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Managerial myopia and corporate green innovation: evidence from Chinese A-share listed firms

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Against the backdrop of escalating climate risks, firms increasingly regard green innovation not merely as a sustainability initiative but as a strategic response shaping long-term competitiveness. From a managerial decision-making perspective, this study examines how managerial myopia influences firms' green innovation capabilities. Using panel data from Chinese A-share listed companies spanning 2013 to 2022, we employ empirical regression analyses to investigate the direct effect of managerial myopia on green innovation, as well as the moderating roles of environmental regulation and media scrutiny. The results show that managerial myopia significantly inhibits firms' green innovation, as an excessive focus on short-term profits constrains effective resource allocation for green initiatives, thereby undermining both environmental performance and long-term sustainability. Furthermore, command-and-control environmental regulations exacerbate the negative impact of managerial myopia, whereas negative media scrutiny mitigates this effect by functioning as an external governance mechanism. A more nuanced analysis reveals that the aggravating role of command-based regulations is significant only for independent R&D and non-inventive green innovation, while media attention primarily alleviates adverse effects on independent R&D and inventive green innovation. Heterogeneity analyses further indicate that state ownership and operations in heavily polluting industries help restrain managerial myopia, partially preserving firms' green innovation capabilities. By foregrounding managerial myopia as a key internal governance factor, this study deepens the understanding of how managerial cognition shapes corporate green innovation and offers actionable implications for policymakers, regulators, and stakeholders seeking to curb short-term managerial bias and strengthen firms' sustainable innovation dynamics.

KEYWORDS

corporate green innovation, environmental regulation, green innovation, managerial myopia, media coverage

1 Introduction

Climate change has globally exacerbated the urban heat island effect and increased the frequency of extreme weather events [1]. In response to these mounting climate challenges, there is a growing international consensus on carbon reduction and sustainable

development. The COP28 prominently included the phase-out of fossil fuels in its official agreements, emphasizing the urgency of decarbonization efforts. In line with UN initiatives, China in 2020 announced its "Dual-carbon" goals: peak CO_2 by 2030 and carbon neutrality by 2060 [2]. However, with CO_2 emissions reaching 12.3 billion tons in 2023—nearly one-third of the global total—China faces significant decarbonization challenges, requiring coordinated efforts across all sectors to achieve its "Dual-carbon" goals.

Enterprises, as key microeconomic actors within society, play an essential role in promoting decarbonization efforts. Traditionally driven by profit maximization, firms have often neglected environmental priorities. However, they now have to balance economic growth and environmental stewardship under increasing regulatory pressure via mandates, incentives, and other government policies [3]. In response to this complex landscape, the adoption of green innovation has surfaced as pivotal means for businesses aiming to align with high-quality development objectives [4]. Through green technologies, companies can mitigate pollution, enhance resource efficiency, and secure sustainability [5]. Within the Chinese policy context, firms are positioned at the core of delivering the national "Dual-carbon" agenda and underpinning long-term development priorities, making their green innovation behavior particularly consequential. Hence, investigating factors that influencing green innovation within Chinese firms is both timely and essential, offering valuable insights into their sustainable growth pathways.

Organizational behavior reflects a firm's intricate system shaped by multi-level, multi-dimensional factors and stakeholder interactions. Among these stakeholders, management plays a particularly influential role as strategic decision-makers, whose personal experiences, behavioral tendencies, and characteristics can profoundly shape the firm's objectives, operations as well as outcomes [6]. Managerial decisions are frequently influenced by varying temporal orientations [7]. Those prioritizing immediate outcomes often favor short-term financial gains, like earnings and stock performance, over long-term investments, leading to a bias toward quick strategies over costlier, riskier, and longer-term initiatives. [8]. This short-term focus can lead to suboptimal decisions, diverting firms from best practices in innovation and sustainability.

Previous research indicates that managerial myopia tends to have a detrimental impact on social responsibility scores as well as ESG performance [9,10]. Short-term oriented managers often cut long-term investments and pursue short-term innovation for immediate benefits [11]. Nevertheless, some suggest that inefficiencies within internal capital markets, rather than managerial myopia, constrain firm's innovation [12]. Additionally, under certain green financial policies, managerial myopia might even stimulate green innovation [13]. Taken together, these divergent conclusions demonstrate that scholarly understanding of how managerial myopia shapes green innovation remains theoretically fragmented and empirically inconclusive.

Clarifying the role of external institutional forces in shaping managerial myopia is equally essential for unpacking its broader implications for corporate innovation behavior. Consistent with Porter's hypothesis, well-designed environmental regulations can motivate firms to achieve both environmental protection and financial performance through technological progress [14]. However, the effects of such regulations remain ambiguous, underscoring the necessity of investigating government regulation as a moderating factor. In addition to formal regulation, media attention also functions as an external monitoring force, reducing capital market information asymmetry through digital and print reporting [15]. Simultaneously, media attention serves as social oversight as well, exerting public pressure on firms and complicating its moderating role between managerial myopia and green innovation, highlighting the importance of including media coverage as a moderating factor in further research.

To address the aforementioned questions, this paper conducts an empirical investigation, drawing from a sample of 4,328 Chinese listed companies. The analysis incorporates the moderating effects of media coverage and government regulation. Additionally, we also examined the firm-level heterogeneity for deeper insight. The study's potential marginal contributions are as follows. First, by analyzing the relationship between managerial myopia and green innovation, this study extends research on how managerial traits influence corporate behavior, offering an individual-level view of green innovation drivers. Second, the analysis reveals that negative media attention more effectively counteracts the detrimental impacts of managerial short-sightedness compared with command-based environmental regulations, which in some cases may inadvertently exacerbate such effects. Third, by examining both formal (government) and informal (media) regulatory channels and accounting for firm heterogeneity, the study delivers nuanced insights across managerial, organizational, and environmental dimensions.

The paper is organized as follows: Section 2 reviews relevant literature and formulates hypotheses; Section 3 elaborates the research design; Section 4 presents empirical results; Section 5 offers additional analyses; and Section 6 concludes with key findings and insights.

2 Theoretical analysis and hypothesis formulation

2.1 Managerial myopia and green innovation

2.1.1 Managerial myopia

Managerial myopia is characterized by the inclination of corporate executives to give precedence to short-term financial achievements, often to the detriment of sustainability and growth [13]. Under the neoclassical theoretical framework, firms are expected to maximize shareholder value. However, within the complexities of a dynamic market environment, management may not always act rationally [6]. Personal biases and cognitive limitations often drive decisions favoring immediate profits over long-term investments essential for sustainable growth. Present-oriented managers tend to prioritize short-term earnings and stock performance, sidelining sustainability efforts requiring prolonged investment and delayed returns [7]. Previous research has explored the ramifications of managerial myopia across various aspects, including sustainable development [16], firm duration [17], innovation capabilities [18], and supply chain concentration [19].

