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Original Research

The Impacts and Channels of Executive Career Concerns on Green Transformation

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Abstract:

Improving environmental quality and accelerating the transition to sustainable development are essential social responsibilities for enterprises. As crucial players in strategic planning, executive career concerns have a direct impact on the enterprise's environmental strategy. We analyze the impacts and channels of executive career concerns on green transformation, using data from listed companies between 2008 and 2022. The study suggests that executive career concerns can impede corporate green transformation. Additionally, the study found that as executive career concerns increase, absorbed slack resources of the company do the same, which in turn inhibits green transformation. Furthermore, the inhibiting effect of executive career concerns on corporate green transformation is lower in companies with a higher proportion of female executives and lower internal performance pressure. This research holds great importance for corporate green transformation and enhancing internal oversight.

Keywords: executive career concerns, green transformation, absorbed slack resources, internal performance pressure

Introduction

The report of the 20th National Congress of the Communist Party of China emphasized promoting harmonious development between humans and nature. Although China has made some achievements in environmental governance, as one of the major coal-producing and coal-consuming countries in the world, it still faces the difficult problem of how to promote coordinated development of economic growth and environmental protection. Strongly supporting green technological innovation and accelerating the green transformation will be an inevitable choice. As the main body of industrial production, enterprises' production, operation, and investment activities have become a hot topic for market attention due to their impact on the ecological environment. Enterprises should proactively engage in increasing environmental investment, apply new energy-saving and environmentally-friendly technologies, and accelerate green transformation. Currently, research on the influencing factors of green transformation is gradually becoming a subject of theoretical and practical significance.

Scholars have investigated the various factors surrounding green transformation. From the perspective of the government, research has mainly focused on fiscal support and environmental regulation. Fiscal support involves the government subsidizing the environmental investments of corporations through techniques such as grants and tax incentives [1-2]. The government's implementation of various environmental regulations, including environmental taxes, emissions trading systems, mandatory social responsibility disclosure, and the setting of emission standards for pollutants, is leading them to adopt environmental policies and pursue green transformation

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[3]. Secondly, from the perspective of technological innovation, research shows that digital transformation facilitates the development of platforms such as digital exhaust monitoring and early warning systems [4]. This is alongside effective solutions for green product design and manufacturing processes [5], resulting in reduced carbon emissions. However, further research indicates that the implementation of digitalization within businesses escalates energy consumption and resource usage during the production process, thereby proving unfavorable for ecological advancement [6]. Some scholars studied from the perspective of corporate financing constraints and believed that companies in this position may invest more funds in tangible assets that can be used as collateral to obtain loans. This may potentially hinder green transformation, highlighting a negative spillover effect [7].

While prior research has examined various driving forces of the green transformation of enterprises from a variety of perspectives, both internal and external resources ultimately require decision-making by enterprise managers [8]. Executives, in particular, typically have an important influence on the strategic decision-making of modern companies. CEOs, who are the primary decision-makers for enterprise strategies, have a direct influence on the formation and execution of such strategies based on their cognitive characteristics, as per the Upper Echelon Theory [9]. As a long-term corporate strategy, the green transformation encompasses intricate undertakings like product creation, technological advancement, and machinery upgrading [10]. In addition, it demands continuous and steadfast financial investment [11]. Hence, capable managers are crucial for the environmental performance of enterprises.

In reality, the evaluation of managerial abilities in the market mainly centers on short term performance indicators, notably financial performance. Career concerns about job security and reputation mean that managers tend to overlook long-term environmental strategies, which have long investment cycles, uncertain returns, and can even reduce short-term performance. Based on this, the article investigates how executive career concerns affect corporate green transformation by utilizing A-share listed companies from 2008 to 2022 as a research sample. The paper explores the impact mechanism of executive career concerns on company green transformation. The marginal contribution is twofold: firstly, it presents empirical evidence concerning the impact of executive career concerns on corporate green transformation. The study reveals that executive career concerns decrease corporate environmental investment and hinder corporate green transformation. Secondly, the article empirically tests the mechanism of executive career concerns affecting green transformation by increasing absorbed slack resources, thus enhancing the impact mechanism of corporate green transformation.

