

The Impact of ESG Performance of Fund on the Performance-Flow Relationship: An Empirical Evidence in China Fund Markets

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How to cite this paper: Zhao, S. R. (2025). The Impact of ESG Performance of Fund on the Performance-Flow Relationship: An Empirical Evidence in China Fund Markets. *Modern Economy*, 16, 1484-1508. <https://doi.org/10.4236/me.2025.169069>

Received: April 1, 2025

Accepted: September 19, 2025

Published: September 22, 2025

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Abstract

With the mainstreaming of ESG investment globally, the scale of ESG public funds in China has exceeded 800 billion yuan, but the mechanism of its impact on investors' capital flows remains unclear. Using a sample of Chinese equity and hybrid open-end funds from 2018 to 2024, this paper adopts a two-way fixed-effects panel model to explore the moderating role of fund ESG performance in the traditional performance-flow relationship. The findings are as follows. There is a significant "performance chasing" phenomenon in China's fund market, showing a convex characteristic. The investors are far more sensitive to positive performance than negative performance. ESG performance has dual moderating effects. On the one hand, high ESG ratings attract additional capital inflows through a "halo effect" and reduce the sensitivity of capital to short-term volatility (risk buffer effect). On the other hand, high ESG ratings raise investors' performance expectations, leading to more severe capital outflows when performance is poor (shackle effect). The impact of ESG sub-dimensions is heterogeneous. The environmental (E) factor is the core driver of capital inflows but amplifies capital penalties when performance declines; the governance (G) factor, though not directly attractive, stabilizes capital during poor performance (ballast effect); the social (S) factor has no significant impact. The conclusions provide a new perspective for understanding investor behavior in ESG investment and have important practical implications for fund managers and investors.

Keywords

ESG Performance, Fund Performance, Capital Flow, Performance-Flow Relationship, Moderating Effect

1. Introduction

In recent years, with the growing global emphasis on sustainable development, the ESG (Environmental, Social, and Governance) investment concept has moved from the edge to the mainstream, profoundly changing the landscape of the global asset management industry. In China, driven by the proposal of the “dual-carbon” goals and regulatory policies, ESG investment has also experienced explosive growth, becoming an important bridge connecting capital markets and the sustainable development of the real economy. As of May 23, 2025, there are 669 surviving ESG public funds in the domestic market, with a total scale of 824.232 billion yuan.

The rapid development of ESG investment also poses new challenges to classical financial theories. The traditional theory of fund “Performance-Flow Relationship” holds that investors are rational “smart money”, and the capital will continue to flow into funds with excellent past performance, forming a significant positive relationship (Chevalier & Ellison, 1997; Sirri & Tufano, 1998). However, has investors’ decision-making framework based on risk and return changed while embracing the ESG concept? How does a fund’s ESG performance, as non-financial information, play a role in investors’ subscription and redemption decisions? Theoretically, funds with excellent ESG performance may imply stronger long-term risk management capabilities, more robust corporate governance structures, and better adaptability to future regulatory trends. These characteristics may attract investors with long-term perspectives and risk-averse preferences, thereby affecting capital flows. Conversely, if the market has insufficient understanding of ESG or concerns about “green washing”, investors may still adhere to traditional performance orientation and ignore or even negatively evaluate ESG performance. Therefore, empirically testing the actual impact of ESG performance on investor behavior in China’s fund market has important theoretical and practical significance.

This paper aims to explore whether and how fund ESG performance moderates the traditional “performance-flow” relationship in China’s open-end fund market. Specifically, the research questions include: 1) The traditional “performance-flow relationship” of funds: Without considering ESG performance, what form does the traditional “performance-flow relationship” present in China’s fund market? Do investors significantly chase historical performance? How do they perceive risk? 2) The moderating role of ESG: Does the introduction of ESG performance strengthen, weaken, or fundamentally change the above traditional “performance-flow relationship”? 3) Mechanism decomposition: Does the impact of ESG manifest through the simple label of “ESG fund” or through its continuous “ESG score” level? At a higher level, which of the three pillars—environmental (E), social (S), and governance (G)—plays a more critical role in influencing investors’ decisions? 4) Asymmetry of impact: Is the role of performance (e.g., rising performance, falling performance) symmetric in attracting capital inflows (net subscriptions) and preventing capital outflows (net redemptions)?

To address the above questions, this paper uses Chinese open-end equity funds and hybrid funds from 2018 to 2024 as samples, constructs quarterly panel data, and employs a two-way fixed effects model to control for fund-specific characteristics and macroeconomic shocks. It identifies the moderating effect by introducing the interaction term between ESG scores and fund performance, and decomposes the heterogeneous impacts of the E, S, and G sub-dimensions. The findings reveal that there is a significant “performance chasing” phenomenon in the Chinese market, with higher sensitivity to positive performance (convex characteristic); ESG performance exhibits both a “halo effect” (attracting capital inflows) and a “shackle effect” (more severe capital outflows when performance is poor), and can reduce the sensitivity of capital flows to volatility; the Environmental (E) dimension dominates capital inflows, the Governance (G) dimension stabilizes capital when performance is sluggish, while the Social (S) dimension has no significant impact.

The contributions of this paper are reflected in three aspects: Theoretically, it expands the research on the impact of ESG on investor behavior and reveals the duality of ESG’s moderating role and the heterogeneity of its sub-dimensions; Methodologically, it distinguishes the roles of ESG labels and continuous ESG scores in the Chinese market for the first time, and decomposes the mechanism differences among the three pillars; Practically, it provides empirical evidence for fund managers to optimize ESG strategies and for investors to make rational decisions.

The structure of this paper is as follows: Part 2 is the institutional background, reviewing the development of China’s ESG Fund policies and market; Part 3 is the literature review; Part 4 is the empirical research design, introducing variable definitions and econometric models; Part 5 is the description of empirical data; Part 6 is the empirical results and analysis, presenting and interpreting the regression results; Part 7 is the research conclusions and prospects, summarizing the full text and putting forward policy recommendations.

2. ESG Fund Development in China

2.1. ESG Fund

The development of China’s ESG funds is inseparable from the systematic promotion of policies. In 2016, seven ministries and commissions, including the People’s Bank of China issued the “Guiding Opinions on Establishing a Green Finance System”, which incorporated the ESG concept into the financial policy framework for the first time and explicitly supported the innovation of green investment products. In September 2020, the “dual-carbon” goals (peaking carbon emissions before 2030 and achieving carbon neutrality before 2060) were put forward, becoming the core policy driver for ESG investment (especially in the environmental dimension), and the scale of green-themed funds increased by 47% in the following year. In 2021, the China Securities Regulatory Commission (CSRC) revised the “Measures for the Administration of the Operation of Publicly Offered

Securities Investment Funds”, incorporating “sustainable development” and “green investment” into the definition of fund investment scope, providing an institutional basis for the design of ESG fund products. In 2022, the Asset Management Association of China (AMAC) released the “Green Investment Guidelines (Trial Implementation)”, requiring fund managers to establish ESG investment decision-making processes, strengthen information disclosure, and promote ESG investment from a “concept” to a “substantive practice”.