2.1.2 Green innovation

Green innovation encompasses product and process advancements aimed at reducing environmental harm—such as air pollution and carbon emissions—while promoting organizational change and sustainable marketing practices [20]. It functions as a strategic tool enabling companies to meet customer demand for sustainable practices, improve their public perception, and gain a competitive advantage, all while addressing environmental challenges. It serves as a strategic tool for meeting customer demand for sustainable practices, enhancing public image, gaining competitive advantage, and addressing environmental challenges. [21,22]. Nonetheless, the dual nature of "innovation" and "green" entails substantial risks, prompting some managers to limit green investments over concerns about short-term financial performance. [23]. The inherent tension between the necessity of green innovation and the risks it entails has garnered substantial academic interest. Numerous researches have investigated contributors that influence the extent of green innovation within firms, including corporate governance [24], ESG performance [25], firm ownership [26], and access to finance [27], among other factors.

2.1.3 Managerial myopia and green innovation

Previous literature indicates that myopic managers often adopt a pessimistic outlook, where their biased assessment of declining market conditions results in underinvestment issues [28]. Under such circumstances, managerial decision-making becomes increasingly skewed toward short-term returns—shaping resource allocation, project selection, and strategic choices in ways that sideline long-horizon innovative investments and, in turn, erode the firm's long-term growth and competitiveness. [29]. Unlike general innovation, green innovation involves greater environmental concerns, longer payback periods, larger investments, higher risks, and uncertain returns [25]. These features conflict with myopic managers' short-term profit goals, making green innovation more likely to be deprioritized.

The inhibiting effect of managerial myopia on green innovation can be better understood by unpacking the multiple organizational and behavioral channels through which short-termism shapes firms' innovation choices. First, from the standpoint of green innovation activities, which inherently involve high risks and significant investments, the risk-averse and conservative tendencies associated with managerial myopia may lead firms to underinvest in such initiatives. Second, at the corporate governance level, managerial myopia often reflects weak governance structures and inadequate internal oversight, leading to inefficiencies in green innovation efforts. Furthermore, myopic management tends to attach more importance to immediate financial gains rather than sustainability, thereby undermining their green innovation capabilities [30].

In summary, firms affected by managerial myopia may tend to prioritize short-period performance to the detriment of addressing environmental challenges via green innovation. Accordingly, this paper proposes a hypothesis:

Hypothesis 1: Managerial myopia negatively affects firms' green innovation capabilities.

2.2 Moderating role of environmental regulation

Environmental regulation serves as a key impetus for fostering green innovation within firms, as firms often pursue legitimacy and strategic alignment through adherence to governmental mandates [31]. Environmental regulations can be broadly categorized into command-based and market-based approaches [32]. Command-based regulations set strict annual emission targets by province, with local governments evaluated for enforcement [33]. Under such mandates, firms are compelled to allocate resources to compliance [34]. However, myopic leaders, who are generally risk-averse, may opt for short-term solutions such as purchasing emission rights or halting highly polluting production lines rather than pursuing high-risk green innovation activities. Additionally, compliance pressures may divert resources away from potential investments in green innovation.

In contrast, market-based regulations incentivize pollution control through government investments in environmental protection [35]. Compared with target-based and penalty-driven regulations, investment-focused measures lower the financial burden of green innovation through subsidies or tax incentives, thereby enhancing economic feasibility and mitigating managerial risk. This motivates firms to allocate more resources to green technology advancement [36]. Building on these insights, this paper proposes the following hypothesis:

Hypothesis 2a: Command-based environmental regulation exacerbates the negative impact of managerial myopia on green innovation.

Hypothesis 2b: Market-based environmental regulation mitigates the negative impact of managerial myopia on green innovation.

2.3 Moderating role of media coverage

Media coverage, with its dual roles of information distribution and societal oversight, plays a pivotal role in mitigating principal-agent issues and addressing information asymmetry. Through curbing overinvestment and minimizing inefficiencies in resource allocation, media scrutiny facilitates the reallocation of corporate resources toward green innovation initiatives [37]. Although existing research generally agrees that media attention promotes green innovation [38–40], limited researches have examined how different emotional tones of media coverage affect green innovation. From a behavioral economics perspective, media exposure can significantly shape managerial behavior. Chen et al. [41] posit that the media exerts a "spotlight effect," encouraging firms to meet societal expectations and hold managers accountable for their social responsibilities. Given the differential impacts of positive versus negative media attention, this paper distinguishes between these types to explore their unique effects on green innovation.

Positive media attention can significantly bolster a corporate brand perception and market reputation, facilitating short-term profitability at a reduced cost [42,43]. Nevertheless, when firms receive predominantly positive media coverage, myopic managers may become complacent, prioritizing external marketing to sustain a favorable public image, which in turn diverts attention

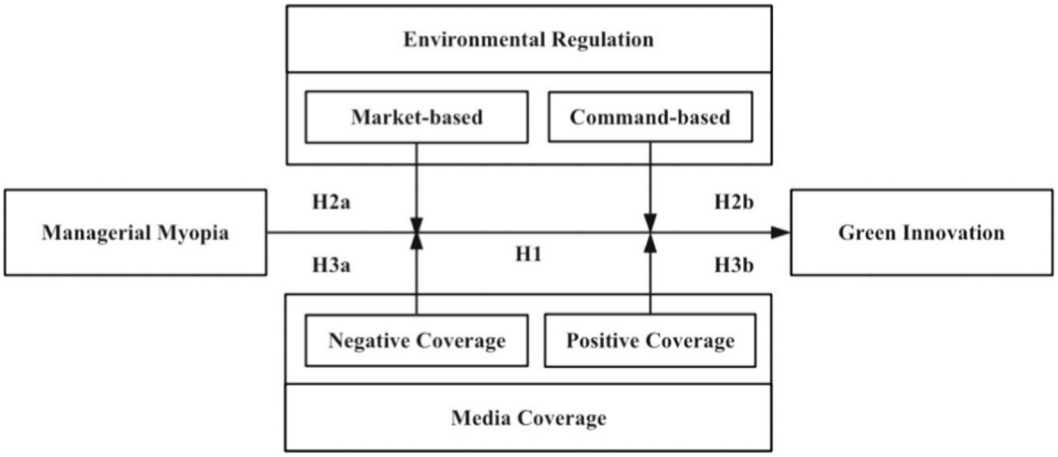

FIGURE 1
Theoretical model.

and resources away from green innovation. This complacency intensifies the negative effects of managerial myopia. In contrast, negative media attention increases stakeholder scrutiny, mitigating shortsightedness and prompting management to adjust its green innovation strategy to repair the firm's public image. Investing in green technologies signals environmental responsibility and enhances brand reputation. Accordingly, this paper proposes the following hypotheses:

Hypothesis 3a: Positive media coverage exacerbates the negative impact of managerial myopia on green innovation.

Hypothesis 3b: Negative media coverage mitigates the negative impact of managerial myopia on green innovation.

Figure 1 illustrates the conceptual framework of this study.

3 Research design

3.1 Sample selection and data sources

The empirical analysis is based on a longitudinal dataset comprising A-share firms listed on the Shanghai and Shenzhen stock exchanges over the period 2013–2022. Managerial myopia indicators for the baseline regression are derived from the Wingo Financial Text Data Platform, while robustness checks use data extracted from annual reports. Data on green innovation and media coverage are obtained from the CNRDS database, environmental regulation intensity from the China Statistical Yearbook, and additional relevant data from the CSMAR database.

