ESG Rating Disagreement, Information Disclosure Quality, and ESG Fund Holdings: Evidence from China

Xiangqian Zhou , Dexia Huang * , Lijun Ren , Jingya You , Yong Zhang

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Article

ESG Rating Disagreement, Information Disclosure Quality, and ESG Fund Holdings: Evidence from China

Xiangqian Zhou, Dexia Huang *, Lijun Ren, Jingya You and Yong Zhang

College of Economics and Management, Tarim University, Alaer 843300, Xinjiang, China

* Correspondence: huangdexia@taru.edu.cn

Abstract

ESG-themed funds rely heavily on agency ratings to guide portfolio decisions, yet substantial disagreement persists across rating providers. This study examines whether and how ESG rating disagreement affects holdings by ESG-themed funds. Using a sample of Chinese A-share listed firms from 2015 to 2022, we employ a two-way fixed-effects model to identify its impact. We find that greater rating disagreement significantly reduces both the likelihood of ESG fund ownership and the scale of fund holdings. This finding is robust to alternative dependent variable specifications, extended governance controls, propensity score matching, and lagged model designs. Mechanism analysis reveals that ESG rating disagreement suppresses ESG fund holdings by degrading the corporate information environment, as evidenced by two complementary proxies: the firm-level information ecosystem quality and auditor-assessed information risk. Heterogeneity tests show that the inhibitory effect is concentrated among non-state-owned enterprises and firms in eastern China, and is particularly pronounced during the mature stage of the firm life cycle. Our findings contribute to the literatures on information frictions in capital markets and the determinants of ESG institutional investment, with practical implications for rating standardization and portfolio risk management.

Keywords: ESG rating disagreement; ESG-themed fund holdings; information disclosure quality; institutional investors; emerging capital markets

1. Introduction

ESG-themed funds have expanded rapidly across global capital markets, with institutional investors increasingly incorporating ESG ratings into stock selection and portfolio construction. Yet a fundamental challenge complicates this process: major rating agencies routinely assign divergent scores to the same firm. Berg et al. (2022) document that the average pairwise correlation among leading ESG rating providers is far lower than the near-perfect agreement observed across credit rating agencies. Such disagreement reflects deep heterogeneity in rating methodologies, indicator weighting schemes, and data-processing approaches. As a consequence, fund managers seeking to identify high-ESG firms face an ambiguous and potentially contradictory information environment. Against this backdrop, an important but unanswered question arises: does ESG rating disagreement systematically affect the holdings of ESG-themed funds, and if so, through what channels does this effect operate?

A growing body of research has examined the firm-level consequences of ESG rating disagreement. Studies show that disagreement significantly raises firms' cost of equity by exacerbating information asymmetry and analyst forecast dispersion (He et al., 2025; Li et al., 2025), suppresses corporate innovation (Li et al., 2024), amplifies stock price volatility (Li and Lai, 2026), increases audit fees (Ling et al., 2024), and degrades analyst forecast quality (Liu et al., 2024). In parallel, a separate body of research has examined the determinants of ESG fund holdings,

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identifying investor preferences, fund manager incentives, ESG rating levels, and market conditions as key drivers (Robinson et al., 2025; Carrillo et al., 2023; Krueger et al., 2024). However, these two strands have not been integrated. The direct effect of ESG rating disagreement, as a distinct form of information friction, on the portfolio allocation decisions of ESG funds remains empirically unexplored. This gap is consequential: if rating uncertainty systematically suppresses institutional holdings, it may distort capital allocation and weaken the market discipline that ESG investing is intended to provide.

We propose that ESG rating disagreement suppresses ESG-themed fund holdings through a unified information quality mechanism: disagreement degrades the corporate information environment, making a firm's ESG profile less reliable and more costly to evaluate for institutional investors. Drawing on information ecology theory and risk aversion theory, we identify two empirical dimensions of this mechanism. First, disagreement deteriorates the overall information ecosystem surrounding the firm, increasing information processing costs for fund managers. Second, it elevates audit fees by signaling heightened information risk to auditors, which in turn deters risk-averse institutional investors. Through both dimensions, the deterioration of information quality raises investment uncertainty and suppresses ESG-themed fund holdings.

We examine these questions in the Chinese context for three reasons. First, China's ESG rating landscape is characterized by the coexistence of multiple domestic and international agencies, including Huazheng, Wind, Sino-Securities, and FTSE Russell, operating under heterogeneous methodological frameworks, making rating disagreement particularly pronounced and measurable. Second, the rapid development of ESG-themed funds in China, driven by the dual-carbon strategy and evolving regulatory requirements, has created a large and growing institutional investor base whose portfolio decisions are plausibly sensitive to rating information quality. Third, China's unique institutional features (e.g., the distinction between state-owned and non-state-owned enterprises and marked regional disparities in capital market development) provide natural heterogeneity with which to explore the boundary conditions of our main effect.

We test our predictions using a sample of 24,377 firm-year observations for Chinese A-share listed firms from 2015 to 2022. Rating disagreement is measured as the standard deviation of scores assigned by six mainstream ESG rating agencies, and a two-way fixed-effects model with firm-clustered standard errors is employed to control for unobserved industry-level and time-varying heterogeneity. Our baseline results show that the increase in ESG rating disagreement is associated with the reduction in the probability of ESG fund ownership and a statistically and economically significant reduction in aggregate ESG holdings market value. These results are robust to alternative dependent variable specifications, extended governance controls, propensity score matching, lagged variable models, and a post-2020 sub-period test that isolates the dual-carbon policy era.

We further investigate the mechanisms and boundary conditions of this relationship. Mechanism tests confirm that rating disagreement suppresses ESG fund holdings through three intermediary pathways: it reduces information transparency; it deteriorates the composite information ecosystem index; and it elevates audit fees, each of which independently suppresses institutional holdings. Heterogeneity tests reveal that the inhibitory effect is concentrated among non-state-owned enterprises, where fund decisions are more sensitive to market-based information signals. In contrast, state-owned firms exhibit a positive association, consistent with the view that political connections and implicit government guarantees attenuate the negative signal of rating uncertainty. The effect is also more pronounced among firms in eastern China and those in the mature stage of their life cycle.dual-carbon policy era.

This study makes three contributions. First, we extend the literature on the economic consequences of ESG rating disagreement by documenting its impact on institutional portfolio allocation. Prior work focuses primarily on firm-level outcomes such as cost of capital, innovation, and audit risk (He et al., 2025; Li et al., 2024; Ling et al., 2024); we show that disagreement also shapes the behavior of a critical class of institutional investors. Second, we enrich the literature on ESG fund holdings by identifying rating disagreement as a previously overlooked driver. Existing studies

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emphasize overall ESG performance, firm financial characteristics, and fund manager incentives (Robinson et al., 2025; Krueger et al., 2024); we provide evidence that information quality is a significant predictor of institutional ownership. Third, we offer context-specific evidence from China's emerging capital market on how ownership structure, regional development, and firm life cycle moderate the information effects of rating disagreement.

The remainder of the paper is organized into six sections. In Section 2, we review the literature related to ESG rating disagreement and ESG-themed fund holdings. In Section 3, we develop the research hypotheses. In Section 4, we describe the research design and variable definitions. In Section 5, we present the results of the baseline regressions, robustness checks, and mechanism analyses. Section 6 concludes the paper by summarizing the key findings, discussing their practical implications, outlining the study's limitations, and offering suggestions for future research in this domain.

