Corporate Social Responsibility and Firm Performance: the Moderating Role of Top Management Team Characteristics and Heterogeneity

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Abstract

Purpose - The purpose of this paper is exploring whether the characteristics and heterogeneity of the TMT play a moderating role in CSR and corporate value or not.
Design/methodology/approach - The literature research method includes collecting, organizing, and analyzing the literature on the characteristics and heterogeneity of the TMT, the effect of corporate social responsibility (CSR), and corporate value. We analyze the contributions and limitations in existing research, grasp the current research status, and develop the research content of this article. The empirical analysis method is based on the data of Chinese A-share listed companies from 2001 to 2017. This allows us to study the moderating effect of the characteristics and heterogeneity of the TMT on CSR and corporate value.
Findings - The TMT age, education degree, overseas background, and compensation have a positive moderating effect on CSR and corporate market value. The comprehensive heterogeneity of the TMT also has a positive effect on CSR and financial performance.
Research implications or Originality - The research on the relationship between CSR and corporate value is still inconclusive. Some results have found a positive relationship, while others show a negative relationship. Studies exist that report mixed findings as well. This study has attempted to clarify this problem by adding potentially missing variables related on the TMT characteristics and heterogeneity, investigating causality effects.

Ⅰ. Introduction

The research on the relationship between corporate social responsibility (CSR) and corporate value is still inconclusive. Some results have found a positive relationship, while others show a negative relationship. Studies exist that report mixed findings as well.

Huang and Watson (2015) studied CSR literature published in popular journals from 2004 to 2015, and found that the relationship between CSR and financial performance is complex. The inconsistency of research conclusions indicates that the relationship between CSR and corporate value is complicated, or that there is no direct causal relationship.

In more recent research, scholars have attempted to clarify this problem by adding potentially

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missing variables such as corporate executives, investigating causality effects, and including moderating and mediating effects. Corporate executives may also perform CSR based on personal interests, on the one hand, to improve the public image of managers and, on the other hand, to obtain political rights, public respect, and future career opportunities (Wright and Ferris, 1997). Therefore, we determine whether the characteristics and heterogeneity of the top management team (TMT) have an effect on the relationship between CSR and corporate value.

With the rapid development of China's economy, the TMT has been playing an increasingly important role in corporate development. Hambrick and Mason (1984) innovatively proposed the upper echelons theory, which states that organizational outcomes—strategic choices and performance levels—are partially predicted by managerial background characteristics. Subsequent research has intensively investigated the applications of this theory. Most research focuses on the effect of different characteristics of executives on aspects of enterprise production and operation. Of special importance in these analyses are firm strategy and performance, investment decisions, growth, financial restatement, and internal control. TMT plays a vital role in the growth and prosperity of the firm (Iraman and Ryu, 2013).

Not only the characteristics of TMT, but also its heterogeneity will affect all business operations. This is because TMT heterogeneity causes decision-making conflicts, which may allow complementary advantages to firms in terms of information acquisition and decision-making processing. It may also lead to strong emotional deviations within the group, and such disagreements are not conducive to firm development. Past research rarely focused on the moderating effect of TMT characteristics and its heterogeneity on CSR and corporate value. This work addresses this issue.

In most prior studies on the heterogeneity of TMTs, most scholars investigated the objective from a single dimension. We select five dimensions—gender, age, education degree, overseas background and compensation—to obtain the overall heterogeneity score, which is a new exploration in theory. In addition, prior research predominantly focused on linear effects, while we study the nonlinear effects of the characteristics and heterogeneity of the TMT on corporate value.

This study is divided into five sections; section one and two provide an overview of this paper and hypothesis development. Section three of this study explains research design and sample selection for investigating the moderating role of TMT characteristics and heterogeneity. Section four describes the empirical process and results. Finally, section five provides the conclusion and limitations.

II. Hypothesis development

1. Moderating role of TMT characteristics

According to the upper echelons theory, the TMT is in the dominant position in the firm's strategic decision-making. The characteristics of the top manager's background will have an effect on the top manager's risk appetite, cognitive attitude, skills, and understanding of the problem. Thus, the strategic decisions of a top manager will be based on his or her own experience, personality characteristics, and the environment in which the firm is located (Sitkin and Pablo, 1992). When the TMT realizes that the company has assumed responsibilities toward society and recognizes its social repercussions, its image will improve: That is, they will imple-

ment social responsibilities to increase firm value. Therefore, the characteristics of the TMT play a moderating role between CSR and corporate value.

Female executives in the TMT are different from male executives in terms of their own qualities and behavior. Generally, female executives are warm, considerate, and kind to others, and can show that they pay enough attention to the relationship between stakeholders and the firm. They actively maintain relationships. Therefore, when female executives have a strong sense of ethics, they will be prompted to perform more CSR activities. Eagly and Carli (2003) found that women have some advantages in typical leadership style but suffer some disadvantages from prejudicial evaluations of their competence as leaders, especially in masculine organizational contexts. Thomas et al. (2012) similarly found that gender diversity in the executive team has a positive effect on corporate performance. Parrotta et al. (2014) show that the participation rate of female executive teams is conducive to improving corporate performance, while McGuinness et al. (2017) reveal that female executives pay more attention to the interests of all parties and, therefore, are more willing to assume CSR.