To enhance data reliability and ensure consistency with established empirical standards, the dataset was systematically refined through the following screening and preprocessing procedures: (1) Exclusion of firms categorized as ST or*ST and other non-standard trading firms; (2) Exclusion of firms operating within the financial and insurance industries; (3) Winsorization of the main continuous variables at the 1st and 99th percentiles; (4) Exclusion of firms with missing values. After applying these filters, the final sample includes 4,328 listed companies, corresponding to 29,149 observations.

3.2 Model specification

To examine the impact of managerial myopia on green innovation, Equation 1 is constructed as the econometric model.

$$GI_{i,t} = \beta_0 + \beta_1 Myopia_{i,t-1} + \gamma Controls_{i,t} + \mu_i + \delta_t + \varepsilon_{i,t} \quad (1)$$

where $GI_{i,t}$ represents firms' green innovation capability; $Myopia_{i,t\text{-}1}$ represents the level of management short-sightedness; $Controls_{i,t}$ includes a set of control variables; β_0 indicates the intercept; μ_i and δ_t represents the industry and year fixed effect, respectively; $\varepsilon_{i,t}$ is the random error term; and the subscripts i and t refer to the sample industry and year, respectively.

In order to study the moderating role of environmental regulation, this paper constructs Equation 2:

$$GI_{i,t} = \beta_0 + \beta_1 Myopia_{i,t-1} + \beta_2 ER_{i,t-1} + \beta_3 Myopia_{i,t-1} \times ER_{i,t-1} + \gamma Controls_{i,t} + \mu_i + \delta_t + \varepsilon_{i,t} \quad (2)$$

where ER stands for environmental regulation, which will be specifically categorized into market-based environmental regulation (SER) and command-based environmental regulation (MER) in the regression below; and $Myopia_{i,t\text{-}1} \times ER_{i,t\text{-}1}$ represents the cross-multiplication term between management short-sightedness and the intensity of the two types of regulation.

To investigate the moderating role of media attention, this paper is constructing Equation 3:

$$GI_{i,t} = \beta_0 + \beta_1 Myopia_{i,t-1} + \beta_2 M_{i,t-1} + \beta_3 Myopia_{i,t-1} \times M_{i,t-1} + \gamma Controls_{i,t} + \mu_i + \delta_t + \varepsilon_{i,t} \quad (3)$$

Where M stands for media attention, which will be specifically categorized into media attention of positive public

TABLE 1 Main variable descriptive statistics.

Symbol	Variable name	Obs	Mean	SD	Min	Max	VIF
GI	Green innovation	29,149	0.741	1.064	0	7.052	-
GI_inv	Inventive green innovation	29,149	0.299	0.686	0	6.574	-
GI_ninv	Non-inventive green innovation	29,149	0.615	0.965	0	6.659	-
GI_indep	Independent green innovation	29,149	0.675	1.005	0	6.981	-
GI_joint	Joint green innovation	29,149	0.171	0.551	0	6.457	-
Myopia	Managerial myopia	29,149	0.081	0.074	0	0.855	1.13
Size	Total asset scale	29,149	164.6	714.7	0.058	27,332	1.12
LEV	Gearing ratio	29,149	0.423	0.205	0.055	0.923	1.31
Growth	Operating income growth rate	29,149	0.163	0.408	−0.569	2.501	1.06
Mfee	Management expense ratio	29,149	0.191	16.54	−0.757	2,825	1.00
INST	Institutional investor shareholding ratio	29,149	0.389	0.236	0.000	3.267	1.23
Dual	Two positions in one	29,149	0.294	0.456	0	1	1.10
ATO	Total asset turnover ratio	29,149	0.643	0.534	−0.048	12.37	1.20
Balance	Shareholding checks and balances	29,149	0.371	0.286	0.001	1	1.04
Age	Firm age	29,149	2.183	0.820	0	3.367	1.37
SER	Market-based environmental regulation	29,109	0.177	0.145	0.009	0.765	-
MER	Command-based environmental regulation	29,109	0.158	0.116	0.072	0.773	-
PM	Positive media attention	27,830	0	1	−0.026	152.4	-
NM	Negative media attention	27,830	0	1	−0.048	159.5	-

opinion (*PM*) and media attention of negative public opinion (*NM*) in the regression below; $Myopia_{i,t\text{-}1}\times M_{i,t\text{-}1}$ stands for the cross-multiplication term between management myopia and positive and negative media attention. In order to avoid multicollinearity arising from the inclusion of cross-multiplier terms, this paper decentralizes the core explanatory variables, each moderator variable and the cross-multiplier terms of both.

3.3 Definition of variables

3.3.1 Explained variable: Green innovation

Drawing upon the classification framework developed by Yang et al. [25], this study delineates a firm's *GI* capacity into five distinct indicators: total authorized green patents ($GI_{i,t}$), independently obtained patents ($GI\_indep_{i,t}$), joint patents ($GI\_joint_{i,t}$), invention patents ($GI\_inv_{i,t}$), and utility model patents ($GI\_ninv_{i,t}$), which respectively capture overall, independent, collaborative, high-quality, and general levels of GI. All indicators are log-transformed after adding one to reduce skewness and facilitate empirical analysis.

3.3.2 Core explanatory variable: Managerial myopia

This study identifies *Myopia* through text analysis of the "Management Discussion and Analysis" section in annual reports. Based on Liang and Li [44], ten seed words (e.g., "as soon as possible," "immediately," "pressure") are used to derive 33 myopia-related keywords via machine learning. The frequency of these terms forms the core explanatory variable, *Myopia*, with higher values indicating stronger short-term orientation (see Equation 4). To capture lagged effects and reduce endogeneity, the variable is lagged by one period.

$$Myopia_{i,t} = \frac{\text{"Managerial Myopia" word frequency}}{\text{Total frequency of words in the "MD\&A" section}} \times 100 \quad (4)$$

3.3.3 Moderating variables: Environmental regulation and media attention

To enhance the accuracy and scientific validity of measuring environmental regulation intensity, this study adopts a composite index construction method, as suggested by Lin et al [45]. It calculates the command-based regulation variable (*MER*) by

TABLE 2 Results of baseline regression analysis.