Driven by strong policy impetus, China’s ESG public fund market has gone through a journey from infancy to explosive growth. Especially after the proposal of the “dual-carbon” goals in 2020, both the market scale and the number of products showed a blowout trend. In 2008, Industrial Global Fund launched China’s first social responsibility-themed fund, marking the first attempt to integrate the ESG concept with asset management products. According to research data from the International Institute of Green Finance at Central University of Finance and Economics and Guosen Securities, the number of China’s ESG public funds increased from less than 100 at the end of 2018 to 586 at the end of 2023; the total management scale also jumped from tens of billions of yuan to more than 540 billion yuan. Although the scale declined slightly from 2022 to 2023 due to overall market fluctuations, its proportion in the public fund market still increased steadily, demonstrating strong development resilience.

From the perspective of product structure, the early market was dominated by broad ESG concept funds (such as themes of environmental protection and clean energy). In recent years, with the deepening of the ESG concept, the number of “strongly relevant” funds that purely take ESG integration strategies or sustainable development as their core investment objectives has increased significantly. Themes such as carbon neutrality, pure ESG strategies, and environmental protection have become market mainstream, reflecting the increasing refinement and professionalism of investment strategies.

2.2. ESG Rating

ESG ratings serve as the “infrastructure” for ESG investment. Although China’s local ESG rating system started late, it has developed rapidly, forming a market pattern involving both international rating agencies (e.g., MSCI) and local rating institutions. The local institutions mainly include index companies (e.g., China Securities Index, Hua Zheng Index), professional ESG service providers (e.g., Syn-Tao Green Finance, Alliance Green), and financial data service providers (e.g., Wind). These institutions have built localized rating methodologies based on international frameworks while integrating China’s national conditions (such as characteristic indicators like targeted poverty alleviation and common prosperity).

Hua Zheng Index and Wind are representative mainstream institutions, both balancing international standards and Chinese market characteristics. Wind’s ESG rating is particularly widely used in market practice due to its broad coverage

and in-depth data. Hua Zheng Fund ESG Rating centers on the ESG performance of fund holdings and constructs a two-dimensional framework of “basic score and risk adjustment”. Wind ESG Rating, on the other hand, has created an indicator system with stronger hierarchy and market adaptability, whose core definition methods are as follows. 1) Data-driven as the core, aligning with international standards and evaluation frameworks, while fully integrating the information disclosure policies and current status of Chinese companies to build a rating model, ensuring the local applicability of rating results; 2) The management practice indicator system strictly distinguishes the three major dimensions of Environment, Social, and Governance, subdivides 29 topics and sets more than 500 specific indicators, forming a multi-dimensional and three-dimensional evaluation network; 3) Innovatively introducing a dynamic tracking mechanism for controversial events, based on real-time information such as news public opinion, legal lawsuits, and regulatory penalties, to dynamically assess enterprises’ ESG management practice levels and major sudden risks, improving the timeliness of ratings; 4) Setting differentiated weights according to industry characteristics to achieve industry neutrality of rating results, which can effectively reflect the ESG opportunities and risks specific to each industry.

However, the current rating market still faces challenges. A prominent issue is the significant divergence in rating results among different institutions. Such divergence may stem from differences in data sources, indicator weights, and methodologies, which troubles investors’ decision-making. The fact that the rating system is still under development and improvement also provides a complex yet realistic research background for this study to explore the actual market impact of ESG ratings.

3. Literature Review and Research Hypotheses

3.1. Relationship between Fund Performance and Flow

The relationship between fund performance and capital flow is a classic topic in the field of asset management. The classic “Smart Money Effect” theory holds that investors can identify and chase excellent fund managers, leading to capital tending to flow into funds with excellent historical performance and out of poorly performing funds, forming a significant positive convex relationship (Chevalier & Ellison, 1997; Sirri & Tufano, 1998). However, subsequent studies have found that this relationship is not absolutely stable, as it is affected by various factors, such as market environment, investor sentiment, fund marketing activities, and investor types.

Traditional studies have generally verified the positive correlation between fund performance and capital flow (Ippolito, 1992), but this relationship shows significant differences between developed and emerging markets. In developed markets, the “star effect” found by Sirri and Tufano (1998) indicates that funds with top 10% performance attract excess capital inflows, while funds with bottom performance do not experience equivalent outflows, forming a convex relationship.

This asymmetry is attributed to the interaction of investor search costs, media exposure, and disposition effect (investors tend to hold losing funds while chasing short-term top-performing products). However, in early studies on the Chinese market, [Lu et al. \(2007\)](#) observed an abnormal “redemption anomaly”: investors are more inclined to redeem profitable funds and retain losing funds, which deviates from traditional theories.

Subsequent studies have corrected this cognitive divergence through methodological optimization. [Xiao and Shi \(2011\)](#) adjusted annual performance data using the Fama-French three-factor model and confirmed that there is also a performance chasing phenomenon in the Chinese market. This finding was further refined by [Yang et al. \(2013\)](#), whose quantile regression showed that the capital inflow growth of “star funds” in the top 30% of performance is 1.8 times that of “bottom funds” in the bottom 30%, but the disposition effect is more significant among individual investors, weakening the redemption response.

In recent years, performance differentiation and behavioral finance perspectives have reconstructed the theoretical framework. [Hu and Shi \(2021\)](#), based on data of 710 equity funds from 2005 to 2020, introduced a performance differentiation indicator, revealing that when the quarterly performance range expands to 53%, the impact of performance on net inflows decreases by 27.2%. This inhibitory effect is particularly obvious in positive-return funds and strengthens with market maturity. Notably, long-term performance is less constrained by differentiation, indicating that investors trust the management ability of those who consistently outperform peers.

[Wu et al. \(2019\)](#) expanded the analysis dimension from the perspective of bounded rationality. Their empirical evidence shows that when investor sentiment is high, fund net inflows increase, but sentiment weakens the sensitivity to relative performance. A more critical finding is that fund splits distort decisions through the “framing effect”: the net inflow of split funds in the current quarter is 1.6 times that of non-split funds, but investors mistakenly regard low net value as a “discount opportunity”, which reduces their ability to identify long-term performance. This irrational chasing harms investment returns.

Current studies provide three insights for ESG funds: the fundamentality of performance suggests that ESG ratings may indirectly affect flows by improving long-term risk-adjusted returns; the inhibitory effect of performance differentiation implies that ESG rating divergence may weaken flow responses; the long-term orientation of responsible investors may alleviate sentiment-driven irrationality. Future research should focus on exploring whether ESG rating divergence derives a new type of “differentiation effect” and whether responsible investors weaken the framing effect, promoting theoretical innovation in sustainable finance.

3.2. ESG Ratings and the Relationship between Fund Performance and Flows

The relationship between ESG ratings and fund performance—capital flows pre-

sents multi-dimensional complexity. A large number of empirical studies show that high ESG ratings are usually associated with positive corporate financial performance. A meta-analysis of over 2000 studies by [Friede et al. \(2015\)](#) found that 58% of studies focusing on corporate operating indicators (such as ROE and stock price) showed a positive correlation between ESG and corporate financial performance, while only 8% reported a negative correlation. This phenomenon can be explained by stakeholder theory and resource-based view. ESG integration enhances corporate value by improving risk management and innovation capabilities.

However, the capital flow patterns of ESG funds reveal the heterogeneity of investor behavior. [Döttling and Kim \(2024\)](#) found that the economic pressure caused by COVID-19 led to a significant shrinkage in retail investors' demand for high ESG funds. This "ESG demand vulnerability" is more significant in countries with strict economic lockdowns, supporting the "income sensitivity hypothesis". Retail investors prioritize financial security under economic pressure and reduce their willingness to pay for social preferences. Similarly, a study by [Das et al. \(2018\)](#) on Indian socially responsible mutual funds (SRMF) pointed out that high ESG-rated funds underperformed low ESG funds in non-crisis periods from 2005 to 2016, but performed better during the Great Recession (2007-2009), indicating that ESG advantages are dependent on the economic cycle.