Theoretical Basis and Research Hypotheses

Investment in green transformation, such as purchasing the green innovation technology, the green product design, and the pollution prevention equipment, usually requires large and long-term capital investment [11]. The return period of environmental investment is long, and the return is hard to realize in the short-term [12]. Therefore, as there is often a time gap between the incoming revenue and the costs associated with environmental investments, it typically has an adverse effect on companies' short-term performance.

The evaluation criteria for executives predominantly concentrate on short-term performance indicators, such as financial performance. Managers are vulnerable to personal reputation damage if the company's performance spirals downward. Despite the advantages of environmental investment in elevating the long-term value of corporations and enhancing social responsibility reputation, managers must commit the necessary resources and effort. If executives allocate resources towards enhancing their environmental performance, it may limit their ability to fully maximize investments towards improving their company's financial performance. Cho & Lee argue that effective managers would be less inclined to prioritize environmental responsibilities, as investing in environmental governance has a minimal effect on social performance [13]. Graham et al. discovered that over 75% of CFOs would trade long-term company value to maintain their position and reputation [14].

Therefore, managers may be induced to engage in short-sighted behavior due to short-term performance pressure, job security, market reputation, and other factors [15]. This can result in a reduced investment in environmental resources by enterprises and a preference for sacrificing valuable technological innovation projects. Managers with high career concerns may prefer short-term performance to long-term value-creation projects [16]. Additionally, the process of corporate green transformation is intricate and characterized by high levels of information asymmetry, making it challenging for investors to accurately estimate long-term value. Hence, when financial limitations are present, environment-conscious management personnel will forego environmental investment. Some scholars have studied and confirmed that reasonable salary incentives can strengthen executives' environmental investment and motivate them to adopt beneficial environmental approaches [17].

However, the Chinese capital market appears to be insensitive to environmentally-oriented practices. Their reaction to violations of environmental law is considerably smaller than that expressed by more established capital markets [18]. Additionally, the stock market does not display any substantial positive impact in response to environmental honors [19]. If managers do not receive appropriate compensation for the risks of environmental investment, individuals with career concerns may prioritize short-term interests. However, such strategies may not be able to address pollution problems in a sustainable manner [20]. Hence, a concrete divergence between the long-term nature of environmental investment and the short-term performance requirements establishes

the adverse effects of executive career concerns on the green transformation of companies.

According to the aforementioned analysis, this article posits an untested hypothesis: executive career concerns have a negative impact on green transformation of companies.

Research Design

Sample Selection and Data Source

The paper analyzes companies listed on the Shanghai and Shenzhen stock exchanges from 2008 to 2022, excluding financial institutions, ST or ST companies, and those with missing values. The study obtained 1833 observations from the China Stock Market & Accounting Research (CSMAR), with Stata 15.0 software employed for data processing and regression analysis. To prevent extreme outliers from affecting the regression results, this article has winsorized all continuous variables by setting the 1% and 99% quantiles as the cut-off points for extreme values.

Variable Definition

(1) Dependent Variable: Green Transformation (EI). The core objective of corporate green transformation is to modify the prevailing production and development model, with environmental investment playing a critical role in this process. The primary components of enterprise environmental investment schemes are emission levies, expenses associated with maintaining environmental protection facilities, and inputs for environmental management. This article chooses the logarithm of environmental investment in the CSMAR database as a proxy for corporate green transformation.

(2) Independent Variable: Executive Career Concerns (Concern). The market generally evaluates managers' abilities using short-term performance indicators. If there is significant volatility or a decline in the company's performance, managers may face demotion or dismissal, leading them to concentrate excessively on short-term performance, resulting in worries about their careers. Li et al. showed that a high stock turnover rate indicates a large number of short-term traders, and the frequent trading activities of these short-term traders can raise executives' career concerns [21]. Drawing on Li et al.'s methodology, this article employs the excess turnover rate as a proxy variable for executive career concerns. The excess turnover rate is determined by subtracting the industry's average annual turnover rate from the company's mean stock daily turnover rate. The stock's turnover rate increases as the excess turnover rate increases compared to other companies in the industry. This, in turn, intensifies performance pressure on managers and elevates their level of career concerns.

(3) Control Variables: The study also takes into account the influence of financial and governance factors on the company. The primary variables consist of company property rights (State), company growth (Growth), company asset-liability ratio (Lev), company years of listing (Age), company cash flow (Cash), shareholder balance (SharesBalance), proportion of male managers (CeoMan), and whether the chairman and CEO are the same person (Dual). The analysis additionally controls for industry and year. Table 1 provides variables' definitions and explanations.

