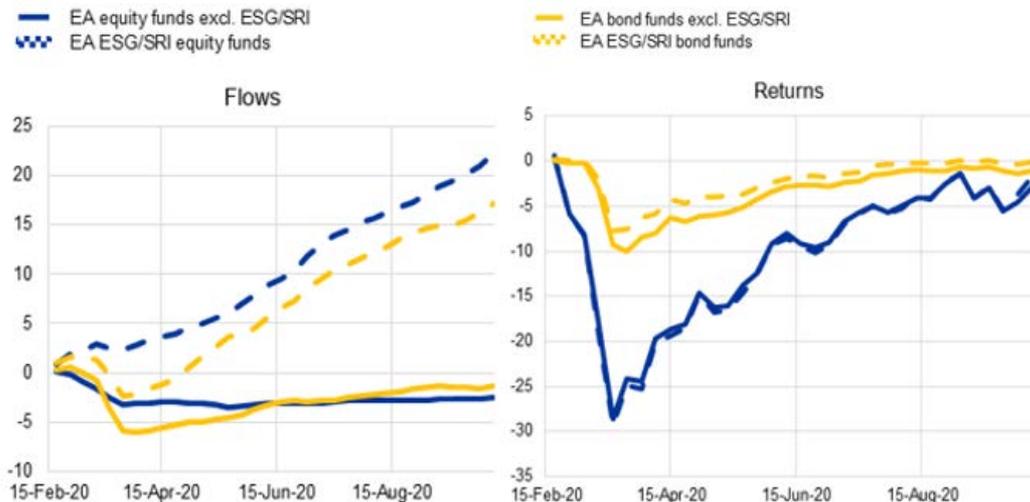


1.

# Motivation

# Motivation

ESG funds suffered lower outflows than non-ESG peers in March, despite achieving similar performance



Source: EPFR and ECB calculations.

## Why are ESG funds more resilient?

- Ethical investors are **committed** to their mandates: they value sustainability more than performance (Hartmark and Sussmann, 2019; Pastor and Vorsatz, 2020; Dottling and Kim, 2020)
- Ethical investors have a **longer-term investment horizon**: they withstand short-term negative performance (Riedl and Smeets, 2017; Dottling and Kim, 2020)
- Ethical investors believe that ESG companies will have higher **future returns**

→ Is the flow-performance relationship different for ESG and non-ESG funds?

# Our contribution

## Literature on flow-performance relationship

- Bond traditional funds: investors are sensitive to low returns (Goldstein et al., 2017; Chen and Qin, 2017)
- Investors are more sensitive to low returns in less liquid bond funds (Goldstein et al., 2017)
- Equity traditional funds: convex shape (Sirri and Tufano, 1998)
- Equity ESG vs Non-ESG funds: ESG investors are less sensitive to past returns (Benson and Humphrey, 2008; Bollen, 2007)

## Our project

- Compares the flow-performance relationship of ESG and traditional funds for **both bond and equity funds**
- Distinguishes **green ESG funds** from other ESG funds
- Considers a **longer time period** to capture a potential shift in investors' behavior and crisis episodes
- Classifies institutional and retail fund shares according to the euro area **Securities Holdings Statistics (SHSS)**
- Assesses funds' liquidity using a granular and **time-varying measure** of portfolio **liquidity**, based on **HQLA** definition