Differences in ESG rating methodologies further complicate the relationship between performance and capital flows. [Senadheera et al. \(2021\)](#) pointed out that there are significant differences in the evaluation standards of the environmental pillar among different rating agencies (such as MSCI and Refinitiv), leading to the possibility that the same high-carbon-emission company may receive opposite ratings due to differences in score weights. An empirical study by [Berg et al. \(2022\)](#) confirmed that the correlation between mainstream ESG rating providers is as low as 0.61, mainly due to inconsistencies in evaluation scope, measurement indicators, and weight allocation. This "aggregate confusion" weakens the comparability of ratings, thereby affecting capital flows. For example, nominal "SRI funds" in the Korean market have no significant differences from ordinary funds in ESG scores, risks, and returns, while low ESG funds attract more capital flows, reflecting investors' lack of trust in ESG labels ([Wee et al., 2020](#)).

There are fundamental differences in the mechanism of action among the three ESG pillars. Environment (E) is directly linked to policy orientations (e.g., the "dual-carbon" goals), and its indicators (e.g., carbon emissions) are quantifiable and easy for investors to identify. Social (S) involves qualitative indicators such as employee relations and supply chain responsibility, which are difficult to measure. Governance (G) is directly related to corporate transparency and risk management, and is regarded as the core of long-term stability.

3.3. Research Hypotheses

Based on the above literature and combined with the characteristics of the Chinese

market, this paper proposes the following research hypotheses.

H1 (**Baseline Relationship Hypothesis**): After controlling for other factors, a fund's quarterly capital flow is significantly positively correlated with its lagged one-period net value growth rate, while significantly negatively correlated with the lagged one-period standard deviation of net value growth rate. Additionally, the sensitivity to positive performance is higher than that to negative performance (convex characteristic).

H2 (**ESG Moderating Effect Hypothesis**): High ESG ratings can positively moderate the performance-flow relationship and enhance the capital attractiveness and stability of funds.

H2a (**Attractiveness Effect**): Compared with funds with low ESG ratings, the capital inflows of funds with high ESG ratings are more sensitive to past performance.

H2b (**Capital Resilience Effect**): High ESG ratings can mitigate the impact of negative performance or high risks on capital outflows. That is, during market downturns or periods of increased fund performance volatility, funds with high ESG ratings have stronger capital "stickiness" and face less redemption pressure.

H3 (**Hypothesis on the Impact of ESG Sub-dimensions**): Among the three ESG pillars, considering China's policy orientation under the "dual-carbon" goals and the growing public awareness of environmental protection, the moderating effect of the Environmental (E) dimension is the most significant and robust in the context of the Chinese market.

4. Empirical Research Design

4.1. Model Setting

This paper employs a panel data regression model with dual fixed effects, including cross-sectional (fund-specific) and time (quarterly) fixed effects. This model can effectively control for the inherent characteristics of funds that do not change over time (such as fund manager style, brand reputation, etc.) as well as macroeconomic shocks faced by all funds (such as market bull-bear transitions, policy changes, etc.), thereby more accurately identifying the net impact of ESG performance. In addition, this paper examines the impacts of both current-period variables and lagged one-period variables (prefixed with "L.") to test the timeliness of investors' responses and partially alleviate potential endogeneity issues.

This study will use a panel data model to test the moderating effect of fund ESG performance on the performance-flow relationship. Considering the potential non-linear relationship between fund performance and capital flows, we will distinguish the impacts of positive performance and negative performance on capital flows, and on this basis, introduce ESG performance as a moderating variable.

1) Baseline model

First, we construct a baseline model to test the direct impact of fund performance on capital flow.

$$CF_{i,t} = \beta_0 + \beta_1 Performance_{i,t} + \beta_2 risk_{i,t} + \sum_{k=1}^K \gamma_k Control_{k,i,t} + \alpha_i + \delta_t + \epsilon_{it}$$

where $CF_{i,t}$ represents the net capital flow of fund i in quarter t , and can be designed as the net capital flow $Flow_{i,t}$, or the positive net capital flow $Flow_{i,t}^+$, or the negative net capital flow $Flow_{i,t}^-$.

$Performance_{i,t}$ represents the performance of fund i in quarter t , and can be designed as the lagged net value growth rate $NAV_{Growth}_{i,t}$, or the lagged net value growth rate $L.NAV_{Growth}_{i,t}$, or the positive net value growth rate $NAV_{Growth}_{i,t}^+$ and the negative net value growth rate $NAV_{Growth}_{i,t}^-$, or the lagged positive net value growth rate $L.NAV_{Growth}_{i,t}^+$ and the negative net value growth rate $L.NAV_{Growth}_{i,t}^-$.

$risk_{i,t}$ represents the risk of fund i in quarter t , and can be designed as the standard deviation of the net value growth rate $NAV_{GrowthSTDEV}_{i,t}$, or the lagged standard deviation of the net value growth rate $L.NAV_{GrowthSTDEV}_{i,t}$.

$Control_{k,i,t}$ is the control variable, which represents other factors affecting the capital flow of a fund.

α_i is the individual fixed effect, used to control for fund heterogeneity that does not change over time.

δ_t is the time fixed effect, used to control for macroeconomic or market shocks that do not vary across individual funds.

ϵ_{it} is the random error term.

This paper establishes a baseline model of the fund performance-flow relationship using the full sample to verify whether the classic “Performance Chasing” phenomenon and its asymmetry exist in the Chinese market, providing a solid comparative basis for subsequent analyses.

2) Moderating effect model with ESG

Considering the moderating effect of ESG dummy or ESG score, we import the interaction term of ESG dummy (or ESG score) and performance, and the interaction term of ESG dummy (or ESG score) and risk. The models are as follows.

$$CF_{i,t} = \beta_0 + \beta_1 Performance_{i,t} + \beta_2 risk_{i,t} + \beta_3 ESG_{i,t} + \beta_4 ESG_{i,t} \times Performance_{i,t} + \beta_5 ESG_{i,t} \times risk_{i,t} + \sum_{k=1}^K \gamma_k Control_{k,i,t} + \alpha_i + \delta_t + \epsilon_{it}$$

where $ESG_{i,t}$ represents the label of ESG funds, and can be designed as the dummy variable $ESG_{dummy}_{i,t}$, or the lagged dummy variable $L.ESG_{dummy}_{i,t}$, or the ESG score $ESG_score_all_{i,t}$, or the lagged ESG score $L.ESG_score_all_{i,t}$.

This paper systematically tests the overall moderating effect of ESG performance on the performance-flow relationship through introducing interaction terms of ESG dummy variables or ESG scores into the full sample.