2. Literature Review

2.1. ESG Rating Disagreement

ESG rating disagreement arises primarily from heterogeneity in rating methodologies across agencies. Providers differ substantially in the scope of their assessments, the selection of indicators, the weights assigned to individual dimensions, and the data-processing approaches used to aggregate sub-scores (Berg et al., 2022; Chatterji et al., 2016). These differences reflect deliberate methodological choices embedded in each agency's proprietary framework rather than random variation. Empirical analyses of major global providers document that pairwise rating correlations frequently fall below 0.6, with the environmental and social dimensions exhibiting greater divergence than governance. In China's domestic market, rating heterogeneity is further amplified by the adaptation of international frameworks to local institutional settings. Major domestic agencies address issues that international providers do not systematically capture, including rural revitalization contributions, ownership structure distinctions, and party committee governance, which introduces additional sources of inter-agency divergence (Shi and Yao, 2025).

At the firm level, the quality and consistency of corporate ESG disclosures are a significant driver of rating disagreement. Voluntary ESG reports prepared in accordance with established guidelines, such as those of the Global Reporting Initiative, and independently verified by third parties tend to reduce inter-agency discrepancies. Conversely, incomplete disclosures, promotional language, and boilerplate formulations provide insufficient information, forcing raters to rely on their own estimates and thus generating greater divergence (Kimbrough et al., 2024). Disclosure effectiveness also varies by dimension: targeted environmental and social disclosures reduce disagreement in the corresponding rating categories, while governance disclosures are comparatively less effective because mandatory reporting requirements tend to crowd out voluntary governance transparency. These findings reveal an intrinsic link between disclosure quality and the magnitude of ESG rating disagreement.

ESG rating disagreement in China's emerging capital market displays characteristics that are more pronounced than in developed markets. Pairwise correlations among domestic rating agencies are lower, and overall dispersion levels are higher, than those documented in international comparisons (Wang et al., 2024). Three institutional features account for this pattern. First, domestic methodological frameworks are still adapting to global standards, creating conflicts between internationally oriented approaches and locally grounded practices. Second, disclosure quality varies substantially across firm types: non-state-owned firms and low-profitability firms tend to produce less complete and less conforming ESG reports, providing a weaker informational basis for rating agencies (Qin and Wang, 2025). Third, firms with weaker audit quality and limited analyst and media coverage face greater information opacity, which amplifies inter-agency divergence. Collectively, these factors produce a rating landscape that is more fragmented and less informative in China than in mature ESG markets.

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ESG rating disagreement generates documented costs at both the firm and market levels. At the firm level, disagreement raises the cost of equity by amplifying information asymmetry and analyst forecast dispersion (He et al., 2025; Li et al., 2025), suppresses corporate innovation through financing and human-capital constraints (Li et al., 2024), increases audit fees by elevating inherent audit risk (Ling et al., 2024), and distorts green innovation incentives by encouraging firms to prioritize the quantity of green patents over their quality (Geng et al., 2024). At the market level, disagreement amplifies stock price volatility (Li and Lai, 2026), degrades analyst forecast quality by raising information processing costs (Liu et al., 2024), and dampens investor sentiment by distorting market expectations (Liao and Wu, 2024). Bongermino and Romagnoli (2025) provide a theoretical account of these effects, arguing that disagreement functions as a distorted information signal that systematically impairs capital market efficiency.

2.2. ESG-Themed Fund Holdings

Research on the determinants of ESG-themed fund holdings identifies disclosure quality, ESG rating characteristics, and investor time horizons as primary drivers. Robinson et al. (2025) show that voluntary environmental disclosures, particularly on water, waste, and emissions topics, are positively associated with ESG-themed fund ownership, and this relationship holds independently of firms' overall ESG rating levels. Post (2022) documents that high-sustainability-rated funds preferentially hold firms with high ESG scores, reflecting positive screening strategies. Raghunandan and Rajgopal (2022) caution, however, that agency scores correlate more closely with disclosure quantity than with substantive environmental compliance, suggesting that fund holdings may not always reflect genuine ESG performance. Rating changes also generate asymmetric effects on fund behavior: upgrades attract disproportionately large inflows while downgrades trigger larger outflows, with this asymmetry concentrated among large-cap firms (Carrillo et al., 2023). Krueger et al. (2024) further document that reporting inconsistencies across global ESG systems distort fund investment decisions, and that mandatory disclosure standardization can partially alleviate this problem.

Investor characteristics and fund manager behavior also shape ESG-themed fund holdings in important ways. Long-term institutional investors are more likely to hold high-ESG firms and react more strongly to adverse ESG events than their short-term counterparts (Starks et al.,2026). McLean et al. (2022) find that fund managers' primary motivation for incorporating ESG information is financial performance rather than ethical commitment, and that experienced professionals extract higher-quality signals from ESG data. In China's capital market, Zeng et al. (2024) confirm a negative association between ESG rating ambiguity and institutional ownership, consistent with the view that rating uncertainty raises effective investment risk. Zhang et al. (2026) further show that greater ESG-themed fund holdings predict higher subsequent fund inflows, particularly among a fund's core positions, underscoring the strategic importance of ESG portfolio composition. Taken together, these studies establish what drives ESG-themed fund holdings, yet treat rating disagreement as a background condition rather than an active and measurable determinant.

2.3. Research Gap

This study addresses three gaps in the existing literature. First, while prior work documents how ESG rating disagreement affects firms' cost of capital, innovation activity, and audit risk, its direct impact on ESG-themed fund holdings has not been causally examined. The only study to test this relationship directly, Zhang et al. (2024), reports no significant effect; however, their analysis relies on a restricted set of rating agencies, uses fund holdings count rather than holdings value as the outcome, and does not control for average ESG performance levels, each of which may contribute to the null result. Second, existing research largely overlooks heterogeneous effects within China's institutional environment, where state ownership, regional development levels, and firm life cycle stage generate meaningful variation in how rating uncertainty affects institutional portfolio decisions.

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Third, the channels through which rating disagreement propagates into fund holdings have not been identified. This study addresses all three gaps by providing causal evidence on the main effect, documenting heterogeneous responses across firm types, and tracing three transmission channels: information transparency, the firm-level information ecosystem, and audit fees.

3. Hypotheses Development

ESG-themed fund managers incorporate agency ratings as primary signals for portfolio construction, making the quality and consistency of those ratings central to investment decisions. When multiple agencies assign divergent scores to the same firm, fund managers face an ambiguous information environment that cannot be resolved by examining any single rating. Rating disagreement functions as a form of information friction: it reduces the signal value of ESG assessments, increases the cost of information processing, and heightens perceived investment risk. Risk-averse fund managers, unable to form reliable assessments of a firm's true ESG profile, respond by reducing both their propensity to hold that firm and the scale of existing positions.