Variables	(1)	(2)	(3)	(4)	(5)
	GI	*GI*	*GI*	*GI*	*GI*
Myopia	−0.852***	−1.281***	−0.737***	−0.737***	−0.137*
	(-0.084)	(0.081)	(0.079)	(0.147)	(0.070)
Size		0.000***	0.000***	0.000***	0.000***
		(0.000)	(0.000)	(0.000)	(0.000)
Lev		0.832***	0.967***	0.967***	0.282***
		(0.031)	(0.031)	(0.069)	(0.057)
Growth		0.039***	0.039***	0.039**	0.008
		(0.014)	(0.014)	(0.015)	(0.010)
Mfee		−0.000	−0.000	−0.000***	−0.015
		(0.000)	(0.000)	(0.000)	(0.034)
INST		0.283***	0.385***	0.385***	0.058
		(0.026)	(0.026)	(0.057)	(0.038)
Dual		−0.022*	−0.037***	−0.037	−0.011
		(0.013)	(0.013)	(0.025)	(0.016)
ATO		−0.051***	−0.021*	−0.021	−0.016
		(0.011)	(0.011)	(0.021)	(0.021)
Balance		0.057***	−0.009	−0.009	0.042
		(0.021)	(0.020)	(0.043)	(0.040)
Age		0.018**	0.065***	0.065***	0.003
		(0.008)	(0.008)	(0.015)	(0.027)
Industry FE	No	No	Yes	Yes	No
Year FE	No	No	Yes	Yes	Yes
Individual FE	No	No	No	No	Yes
Cluster level	-	-	-	Firm	-
Constant	0.810***	0.297***	−0.562***	−0.562***	0.243***
	(0.009)	(0.024)	(0.057)	(0.088)	(0.050)
N	29,149	29,149	29,149	29,149	29,149
R^2	0.004	0.118	0.224	0.223	0.159

Standard errors are in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

weighting pollutant emission reductions across provinces. Given the data availability, this study specifically considers three key pollutants: sulfur dioxide, nitrogen dioxide, and solid particulate matter. The data matrix for pollutant emission reductions is constructed as Equation 5.

$$MER = \sum_{j=1}^{n} w_j \times SDP_{ij} \tag{5}$$

where *SDP* represents the pollutant reduction after standardization; *w* denotes the weight of each pollutant indicator.

Conversely, economic incentives serve as a crucial mechanism for pollution control in China [46]. Following Zhang et al. [47], this study measures market-based environmental regulation (*SER*) using completed investment in industrial pollution control within provincial fiscal expenditures. To account for regional economic scale differences, the indicator is normalized by industrial value added, as shown in Equation 6. Moreover, to reflect regulatory timeliness, the *ER* variables are lagged by one period to align with managerial myopia.

$$SER = \frac{\text{Investment in industrial pollution control}}{\text{Value added of industrial production by province}} \tag{6}$$

Media attention is classified into positive and negative categories [48]. This study measures positive media coverage (*PM*) as the annual count of favorable news reports across online and print media, and negative media coverage (*NM*) as the total of unfavorable reports. To facilitate coefficient interpretation, both counts are standardized. Considering the timing of media influence on management, *PM* and *NM* variables are lagged by one period to align with managerial myopia.

3.3.4 Control variables

Drawing from the existing literature, this study identifies a set of control variables which may have impacts on the model, focusing on management characteristics, the company's financial status, and organizational structure: (1) total assets (*Size*), expressed in billions of yuan; (2) ratio of total liabilities to assets (*LEV*); (3) ratio of the current year's operating income to the previous year minus 1 (*Growth*); (4) management fee divided by operating income (*Mfee*); (5) institutional investor shareholding ratio (*INST*); (6) two positions in one (*Dual*); (7) operating income divided by total assets (*ATO*); (8) ratio of the second-largest shareholder's equity to that of the largest shareholder (*Balance*); (9) years of establishment plus 1 and taking the natural logarithm (*Age*).

3.4 Descriptive statistics analysis

This paper offers comprehensive descriptive statistics for the primary variables, as shown in Table 1. The mean value of *GI* is 0.749, with a standard deviation of 1.070, a maximum of 7.052, as well as a minimum of 0. This reflects considerable variability in the level of *GI*

TABLE 3 Results of the robustness test.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	GI	*GI_apply*	*GI*	*GI*	*GI*	*GI*
Myopia_rd	−0.001**					
	(0.001)					
Myopia		−0.941***	−0.631***	−0.741***	−0.740***	−0.740***
		(0.169)	(0.144)	(0.149)	(0.110)	(0.098)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster level	Firm	Firm	Firm	Firm	Industry	Province
Province FE	No	No	Yes	No	No	No
Industry-year FE	No	No	No	Yes	No	No
Constant	−0.694***	−0.691***	−0.303c	−0.508***	−0.565***	−0.565***
	(0.100)	(0.115)	(0.100)	(0.096)	(0.107)	(0.099)
N	24,857	29,129	29,123	29,123	29,123	29,123
R^2	0.238	0.217	0.241	0.230	0.224	0.224

Standard errors are in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

among different firms, highlighting a substantial gap in innovation capabilities. The average values of green patents for invention (*GI_inv*), green patents for non-invention *(GI_ninv*), green patents obtained independently (*GI_indep*), and green patents obtained jointly (*GI_joint*) are 0.304, 0.622, 0.682, and 0.175, respectively.

In terms of quality, enterprises currently exhibit greater activity in securing non-invention patents compared to invention patents, suggesting that they achieve more R&D outcomes in the former. This suggests a strategic emphasis on refining and applying existing technologies to boost short-term advantages and market share. However, it also raises concerns about possible underinvestment in fundamental research and original technological innovation in *GI*. A greater proportion of green patents is acquired through independent R&D, likely motivated by the desire for intellectual property control and to mitigate management complexity and benefit distribution issues. The standard deviation of Myopia is 0.074, with values ranging from 0 to 0.855, indicating significant variation in managerial short-sightedness across firms. Other variables and their distributions align with prior research and are not further discussed.

4 Analysis of empirical results

4.1 Baseline regression

Model (1) is used to test Hypothesis 1, with results shown in Table 2. Columns (2) and (3) incrementally introduce control variables and fixed effects for year and industry, while column (4) clusters robust standard errors at the firm level. Across the first four columns, *Myopia*'s estimated coefficients on *GI* are significantly negative at the 1% level. Furthermore, column (5) accounts for individual fixed effects, revealing that the estimated coefficients remain significantly negative, confirming that *Myopia* impedes *GI* and supporting Hypothesis 1.

4.2 Robustness tests

Three methods are employed for robustness checks. First, both explanatory and dependent variables are replaced. Following Lai et al. [49], the reduction in a firm's R&D investment relative to the prior year is used to measure managerial myopia denoted as *Myopia_rd*, as shown in column (1) of Table 3. Additionally, the indicator for *GI* is replaced by the quantity of applied green patents, denoted as *GI_apply*, as shown in column (2). Second, province and industry-year interaction fixed effects are added in columns (3) and (4). Lastly, Third, clustering levels are modified to industry and province, with results shown in columns (5) and (6). Results remain consistent, confirming robustness.