3) Moderating effect model with ESG sub-dimensions

Considering the moderating effect of ESG sub-dimensions, we import the interaction term of ESG sub-dimensions and performance, and the interaction term of ESG sub-dimensions and risk. The models are as follows.

$$\begin{aligned}
CF_{i,t} = & \beta_0 + \beta_1 Performance_{i,t} + \beta_2 risk_{i,t} + \beta_3 E_{i,t} \\
& + \beta_4 E_{i,t} \times Performance_{i,t} + \beta_5 E_{i,t} \times risk_{i,t} + \beta_6 S_{i,t} \\
& + \beta_7 S_{i,t} \times Performance_{i,t} + \beta_8 S_{i,t} \times risk_{i,t} + \beta_9 G_{i,t} \\
& + \beta_{10} G_{i,t} \times Performance_{i,t} + \beta_{11} G_{i,t} \times risk_{i,t} \\
& + \sum_{k=1}^K \gamma_k Control_{k,i,t} + \alpha_i + \delta_t + \epsilon_{it}
\end{aligned}$$

where $E_{i,t}$ represents the E score of ESG funds, and can be designed as the E score $E_score_{i,t}$, or the lagged E score $LE_score_{i,t}$. $S_{i,t}$ represents the S score of ESG funds, and can be designed as the S score $S_score_{i,t}$, or the lagged S score $LS_score_{i,t}$. $G_{i,t}$ represents the G score of ESG funds, and can be designed as the G score $G_score_{i,t}$, or the lagged G score $LG_score_{i,t}$.

This paper decomposes ESG scores into the three pillars of E, S, and G, and explores the heterogeneous impacts of ESG performance across different dimensions on the performance-flow relationship, thereby revealing the underlying mechanism driving investors' decisions.

4.2. Variable Selection

1) Dependent variable (fund flow)

Three indicators are used to comprehensively describe capital flows, including total fund flow (flow), net subscription ratio (positive_flow), and net redemption ratio (negative_flow). A positive total fund flow indicates net subscriptions, and a negative value indicates net redemptions. The net subscription ratio takes the absolute value when the fund flow is positive and 0 when negative. The net redemption ratio takes the absolute value when the fund flow is negative and 0 when positive.

2) Independent variable (performance and risk)

The quarterly net value growth rate (NAVgrowth) is used as a proxy variable for performance, which is split into net value growth (positive_NAVgrowth) and net value decline (negative_NAVgrowth) to capture asymmetric effects. Meanwhile, the risk level represented by the standard deviation of the net value growth rate (NAVgrowthSTDEV) is controlled. Specifically, net value growth takes the absolute value when the net value growth rate is positive and 0 when negative; net value decline takes the absolute value when the net value growth rate is negative and 0 when positive.

3) Moderating variable (ESG performance)

ESG performance is measured from both qualitative and quantitative dimensions. Qualitatively, an ESG fund dummy variable (ESGdummy) is used; quantitatively, the comprehensive ESG score (ESG_score_all) and the three sub-scores (E, S, G) are used. In the ESG fund dummy variable, non-ESG funds are assigned 0 and ESG funds 1; non-ESG funds are assigned 0 in ESG scores, E scores, S scores, and G scores.

4) Control variables

The logarithm of the fund's total net assets (logTotalTNA) is used to control for the fund size effect. The number of years since the fund's establishment (age)

is used to control for the fund lifecycle effect.

5. Description of Empirical Data

This paper selects Chinese equity and hybrid open-end funds from 2018 to 2024 to construct a quarterly panel dataset. The data are sourced from the CSMAR database and Wind database. The descriptive statistics are as follows (**Table 1**).

Table 1. Descriptive statistics.

VARIABLES	(1)	(2)	(3)	(4)	(5)
	N	mean	sd	min	max
flow	84,796	-0.00539	0.276	-1.261	2.999
positive_flow	84,796	0.0637	0.232	0	2.999
negative_flow	84,796	0.0691	0.117	0	1.261
NAV_Growth	84,796	0.00761	0.102	-0.573	0.588
positive_NAV_Growth	84,796	0.0413	0.0711	0	0.588
negative_NAV_Growth	84,796	0.0337	0.0505	0	0.573
NAV_Growth_STDEV	84,796	0.0125	0.00612	0	0.253
ESGdummy	84,796	0.0499	0.218	0	1
ESG_score	3976	6.739	0.406	5.311	7.763
E_score	3976	4.040	1.242	0.789	6.910
S_score	3976	5.215	0.769	2.574	7.061
G_score	3976	6.757	0.617	4.738	8.211
logTotalTNA	84,796	19.51	1.714	7.306	26.71
age	84,796	5.368	4.230	1	23.04

6. Empirical Results and Analysis

6.1. Baseline Results

This paper first establishes a baseline model of the fund performance-flow relationship, with flow as the dependent variable and performance and risk as explanatory variables, using a two-way fixed effects panel data model. The results of the baseline model are shown in **Table 2**, **Table 3**.

Table 2. Results of the benchmark model.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
NAV_Growth	0.266*** (10.865)		0.318*** (15.296)		0.052*** (7.054)	
positive_NAV_Growth		0.460*** (11.921)		0.489*** (14.394)		0.029*** (2.776)
negative_NAV_Growth		0.024 (0.823)		-0.061** (-2.481)		-0.085*** (-7.879)

Continued

NAV_Growth_STDEV	3.660*** (6.783)	2.970*** (5.829)	3.186*** (6.500)	2.575*** (5.569)	-0.474*** (-2.928)	-0.395** (-2.455)
Constant	-1.879*** (-24.333)	-1.889*** (-26.340)	-0.652*** (-7.277)	-0.661*** (-8.350)	1.227*** (26.233)	1.228*** (25.482)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Fund	6105	6105	6105	6105	6105	6105
Observations	84,796	84,796	84,796	84,796	84,796	84,796
R-squared	0.042	0.044	0.045	0.047	0.068	0.069

Robust t-statistics in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Explanatory variables: net value growth rate (NAV_Growth) (or net value growth, net value decline (positive value)), standard deviation of net value growth rate (NAV_Growth_STDEV).

Table 3. Results of the benchmark model with lagged variables.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
L.NAV_Growth	0.300*** (12.989)		0.276*** (14.141)		-0.024*** (-3.419)	
L.positive_NAV_Growth		0.521*** (13.987)		0.452*** (13.813)		-0.069*** (-7.024)
L.negative_NAV_Growth		0.035 (1.282)		-0.009 (-0.396)		-0.045*** (-4.101)
L.NAV_Growth_STDEV	0.827* (1.860)	-0.124 (-0.284)	-0.108 (-0.293)	-0.865** (-2.366)	-0.934*** (-5.835)	-0.740*** (-4.665)
Constant	-1.772*** (-24.155)	-1.750*** (-23.905)	-0.425*** (-5.204)	-0.407*** (-5.191)	1.348*** (22.319)	1.343*** (21.867)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Fund	5867	5867	5867	5867	5867	5867
Observations	80,147	80,147	80,147	80,147	80,147	80,147
R-squared	0.043	0.045	0.042	0.044	0.068	0.068

Robust t-statistics in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Explanatory variables: lagged net value growth rate (L.NAV_Growth) (or lagged net value growth, lagged net value decline (positive value)), lagged standard deviation of net value growth rate (L.NAV_Growth_STDEV).

The results in **Table 2** show that there is an obvious “performance chasing” phenomenon in China’s fund market. Column (1) of **Table 2** shows that the current net value growth rate (NAV_Growth) of funds is significantly positively correlated with total fund flow (flow) at the 1% level (coefficient 0.266). This clearly confirms that Chinese fund investors have a strong “performance chasing” behav-

ior, *i.e.*, they tend to invest in funds with excellent recent performance. When we split performance into net value growth (positive_NAVGrowth) and net value decline (negative_NAVGrowth) (Column 2 of **Table 2**), an interesting asymmetric phenomenon emerges. The sensitivity of fund flow to positive performance (coefficient 0.460) is much higher than that to negative performance (coefficient 0.024, statistically insignificant). Further, net subscriptions (positive_flow, Column 4) are almost entirely driven by positive performance (coefficient 0.489), while investors do not show large-scale redemptions for underperforming funds (the parameter sign of negative_NAVGrowth in Column 6 is significantly negative). This “rewarding excellence without punishing inferiority” model collectively depicts a typical convex performance-flow relationship: investors respond much more strongly to “good news” (rising performance) than to “bad news” (falling performance).