The first dimension concerns the overall information ecosystem surrounding the firm. Drawing on information ecology theory (Margalef, 1973) and bounded rationality theory (Simon, 1972), a firm's information environment depends not only on the accuracy of individual disclosures but on the consistency with which information is transmitted across market participants. Rating disagreement fragments this ecosystem by generating heterogeneous and conflicting representations of the same firm's ESG performance, increasing the cognitive burden on fund managers and raising information-gathering costs. As the overall quality of the information environment deteriorates, fund managers struggle to form coherent assessments of ESG performance and become more inclined to underweight or avoid such firms in their portfolios.

The second dimension is reflected in audit fees, which capture auditors' external pricing of information risk. ESG rating disagreement signals elevated information risk, prompting auditors to expand audit scope and increase procedural effort, which is subsequently reflected in higher fees (Ling et al., 2024; Zhang and Li, 2022). Consistent with risk aversion theory (Menezes and Hanson, 1970), audit fees serve as a market signal of information and governance risk: higher fees indicate a more complex and opaque information environment. ESG-themed funds, as risk-conscious institutional investors, incorporate this signal into their portfolio decisions and reduce holdings in firms associated with elevated audit pricing.Based on the above reasoning, we propose the following hypothesis:

H1: Greater disagreement in ESG ratings is negatively associated with holdings by ESG-themed funds.

4. Research Design

4.1. Sample Selection and Data

This study uses Chinese A-share listed firms from 2015 to 2022 as the research sample. The starting year of 2015 reflects both the improved availability of domestic ESG rating data and the formalization of China's green finance policy framework, which provided the institutional foundation for ESG investment practices. Sample construction follows three exclusion criteria: financial and insurance firms are removed due to their distinct regulatory environment; firms designated as ST, *ST, or PT are excluded to avoid distortions associated with financial distress; and firm-year observations with missing values in key variables are dropped. The final sample comprises 24,377 firm-year observations. ESG rating and ESG-themed fund-holding data are retrieved from the Wind and China Research Data Service Platform(CNRDS) databases; firm-level financial data are sourced from China Stock Market & Accounting Research Database(CSMAR).

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4.2. Regression Models

To test H1, we estimate the following two-way fixed-effects models:

$$ESG\_Dum_{i,t} = \alpha_0 + \alpha_1 * ESGdif6_{i,t} + \sum_{k=1}^{13} \beta_k Contorls_{k,i,t} + industry_i + year_t + \varepsilon_{i,t} \quad (1)$$

$$ESG\_MV_{i,t} = \alpha_0 + \alpha_1 * ESGdif6_{i,t} + \sum_{k=1}^{13} \beta_k Contorls_{k,i,t} + industry_i + year_t + \varepsilon_{i,t} \quad (2)$$

ESG_Dumi,t and ESG_MVi,t are the dependent variables, reflecting the stutas and scale of ESG-themed fund holdings. ESGdif6i,t is the independent variable, representing for the degree of ESG rating disagreement. Controlsk,i,t is a set of control variables. The coefficient of primary interest is α_1, which captures the effect of ESG rating disagreement on ESG-themed fund holdings. All models include industry and year fixed effects to absorb unobserved time-invariant sector characteristics and common time trends. We use industry rather than firm fixed effects in the baseline specification to preserve the cross-sectional variation in rating disagreement that is central to identification, as firm fixed effects would absorb a substantial portion of the between-firm differences driving our main results. Standard errors are clustered at the firm level to account for within-firm serial correlation and heteroskedasticity.

4.3. Variable Definitions

4.3.1. Dependent Variables

ESG-themed fund holdings are measured using two complementary indicators. ESG_Dum is a binary variable equal to one if the firm is held by at least one ESG-themed fund in year t, and zero otherwise, capturing the extensive margin of institutional ESG ownership. ESG_MV is a continuous variable measuring the aggregate market value of shares held by all ESG-themed funds in year t, calculated by summing each fund's share count multiplied by the period-end share price, capturing the intensive margin.

4.3.2. Independent Variable

ESGdif6 measures ESG rating disagreement as the cross-sectional standard deviation of scores assigned to firm i in year t by six mainstream rating agencies: Huazheng, Wind, Sino-Securities, Menglang, FTSE Russell, and Runling Global. Higher values indicate greater inter-agency disagreement in the evaluation of a firm's ESG performance.

4.3.3. Mediating Variables

Two mediating variables are constructed to test the information quality mechanism identified in Section 3. The first mediating variable is the Trans index, a composite measure of a firm's overall information environment quality. We construct it using principal component analysis applied to five standardized dimensions: analyst coverage, stock exchange disclosure quality ratings, disclosure clarity, information asymmetry, and market attention. The first principal component is retained as the composite index, with higher values indicating a more transparent and informationally efficient environment. The second mediating variable is Audit_Fee, measured as the natural logarithm of total audit fees paid by the firm in year t. Audit fees reflect auditors' assessments of information risk and verification effort, and serve as a market signal of information environment complexity for institutional investors.

4.3.4. Control Variables

Following prior literature on ESG fund holdings and institutional investment behavior (Robinson et al., 2025; Starks et al., 2026; Raghunandan & Rajgopal, 2022), we control for a

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comprehensive set of firm characteristics, including firm size, leverage, profitability, growth, loss status, state-owned enterprise status, ownership concentration, cash flow, book-to-market ratio, Tobin's Q, asset turnover, firm age, and average ESG rating.

Table 1. Variable Definitions.

Variable	Definition
ESG_Dum	Equals 1 if the firm is held by ESG-themed funds, and 0 otherwise.
ESG_MV	Total market value of ESG-themed fund holdings in the firm.
ESG_Num	Number of ESG-themed funds holding shares of the firm.
ESGdif6	Standard deviation of ESG scores assigned to the firm by six mainstream ESG rating agencies.
Size	Natural logarithm of total assets.
Lev	Total liabilities divided by total assets.
ROA	Net profit divided by total assets.
Growth	Year-on-year growth rate of operating income.
Loss	Equals 1 if the firm reports negative net profit in the current year, and 0 otherwise.
SOE	Equals 1 if the firm is a state-owned enterprise, and 0 otherwise.
CR	Current assets divided by current liabilities.
CashFlow	Net cash flow from operating activities divided by total assets.
BM	Shareholders' equity divided by market value.
TobinQ	Market value divided by replacement cost of assets.
ATO	Operating income divided by total assets.
FirmAge	Natural logarithm of the firm's years since establishment.
ESG_Mean	Average ESG score assigned to the firm by six rating agencies.

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5. Empirical Results

5.1. Descriptive Statistics

Table 2 reports descriptive statistics for the main variables. The core dependent variables include ESG_Dum and ESG_MV. ESG_Dum has a mean of 0.328, indicating that approximately one-third of sample firms are held by at least one ESG-themed fund in a given year. ESG_MV, the logarithm of the market value of ESG-themed fund holdings, has a mean of 6.586 and a standard deviation of 9.506, suggesting substantial variation in the intensity of ESG fund holdings across firms. The primary independent variable, ESGdif6, has a mean of 0.460 and a standard deviation of 0.646, confirming that substantial disagreement exists across agencies in their assessments of the same firm's ESG performance and that this disagreement varies considerably across the sample. The average ESG score (ESG_Mean) has a mean of 4.258 and a standard deviation of 0.884, reflecting moderate variation in overall ESG performance levels across firms.

Table 2. Descriptive Statistics.