# 2.

## Specification

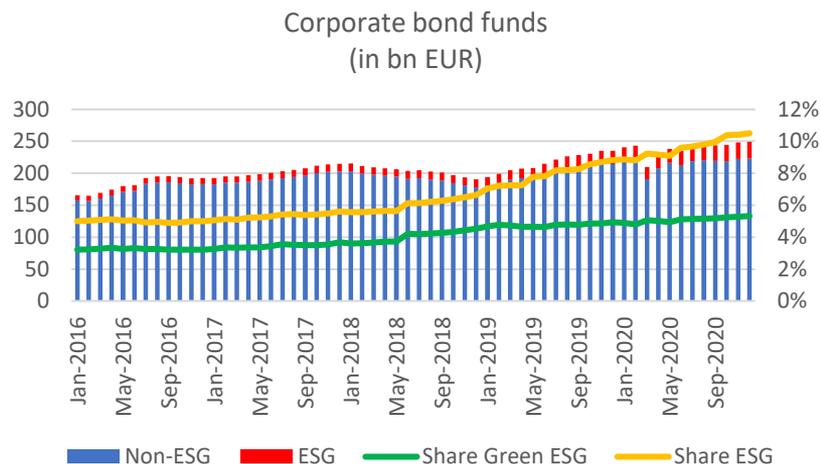


# Sample

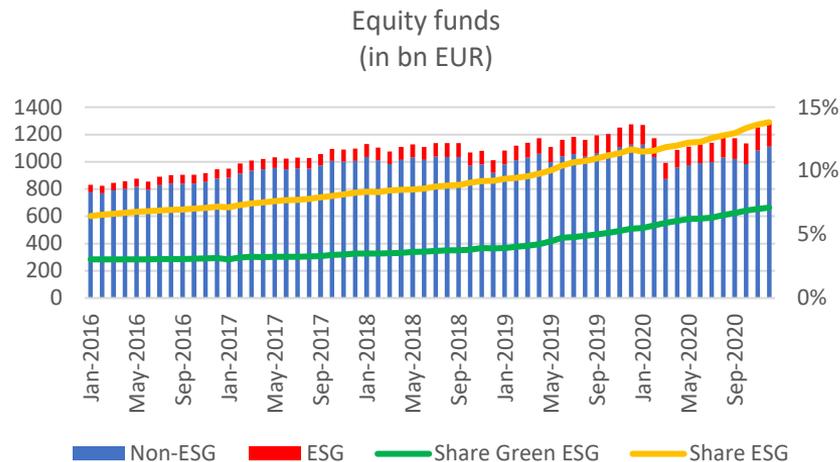
- Share-class level of EA-domiciled active funds
- Monthly return/TNA data, Jan 2016 - Dec 2020

→ ESG funds represent around 10% of the total number of corporate bond funds, but the assets they manage are growing rapidly

## Evolution of TNA of corporate bond funds by type



## Evolution of TNA of equity funds by type



# Main specification

We adopt a specification based on Goldstein et al. (2017)

$$Flows_{i,t} = \alpha + \beta_1 Ret_{i,t-1}^{ESG+} + \beta_2 Ret_{i,t-1}^{non\_ESG+} + \beta_3 Ret_{i,t-1}^{ESG-} + \beta_4 Ret_{i,t-1}^{non\_ESG-} + \beta_5 Controls_{i,t-1} + \gamma_t + \delta_t \times ESG + \varepsilon_{i,t}$$

Where:

$Ret\_ESG_{i,t-1}^+$  is the lagged excess positive return for green/ESG funds and 0 otherwise, etc.

Controls include: age, size, lagged flows, volatility of returns

Share fixed effects, errors clustered at a share level

# Main specification

We adopt a specification based on Goldstein et al. (2017)

$$Flows_{i,t} = \alpha + \beta_1 Ret_{i,t-1}^{ESG+} + \beta_2 Ret_{i,t-1}^{non\_ESG+} + \beta_3 Ret_{i,t-1}^{ESG-} + \beta_4 Ret_{i,t-1}^{non\_ESG-} + \beta_5 Controls_{i,t-1} + \gamma_i + \delta_t x ESG + \varepsilon_{i,t}$$

Where:

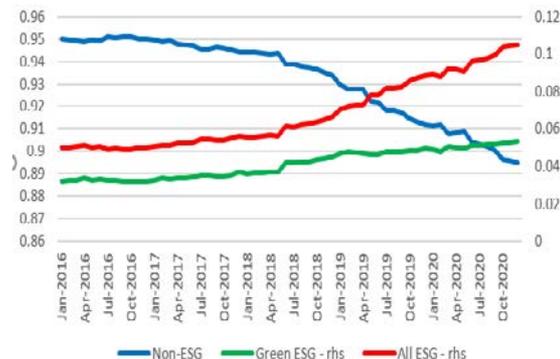
$Ret\_ESG_{i,t-1}^+$  is the lagged excess return for green/ESG funds and 0 otherwise