Table 3 uses lagged performance variables for regression, and the conclusions remain robust. Lagged positive performance (L.positive_NAVGrowth) still has a significant positive impact on current fund flow (coefficient 0.521), indicating that investors’ decisions have a certain inertia, and they adjust their current portfolios based on the performance of the previous quarter.

In terms of risk preference, **Table 2** shows that current risk (NAVGrowthSTDEV) is significantly positively correlated with total flow and net subscriptions. This may reflect that there are some risk-preferring investors in the market who are willing to bear higher volatility in exchange for potential high returns, or it may indicate that high performance is often accompanied by high volatility in rising markets. However, current risk has a significant negative impact on net redemptions, *i.e.*, the greater the volatility, the smaller the net redemption volume. This also reflects investors’ risk-seeking behavior.

In summary, the baseline model clearly depicts the portrait of investor behavior in China’s fund market: they are active “trend followers” who show much more enthusiasm for rising fund performance than falling performance.

6.2. Moderating Role of ESG Labels

Will the interaction pattern between funds and investors change when funds are labeled “ESG”? Through a comprehensive analysis of **Table 4** and **Table 5**, we find the following results.

Table 4. Regression results with ESG dummy variables.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
NAVGrowth	0.265*** (10.779)		0.317*** (15.227)		0.052*** (6.982)	
positive_NAVGrowth		0.462*** (12.041)		0.491*** (14.521)		0.028*** (2.627)

Continued

negative_NAVGrowth		0.031 (1.047)		-0.056** (-2.273)		-0.087*** (-7.944)
NAVGrowthSTDEV	3.800*** (6.877)	3.092*** (5.934)	3.277*** (6.538)	2.653*** (5.617)	-0.523*** (-3.195)	-0.439*** (-2.703)
ESGdummy	0.070** (2.421)	0.072** (2.346)	0.048** (1.982)	0.049* (1.842)	-0.022** (-2.107)	-0.024** (-2.242)
ESGdummy_growth	0.029 (0.485)		0.022 (0.421)		-0.007 (-0.458)	
ESGdummy_growth_p		-0.047 (-0.380)		-0.027 (-0.239)		0.021 (0.802)
ESGdummy_growth_n		-0.150* (-1.704)		-0.099 (-1.270)		0.052* (1.949)
ESGdummy_stdev	-3.114** (-2.438)	-2.831** (-2.257)	-2.034* (-1.786)	-1.804 (-1.614)	1.080*** (3.044)	1.027*** (2.901)
Constant	-1.879*** (-24.495)	-1.890*** (-26.412)	-0.652*** (-7.324)	-0.661*** (-8.418)	1.227*** (25.767)	1.229*** (25.004)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Symbol	6105	6105	6105	6105	6105	6105
Observations	84,796	84,796	84,796	84,796	84,796	84,796
R-squared	0.042	0.044	0.045	0.047	0.069	0.069

Robust t-statistics in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Explanatory variables: net value growth rate (NAVGrowth) (or net value growth, net value decline (positive value)), standard deviation of net value growth rate (NAVGrowthSTDEV), ESG fund dummy variable (ESGdummy), interaction term of ESG fund dummy variable and net value growth rate (or net value growth, net value decline (positive value)) (ESGdummy_growth (ESGdummy_growth_p, ESGdummy_growth_n)), interaction term of ESG fund dummy variable and standard deviation of net value growth rate (ESGdummy_stdev).

Table 5. Regression results with lagged variables and ESG dummy variables.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
L.NAVGrowth	0.303*** (13.037)		0.278*** (14.148)		-0.025*** (-3.588)	
L.positive_NAVGrowth		0.527*** (14.032)		0.454*** (13.777)		-0.072*** (-7.270)
L.negative_NAVGrowth		0.037 (1.317)		-0.009 (-0.378)		-0.046*** (-4.157)
L.NAVGrowthSTDEV	0.862* (1.923)	-0.105 (-0.236)	-0.063 (-0.170)	-0.828** (-2.248)	-0.925*** (-5.705)	-0.723*** (-4.500)

Continued

L.ESGdummy	0.036 (1.476)	0.036 (1.420)	0.034 (1.638)	0.032 (1.480)	-0.002 (-0.173)	-0.003 (-0.334)
L.ESGdummy_growth	-0.041 (-0.702)		-0.016 (-0.312)		0.025 (1.566)	
L.ESGdummy_growth_p		-0.096 (-0.858)		-0.038 (-0.380)		0.058** (2.257)
L.ESGdummy_growth_n		-0.043 (-0.537)		-0.016 (-0.227)		0.027 (1.070)
L.ESGdummy_stdev	-0.824 (-0.586)	-0.517 (-0.368)	-1.066 (-0.884)	-0.885 (-0.745)	-0.242 (-0.625)	-0.368 (-0.933)
Constant	-1.769*** (-23.982)	-1.746*** (-23.745)	-0.423*** (-5.117)	-0.405*** (-5.116)	1.346*** (22.229)	1.341*** (21.663)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Fund	5867	5867	5867	5867	5867	5867
Observations	80,147	80,147	80,147	80,147	80,147	80,147
R-squared	0.043	0.045	0.042	0.044	0.068	0.068

Robust t-statistics in parentheses;*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Explanatory variables: lagged net value growth rate (L.NAVGrowth) (or lagged net value growth, lagged net value decline (positive value)), lagged standard deviation of net value growth rate (L.NAVGrowthSTDEV), lagged ESG fund dummy variable (L.ESGdummy), interaction term of lagged ESG fund dummy variable and net value growth rate (or net value growth, net value decline (positive value)) (L.ESGdummy_growth), interaction term of lagged ESG fund dummy variable and standard deviation of net value growth rate (L.ESGdummy_stdev).

First, ESG has a “halo effect”, which can attract capital inflows and reduce out-flows. However, this halo effect is short-sighted and only works in the current period. Column (1) of **Table 4** reveals the “halo effect” of ESG. After controlling for core financial variables such as performance and risk, the coefficient of the ESG fund dummy variable (ESGdummy) itself is still significantly positive (coefficient 0.070). This means that merely with the identity of “ESG fund”, it can attract more capital inflows than non-ESG funds with the same other conditions. This reflects investors’ non-financial preference for the ESG concept; they are willing to pay a “premium” for the sustainable development attributes of funds, which is also mentioned in studies on the spillover effect of ESG funds.

Second, ESG funds do not show a significant impact on the fund performance-flow relationship. The coefficients of the interaction terms between the ESG fund dummy variable and performance in **Table 4** and **Table 5** are insignificant. However, ESG funds help reduce the impact of risk on flows, and ESG fund investors no longer have obvious risk-seeking behavior. This may stem from two aspects: First, investors may inherently believe that ESG investment strategies themselves

include a more comprehensive risk management framework, which can avoid long-term risks ignored by traditional financial analysis (such as climate risks and supply chain labor risks), thus showing higher tolerance for short-term performance fluctuations. Second, the customer groups choosing to invest in ESG funds may themselves have lower risk preferences and longer investment horizons; their original intention of investment is not entirely short-term arbitrage, so they are less sensitive to fluctuations. Regardless of the mechanism, the result is clear: the ESG identity label plays a role as a “risk buffer”.