Model Building

This article uses model (1) to study and test the hypothesis:

$$EI = a_0 + a_1 Concern + a_i Control + \varepsilon_{1i} \quad (1)$$

Table 1. Variable Descriptions

Symbol	Variable	Meaning	Description
Dependent Variable	EI	green transformation	The logarithm of environmental investment in CSMAR database
Independent Variable	Concern	executive career concerns	The excess turnover rate, which is calculated by subtracting the industry's average annual turnover rate from the annual mean of the company's stock daily turnover rate
Control Variables	Growth	company growth	The ratio of the company's market value to its total assets at the end of the year
	Lev	company asset-liability ratio	The ratio of total liabilities to total assets at the end of the year
	Cash	company cash flow	Net cash flow from operating activities/beginning total assets
	Age	company years of listing	The years since the company's listing
	State	company property rights	The value is 1 for state-owned enterprises and 0 otherwise
	SharesBalance	shareholder balance	The ratio of the shares held by the second to fifth largest shareholders to the shares held by the largest shareholder
	Dual	whether the CEO and chairman are the same people	The value is 1 if the chairman and CEO are the same person, and 0 otherwise
	CeoMan	management male proportion	The proportion of male executives

Among them, EI is the proxy variable for the dependent variable of enterprise green transformation, and Concern is the proxy variable for the independent variable of executive career concerns. A negative and statistically significant regression coefficient (a1) indicates that executive career concerns have a negative impact on enterprise green transformation. Hence, supporting the hypothesis.

Empirical Analysis

Descriptive Analysis

Table 2 presents the descriptive statistics of the variable, including sample size, maximum and minimum values, median, average, and standard deviation of each variable. The study measures the extent of corporate green transformation, indicating that there are substantial differences in the degree of green transformation among different companies. The maximum value recorded was 13.198, the minimum value was 1.267, and the mean value was 7.616. The proxy variable for executives' career concerns is the company's excess turnover rate, with a minimum value of -2.517, a median value of -0.625, and a maximum value of 4.135. These figures indicate that the company's stock turnover rate in China daily is lower than the industry average.

Benchmark Regression Analysis

Due to the practical contradiction between the long-term nature of environmental investment and the short-term performance requirements, it is hypothesized that executive career concerns may have a negative impact on corporate green transformation. Table 3 presents the regression results of the hypothesis. The first column (1) represents the regression output of Model (1) devoid of additional control variables, and the regression analysis indicates that executive career concerns negatively impact enterprise green transformation, and the regression coefficients are significant at the 1% level. The second column (2) represents the regression results of Model (1) after controlling for factors such as corporate finance and governance. The regression analysis is also significant at the 1% level. It indicates that the higher the level of executive career concerns, the more funds will be invested in short-term performance, while investment in the environment will decrease. This means that executive career concerns have a negative impact on the green transformation of companies, thus confirming the hypothesis. In addition, the second column (2) of Table 3 shows that factors such as corporate growth, company asset-liability ratio, company cash flow, and manager gender significantly affect corporate green transformation.

Endogeneity Testing

To address the endogeneity issues resulting from the mutual causality between executive career concerns and corporate green transformation (as well as other omitted variables), this section uses the average age of the executives as an instrumental variable to test for endogeneity. The use of the average age of executives as an instrumental variable is valid for two reasons. Firstly, there is a correlation between executive career concerns and the average age of executives [22-23]. The Cragg-Donald Wald F-statistic test result for the instrumental variable is higher than the critical values for the 10% bias threshold. It means the instrumental variable is not a weak instrumental variable. Secondly, the average executive age does not have a causal relationship with the interference term or the dependent variable, fulfilling the exogeneity condition. Table 4 presents the IV-2SLS regression outcomes, further demonstrating that executive career concerns negatively affect corporate green transformation. Thus, the research findings are strong.