Variable	N	Mean	SD	Min	Max
ESG Dum	24377	0.328	0.469	0	1
ESG MV	24377	6.586	9.506	0	26.01
ESGdif6	24377	0.460	0.646	0	3.889
Size	24377	22.38	1.294	19.72	26.45
Lev	24377	0.422	0.201	0.0520	0.934
ROA	24377	0.0340	0.0720	-0.578	0.220
Growth	24377	0.350	0.938	-0.926	11.19
Loss	24377	0.0920	0.289	0	1
SOE	24377	0.327	0.469	0	1
CR	24377	2.402	2.265	0.258	18.44
CashFlow	24377	0.0500	0.0680	-0.195	0.266
BM	24377	0.338	0.162	0.0150	0.860
TobinQ	24377	2.096	1.486	0.802	17.68
ATO	24377	0.592	0.396	0.0480	2.640
FirmAge	24377	3.010	0.287	2.079	3.664
ESG_mean	24377	4.258	0.884	1	7.604

5.2. Baseline Regression Results

Table 3 reports the baseline regression results. In Column (1), the coefficient on ESGdif6 is -0.017, significant at the 1% level (t = -3.04). In terms of economic magnitude, a one-standard-deviation increase in ESGdif6 is associated with a 1.1% reduction in the probability of ESG-themed fund ownership, representing a 3.35% decline relative to the sample mean of 0.328. In Column (2), the coefficient on ESGdif6 is -0.282, significant at the 5% level (t = -2.54), indicating that greater rating disagreement also reduces the aggregate market value of holdings among firms that are already held. Taken together, these results show that ESG rating disagreement suppresses institutional ownership along both the extensive and intensive margins, consistent with H1.

The control variable estimates align with prior expectations. Firm size enters positively and significantly in both columns, reflecting the higher information transparency and institutional appeal of larger firms. Leverage is significantly negative, consistent with the view that financial risk deters ESG-themed fund investment. Return on assets is positive, indicating that profitability attracts

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institutional attention. The average ESG score is positive and significant, confirming that overall ESG performance remains an important determinant of fund holdings alongside rating disagreement.

Table 3. ESG rating disagreement and ESG Fund Holdings.

	(1)	(2)
VARIABLES	ESG_Dum	ESG_MV
ESGdif6	-0.017***	-0.282**
	(-3.04)	(-2.54)
Size	0.208***	4.600***
	(51.03)	(55.85)
Lev	-0.547***	-12.580***
	(-14.77)	(-16.92)
ROA	0.609***	12.684***
	(13.78)	(14.54)
Growth	-0.003	-0.060
	(-1.02)	(-0.90)
Loss	-0.070***	-1.341***
	(-8.31)	(-8.15)
SOE	-0.073***	-1.534***
	(-7.59)	(-8.01)
CR	-0.004*	-0.104***
	(-1.91)	(-2.73)
CashFlow	0.018	0.915
	(0.38)	(0.95)
BM	-0.742***	-16.685***
	(-19.71)	(-21.93)
TobinQ	0.034***	0.837***
	(9.70)	(11.40)
ATO	0.018	0.407*
	(1.60)	(1.81)
FirmAge	-0.096***	-1.940***
	(-6.44)	(-6.55)
ESG_Mean	0.026***	0.555***
	(6.35)	(6.77)
Constant	-3.715***	-83.339***
	(-37.02)	(-41.57)
Observations	24,377	24,377
Industry FE	YES	YES
Year FE	YES	YES

5.3. Robustness Checks

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To confirm the reliability of the baseline results, we conduct four robustness tests: substituting the dependent variable, augmenting the control variable set, incorporating additional fixed effects, and restricting the sample period. Results are reported in Table 4. Panel A reports robustness tests using ESG_Num and ESG_Dum as dependent variables, while Panel B examines whether the results remain robust when ESG_MV is used to measure the intensity of ESG fund holdings.

5.3.1. Alternative Dependent Variable

The baseline models employ two dependent variables, ESG_Dum and ESG_MV, which together capture the extensive margin of fund ownership and the intensive margin of holdings value. As an additional check on measurement sensitivity, we introduce a third alternative outcome, ESG_Num, which counts the number of distinct ESG-themed funds holding the firm. This metric captures the breadth of institutional ESG coverage and is conceptually distinct from both the ownership probability and the aggregate holdings value.

Column (1) of Table 4 replaces ESG_Dum with the number of ESG-themed funds holding the firm (ESG_Num). The coefficient on ESGdif6 is -0.193, significant at the 5% level, indicating that greater rating disagreement reduces the count of institutional holders as well as the probability of being held, consistent with the baseline finding.

5.3.2. Additional Control Variables

A potential source of omitted variable bias arises from corporate governance characteristics. Firms with weaker governance may simultaneously attract greater ESG rating disagreement, due to lower disclosure quality, and receive less attention from ESG-themed funds, due to governance risk concerns. Omitting these features could therefore inflate the estimated effect of ESGdif6.

Columns (2) and (3) of Table 4 sequentially augment the baseline with internal governance controls (CEO-chairman duality, largest shareholder ownership, board size, and board independence) and external governance controls (Big Four auditor and institutional shareholding proportion). Across both specifications, the coefficient on ESGdif6 remains significantly negative at the 1% level, with magnitudes close to the baseline estimate, indicating that the main result is not driven by omitted governance characteristics. Columns (6) and (7) report the corresponding results using ESG_MV as the dependent variable. The coefficients on ESGdif6 remain significantly negative, suggesting that ESG rating disagreement also reduces the market value of ESG-themed fund holdings after controlling for additional governance characteristics.

5.3.3. Additional Fixed Effects

Regional heterogeneity represents a further potential confound. Provinces with more developed capital markets tend to host firms with better ESG disclosure and greater ESG fund presence simultaneously, which could generate a spurious negative association between rating disagreement and fund holdings at the geographic level. The baseline industry and year fixed effects do not absorb these spatial differences.

Column (4) of Table 4 adds province fixed effects to absorb unobserved regional heterogeneity in economic development and policy environment. The coefficient on ESGdif6 is -0.018, significant at the 1% level, essentially unchanged from the baseline. Column (8) reports the result using ESG_MV as the dependent variable after further controlling for province fixed effects. The coefficient on ESGdif6 remains negative and significant, indicating that the effect on ESG fund holding intensity is not driven by regional heterogeneity.

5.3.4. Restricted Sample Period

A temporal concern arises from the possibility of structural breaks across the sample period. Prior to 2020, ESG rating infrastructure in China was less developed and data quality was more heterogeneous across agencies, which could distort the measurement of disagreement. Restricting

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the sample to the post-2020 period, during which ESG regulatory standards became more formalized under the dual-carbon strategy, tests whether the finding reflects a genuine economic mechanism rather than early-period data limitations.

Column (5) of Table 4 restricts the sample to 2020–2022, a period marked by intensified ESG policy activity under the dual-carbon strategy and heightened regulatory attention to ESG fund disclosure standards. The coefficient on ESGdif6 is -0.044, significant at the 1% level, with a larger magnitude than in the full-sample baseline, suggesting that information frictions associated with rating disagreement become more consequential as institutional attention to ESG metrics increases. Column (9) further shows that the coefficient on ESGdif6 remains significantly negative when ESG_MV is used as the dependent variable under the restricted sample period. Across all specifications, the coefficient on ESGdif6 remains significantly negative, supporting the robustness of H1. Overall, the results suggest that ESG rating disagreement is negatively associated with both the likelihood of ESG-themed fund ownership and the intensity of ESG fund holdings.