4.3 Endogeneity test

To address endogeneity, this paper adopts a two-stage residual intervention method. In stage 1, Equation 7 identifies determinants

TABLE 4 Results of the endogeneity test.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Myopia (*t*-1)	*GI* (*t*-1)	*Myopia*(*t*)	*GI*(*t*)	*Myopia* (*t*-2)	*GI* (*t*-2)
Residual (*t*-1)		−0.783***				
		(0.145)				
Residual(*t*)				−0.837***		
				(0.168)		
Residual (*t*-2)						−0.731***
						(0.132)
Turnover	−0.006**	−0.011	−0.006***	−0.011	−0.010***	−0.011
	(0.003)	(0.038)	(0.002)	(0.038)	(0.003)	(0.038)
MF	0.006	−0.291***	0.008	−0.291***	0.011	−0.291***
	(0.006)	(0.089)	(0.006)	(0.089)	(0.007)	(0.089)
Short_Invest	0.026	−0.319**	0.009	−0.319**	0.023	−0.319***
	(0.016)	(0.131)	(0.011)	(0.131)	(0.015)	(0.131)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.057***	−0.420***	0.061***	−0.420***	0.070***	−0.420***
	(0.008)	(0.096)	(0.008)	(0.096)	(0.008)	(0.096)
N	12,571	12,571	12,571	12,571	12,571	12,571
R^2	0.145	0.219	0.153	0.219	0.134	0.219

Robust standard errors shown in parentheses are clustered at the firm level. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

of managerial myopia. The resulting residuals, denoted as *Residual*, are then introduced into model (1) for re-estimation. To ensure the myopia measure reflects incremental managerial traits, model (7) follows Hu et al. [50] and controls for additional myopia proxies beyond model (1), including the proportion of short-term investments (*Short_Invest*), shareholder turnover rate (*Turnover*), and frequency of surplus announcements (*MF*).

$$Myopia_{i,t} = \beta_0 + \beta_1 Short\_Invest_{i,t} + \beta_2 Turnover_{i,t} + \beta_3 MF_{i,t} + \gamma Controls_{i,t} + \mu_i + \delta_t + \varepsilon_{i,t} \quad (7)$$

Table 4 reports the stage 1 results in columns (1), (3), and (5), and the stage 2 results in columns (2), (4), and (6). The results indicate that incremental *Myopia* remains statistically significantly and negatively associated with *GI*. This suggests that the effect of *Myopia* on *GI* persists even after controlling endogeneity issues.

4.4 Tests of moderating effects

4.4.1 Moderating effect of environmental regulation

Table 5 column (1) shows that *Myopia* × *MER* significantly negatively affects *GI*, indicating that higher *MER* intensity amplifies the adverse effect of Myopia on *GI*, supporting Hypothesis 2a. Conversely, column (2) finds no significant effect of *Myopia* × *SER*. This may stem from the compliance costs of mandatory emission targets, which pressure short-sighted managers to cut long-term environmental spending to stabilize profits. Thus, regulatory costs may crowd out green innovation investments. Moreover, provincial pollution-control investments may not directly address enterprises' survival or profitability concerns, so managers may still avoid applying them to green R&D, which could explain why Hypothesis 2b is not supported.

4.4.2 Moderating effect of media attention

The media coverage results in Table 6 show that *Myopia* × *PM* in column (1) is not significant, while *Myopia* × *NM* in column

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TABLE 5 The moderating role of environmental regulation.

Variables	(1)	(2)
	GI	*GI*
Myopia	−0.741***	−0.707***
	(0.147)	(0.156)
MER	−0.110	
	(0.112)	
Myopia × *MER*	−1.311**	
	(0.623)	
SER		−0.448***
		(0.081)
Myopia × *SER*		−0.307
		(0.684)
Control variables	Yes	Yes
Industry and year FE	Yes	Yes
Constant	−0.631***	−0.607***
	(0.088)	(0.087)
N	29,109	29,109
R^2	0.224	0.227

Robust standard errors shown in parentheses are clustered at the firm level. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

TABLE 6 The moderating role of media coverage.

Variables	(1)	(2)
	GI	*GI*
Myopia	−0.842***	−0.844***
	(0.140)	(0.138)
PM	0.050	
	(0.037)	
Myopia × *PM*	0.963	
	(0.668)	
NM		0.061
		(0.039)
Myopia × *NM*		1.171*
		(0.696)
Control variables	Yes	Yes
Industry and year FE	Yes	Yes
Constant	−0.622***	−0.620***
	(0.088)	(0.088)
N	27,830	27,830
R^2	0.229	0.230

Robust standard errors shown in parentheses are clustered at the firm level. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

(2) showed a positive effect on *GI*, supporting Hypothesis 3b. This indicates negative media attention weakens Myopia's adverse effect, likely because the public reacts more strongly and persistently to negative news [51]. Consequently, negative media reports exert a stronger binding effect on short-sighted managers, prompting them to curb short-termism and adopt environmental strategies that enhance corporate image, thereby promoting green innovation.

5 Further analysis

5.1 The impact of moderating variables on various types of green innovation

5.1.1 The impact of environmental regulation on various types of green innovation

Table 7 demonstrates the moderating role of *ER* in the connection between *Myopia* and four types of *GI*. The results in columns (1) to (4) reveal that only *MER* significantly moderates the association between *Myopia* and independently conducted *GI*. Two possible explanations are as follows: first, independently conducted green patents require long-term, substantial investments to achieve successful outcomes, whereas joint R&D facilitates resource sharing, which helps disperse the risks. Second, firms engaged in joint R&D are subject to mutual supervision and constraints, limiting the ability of myopic management to cut green innovation spending due to the risk of collaboration breakdowns.

Columns (5) to (7) indicate that *MER* intensifies the negative relationship between *Myopia* and non-inventive *GI*. Non-inventive green patents typically require lower investments, shorter development cycles, and offer greater flexibility, making them easier targets for reduction under short-term compliance pressure. In contrast, inventive green patents involve higher technological thresholds and promise greater returns, helping firms meet stricter emission standards. Due to their investment inertia, firms find it harder to implement substantial cutbacks in the short term.

5.1.2 The impact of media attention on various types of green innovation

Table 8 presents the regression results on the moderating effects of media coverage on the four types of *GI*. The findings in columns (1) to (4) show that only negative media attention significantly alleviates the adverse impact of *Myopia* on independently obtained *GI*. This result can be attributed to the pressure exerted by negative

TABLE 7 Differences in the impact of environmental regulations on various types of green innovation.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	GI_indep	*GI_indep*	*GI_joint*	*GI_joint*	*GI_inv*	*GI_inv*	*GI_ninv*	*GI_ninv*
Myopia	−0.614***	−0.643***	−0.243***	−0.255***	−0.392***	−0.405***	−0.524***	−0.560***
	(0.151)	(0.142)	(0.073)	(0.069)	(0.130)	(0.120)	(0.134)	(0.127)
SER	−0.424***		−0.126***		−0.308***		−0.332***	
	(0.075)		(0.040)		(0.052)		(0.071)	
Myopia × *SER*	−0.182		−0.197		0.182		−0.647	
	(0.666)		(0.314)		(0.538)		(0.593)	
MER		−0.095		−0.126**		−0.148*		−0.078
		(0.104)		(0.063)		(0.077)		(0.098)
Myopia × *MER*		−1.384**		−0.380		−0.257		−1.547***
		(0.590)		(0.334)		(0.421)		(0.560)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	−0.562***	−0.585***	−0.210***	−0.220***	−0.332***	−0.350***	−0.568***	−0.586***
	(0.084)	(0.085)	(-0.033)	(0.033)	(0.053)	(0.054)	(0.069)	(0.070)
N	29,109	29,109	29,109	29,109	29,109	29,109	29,109	29,109
R^2	0.210	0.207	0.192	0.192	0.157	0.154	0.224	0.222

Robust standard errors shown in parentheses are clustered at the firm level. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

public scrutiny, which prompts management to respond more decisively. Joint R&D typically involves multiple partners, requiring the coordination of interests and allocation of responsibilities, which can be time-consuming and costly. In contrast, independent R&D allows firms full control over the development process, yielding more favorable short-term outcomes that address social concerns more effectively.