Table 2. Descriptive Analysis

Variables	N	Mean	SD	Min	P50	Max
EI	1833	7.616	2.313	1.267	7.676	13.198
Concern	1833	-0.386	1.284	-2.517	-0.625	4.135
Absor	1833	0.063	0.044	0.007	0.052	0.248
CEOAge	1833	3.931	0.056	3.795	3.932	4.063
CeoMan	1833	82.721	10.676	50	84	100
EP	1598	0.548	0.498	0	1	1
Growth	1833	1.764	1.061	0.810	1.405	7.079
Lev	1833	0.470	0.186	0.075	0.478	0.879
Cash	1833	0.070	0.074	-0.148	0.065	0.322
Age	1833	13.450	7.682	2	13	29
State	1833	0.517	0.500	0	1	1
SharesBalance	1833	0.637	0.541	0.031	0.480	2.698
Dual	1833	0.217	0.412	0	0	1

Table 3. Benchmark Regression Results

Variables	(1)	(2)
	EI	EI
Concern	-0.308***	-0.260***
	(0.035)	(0.033)
Growth		-0.366***
		(0.046)
Lev		2.322***
		(0.270)
Cash		5.224***
		(0.597)
Age		0.011
		(0.007)
State		0.142
		(0.115)
SharesBalance		-0.034
		(0.081)
Dual		0.070
		(0.107)
Ceoman		0.011**
		(0.005)
Constant	3.684***	1.164
	(1.142)	(1.147)
Observations	1,833	1,833
Adj R-squared	0.357	0.439
Ind	YES	YES
Year	YES	YES

Note: Standard error in brackets; ***, **, * are significant at the levels of 1%, 5%, and 10% respectively.

Table 4. Endogeneity Test

Variables	(1)	(2)
	EI	EI
Concern	-1.578***	-1.228***
	(0.285)	(0.308)
Growth		-0.306***
		(0.058)
Lev		2.560***
		(0.330)
Cash		3.559***
		(0.884)
Age		0.011
		(0.008)
State		-0.061
		(0.151)
SharesBalance		-0.056
		(0.096)
Dual		0.002
		(0.130)
Ceoman		0.001
		(0.006)
Constant	4.826***	3.135**
	(1.498)	(1.501)
Observations	1,833	1,833
R-squared	-0.076	0.204
Ind	YES	YES
Year	YES	YES

Note: Standard error in brackets; ***, **, * are significant at the levels of 1%, 5%, and 10% respectively.

Robustness Test

To increase the robustness of the research results, this section re-examines model (1) by replacing the explanatory variable, controlling for province, and reducing the sample.

(1) Replacing the explanatory variable. The proxy variable for executive career concern (Concern) in the regression is the excess turnover rate of only circulating shares. In column (1) of table 5, the excess turnover rate under total shares is used as the proxy variable for executive career concerns (Concern2). Column (1) also displays that executive career concerns reduce the level of green transformation in enterprises, supporting the hypothesis. Column (2) presents the regression results, where the proxy variable for executive career concerns used in the regression is discretized. If the annual average daily turnover rate of a company's shares minus the annual average turnover rate of the industry exceeds zero, the value is 1, otherwise it is 0 and is denoted as Concern3. Column (2) of Table 5 shows that executive career concerns have a negative impact on firms' green transformations, indicating that the research findings are robust.

(2) Provincial control. The province in which a company is located has different external environments for green investment and has different market competition levels [24], resulting in different impacts of executive career concerns on enterprises' green transformation. Specifically, regions with higher degrees of marketization have higher levels of information technology and intellectual property protection, as well as relatively sound institutional environments, which make firms more willing to engage in green innovation and transformation [25]. Second, regions with higher levels of marketization have more effective corporate governance, which allows markets and investors to quickly detect short-sighted managerial behavior for private gain [26]. In addition, regions with higher levels of marketization have higher managerial tolerance, which may mitigate managers' concerns about avoiding environmental investment uncertainty in the pursuit of short-term performance improvement. Column (3) of Table 5 refers to adding provincial control variables, and these still show that executive career concerns negatively affect corporate green transformation, indicating robust research findings.