Table 4. Robustness Tests.

Panel A. Dependent variables: ESG_Num and ESG_Dum

	(1)	(2)	(3)	(4)	(5)
VARIABLES	ESG_Num	ESG_Dum	ESG_Dum	ESG_Dum	ESG_Dum
ESGdif6	-0.193**	-0.019***	-0.017***	-0.018***	-0.044***
	(-2.02)	(-3.37)	(-3.02)	(-3.17)	(-5.02)
Size	3.988***	0.209***	0.199***	0.207***	0.201***
	(55.15)	(49.81)	(43.03)	(51.02)	(36.31)
Lev	-10.798***	-0.549***	-0.528***	-0.530***	-0.502***
	(-17.07)	(-14.71)	(-14.16)	(-14.30)	(-8.68)
ROA	10.001***	0.625***	0.626***	0.611***	0.838***
	(13.58)	(13.70)	(13.73)	(13.81)	(9.04)
Growth	-0.054	-0.003	-0.004	-0.003	-0.020***
	(-0.96)	(-1.02)	(-1.13)	(-1.02)	(-2.89)
Loss	-1.104***	-0.072***	-0.071***	-0.069***	-0.060***
	(-7.75)	(-8.34)	(-8.29)	(-8.32)	(-4.37)
SOE	-1.276***	-0.064***	-0.076***	-0.063***	-0.092***
	(-7.72)	(-6.35)	(-7.33)	(-6.47)	(-7.00)
CR	-0.101***	-0.004*	-0.003	-0.004*	0.004
	(-3.18)	(-1.81)	(-1.61)	(-1.81)	(1.46)
CashFlow	0.737	0.015	0.009	0.016	-0.179**
	(0.91)	(0.31)	(0.19)	(0.33)	(-2.16)
BM	-14.023***	-0.743***	-0.722***	-0.738***	-0.730***
	(-21.54)	(-19.56)	(-19.04)	(-19.59)	(-12.75)
TobinQ	0.655***	0.034***	0.032***	0.034***	0.039***
	(10.71)	(9.60)	(8.98)	(9.70)	(6.51)
ATO	0.344*	0.022*	0.019*	0.010	-0.004
	(1.78)	(1.93)	(1.72)	(0.89)	(-0.28)

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FirmAge	-1.554***	-0.101***	-0.100***	-0.095***	-0.112***
	(-6.14)	(-6.70)	(-6.58)	(-6.36)	(-5.37)
ESG_Mean	0.477***	0.026***	0.026***	0.023***	0.026***
	(6.79)	(6.14)	(6.22)	(5.58)	(3.40)
Dual		0.022***	0.025***		
		(2.69)	(3.06)		
Top1		-0.088***	-0.166***		
		(-2.98)	(-5.23)		
Board		0.026	0.016		
		(1.03)	(0.64)		
Indep		0.046	0.056		
		(0.54)	(0.65)		
Big4			0.016		
			(0.85)		
Inst			0.117***		
			(5.77)		
Constant	-72.731***	-3.777***	-3.580***	-3.688***	-3.507***
	(-41.52)	(-31.95)	(-28.86)	(-36.99)	(-25.32)
Observations	24,377	23,663	23,663	24,372	7,719
R-squared	0.335	0.286	0.288	0.290	0.316
Industry FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
Province FE	NO	NO	NO	YES	NO

Notes: Firm-clustered t-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel B. Dependent variable: ESG_MV

	(6)	(7)	(8)	(9)
VARIABLES	ESG_MV	ESG_MV	ESG_MV	ESG_MV
ESGdif6	-0.325***	-0.284**	-0.297***	-0.340***
	(-2.90)	(-2.52)	(-2.66)	(-3.07)
Size	4.632***	4.420***	4.578***	4.700***
	(54.80)	(47.62)	(55.99)	(57.16)
Lev	-12.643***	-12.186***	-12.240***	-13.510***
	(-16.88)	(-16.30)	(-16.46)	(-17.18)
ROA	13.112***	13.141***	12.724***	12.092***
	(14.57)	(14.61)	(14.57)	(13.88)
Growth	-0.058	-0.065	-0.061	-0.087
	(-0.88)	(-0.99)	(-0.91)	(-1.17)
Loss	-1.400***	-1.388***	-1.339***	-1.253***

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	(-8.25)	(-8.20)	(-8.18)	(-7.50)
SOE	-1.309***	-1.563***	-1.335***	-1.570***
	(-6.55)	(-7.61)	(-6.90)	(-8.08)
CR	-0.100***	-0.092**	-0.099***	-0.097**
	(-2.62)	(-2.40)	(-2.60)	(-2.48)
CashFlow	0.883	0.745	0.864	1.157
	(0.91)	(0.77)	(0.90)	(1.17)
BM	-16.706***	-16.266***	-16.606***	-17.019***
	(-21.80)	(-21.27)	(-21.83)	(-20.91)
TobinQ	0.837***	0.786***	0.840***	0.817***
	(11.29)	(10.68)	(11.42)	(9.52)
ATO	0.499**	0.447**	0.252	0.410*
	(2.19)	(1.96)	(1.11)	(1.81)
FirmAge	-2.055***	-2.024***	-1.916***	-1.979***
	(-6.86)	(-6.71)	(-6.45)	(-6.67)
ESG_Mean	0.538***	0.545***	0.490***	0.513***
	(6.55)	(6.62)	(6.01)	(6.20)
Dual	0.496***	0.564***		
	(3.07)	(3.47)		
Top1	-2.128***	-3.815***		
	(-3.62)	(-6.02)		
Board	0.482	0.272		
	(0.95)	(0.53)		
Indep	1.134	1.345		
	(0.66)	(0.78)		
Big4		0.380		
		(0.96)		
Inst		2.507***		
		(6.28)		
Constant	-84.592***	-80.319***	-82.817***	-84.598***
	(-35.83)	(-32.48)	(-41.67)	(-42.04)
Observations	23,663	23,663	24,372	7,719
R-squared	0.337	0.339	0.341	0.355
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Province FE	NO	NO	YES	NO

Notes: Firm-clustered t-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

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5.4. Endogeneity Tests

5.4.1. Lagged Models

To address reverse causality, we replace the contemporaneous ESGdif6 with its one-period and two-period lags. Because past rating disagreement is predetermined relative to current fund holdings, lagged values sever the contemporaneous feedback channel and support a cleaner causal interpretation.

Table 5 reports the results. Columns (1) and (2) use the one-period lag (L.ESGdif6): the coefficients are -0.023 and -0.410, significant at the 1% level for ESG_Dum and ESG_MV respectively, both somewhat larger in magnitude than the baseline estimates. Columns (3) and (4) use the two-period lag (L2.ESGdif6): the coefficients are -0.016 and -0.279, significant at the 5% level, with smaller magnitudes than the one-period lag. The diminishing effect size across lag periods is consistent with gradual information updating: as additional disclosures accumulate over time, the informational uncertainty generated by past rating disagreement decays. Across all columns, the direction and significance of the results remain consistent with the baseline.