The results in columns (5) to (7) indicate that negative media coverage only mitigates the adverse impacts of *Myopia* on inventive *GI*. This finding suggests that developing inventive green patents not only demonstrates a firm's innovation strength but also signals a sincere commitment to environmental responsibility. Under negative public scrutiny, firms are pressured to respond with more credible and impactful measures. As a result, management may be more motivated to restrain shortsighted behavior and redirect R&D efforts toward inventive patents, which are more innovative and visible, in order to gain public recognition and restore reputation.

5.2 Heterogeneity analysis

5.2.1 Heterogeneity of enterprise property rights

The reform of state-owned firms (SOEs) is central to China's economic system reform [52], and national ownership can efficiently facilitate environmental responsibility [53]. Columns (1) and (2) in Table 9 present group regression results, showing that *Myopia* does not significantly hinder *GI* in SOEs, but has a strong negative effect in non-SOEs. This contrast may stem from SOEs' tighter policy oversight and greater public accountability, which help restrain managerial short-sightedness and support green innovation. Additionally, SOEs typically enjoy more stable financing and stronger fiscal backing, reducing short-term performance pressure and enabling sustained investment in green initiatives.

5.2.2 Heterogeneity of enterprise industry attributes

Columns (3) and (4) in Table 9 display the results for firms in heavily and non-heavily polluting industries, respectively. The results reveal that managerial myopia does not significantly hinder *GI* in heavily polluting industries, but has a pronounced negative effect in non-heavy polluting firms. Externally, heavy-polluting industries typically face stricter environmental regulations and societal scrutiny, compelling management to mitigate short-sighted behaviors and adhere to environmental standards, thereby fostering green innovation to avoid penalties and public backlash. Internally, to remain competitive, management in heavily-polluting sectors may be driven to reduce myopic decision-making and proactively

TABLE 8 Differences in the impact of media coverage on various types of green innovation.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	GI_indep	*GI_indep*	*GI_joint*	*GI_joint*	*GI_inv*	*GI_inv*	*GI_ninv*	*GI_ninv*
Myopia	−0.741***	−0.743***	−0.281***	−0.283***	−0.474***	−0.474***	−0.638***	−0.641***
	(0.133)	(0.129)	(0.733)	(0.073)	(0.105)	(0.100)	(0.122)	(0.120)
PM	0.053		0.016		0.050		0.043	
	(0.039)		(0.021)		(0.041)		(0.033)	
Myopia × *PM*	1.033		0.297		0.921		0.842	
	(0.690)		(0.384)		(0.761)		(0.581)	
NM		0.067*		0.010		0.075*		0.047
		(0.038)		(0.027)		(0.039)		(0.036)
Myopia × *NM*		1.296*		0.198		1.371**		0.927
		(0.688)		(0.495)		(0.700)		(0.641)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	−0.562***	−0.585***	−0.210***	−0.220***	−0.332***	−0.350***	−0.568***	−0.580***
	(0.084)	(0.084)	(0.034)	(0.035)	(0.056)	(0.056)	(0.069)	(0.069)
N	29,109	29,109	29,109	29,109	29,109	29,109	29,109	29,109
R^2	0.212	0.212	0.194	0.193	0.157	0.158	0.226	0.226

Robust standard errors shown in parentheses are clustered at the firm level. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

TABLE 9 Heterogeneity analysis of managerial myopia on green innovation.

Variables	State-owned or not		Heavily polluting or not	
	(1)	(2)	(3)	(4)
	GI	*GI*	*GI*	*GI*
Myopia	−0.280	−0.754***	−0.438	−0.805***
	(0.285)	(0.161)	(0.342)	(0.122)
Control variables	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes
Constant	−0.497**	−0.532***	−0.608***	−0.512***
	(0.205)	(0.091)	(0.188)	(0.088)
N	2,626	25,874	7,339	21,790
R^2	0.374	0.210	0.308	0.187

Robust standard errors shown in parentheses are clustered at the firm level. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

increase investment in green R&D to satisfy market demand for sustainable practices.

6 Research conclusions and implications

Drawing on a panel of Chinese listed firms from 2013 to 2022, this study provides empirical evidence on how managerial myopia shapes green innovation outcomes and the mechanisms through which these effects unfold. The study leads to the following conclusions:

First, managerial myopia can negatively impact green innovation. When corporate management prioritizes immediate interests and pursues short-term financial performance, it maximizes short-term resource allocation while reducing essential capital and investment in green innovation projects. This behavior ultimately undermines research and development efforts and diminishes innovative capabilities in green technology.

Second, command-type environmental regulation significantly exacerbates the negative association. High-intensity mandatory emission reduction policies can further encourage myopic behavior in management, as compliance cost pressures lead to reduced

investment in GI. The positive moderating role of MER is particularly significant in relation to independent and non-inventive green innovation. This finding indicates that even when management seeks to cut back on green innovation investment, they assess the associated risks and impact on green innovation quality, adjusting investments in areas that pose less risk to the firm's overall performance.

Third, negative media coverage can effectively mitigate the negative impact. Elevated levels of negative media scrutiny act as an external governance mechanism, prompting management to curb myopic tendencies and strengthen the firm's commitment to green innovation. The moderating effect of negative media attention is particularly significant in its influence on independent and inventive green innovation, underscoring that negative public opinion serves as a strong supervisory force that drives enterprises to pursue independent and high-quality green innovation.

Finally, the magnitude of the adverse effect of managerial myopia on green innovation is not uniform across firms but instead exhibits clear heterogeneity across ownership types and industry contexts. The negative influence is notably mitigated in SOEs, which are more strongly influenced by national policies, and in heavily polluting industries, where regulatory pressure from the Environmental Protection Bureau (EPA) and public scrutiny also helps reduce this negative correlation.

Drawing from the research findings, this paper offers the following insights:

To start, enterprises should bolster their internal control mechanisms to address management myopia. This can be done by implementing equity incentives and other strategies that harmonize management's interests with the corporate permanent strategies. Additionally, optimizing the performance appraisal system is crucial; it should shift focus from short-term financial metrics to include long-term strategic goals and innovation capabilities. Companies should also prioritize green innovation, promote the application of green technological advancements, and integrate sustainability into their corporate ethos.

Moreover, media scrutiny can be more effective than mandatory government regulations. From the authorities' perspective, enhancing environmental reservation involves clearly defining enterprise responsibilities and setting feasible emission reduction targets to avoid compromising innovation quality. On the media side, proactive reporting on green development initiatives and highlighting successful corporate green practices can shape public perception and foster greater recognition. Additionally, media outlets should strengthen their oversight functions by reporting on management practices that obstruct green innovation.