Table 5. Robustness Test

Variables	(1)	(2)	(3)	(4)
	EI	EI	EI	EI
Concern			-0.181***	-0.231***
			(0.044)	(0.036)
Concern2	-0.328***			
	(0.041)			
Concern3		-0.600***		
		(0.093)		
Growth	-0.327***	-0.368***	-0.381***	-0.347***
	(0.047)	(0.047)	(0.059)	(0.050)
Lev	2.442***	2.311***	2.594***	2.543***
	(0.270)	(0.271)	(0.338)	(0.301)
Cash	5.056***	5.376***	5.693***	5.127***
	(0.599)	(0.599)	(0.726)	(0.646)
Age	0.017**	0.010	0.004	0.011
	(0.007)	(0.007)	(0.010)	(0.007)
State	0.167	0.146	0.269*	0.189
	(0.115)	(0.116)	(0.149)	(0.122)
SharesBalance	-0.037	-0.036	-0.064	-0.036
	(0.080)	(0.081)	(0.100)	(0.085)
Dual	0.052	0.074	0.026	0.099
	(0.107)	(0.108)	(0.136)	(0.115)
Ceoman	0.012***	0.012***	0.001	0.011**
	(0.005)	(0.005)	(0.006)	(0.005)
Constant	0.833	1.129	0.919	1.238
	(1.144)	(1.154)	(1.768)	(1.284)
Observations	1,833	1,833	1,158	1,627
Adj R-squared	0.440	0.433	0.464	0.431
Ind	YES	YES	YES	YES
Year	YES	YES	YES	YES
Province			YES	

Note: Standard error in brackets; ***, **, * are significant at the levels of 1%, 5%, and 10% respectively.

(3) Sample reduction. As listed companies with negative net assets and net profits can increase the probability of extreme values in the sample, in order to further obtain stable and reliable sample data, this section continues to track regression by excluding listed companies with negative net assets and net profits from the original sample. The test result is shown in column (4) of Table 5, which also holds the original hypothesis.

Further Analysis

Testing the Mechanism of Absorbed Slack Resources

Slack resources refer to excess, unused resources that are surplus to the company's production and business needs and can be used directly or indirectly in the future [27]. Slack resources can be classified into absorbed and unabsorbed resources based on their degree of flexibility. Absorbed slack resources are idle resources closely tied to a company's core business processes and specific applications, with weak transformation capabilities and difficulty adapting to rapid market changes. Unabsorbed slack resources are resources that are not limited to specific technological fields and are not constrained by operation management or service innovation. These resources possess high flexibility and can swiftly adjust and configure themselves in response to market competition and technological advancements [28].

Organizational theory reveals that slack resources can buffer external environmental pressures on a company [29], allowing it to satisfy competitive needs by accessing these resources when faced with difficulties or competition [30]. Therefore, managers who are concerned about their career performance may increase slack resources to mitigate

Table 6. The Intermediary Mechanism Test

Variables	(1)	(2)
	Absor	EI
Absor		-7.472***
		(1.189)
Concern	0.003***	-0.241***
	(0.001)	(0.033)
Growth	0.004***	-0.334***
	(0.001)	(0.046)
Lev	-0.048***	1.965***
	(0.005)	(0.273)
Cash	-0.123***	4.304***
	(0.012)	(0.608)
Age	0.000	0.012*
	(0.000)	(0.007)
State	-0.005**	0.107
	(0.002)	(0.114)
SharesBalance	0.001	-0.024
	(0.002)	(0.080)
Dual	0.002	0.082
	(0.002)	(0.106)
Ceoman	-0.000	0.010**
	(0.000)	(0.004)
Constant	0.137***	2.185*
	(0.023)	(1.146)
Observations	1,833	1,833
Adj R-squared	0.387	0.452
Ind	YES	YES
Year	YES	YES

Note: Standard error in brackets; ***, **, * are significant at the level of 1%, 5% and 10% respectively.

Table 7. The Intermediary Mechanism Test

	(1)	(2)	(3)
	ACME	ATE	Proportion of Intermediary Mechanism
Estimated Value	-0.019	-0.262	0.073
Confidence Interval	[-0.031, -0.008]	[-0.330,-0.199]	[0.058, 0.096]

Note: Confidence intervals correspond to a 95% level of confidence and were obtained based on quasi-Bayesian Monte Carlo approximation methods.

uncertain external environments' impact [31]. However, an increase in slack resources can also elevate a company's operating costs [32], resulting in wastage of resources and a decline in expenditure for green innovation. Moreover, managers may exploit the slack resources, intensifying agency issues within the company and causing adverse effects on green innovation [33]. Therefore, this study suggests that executive career concerns will increase slack resources in the company, which will then have a negative impact on the company's green transformation. Due to the limitations in the conversion and utilization of absorbed slack resources, which can easily have a negative impact on enterprises, this article mainly explores the impact of absorbed slack resources. To measure absorbed slack resources, the ratio of management expenses to sales revenue proposed by Sharfman et al. is employed [28].