Table 5. Lagged Models.

	(1)	(2)	(3)	(4)
VARIABLES	ESG_Dum	ESG_MV	ESG_Dum	ESG_MV
L.ESGdif6	-0.023***	-0.410***		
	(-3.98)	(-3.55)		
L2.ESGdif6			-0.016**	-0.279**
			(-2.54)	(-2.22)
Size	0.221***	4.851***	0.232***	5.072***
	(53.20)	(57.87)	(52.66)	(57.03)
Lev	-0.679***	-14.892***	-0.743***	-16.062***
	(-16.80)	(-18.23)	(-16.91)	(-17.95)
ROA	0.523***	11.022***	0.409***	8.616***
	(11.83)	(12.66)	(9.21)	(9.86)
Growth	-0.006	-0.120	-0.010**	-0.193**
	(-1.51)	(-1.54)	(-2.22)	(-2.25)
Loss	-0.057***	-1.105***	-0.043***	-0.846***
	(-6.61)	(-6.47)	(-4.80)	(-4.78)
SOE	-0.070***	-1.489***	-0.065***	-1.391***
	(-7.07)	(-7.57)	(-6.37)	(-6.83)
CR	-0.009***	-0.197***	-0.013***	-0.270***
	(-4.38)	(-4.95)	(-5.53)	(-5.98)
CashFlow	0.043	1.368	0.077	2.130*
	(0.83)	(1.34)	(1.39)	(1.95)
BM	-0.854***	-18.343***	-0.837***	-17.825***
	(-20.46)	(-21.66)	(-18.24)	(-19.02)
TobinQ	0.030***	0.831***	0.040***	1.079***
	(6.93)	(9.18)	(7.67)	(9.83)

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ATO	0.021*	0.464**	0.021*	0.456*
	(1.78)	(1.98)	(1.78)	(1.88)
FirmAge	-0.082***	-1.692***	-0.066***	-1.413***
	(-5.28)	(-5.49)	(-3.83)	(-4.09)
ESG_Mean	0.024***	0.521***	0.021***	0.471***
	(5.62)	(6.14)	(4.76)	(5.26)
Constant	-3.924***	-87.804***	-4.224***	-93.698***
	(-38.07)	(-42.78)	(-37.56)	(-42.01)
Observations	20,865	20,865	16,761	16,761
R-squared	0.320	0.372	0.363	0.416
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Notes: Firm-clustered t-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

5.4.2. Propensity Score Matching

To address selection bias, we use propensity score matching to construct a more comparable treatment and control group. Firms with above-median ESGdif6 values are assigned to the treatment group and those with below-median values to the control group. Propensity scores are estimated using a logit model based on firm size, profitability, and ownership type, and one-to-one nearest-neighbor matching is applied without replacement.

Table 6 reports regression results on the matched sample. The coefficients on ESGdif6 are -0.018 and -0.290 in Columns (1) and (2) respectively, both significant at the 5% level, with signs and magnitudes closely aligned with the baseline regression. These results indicate that the negative relationship between ESG rating disagreement and ESG-themed fund holdings persists after controlling for observable firm characteristics that may jointly influence both treatment assignment and the outcome.

Table 6. PSM test.

	(1)	(2)
VARIABLES	ESG_Dum	ESG_MV
ESGdif6	-0.018**	-0.290**
	(-2.55)	(-2.16)
Size	0.195***	4.260***
	(36.91)	(40.00)
Lev	-0.493***	-11.279***
	(-10.93)	(-12.59)
ROA	0.576***	11.628***
	(10.25)	(10.69)
Growth	-0.000	0.000
	(-0.08)	(0.00)
Loss	-0.053***	-0.977***

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	(-4.67)	(-4.50)
SOE	-0.083***	-1.721***
	(-7.60)	(-8.09)
CR	-0.002	-0.058
	(-0.75)	(-1.32)
CashFlow	0.047	1.283
	(0.75)	(1.06)
BM	-0.658***	-14.578***
	(-14.36)	(-15.85)
TobinQ	0.042***	1.000***
	(8.43)	(9.44)
ATO	0.001	0.075
	(0.04)	(0.31)
FirmAge	-0.110***	-2.188***
	(-6.40)	(-6.63)
ESG_Mean	0.024***	0.494***
	(4.84)	(5.18)
Constant	-3.447***	-76.394***
	(-27.55)	(-30.88)
Observations	12,073	12,073
R-squared	0.247	0.289
Industry FE	YES	YES
Year FE	YES	YES

Notes: Firm-clustered t-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

5.5. Mechanism Analysis

Having established the main effect, we investigate the channel through which ESG rating disagreement suppresses ESG-themed fund holdings. We propose that the central mechanism is a deterioration in corporate information environment quality: rating disagreement introduces inconsistent signals about a firm's ESG profile, degrading the quality of information available to institutional investors and raising their perceived risk. Two complementary proxies capture this mechanism: the Trans composite index, which measures overall information ecosystem quality, and Audit_Fee, which reflects auditors' external pricing of information risk. Results are reported in Table 7.

In Column (1) of Table 7, the coefficient on ESGdif6 is -0.017, significant at the 1% level, indicating that greater rating disagreement reduces the overall quality of the firm's information ecosystem. In Column (2), the coefficient on ESGdif6 is 0.019, significant at the 5% level, indicating that rating disagreement raises audit fees, consistent with auditors pricing the elevated information risk associated with rating inconsistency. Together, a deteriorated information ecosystem and higher audit fees signal to ESG-themed funds that the firm's information environment is less reliable and more costly to evaluate, reinforcing their incentive to reduce or avoid holdings in such firms. The convergent evidence from both proxies supports the information quality mechanism proposed in Section 3.

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Table 7. Mechanism Tests.

VARIABLES	(1) Trans	(2) Audit_Fee
ESGdif6	-0.017***	0.019**
	(-7.42)	(2.40)
Size	0.101***	0.406***
	(51.19)	(56.45)
Lev	-0.310***	-0.112**
	(-21.39)	(-2.27)
ROA	0.622***	-1.003***
	(32.52)	(-18.30)
Growth	-0.002	-0.003
	(-1.48)	(-0.76)
Loss	-0.050***	0.120***
	(-15.28)	(12.94)
SOE	-0.009**	-0.101***
	(-2.26)	(-6.88)
CR	-0.004***	-0.009***
	(-4.36)	(-3.81)
CashFlow	0.068***	0.214***
	(3.55)	(3.84)
BM	-0.322***	-0.072
	(-21.14)	(-1.42)
TobinQ	0.010***	0.017***
	(6.58)	(3.99)
ATO	0.013***	0.172***
	(2.69)	(9.59)
FirmAge	-0.053***	-0.007
	(-8.14)	(-0.34)
esgmean	0.027***	-0.006
	(15.67)	(-0.98)
Constant	-1.673***	4.918***
	(-36.72)	(29.99)
Observations	29,385	29,594
R-squared	0.465	0.616
Industry FE	YES	YES
Year FE	YES	YES

Notes: Firm-clustered t-statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

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5.6. Heterogeneity Tests

5.6.1. Ownership Type

The impact of ESG rating disagreement on fund holdings may vary with firm ownership type, as state-owned and non-state-owned firms differ substantially in their institutional relationships, information environments, and the criteria by which institutional investors evaluate them.