Controls include: age, size, lagged flows, volatility of returns

Share fixed effects, errors clustered at a share level

**Time x ESG fixed effects in order to control for different time trends between ESG and non-ESG**

Share of total assets managed by corporate bond funds, by group





# 3.

# Results

# Baseline: sensitivity to past performance

	Equity	Equity	Bond	Bond
	All ESG	Green ESG	All ESG	Green ESG
Ret Pos ESG	0.059***	0.097***	-0.172	-0.022
Ret Pos NESG	0.051***	0.051***	0.021	0.011
Ret Neg ESG	<b>0.015</b>	<b>0.056</b>	<b>0.127</b>	<b>-0.123</b>
Ret Neg NESG	<b>0.069***</b>	<b>0.064***</b>	<b>0.077***</b>	<b>0.082***</b>
Share FE	Yes	Yes	Yes	Yes
Time x ESG FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	324,022	324,022	64,467	64,467
R-squared	0.21	0.19	0.15	0.15

**Non-ESG** investors **withdraw more** from funds with more negative past returns (a decrease of 1 pp of the negative returns leads to 0.06-0.08 pp higher outflows),

while ESG (and Green ESG) fund investors are not sensitive to past negative performance

# Investor base

Based on SHSS:

- Institutional shares (if institutional investors hold more than 50% of the assets)
  - Retail shares (if retail investors hold more than 50% of the assets)
- Institutional investors **do not redeem** from **green** funds in response to past negative performance (mandates' role?)
  - However, they **react** to past negative performance in **non-ESG funds**
  - Retail investors **do not react** to past negative performance in **green** funds

	Equity	Equity	Bond	Bond
	Institutional shares	Retail shares	Institutional shares	Retail shares
	Green ESG	Green ESG	Green ESG	Green ESG
Ret Pos ESG	0.102**	0.169***	0.006	1.111***
Ret Pos NESG	0.058***	0.067***	0.012	0.182**
Ret Neg ESG	<b>0.076</b>	<b>0.074</b>	<b>-0.417</b>	<b>0.665</b>
Ret Neg NESG	<b>0.095***</b>	<b>0.064***</b>	<b>0.125***</b>	<b>0.109*</b>
Share FE	Yes	Yes	Yes	Yes
Time x ESG FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	114,363	59,416	25,737	9,623
R-squared	0.15	0.34	0.13	0.29

# Controlling for the liquidity of assets

Based on cash and HQLA bond data:

- Illiquid share if less than 1% of the portfolio is invested in liquid assets
- Liquid share otherwise
- Investors in **non-ESG** funds with **illiquid holdings withdraw more strongly** following negative performance
- Investors in **ESG illiquid** funds **do not redeem** following negative performance

	Bond	Bond
	All ESG	Green ESG
Ret Neg NESG Liq	0.081***	0.088***
Ret Neg NESG Illiq	<b>0.159***</b>	<b>0.174***</b>
Ret Neg ESG Liq	<b>0.185</b>	<b>-0.2</b>
Ret Neg ESG Illiq	<b>0.208</b>	<b>-1.061***</b>
Share FE	Yes	Yes
Time x ESG FE	Yes	Yes
Controls	Yes	Yes
Observations	49,081	49,081
R-squared	0.15	0.15

# Robustness

Considering different measures of performance:

- definition: monthly raw return in excess of category average, alphas
- horizon: 12-month raw return



# 4.

## Conclusion

# Conclusion and policy implications

Green and ESG funds do not exhibit outflows following negative performance

A more **committed** investor base, which is more willing to look-through short-term negative performance, indicates that green and ESG funds

- may be able to provide a **stable source of finance** for the green transition
- pose **less risks** to financial stability stemming from asset fire sales

Greenwashing risk needs to be addressed

- A consistent and harmonized ESG label would help reduce uncertainty and greenwashing risk