To examine if executive career concerns inhibit green transformation by increasing absorbed slack resources, we use the causal mediation analysis method proposed by Imai et al. [34]. The causal mediation method establishes the causal mechanism by which a mediating variable influences the outcome variable via a potential outcome framework and a broader counterfactual framework. This approach tackles the endogeneity issue of conventional mediation analysis that might occur in mutually causal connections. By simulating the distribution of model parameters for models (2) and (3) and calculating the potential value sequences of the mediating variable (Absor) and the outcome variable (EI).

$$Absor = a_0 + a_1 Concern + a_i Control + \varepsilon_{2i} \quad (2)$$

$$EI = b_0 + b_1 Concern + b_2 Absor + b_i Control + \varepsilon_{3i} \quad (3)$$

Based on the approach of Imai et al. [34], the average causal mediation effect (ACME) of absorbed slack resources (Absor) and the average treatment effect (ATE) of executive career concern on corporate green transformation are defined as models (4) and (5), respectively.

$$ACME = E[EI_i(Concern, Absor_i(1)) - EI_i(Concern, Absor_i(0))] \quad (4)$$

$$ATE = E[EI_i(1, Absor_i(1)) - EI_i(0, Absor_i(0))] \quad (5)$$

Table 6 presents the outcomes of simulations of models (2) and (3) using the sampling distribution of the model parameters. Meanwhile, Table 7 demonstrates the findings of causal mediation analysis. The results of Table 6 (1) and (2) illustrate that executive career concerns heighten absorbed slack resources in enterprises and that the growth of absorbed slack resources leads to diminished environmental investment, ultimately stalling green transformation. Taking into account the results of the causal mediation analysis in Table 7, it can be concluded that the average causal mediating effect (ACME) of absorbed slack resources (Absor) is -0.019. This indicates that absorbed slack resources account for 7.3% of the mediating effect. The confidence interval of the fitted value is significant, demonstrating the validity of the mediating effect of absorbed slack resources. Table 7 (3) presents the average treatment effect (ATE) of executive career concerns on green transformation, with a fitted value of -0.262. This result is in line with the regression findings in Table 3 (2) and provides further evidence for the hypothesis.

Table 8. Heterogeneity Analysis Test

Variables	(1)	(2)	(3)	(4)
	CeoWoman-High	CeoWoman-Low	EP-High	EP-Low
Concern	-0.206***	-0.321***	-0.351***	-0.161***
	(0.049)	(0.047)	(0.055)	(0.057)
Growth	-0.381***	-0.369***	-0.383***	-0.300***
	(0.063)	(0.075)	(0.077)	(0.071)
Lev	2.806***	2.136***	2.745***	2.228***
	(0.407)	(0.379)	(0.410)	(0.454)
Cash	5.801***	4.174***	3.018***	6.477***
	(0.882)	(0.844)	(1.005)	(0.972)
Age	0.022**	0.007	0.022**	0.007
	(0.010)	(0.010)	(0.011)	(0.011)
State	-0.076	0.193	0.108	0.175
	(0.174)	(0.164)	(0.179)	(0.177)
SharesBalance	-0.152	0.027	-0.085	0.063
	(0.118)	(0.119)	(0.128)	(0.126)
Dual	0.110	-0.081	0.146	0.020
	(0.151)	(0.162)	(0.169)	(0.173)
Ceoman			0.008	0.007
			(0.007)	(0.007)
Constant	0.588	3.481**	0.920	4.045**
	(1.582)	(1.518)	(1.536)	(1.921)
Observations	886	947	876	722
Adj R-squared	0.392	0.457	0.432	0.473
Ind	YES	YES	YES	YES
Year	YES	YES	YES	YES
P-Value	0.073*		0.009**	

Note: Standard error in brackets; ***, **, * are significant at the levels of 1%, 5%, and 10% respectively.

Heterogeneity Analysis

The study has confirmed the obstructive impact of executive career concerns on green transformation and the partially mediating role of absorbed slack resources. Nonetheless, the preceding analysis failed to take into account corporate governance structure and performance pressure, which are very likely to influence the diversity of the effects of executive career concerns on green transformation. To enhance comprehension of executive career concerns' impact on green transformation, this section examines corporate governance structure and performance pressure perspectives' heterogeneity.