Promoting cooperative green innovation is also recommended. Given that management myopia does not greatly hinder green innovation in collaborative R&D, establishing diverse cooperative frameworks to facilitate knowledge and technology sharing is advisable. Such partnerships can help enterprises navigate technological obstacles and market risks, accelerating the advancement of green innovations.

Ensuring the quality of GI is equally important. Findings indicate that inventive green innovation results in higher marginal benefits. Therefore, governments should support high-quality green innovations by offering increased subsidies or incentives for securing inventive green patents, reflecting their broader societal value. Additionally, favorable tax policies for businesses holding such patents can help reduce innovation costs and promote sustained investment in green technologies.

Finally, this study delivers both theoretical and practical contributions. By adopting a managerial perspective, it clarifies the previously inconsistent relationship between myopia and green innovation. Practically, an overemphasis on short-term profits by management can jeopardize long-term sustainability and reduce competitiveness. This paper underscores how management myopia affects corporate green innovation and calls for stronger internal controls to ensure rational decision-making. Additionally, by investigating the moderating roles of both environmental regulations and media coverage, the paper offers valuable insights for governments and social stakeholders, highlighting the collective efforts needed to meet sustainable development goals.

Despite these contributions, several limitations should be acknowledged. First, the study relies exclusively on secondary data from publicly listed Chinese firms, which may limit the depth of behavioral insights and introduce measurement errors. Second, the sample is confined to a specific institutional and cultural context, potentially constraining the generalizability of the findings to firms in other countries or different types of organizations. Third, while the study examines key moderators such as environmental regulations and media coverage, other contextual or organizational factors—such as corporate governance structures or managerial incentives—may also influence the relationship between managerial myopia and green innovation but are not fully explored here. Future research could employ experimental or longitudinal designs to further validate the mechanisms identified.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding author.

Author contributions

RW: Data curation, Methodology, Writing – original draft. XZ: Methodology, Resources, Writing – original draft. LL: Funding acquisition, Methodology, Supervision, Validation, Writing – original draft. XM: Formal Analysis, Project administration, Resources, Writing – original draft. SM: Investigation, Methodology, Writing – original draft.

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Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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References

1. Chen THY, Fariss CJ, Shin H, Xu X. Disaster experience mitigates the partisan divide on climate change: evidence from Texas. *Glob Environ Change* (2024) 89:102918. doi:10.1016/j.gloenvcha.2024.102918

2. Li L, Yue C, Ma S, Ma X, Gao F, Zheng Y. Life cycle assessment of car energy transformation: evidence from China. *Ann Operations Res* (2023) 355:19–38. doi:10.1007/s10479-023-05736-1

3. Tang M, Walsh G, Lerner D, Fitza MA, Li Q. Green innovation, managerial concern and firm performance: an empirical study. *Business Strategy Environ* (2018) 27(1):39–51. doi:10.1002/bse.1981

4. Ma S, Li L, Zuo J, Gao F, Ma X, Shen X. Regional integration policies and urban green innovation: fresh evidence from urban agglomeration expansion. *J Environ Manage* (2024) 354:120485. doi:10.1016/j.jenvman.2024.120485

5. Li L, Zhen X, Ma X, Ma S, Zuo J, Goodsite M. From green to adaptation: how does a green business environment shape urban climate resilience?. *Sys* (2025) 13(8):660. doi:10.3390/systems13080660

6. Hambrick DC, Mason PA. Upper echelons: the organization as a reflection of its top managers. *Acad Management Review* (1984) 9(2):193–206. doi:10.2307/258434

7. Mosakowski E, Earley PC. A selective review of time assumptions in strategy research. *Acad Management Review* (2000) 25(4):796–812. doi:10.2307/259207

8. Sheng X, Guo S, Chang X. Managerial myopia and firm productivity: evidence from China. *Finance Res Lett* (2022) 49:103083. doi:10.1016/j.frl.2022.103083

9. Liu H, Zhang Z. The impact of managerial myopia on environmental, social and governance (ESG) engagement: evidence from Chinese firms. *Energy Econ* (2023) 122:106705. doi:10.1016/j.eneco.2023.106705

10. Ding H, Jiang F, Zhang S, Zhang Z. Managerial myopia and corporate social responsibility: evidence from the textual analysis of Chinese earnings communication conferences. *J Behav Exp Finance* (2024) 41:100886. doi:10.1016/j.jbef.2024.100886

11. Guo Y, Chen Y, Usai A, Wu L, Qin W. Knowledge integration for resilience among multinational SMEs amid the COVID-19: from the view of global digital platforms. *J Knowledge Manag* (2023) 27(1):84–104. doi:10.1108/jkm-02-2022-0138

12. Klein PG, Wuebker R. Corporate diversification and innovation: managerial myopia or inefficient internal capital markets? *Managerial Decis Econ* (2020) 41(8):1403–16. doi:10.1002/mde.3191

13. Zhang X, Jiang F, Liu H, Liu R. Green finance, managerial myopia and corporate green innovation: evidence from Chinese manufacturing listed companies. *Finance Res Lett* (2023) 58:104383. doi:10.1016/j.frl.2023.104383

14. Yu H, Peng F, Yuan T, Li D, Shi D. The effect of low-carbon pilot policy on low-carbon technological innovation in China: reexamining the porter hypothesis using difference-in-difference-in-differences strategy. *J Innovation & Knowledge* (2023) 8(3):100392. doi:10.1016/j.jik.2023.100392

15. Liu L, Ge M, Ding Z. Impacts of online media and investor attention on enterprise green innovation. *Int Rev Econ & Finance* (2024) 96:103569. doi:10.1016/j.iref.2024.103569

16. Sewchurran K, Dekker J, McDonogh J. Experiences of embedding long-term thinking in an environment of short-termism and sub-par business performance: investing in intangibles for sustainable growth. *J Business Ethics* (2019) 157:997–1041. doi:10.1007/s10551-018-3959-2

17. Alessandri TM, Mammen J, Eddleston K. Managerial incentives, myopic loss aversion, and firm risk: a comparison of family and non-family firms. *J Business Res* (2018) 91:19–27. doi:10.1016/j.jbusres.2018.05.030

18. Keum DD. Innovation, short-termism, and the cost of strong corporate governance. *Strateg Manag J* (2021) 42(1):3–29. doi:10.1002/smj.3216

19. Hu M, Jiang S, Song D, Han Q. The influence of short-term managerial myopia on supply chain concentration: the moderating role of long-term incentives for the supervisory board. *Transportation Res E:* (2024) 188:103610. doi:10.1016/j.tre.2024.103610

20. Vasileiou E, Georgantzis N, Attanasi G, Llerena P. Green innovation and financial performance: a study on Italian firms. *Res Policy* (2022) 51(6):104530. doi:10.1016/j.respol.2022.104530

21. Li L, Ma S, Zheng Y, Ma X, Duan K. Do regional integration policies matter? Evidence from a quasi-natural experiment on heterogeneous green innovation. *Energy Econ* (2022) 116:106426. doi:10.1016/j.eneco.2022.106426