Finally, ESG funds present asymmetric performance punishment, which can be called the “shackle effect”. The results of the interaction terms introduced in Column (2) of **Table 4** reveal a deeper mechanism. The interaction term between the ESG dummy variable and positive performance (ESGdummy_growth_p) is negative but insignificant, indicating that the ESG identity does not significantly amplify the reward for good performance. However, the interaction term between the ESG dummy variable and negative performance (ESGdummy_growth_n) is significantly negative (coefficient -0.150). This is a crucial finding, indicating that when performance is poor, ESG funds face harsher capital outflow punishment than non-ESG funds. Investors seem to believe that a fund advocating ESG should not only have good social value but also should not perform poorly financially. When performance fails to meet expectations, the huge gap in this expectation will lead investors to more resolutely “vote with their feet”.

In summary, the ESG label is like a “halo” on the one hand, attracting investors with specific values; on the other hand, it is like a “shackle”, setting higher expectations, and once performance is substandard, it will face stricter scrutiny. ESG investors are not traditionally “patient capital” insensitive to performance, but rather a group with high demands on both value and returns. They come for the “halo” but also show lower tolerance for performance failures due to the “shackle”.

6.3. Moderating Role of ESG Scores

The label of “ESG fund” is a rough dichotomy. To more accurately measure the impact of ESG performance, we introduce a continuous comprehensive ESG score (ESG_score_all) and its interaction terms. This allows us to examine how the moderating role changes as ESG performance improves from poor to excellent. The analysis is mainly based on **Table 6** (current period) and **Table 7** (lagged period).

Table 6. Regression results with ESG scores.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
NAV_Growth	0.266*** (10.790)		0.317*** (15.237)		0.052*** (6.974)	
positive_NAV_Growth		0.463*** (12.057)		0.491*** (14.535)		0.028*** (2.620)

Continued

negative_NAVGrowth		0.031 (1.056)		-0.056** (-2.259)		-0.087*** (-7.942)
NAVGrowthSTDEV	3.817*** (6.897)	3.108*** (5.955)	3.294*** (6.559)	2.669*** (5.638)	-0.523*** (-3.200)	-0.440*** (-2.708)
ESG_score_all	0.010** (2.307)	0.010** (2.262)	0.007* (1.774)	0.007* (1.668)	-0.003** (-2.001)	-0.004** (-2.121)
ESG_score_all_growth	0.004 (0.452)		0.003 (0.383)		-0.001 (-0.457)	
ESG_score_all_growth_p		-0.009 (-0.471)		-0.006 (-0.333)		0.003 (0.830)
ESG_score_all_growth_n		-0.024* (-1.879)		-0.016 (-1.449)		0.008** (1.984)
ESG_score_all_stdev	-0.533*** (-2.874)	-0.488*** (-2.681)	-0.367** (-2.224)	-0.331** (-2.039)	0.166*** (3.118)	0.158*** (2.979)
Constant	-1.881*** (-24.711)	-1.892*** (-26.551)	-0.654*** (-7.449)	-0.663*** (-8.570)	1.227*** (25.800)	1.229*** (25.016)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Fund	6105	6105	6105	6105	6105	6105
Observations	84,796	84,796	84,796	84,796	84,796	84,796
R-squared	0.042	0.044	0.045	0.047	0.069	0.069

Robust t-statistics in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Explanatory variables: net value growth rate (NAVGrowth) (or net value growth, net value decline (positive value)), standard deviation of net value growth rate (NAVGrowthSTDEV), ESG score (ESG_score_all), interaction term of ESG score and net value growth rate (or net value growth, net value decline (positive value)) (ESG_score_all_growth), interaction term of ESG score and standard deviation of net value growth rate (ESG_score_all_stdev).

Table 7. Regression results with lagging variables and ESG scores.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
L.NAVGrowth	0.303*** (13.039)		0.278*** (14.150)		-0.025*** (-3.588)	
L.positive_NAVGrowth		0.527*** (14.037)		0.455*** (13.783)		-0.072*** (-7.272)
L.negative_NAVGrowth		0.037 (1.318)		-0.009 (-0.378)		-0.046*** (-4.157)
L.NAVGrowthSTDEV	0.863* (1.926)	-0.105 (-0.236)	-0.062 (-0.167)	-0.828** (-2.248)	-0.925*** (-5.705)	-0.723*** (-4.498)
L.ESG_score_all	0.006 (1.573)	0.006 (1.493)	0.005 (1.579)	0.005 (1.427)	-0.001 (-0.451)	-0.001 (-0.585)

Continued

L.ESG_score_all_growth	-0.007 (-0.791)		-0.003 (-0.393)		0.004 (1.605)	
L.ESG_score_all_growth_p		-0.016 (-0.948)		-0.007 (-0.455)		0.009** (2.304)
L.ESG_score_all_growth_n		-0.007 (-0.571)		-0.003 (-0.247)		0.004 (1.107)
L.ESG_score_all_stdev	-0.121 (-0.572)	-0.073 (-0.342)	-0.162 (-0.892)	-0.133 (-0.741)	-0.041 (-0.694)	-0.061 (-1.009)
Constant	-1.769*** (-23.965)	-1.746*** (-23.736)	-0.423*** (-5.123)	-0.405*** (-5.124)	1.345*** (22.362)	1.340*** (21.779)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Fund	5867	5867	5867	5867	5867	5867
Observations	80,147	80,147	80,147	80,147	80,147	80,147
R-squared	0.043	0.045	0.042	0.044	0.068	0.068

Robust t-statistics in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Explanatory variables: lagged net value growth rate (L.NAVGrowth) (or lagged net value growth, lagged net value decline (positive value)), lagged standard deviation of net value growth rate (L.NAVGrowthSTDEV), lagged ESG score (L.ESG_score_all), interaction term of lagged ESG score and net value growth rate (or net value growth, net value decline (positive value)) (L.ESG_score_all_growth), interaction term of lagged ESG score and standard deviation of net value growth rate (L.ESG_score_all_stdev).

First, Column (1) of **Table 6** shows that the coefficient of the comprehensive ESG score (ESG_score_all) is significantly positive (coefficient = 0.010). This clearly confirms that better ESG performance (higher scores) of funds attracts more capital inflows. This finding extends the “halo effect” from the qualitative “presence or absence” to the quantitative “more or less,” providing a more direct incentive for fund managers to improve ESG practices.

Second, the results of the interaction terms are highly consistent with those in **Table 4**, providing more detailed evidence. Column (2) of **Table 6** shows that the interaction term between ESG scores and positive performance (ESG_score_all_growth_p) is insignificant, while the interaction term between ESG scores and negative performance (ESG_score_all_growth_n) is significantly negative (coefficient = -0.024 , $p < 0.1$). This precisely depicts: the higher the ESG score of a fund, the heavier the capital outflow penalty it suffers when performance is poor. Each one-point increase in the ESG rating means a higher standard promised to investors, and thus stronger negative feedback when failing to meet expectations.

In summary, while higher ESG ratings attract more capital inflows for funds, they also inadvertently raise investors’ performance expectations, making them more vulnerable to market downturns. This serves as a wake-up call for fund managers: ESG development is a systemic project that must align with investment research capabilities. Otherwise, high ESG ratings could become a double-edged sword.