(1) Gender differences in management. The impact of executive diversity on firm performance has been highlighted by scholars, including differences in gender, nationality, and educational background [35]. This section examines the heterogeneity analysis of executive gender. Female leaders in enterprises tend to be responsible towards others or society. Galbreath reported that women possess stronger environmental awareness [36]. Consequently, female managers are likely to invest more in environmental protection due to their greater focus on fulfilling corporate social responsibility compared to their male counterparts. The sample is divided into two groups according to the median proportion of female managers, with a higher proportion being the high-female group and a lower proportion being the low-female group. Table 8 columns (1) and (2) report the results of heterogeneity analysis by gender. Compared with male managers, the inhibiting effect of executive career concerns on corporate green transformation is smaller in companies with a higher proportion of female managers, with significant differences between groups.

(2) Internal performance pressure. Managers' abilities are often judged by the market based on short-term performance indicators, which can increase CEO's assessment pressure and enhance career crises. Faced with performance pressure, managers may adopt the strategy of reducing environmental investment to optimize financial performance, thus hindering corporate green transformation. To support this finding, this article refers to the research conducted by Cui and Jiang and introduces a dummy variable EP, which is determined

by the disparity between the companies' ROA in the current year and the average ROA of the previous three years[37]. If a company's ROA is lower than its historical performance, EP receives a value of 1. Otherwise, EP receives a value of 0. Table 8, columns (3) and (4), illustrate the outcomes of regression analysis classified by internal performance pressure. The findings demonstrate that the inhibiting effect of executive career concerns on corporate green transformation is smaller in companies with a lower internal performance pressure group, with significant differences between groups.

Conclusion and Inspiration

The long-term nature of environmental investment and the short-term performance requirements for managers can sometimes conflict, causing companies to struggle to meet both environmental and financial targets. This study examines the impact mechanism of executive career concerns on green transformation using panel data from listed companies from 2008 to 2022. The study indicates that executive career concerns have a negative impact on the green transformation of corporations. The study demonstrates that executive career concerns lead to a rise in absorbed slack resources, which impedes the adoption of green transformation. Heterogeneity analysis, examining the internal governance structure and performance pressure, suggests that the inhibiting effect of executive career concerns on corporate green transformation is lower in companies with a higher proportion of female executives and lower internal performance pressure.

The Chinese government has explicitly proposed the vigorous promotion of ecological civilization construction. The green transformation of enterprises is fundamental to implementing ecological civilization construction. This article offers insights on the influencing factors of green transformation:

At the company level, a well-designed internal governance structure benefits the environmental performance of the enterprise. Therefore, it is imperative that enterprises optimize their internal governance structure. Firstly, a long-term compensation system should be established. A compensation plan with a long-term horizon may partially mitigate managers' career concerns, prevent their short-term focus from impeding the organization's eco-friendly strategies, incentivize them to implement protective measures, boost their risk appetite, and enhance the enterprise's green competitiveness. Additionally, promoting a higher ratio of female managers is advisable. Female leaders exhibit greater sensitivity to environmental issues, and as a result, they possess heightened environmental awareness compared to their male counterparts. Thirdly, it is recommended to enhance the environmental awareness education of managers. Enterprises should give greater consideration to managers with environmental awareness and a long-term orientation when selecting them. In training managers, with special emphasis on young leaders, enterprises should focus on instilling and incentivizing a deeper understanding of environmental issues.

At the policy and market level, it is recommended to enhance the feedback of the capital market on the environmental governance behavior of corporate. Considering the inadequacies of China's capital market in addressing corporate environmental violations and proactive environmental strategies, the capital market should enforce its focus on corporate environmental governance. Companies that breach environmental laws and regulations should be punished firmly, while those that proactively implement environmental governance should be rewarded and publicized. Furthermore, attention needs to be directed towards long-term value and fulfilling social responsibility in the market. Governments and markets ought to bolster investor education and publicity, assist in directing investors towards placing greater emphasis on long-term value investment in firms, particularly those engaged in green transformation, increase market willingness to tolerate downturns in corporate performance, mitigate concerns over management career prospects, and encourage green innovation in enterprises.

Conflict of Interest

The authors declare no conflict of interest.

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