Table 8 presents results for the SOE and non-SOE subsamples. In the SOE subsample, the coefficient on ESGdif6 is positive and significant across both dependent variables, while in the non-SOE subsample it is negative and significant. The contrasting signs indicate that ownership type fundamentally shapes how rating disagreement affects ESG-themed fund holdings. For SOEs, the positive association reflects the political connections, implicit government guarantees, and policy-oriented mandates that characterize state ownership (Faccio et al., 2006). ESG-themed funds investing in SOEs tend to emphasize policy alignment and long-term stability rather than rating consistency, and do not treat rating disagreement as an adverse information signal. For non-SOEs, which lack political backing and face greater operational and information uncertainty, fund decisions are more sensitive to market-based information signals. The information friction induced by rating disagreement therefore significantly suppresses holdings in non-SOE firms, confirming that the information quality mechanism proposed in Section 3 is primarily operative in this subsample.

Table 8. Heterogeneity by Ownership Type.

VARIABLES	State-Owned Enterprises		Non-State-Owned Enterprises	
	(1)	(2)	(3)	(4)
	ESG_Dum	ESG_MV	ESG_Dum	ESG_MV
ESGdif6	0.033***	0.723***	-0.043***	-0.806***
	(3.16)	(3.45)	(-6.64)	(-6.31)
Size	0.204***	4.491***	0.210***	4.683***
	(28.23)	(31.02)	(41.16)	(45.34)
Lev	-0.654***	-14.826***	-0.482***	-11.151***
	(-9.51)	(-10.60)	(-10.97)	(-12.74)
ROA	0.657***	13.993***	0.595***	12.298***
	(6.44)	(6.74)	(12.07)	(12.74)
Growth	-0.007	-0.123	-0.000	0.005
	(-1.47)	(-1.35)	(-0.05)	(0.06)
Loss	-0.030**	-0.515*	-0.083***	-1.633***
	(-2.18)	(-1.87)	(-7.92)	(-7.96)
CR	-0.011**	-0.280***	-0.001	-0.035
	(-2.53)	(-3.26)	(-0.42)	(-0.82)
CashFlow	0.113	2.783*	0.002	0.602
	(1.33)	(1.66)	(0.04)	(0.52)
BM	-0.675***	-15.027***	-0.788***	-17.710***
	(-10.14)	(-11.02)	(-17.55)	(-19.79)
TobinQ	0.039***	0.968***	0.031***	0.778***
	(5.83)	(7.00)	(7.62)	(9.07)
ATO	0.032*	0.663*	0.009	0.237

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VARIABLES	State-Owned Enterprises		Non-State-Owned Enterprises	
	(1)	(2)	(3)	(4)
	ESG_Dum	ESG_MV	ESG_Dum	ESG_MV
	(1.82)	(1.91)	(0.60)	(0.83)
FirmAge	-0.092***	-1.768***	-0.092***	-1.907***
	(-3.46)	(-3.30)	(-5.19)	(-5.47)
esgmean	0.036***	0.707***	0.019***	0.431***
	(4.88)	(4.83)	(3.80)	(4.42)
Constant	-3.786***	-84.274***	-3.736***	-84.432***
	(-20.81)	(-23.15)	(-30.30)	(-34.43)
Observations	7,977	7,977	16,399	16,399
R-squared	0.336	0.379	0.274	0.328
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

5.6.2. Region

Regional differences in capital market development and marketization may moderate the sensitivity of ESG-themed fund decisions to rating disagreement. In regions with more mature markets, institutional investors rely more heavily on information-quality signals, making information frictions arising from rating disagreement more consequential.

Table 9 presents results by region. The coefficient on ESGdif6 is negative and significant in the eastern region for both ESG_Dum and ESG_MV, while the coefficients in the central and western regions are negative but not statistically significant. The inhibitory effect is thus concentrated in the east. This pattern reflects the fact that the eastern region has a higher degree of marketization, a more developed capital market, and a more comprehensive information disclosure system than the central and western regions. In this environment, ESG-themed fund decisions are more sensitive to information quality, making the inhibitory effect of rating disagreement more pronounced. In the central and western regions, where institutional investment is more influenced by policy guidance and regional resource endowments, the informational frictions arising from rating disagreement carry less weight in fund decision-making.

Table 9. Heterogeneity by Region.

VARIABLES	Eastern Region		Central Region		Western Region	
	（1）	（2）	（3）	（4）	（5）	（6）
	ESG_DUM	ESG_MV	ESG_DUM	ESG_MV	ESG_DUM	ESG_MV
ESGdif6	-0.020***	-0.334***	-0.006	-0.052	-0.020	-0.353
	(-3.01)	(-2.60)	(-0.40)	(-0.17)	(-1.41)	(-1.23)
Size	0.205***	4.561***	0.168***	3.765***	0.221***	4.838***
	(45.74)	(50.56)	(15.37)	(16.85)	(19.67)	(21.00)
Lev	-0.545***	-12.570***	-0.458***	-10.644***	-0.685***	-15.531***
	(-12.43)	(-14.33)	(-4.26)	(-4.89)	(-7.49)	(-8.49)
ROA	0.632***	13.101***	0.630***	13.353***	0.568***	12.120***

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	(12.29)	(13.02)	(5.20)	(5.31)	(5.02)	(5.33)
Growth	-0.005	-0.099	-0.009	-0.162	-0.001	-0.030
	(-1.38)	(-1.27)	(-1.17)	(-1.03)	(-0.14)	(-0.17)
Loss	-0.074***	-1.433***	-0.065***	-1.240***	-0.067***	-1.349***
	(-7.44)	(-7.33)	(-2.97)	(-2.85)	(-3.12)	(-3.19)
CR	-0.004*	-0.103**	-0.004	-0.131	-0.004	-0.132
	(-1.89)	(-2.41)	(-0.65)	(-1.03)	(-0.72)	(-1.22)
CashFlow	0.034	1.159	0.197	4.662*	-0.016	0.065
	(0.60)	(1.05)	(1.42)	(1.66)	(-0.13)	(0.03)
BM	-0.762***	-17.169***	-0.539***	-12.375***	-0.878***	-19.508***
	(-16.98)	(-18.98)	(-4.84)	(-5.55)	(-9.68)	(-10.68)
TobinQ	0.032***	0.810***	0.041***	1.005***	0.037***	0.874***
	(7.40)	(8.80)	(3.97)	(4.80)	(5.85)	(6.55)
ATO	0.003	0.127	0.008	0.064	0.006	0.162
	(0.23)	(0.47)	(0.23)	(0.10)	(0.21)	(0.31)
FirmAge	-0.111***	-2.273***	-0.093**	-1.675**	-0.125***	-2.524***
	(-6.46)	(-6.70)	(-2.28)	(-2.02)	(-3.02)	(-3.07)
esgmean	0.022***	0.483***	0.020*	0.423*	0.032***	0.654***
	(4.61)	(5.12)	(1.77)	(1.84)	(2.86)	(2.95)
Constant	-3.585***	-80.930***	-3.020***	-69.184***	-3.879***	-85.853***
	(-31.77)	(-36.07)	(-11.19)	(-12.59)	(-15.02)	(-16.43)
Observations	18,053	18,053	3,132	3,132	3,791	3,791
R-squared	0.293	0.345	0.282	0.326	0.290	0.336
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

5.6.3. Firm Life Cycle

A firm's life cycle stage may condition how ESG-themed funds respond to rating disagreement, as disclosure quality, investor expectations, and the informational weight placed on ESG signals vary systematically across growth, mature, and decline stages.