6.4. Moderating Effect of Sub-Item ESG Scores

ESG is a comprehensive concept encompassing three dimensions: environmental (E), social (S), and governance (G). These dimensions differ significantly in investment logic, information disclosure, and investor perception. Therefore, dissecting them to identify which pillar is key to influencing capital flows is the final and most detailed step of this study. The analysis is mainly based on **Table 8** (current period) and **Table 9** (lagged period). The mechanisms through which the three pillars (E, S, and G) affect the performance-flow relationship are fundamentally different.

Table 8. Regression results with ESG sub-item scores.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
NAV_Growth	0.265*** (10.761)		0.317*** (15.214)		0.052*** (6.989)	
positive_NAV_Growth		0.463*** (12.044)		0.491*** (14.526)		0.028*** (2.633)
negative_NAV_Growth		0.033 (1.120)		-0.055** (-2.194)		-0.088*** (-7.978)
NAV_GrowthSTDEV	3.781*** (6.851)	3.072*** (5.900)	3.263*** (6.517)	2.638*** (5.590)	-0.518*** (-3.164)	-0.433*** (-2.664)
E_score_all	0.054** (2.150)	0.070** (2.495)	0.054** (2.417)	0.065*** (2.680)	-0.001 (-0.122)	-0.004 (-0.570)
E_score_all_growth	-0.086 (-1.554)		-0.072 (-1.509)		0.014 (0.935)	
E_score_all_growth_p		-0.222** (-2.067)		-0.165* (-1.721)		0.057** (2.338)
E_score_all_growth_n		-0.175* (-1.878)		-0.126 (-1.544)		0.050* (1.810)
E_score_all_stdev	-4.031** (-2.412)	-3.880** (-2.401)	-3.864*** (-2.612)	-3.779*** (-2.634)	0.167 (0.368)	0.101 (0.224)
S_score_all	-0.034 (-1.053)	-0.039 (-1.123)	-0.041 (-1.448)	-0.044 (-1.426)	-0.008 (-0.898)	-0.005 (-0.548)
S_score_all_growth	0.060 (0.637)		0.053 (0.641)		-0.008 (-0.327)	
S_score_all_growth_p		0.056 (0.296)		0.017 (0.103)		-0.038 (-0.994)
S_score_all_growth_n		-0.135 (-1.121)		-0.145 (-1.339)		-0.010 (-0.248)
S_score_all_stdev	2.778 (1.304)	3.096 (1.512)	3.109* (1.657)	3.430* (1.886)	0.331 (0.550)	0.334 (0.561)
G_score_all	0.002 (0.171)	-0.000 (-0.028)	0.005 (0.399)	0.002 (0.113)	0.002 (0.569)	0.002 (0.435)

Continued

G_score_all_growth	0.008 (0.152)		0.005 (0.106)		-0.003 (-0.232)	
G_score_all_growth_p		0.066 (0.636)		0.068 (0.732)		0.002 (0.112)
G_score_all_growth_n		0.165** (1.983)		0.154** (2.031)		-0.011 (-0.456)
G_score_all_stdev	-0.236 (-0.247)	-0.545 (-0.584)	-0.445 (-0.541)	-0.725 (-0.897)	-0.208 (-0.684)	-0.180 (-0.592)
Constant	-1.881*** (-24.393)	-1.891*** (-26.371)	-0.654*** (-7.358)	-0.663*** (-8.463)	1.227*** (26.206)	1.228*** (25.412)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Fund	6105	6105	6105	6105	6105	6105
Observations	84,796	84,796	84,796	84,796	84,796	84,796
R-squared	0.043	0.045	0.046	0.048	0.069	0.069

Robust t-statistics in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Independent variables: net value growth rate (NAV_Growth, or positive/negative net value growth), standard deviation of net value growth rate (NAV_Growth_STDEV); E score (E_score_all), interaction terms of E score with net value growth rate (or positive/negative net value growth) (E_score_all_growth), interaction term of E score with standard deviation of net value growth rate (E_score_all_stdev); S score (S_score_all), interaction terms of S score with net value growth rate (or positive/negative net value growth) (S_score_all_growth), interaction term of S score with standard deviation of net value growth rate (S_score_all_stdev); G score (G_score_all), interaction terms of G score with net value growth rate (or positive/negative net value growth) (G_score_all_growth), interaction term of G score with standard deviation of net value growth rate (G_score_all_stdev).

Table 9. Regression results with lagged variables and ESG sub-item scores.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	flow	flow	positive_flow	positive_flow	negative_flow	negative_flow
L.NAV_Growth	0.302*** (12.999)		0.277*** (14.114)		-0.025*** (-3.554)	
L.positive_NAV_Growth		0.527*** (13.999)		0.455*** (13.753)		-0.072*** (-7.232)
L.negative_NAV_Growth		0.038 (1.337)		-0.008 (-0.353)		-0.046*** (-4.155)
L.NAV_Growth_STDEV	0.837* (1.868)	-0.131 (-0.295)	-0.088 (-0.238)	-0.854** (-2.317)	-0.925*** (-5.700)	-0.723*** (-4.493)
L.E_score_all	0.037 (1.517)	0.043* (1.732)	0.033 (1.527)	0.038* (1.742)	-0.004 (-0.607)	-0.005 (-0.714)
L.E_score_all_growth			-0.061 (-1.226)	-0.044 (-0.986)	0.017 (1.266)	

Continued

L.E_score_all_growth_p		-0.125 (-1.272)		-0.085 (-0.989)		0.040* (1.843)
L.E_score_all_growth_n		-0.088 (-0.986)		-0.074 (-1.003)		0.014 (0.441)
L.E_score_all_stdev	-2.168 (-1.367)	-1.850 (-1.142)	-1.998 (-1.394)	-1.775 (-1.217)	0.170 (0.434)	0.075 (0.185)
L.S_score_all	-0.006 (-0.213)	-0.011 (-0.411)	-0.007 (-0.296)	-0.010 (-0.430)	-0.001 (-0.125)	0.001 (0.136)
L.S_score_all_growth	0.042 (0.461)		-0.002 (-0.022)		-0.044** (-2.144)	
L.S_score_all_growth_p		-0.016 (-0.075)		-0.052 (-0.266)		-0.036 (-1.000)
L.S_score_all_growth_n		-0.100 (-0.605)		-0.033 (-0.237)		0.066 (1.417)
L.S_score_all_stdev	-0.231 (-0.129)	0.373 (0.196)	0.019 (0.012)	0.368 (0.228)	0.250 (0.455)	-0.004 (-0.008)
L.G_score_all	-0.011 (-0.896)	-0.011 (-0.815)	-0.009 (-0.893)	-0.010 (-0.912)	0.002 (0.428)	0.001 (0.115)
L.G_score_all_growth	-0.001 (-0.011)		0.026 (0.467)		0.027** (2.167)	
L.G_score_all_growth_p		0.066 (0.476)		0.081 (0.634)		0.015 (0.723)
L.G_score_all_growth_n		0.111 (0.998)		0.059 (0.595)		-0.052* (-1.918)
L.G_score_all_stdev	1.353 (1.532)	0.805 (0.747)	1.026 (1.400)	0.688 (0.764)	-0.327 (-1.085)	-0.117 (-0.359)
Constant	-1.768*** (-23.917)	-1.744*** (-23.740)	-0.423*** (-5.056)	-0.404*** (-5.057)	1.345*** (22.551)	1.340*** (21.961)
Cross-Section FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Fund	5867	5867	5867	5867	5867	5867
Observations	80,147	80,147	80,147	80,147	80,147	80,147
R-squared	0.043	0.045	0.042	0.044	0.068	0.068

Robust t-statistics in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Dependent variables: fund flow (flow), net subscription ratio (positive_flow), net redemption ratio (negative_flow, positive value). Independent variables: lagged net value growth rate (L.NAVGrowth, or lagged positive/negative net value growth), lagged standard deviation of net value growth rate (L.NAVGrowthSTDEV); lagged E score (L.E_score_all), interaction term of lagged E score with net value growth rate (or positive/negative net value growth) (L.E_score_all_growth), interaction term of lagged E score with lagged standard deviation of net value growth rate (L.E_score_all_stdev); lagged S score (L.S_score_all), interaction term of lagged S score with net value growth rate (or positive/negative net value growth) (L.S_score_all_growth), interaction term of lagged S score with lagged standard deviation of net value growth rate (L.S_score_all_stdev); lagged G score (L.G_score_all), interaction term of lagged G score with net value growth rate (or positive/negative net value growth) (L.G_score_all_growth), interaction term of lagged G score with lagged standard deviation of net value growth rate (L.G_score_all_stdev).