22. Chen Y, Yuan R, Guo X, Ni T. Do foreign acquisitions improve target firms' green innovation performance? *Int Rev Econ & Finance* (2024) 95:103458. doi:10.1016/j.iref.2024.103458

23. Zhai Y, Cai Z, Lin H, Yuan M, Mao Y, Yu M. Does better environmental, social, and governance induce better corporate green innovation: the mediating role of financing constraints. *Corporate Social Responsibility Environ Manag* (2022) 29(5):1513–26. doi:10.1002/csr.2288

24. Makpotche M, Bouslah K, M'Zali B. Corporate governance and green innovation: international evidence. *Rev Account Finance* (2024) 23(2):280–309. doi:10.1108/raf-04-2023-0137

25. Yang C, Zhu C, Albitar K. ESG ratings and green innovation: au-shaped journey towards sustainable development. *Business Strategy Environ* (2024) 33:4108–29. doi:10.1002/bse.3692

26. Xu J, Zhang H, Wu W. One novel mixed ownership reform and green innovation in private firms: evidence from China. *Emerging Markets Rev* (2023) 57:101076. doi:10.1016/j.ememar.2023.101076

27. Bouchmel I, Ftiti Z, Louhich W, Omri A. Financing sources, green investment, and environmental performance: cross-country evidence. *J Environ Manage* (2024) 353:120230. doi:10.1016/j.jenvman.2024.120230

28. Aghamolla C, Hashimoto T. Managerial myopia, earnings guidance, and investment. *Contemp Account Res* (2023) 40(1):166–95. doi:10.1111/1911-3846.12820

29. Tong JY, Zhang FF. Do capital markets punish managerial myopia? Evidence from myopic research and development cuts. *J Financial Quantitative Anal* (2024) 59(2):596–625. doi:10.1017/s0022109023001205

30. Yu Y, Xie B, Dou Z, Fu Q. Managerial myopia and corporate innovation strategy. *Finance Res Lett* (2024) 67:105733. doi:10.1016/j.frl.2024.105733

31. Wang A, Si L, Hu S. Can the penalty mechanism of mandatory environmental regulations promote green innovation? Evidence from China's enterprise data. *Energy Econ* (2023) 125:106856. doi:10.1016/j.eneco.2023.106856

32. Xie R, Yuan Y, Huang J. Different types of environmental regulations and heterogeneous influence on "green" productivity: evidence from China. *Ecol Economics* (2017) 132:104–12. doi:10.1016/j.ecolecon.2016.10.019

33. Li X, Wang L, Du K. How do environmental regulations influence resource misallocation in China? The role of investment flows. *Business Strategy Environ* (2023) 32(1):538–50. doi:10.1002/bse.3159

34. Tariq A, Badir YF, Tariq W, Bhutta US. Drivers and consequences of green product and process innovation: a systematic review, conceptual framework, and future outlook. *Tech Soc* (2017) 51:8–23. doi:10.1016/j.techsoc.2017.06.002

35. Liu Y, Luo N, Wu S. Nonlinear effects of environmental regulation on environmental pollution. *Discret Dyn Nat Soc* (2019) 2019(1):6065396. doi:10.1155/2019/6065396

36. Li L, Ma X, Ma S, Gao F. Role of green finance in regional heterogeneous green innovation: evidence from China. *Humanities Social Sci Commun* (2024) 11(1):1011. doi:10.1057/s41599-024-03517-0

37. Li C, Liu X, Hou Z, Li Y. Retail investor attention and equity mispricing: the mediating role of earnings management. *Finance Res Lett* (2023) 53:103621. doi:10.1016/j.frl.2022.103621

38. Chen J, Liu L. When does social media promote firm innovation? The moderating role of strategic flexibility. *R&D Manag* (2024) 55:240–60. doi:10.1111/radm.12699

39. Gao J, Wu H, You J, Smith M. Green media coverage and corporate green innovation. *J Business Finance & Account* (2024) 52:48–90. doi:10.1111/jbfa.12802

40. Sun J, Hou S, Deng Y, Li H. New media environment, green technological innovation and corporate productivity: evidence from listed companies in China. *Energy Econ* (2024) 131:107395. doi:10.1016/j.eneco.2024.107395

41. Chen Z, Jin J, Li M. Does media coverage influence firm green innovation? The moderating role of regional environment. *Tech Soc* (2022) 70:102006. doi:10.1016/j.techsoc.2022.102006

42. Ajina AS. The perceived value of social media marketing: an empirical study of online word-of-mouth in Saudi Arabian context. *Entrepreneurship and Sustainability Issues* (2019) 6(3):1512–27. doi:10.9770/jesi.2019.6.3(32)

43. Shareef MA, Mukerji B, Dwivedi YK, Rana NP, Islam R. Social media marketing: comparative effect of advertisement sources. *J Retailing Consumer Serv* (2019) 46:58–69. doi:10.1016/j.jretconser.2017.11.001

44. Liang L, Li Y. How does organizational resilience promote firm growth? The mediating role of strategic change and managerial myopia. *J Business Res* (2024) 177:114636. doi:10.1016/j.jbusres.2024.114636

45. Lin C, Cui G, Sun Y. Labor allocation: how environmental regulation promotes industrial structure. *Managerial Decis Econ* (2023) 44(4):1995–2003. doi:10.1002/mde.3795

46. Chai S, Zhang Z, Ge J. Evolution of environmental policy for China's rare earths: comparing central and local government policies. *Resour Policy* (2020) 68:101786. doi:10.1016/j.resourpol.2020.101786

47. Zhang X, Zhao Q, Li W, Wang Y. Top management teams' foreign experience, environmental regulation, and firms' green innovation. *Business Ethics Environ & Responsibility* (2023) 32(2):819–35. doi:10.1111/beer.12526

48. Deng L, Jiang P, Li P, Zhu W. Media coverage and bond covenants: evidence from China. *Br J Manag* (2023) 35:1798–821. doi:10.1111/1467-8551.12790

49. Lai S, Li Z, Yang YG. East, west, home's best: do local CEOs behave less myopically? *The Account Rev* (2020) 95(2):227–55. doi:10.2308/accr-52555

50. Hu N, Xue F, Wang H. Does managerial myopia affect long-term investment? Based on text analysis and machine learning. *Manag World* (2021) 37(5):139–56. doi:10.3969/j.issn.1002-5502.2021.05.012

51. Baumeister RF, Bratslavsky E, Finkenauer C, Vohs KD. Bad is stronger than good. *Rev Gen Psychol* (2001) 5(4):323–70. doi:10.1037//1089-2680.5.4.323

52. Zhang R, Lin Y, Zhang W, Du J. Mixed ownership reform of state-owned enterprises and executive compensation stickiness: evidence from China. *Int Rev Econ & Finance* (2024) 95:103432. doi:10.1016/j.iref.2024.103432

53. Wang Z, Yu X, Zhang W. Chinese-style carbon emission reduction: micro mechanisms of state-owned enterprises. *Int Rev Econ & Finance* (2024) 96:103527. doi:10.1016/j.iref.2024.103527