Table 11 presents results for each life cycle stage. The coefficient on ESGdif6 is insignificant in the growth stage, significantly negative in the mature stage, and positive in the decline stage, with significance observed for ESG_MV. The inhibitory effect of rating disagreement is thus concentrated among mature firms. Mature firms have well-established governance structures and more standardized ESG disclosure practices, leading fund managers to place substantial weight on information quality when evaluating these firms. When rating disagreement signals unreliability in this otherwise informative environment, the deterrent effect on fund holdings is particularly pronounced. Growth-stage firms attract fund investment primarily on the basis of future potential rather than current ESG performance, making holdings less sensitive to rating inconsistency. For declining firms, ESG performance recedes as an investment criterion relative to valuation and financial recovery considerations, and the modest positive association in ESG_MV likely reflects other factors driving holdings rather than a genuine positive effect of rating disagreement itself.

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Table 10. Heterogeneity by Firm Life Cycle.

VARIABLES	Growth Stage		Mature Stage		Decline Stage	
	（1）	（2）	（3）	（4）	（5）	（6）
	ESG_DUM	ESG_MV	ESG_DUM	ESG_MV	ESG_DUM	ESG_MV
ESGdif6	0.002	0.094	-0.042***	-0.759***	0.029	0.607*
	(0.25)	(0.67)	(-5.15)	(-4.72)	(1.54)	(1.68)
Size	0.200***	4.386***	0.209***	4.701***	0.190***	4.128***
	(38.81)	(42.42)	(40.44)	(45.84)	(13.00)	(14.10)
Lev	-0.563***	-12.818***	-0.568***	-13.267***	-0.643***	-14.143***
	(-12.22)	(-14.00)	(-10.33)	(-12.06)	(-4.31)	(-4.70)
ROA	0.406***	8.390***	0.815***	17.136***	1.152***	22.553***
	(7.82)	(8.24)	(10.73)	(11.57)	(3.19)	(3.15)
Growth	-0.006	-0.115	-0.007	-0.133	0.007	0.134
	(-1.31)	(-1.21)	(-1.44)	(-1.38)	(0.62)	(0.60)
Loss	-0.057***	-1.092***	-0.108***	-2.127***	0.004	0.095
	(-5.22)	(-5.15)	(-7.88)	(-7.84)	(0.10)	(0.12)
CR	-0.003	-0.078	-0.002	-0.068	-0.004	-0.087
	(-1.01)	(-1.60)	(-0.56)	(-1.09)	(-0.84)	(-0.87)
CashFlow	0.112*	2.854**	-0.037	-0.329	0.029	0.814
	(1.76)	(2.28)	(-0.49)	(-0.22)	(0.18)	(0.26)
BM	-0.645***	-14.540***	-0.921***	-20.876***	-0.600***	-12.968***
	(-13.71)	(-15.51)	(-15.18)	(-17.19)	(-4.67)	(-5.02)
TobinQ	0.031***	0.741***	0.033***	0.830***	0.021	0.524
	(7.05)	(8.26)	(6.09)	(7.46)	(1.09)	(1.37)
ATO	0.019	0.424	-0.003	0.034	0.012	0.275
	(1.32)	(1.52)	(-0.18)	(0.11)	(0.34)	(0.40)
FirmAge	-0.053***	-1.013***	-0.066***	-1.303***	-0.071	-1.149
	(-2.79)	(-2.68)	(-3.06)	(-3.07)	(-0.85)	(-0.69)
esgmean	0.022***	0.455***	0.027***	0.576***	0.027*	0.536**
	(4.20)	(4.47)	(4.39)	(4.79)	(1.95)	(2.00)
Constant	-3.728***	-82.707***	-3.709***	-84.971***	-3.539***	-78.534***
	(-29.66)	(-32.96)	(-29.18)	(-34.07)	(-8.69)	(-9.59)
Observations	13,132	13,132	10,010	10,010	1,574	1,574
R-squared	0.275	0.323	0.298	0.357	0.308	0.344
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

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6. Conclusion

This study investigates how ESG rating disagreement influences holdings by ESG-themed funds in China's A-share market. Using a sample of non-financial listed firms from 2015 to 2022, we find that greater rating disagreement is significantly and negatively associated with both the likelihood and scale of ESG-themed fund ownership. This finding remains robust across alternative dependent variable specifications, propensity score matching, lagged variable models, and alternative fixed-effect structures. Mechanism analysis reveals that this effect operates through a unified information quality mechanism: ESG rating disagreement degrades the corporate information environment, as evidenced by deterioration in the firm-level information ecosystem and higher audit fees, both of which signal to fund managers that a firm's ESG profile is less reliable and more costly to evaluate. Heterogeneity tests further show that the inhibitory effect is concentrated among non-state-owned enterprises and firms in eastern China, and is most pronounced during the mature stage of the firm life cycle, while state-owned firms exhibit a positive association consistent with the role of political connections and implicit government guarantees in attenuating information risk signals.

From a practical standpoint, our findings carry implications for regulators, rating agencies, listed firms, and investment professionals. For regulators, the evidence that rating disagreement depresses ESG-themed fund holdings by degrading the corporate information environment provides a clear rationale for standardizing ESG disclosure requirements and rating methodologies. Establishing common reporting frameworks and requiring greater transparency in rating construction would reduce inter-agency divergence and improve the informational efficiency of ESG capital markets. Our regional heterogeneity results further suggest that policy efforts to strengthen ESG infrastructure in central and western China could extend the benefits of ESG investment to currently underserved markets. For listed firms, particularly non-state-owned enterprises where the inhibitory effect of rating disagreement is most pronounced, our findings highlight the strategic value of proactive and standardized ESG disclosure. Firms that invest in clearer and more comparable ESG reporting can reduce inter-agency divergence and increase their attractiveness to ESG-themed institutional investors. For rating agencies, our results underscore the market consequences of methodological heterogeneity: divergent ratings impose real costs on firms and distort institutional capital allocation, suggesting that greater convergence in rating frameworks would benefit market efficiency. For investment professionals, ESG rating disagreement is a quantitatively meaningful signal of information risk that deserves explicit attention in portfolio construction. Incorporating disagreement measures into due diligence processes, particularly for mature non-state-owned firms where the effect is strongest, can improve the alignment between ESG investment objectives and actual information quality.Data Availability Statement: The data used in this study are obtained from public databases including CSMAR, Wind, and CNRDS, available from the corresponding author upon reasonable request.

Ethical Statement: This study uses only public secondary data from listed companies and does not involve human or animal experiments. Ethical approval is not applicable.

Conflicts of Interest: The authors declare no conflicts of interest.AI Disclosure: No artificial intelligence or large language models were used in the preparation of this manuscript.

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