Table 8 shows that the E score (E_score_all) itself can significantly attract capital inflows (coefficient = 0.054, $p < 0.05$), which is consistent with the current high market attention to “green finance” and “carbon neutrality” themes. However, its interaction term with negative performance (E_score_all_growth_n) is significantly negative (coefficient = -0.175 , $p < 0.1$). This indicates that the environmental dimension is the main driver amplifying performance penalties. Investors focused on environmental issues are equally, if not more, strict about the financial performance of funds. The interaction term between E score and positive performance (E_score_all_growth_p) is significantly negative, suggesting that environmental scores reduce performance-flow sensitivity. Investors in ESG funds with high environmental scores no longer pay excessive attention to short-term performance. There may be multiple reasons behind this phenomenon. China’s national strategy of “dual carbon goals” endows environmental issues (especially climate change and new energy) with high policy certainty and market attention. Meanwhile, environmental performance (e.g., carbon emissions, energy consumption) is relatively easier to quantify and disclose, enabling investors to evaluate and compare more clearly, whereas social and governance issues are often more complex and qualitative.

The S score (S_score_all) and its interaction terms with performance are insignificant in all models. This may reflect that, in China’s current market environment, performance in the social responsibility dimension plays an unclear role in influencing investors’ capital flow decisions. The reasons may include the difficulty in measuring S issues (e.g., employee relations, supply chain responsibility), their weak financial relevance, or relatively lower investor attention compared to E and G.

The findings related to the G dimension are groundbreaking. The G score (G_score_all) itself has no significant direct impact on capital flows, but its interaction term with negative performance (G_score_all_growth_n) is significantly positive (coefficient = 0.165, $p < 0.05$). This result is completely opposite to the effects of the E score and the overall ESG score. It strongly indicates that better corporate governance (G) can significantly reduce the capital outflow pressure faced by funds when performance is poor. A high level of governance acts like a “ballast,” enhancing investors’ trust and confidence. When facing short-term performance declines, investors may be more inclined to attribute the cause to temporary market fluctuations rather than the incompetence of the fund management team or poor risk control, thus showing greater resilience and patience.

In summary, in China’s current market, the environmental (E) factor is undoubtedly the dominant force among the three ESG pillars in driving investor decisions and influencing capital flows. The three pillars (E, S, and G) are not homogeneous. E and S more reflect investors’ “value preferences” or “thematic investment” tendencies, while G is directly related to investors’ “trust” in fund management quality, risk control capabilities, and long-term stability. When a fund with a high E/S score performs poorly, investors may feel “double disappoint-

ment” (neither value returns nor financial returns are achieved), accelerating their exit. When a fund with a high G score performs poorly, investors, trusting its sound governance structure (e.g., transparent decision-making processes, effective risk management), are more inclined to believe that the fund can weather difficulties and thus choose to hold on. Therefore, the performance of the G dimension plays a key role as an “investor relationship stabilizer” during crises, and its value is particularly prominent when the market is facing headwind.

7. Conclusion

Through a systematic empirical analysis of quarterly data on China’s open-end funds from 2018 to 2024, this paper explores the complex role of ESG performance in the fund performance-flow relationship. Based on a series of panel data regression models, we draw the following core conclusions and put forward corresponding market implications.

First, China’s fund market exhibits a significant and robust “performance chasing” phenomenon, where investors tend to subscribe to funds with excellent historical performance. This relationship is convex, meaning that the incentive effect of good performance in attracting subscriptions is far greater than the punitive effect of poor performance in triggering redemptions. Meanwhile, investors show obvious risk-seeking characteristics. Second, ESG has a dual moderating effect. ESG performance (whether through labels or high scores) can bring additional capital inflows to funds (halo effect), but this preference is not unconditional. It also raises higher performance expectations, especially reflected in more severe capital outflow penalties for negative performance (shackle effect). Third, ESG can play a risk buffer role. Funds with ESG identities or higher ESG scores show significantly lower sensitivity of capital flows to performance fluctuations. Finally, among the three ESG pillars, the environmental (E) factor is currently the most important force driving investor decisions and influencing capital flows. A high environmental score not only directly attracts capital but also plays an irreplaceable role in retaining capital and reducing risk sensitivity. In contrast, the influence of social (S) and governance (G) factors has not yet been fully manifested in the current stage, reflecting the phased characteristics of China’s ESG market development and the focus of investors.

The research conclusions of this paper have important practical implications for fund managers and investors. For fund managers, it is necessary to be vigilant against “ESG bubbles” and “greenwashing traps.” Developing ESG products should not stop at labeling or one-sidedly pursuing high scores. Although such strategies can attract attention and capital in the short term, they will also raise investors’ performance thresholds; once the market reverses, more violent capital outflows may occur. In product design and marketing, emphasis should be placed on the role of ESG, especially the environmental (E) factor, in risk management and enhancing portfolio resilience. Positioning it as a “stabilizer for market fluctuations” may attract long-term investors more effectively than simply emphasize-

ing its moral or return attributes. Given investors' high attention to the E factor, fund companies should strengthen the disclosure of environment-related strategies, target screening, and performance to make them more transparent, quantifiable, and comparable.

For investors, they should view ESG investments rationally. Investors should recognize that ESG investments have both value expression and financial return attributes, and understand that high ESG ratings may imply higher performance expectations and potential volatility. The benefits of investing in ESG funds are not only reflected in possible social responsibility returns or potential long-term excess returns but also in the stability of capital flows they provide. During severe market fluctuations, funds with high ESG ratings may show stronger resilience, helping investors avoid irrational decisions due to panic redemptions. Investors should not be satisfied with the label of "ESG fund" but should examine its specific ESG scores, especially the performance of the environmental (E) sub-item. At the same time, it is necessary to clearly recognize that an ESG label is not a guarantee of future performance, and traditional performance and risk analysis remain indispensable.

Although this paper provides systematic evidence, it still has certain limitations. First, although we use a dual fixed-effect model, there may be more complex interactions between performance, capital flows, and ESG performance. Future research can adopt dynamic panel models (e.g., system GMM) to better address potential endogeneity issues. Second, this study can further explore whether the moderating effect of ESG changes dynamically in different market environments (e.g., bull markets, bear markets, major external shocks such as COVID-19). Finally, academia has widely recognized that there are significant differences between different ESG rating agencies. Future research that uses rating data from multiple agencies for robustness tests or specifically studies the impact of rating differences will make the conclusions more convincing.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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