Age can reflect a person's experience and affect their decision-making choices. Wiersema and Bantel (1992) found that older top managers pursue stability and seldom make strategic adjustments; younger top managers generally have strong adaptability and innovative spirit, and are easier to formulate change development strategies. They enable the firm to better meet opportunities and challenges. Tihanyi et al. (2000) found that, because TMTs are often too old and prefer to make conservative corporate decisions, it is easy to lose opportunity to improve corporate performance. Yasser et al. (2020) found that directors' age has a significant relationship with CSR.

Generally, a high level of education means a sharper resolution and a stronger ability to collect and process information. Tihanyi et al. (2000) show that the higher the level of education of the TMT, the stronger the firm's ability to quickly obtain accurate information in a constantly changing environment. Hu et al. (2019) found that CSR performance is significantly associated with TMTs' educational credentials.

Reuber and Fischer (1997) found that, if TMT has overseas work experience, it is more likely to build overseas strategic partners and improve efficiency. Darmadi (2013a) studied Indonesia's listed companies, showing that members with educational backgrounds in developed countries can improve firm performance. Giannetti et al. (2015) contend that directors' overseas experience can optimize corporate governance, promote more internationalization of corporate business, and help improve corporate performance. Hu et al. (2019) claim that CSR performance is significantly associated with TMTs' overseas background.

As the core of the firm's leadership, the executives of listed companies lead the development direction of the firm. Therefore, the management's incentives are particularly important, and compensation incentives are one of the important incentive methods. However, Chen and Jermias (2014) found that the misfit between business strategy and compensation structure has a negative effect on firm performance.

Prior studies discussed above in gender, age, education, overseas background, and compensations are more likely to have a moderating role on corporate social responsibility. Therefore, the following hypothesis is proposed.

H1: The characteristics of the TMT (gender, age, degree, overseas background, and compensation) have a moderating effect on the relationship between CSR and corporate value.

2. Moderating role of TMT heterogeneity

Like the moderating effects of the five variables (gender, age, education degree, overseas background, and compensation) of TMT, we now focus on the moderating effects of the five aspects of TMT heterogeneity as well as the moderating effects of comprehensive heterogeneity. Unlike other prior studies, this study attempts to investigate the effect of the multifaceted heterogeneity in the TMT. Tihanyi et al. (2000) studied the electronics industry, finding that a high degree of team heterogeneity can create a more diversified knowledge background, which is conducive to corporate strategic decision-making and profit. Edmondson et al. (2003) showed that the heterogeneity of TMT will promote the increase of corporate sales.

The commonly held belief is that male and female executives are different in terms of risk-taking and leadership style. Female leaders prefer to avoid risks, while male leaders are more risk-taking. The decision-making conflicts brought about by gender differences will increase the differences within the TMT and damage firm performance. However, some scholars have pointed out that female and male leaders have different perspectives on information acquisition and understanding owing to different perspectives of decision-making that reduce individual biases in decision-making behaviors (Zelechowski and Bilimoria, 2004). Darmadi (2013b) empirical analysis shows that the gender diversity of management can damage corporate performance.

Different age groups are expected to not only have different orientation and perspectives of short-term performance, but also represent wider long-term perspectives of the diverse interests of corporate stakeholders (Handajani et al., 2014). Velinov and Kubicek (2013) selected European listed companies show that the age heterogeneity of the TMT does not affect corporate performance. Boone et al. (2004) contend that the higher the age heterogeneity of the team, the greater the mobility of the team and the worse its stability.

On the one hand, educational heterogeneity will stimulate the collision of team ideas and optimize decision-making; on the other hand, it may also make it difficult for the team to reach a consensus when dealing with external information, which is not conducive to the improvement of corporate performance.

Executives with overseas backgrounds often have unique social capital (e.g., overseas relations) and human capital (e.g., advanced knowledge and international vision). Compared with China, developed countries have established more mature and standardized social responsibility education systems in overseas politics, economy, cultural customs, and other factors. According to the upper echelons theory, different cultural and institutional environments will affect top management cognition and decision-making. A good education can improve the human capital of executives, and executives with overseas experience are often considered to have higher human capital and stronger work capabilities.

The agency problem caused by the separation of ownership and management rights as well as the implementation of compensation incentives for the firm's management can effectively converge the interests of the management and shareholders. As individuals who actually control the firm's assets, senior executives compare their own remuneration with the remuneration of relevant internal and external personnel during the same period in order to determine whether they have received fair treatment. This affects the team's behavior and creates economic consequences to the enterprise. When there is a large gap in executive compensation incentives, executives are more likely to perceive "unfair treatment" by comparing the compensation of other relevant personnel. This may reduce their motivation to work and intensify their control of the firm. They might report surplus and improve salary incentives to reduce the

reality of excessive executive pay gaps. For executives at different levels, too large a pay gap may not have a negative effect on earnings management behavior. On the contrary, it may increase the collusion behavior of lower-level management, thus enabling them to implement a higher level of earnings management (Kini and William, 2012). Park (2017) found that firms with larger pay disparities between the CEO and the next layer of executives in the TMT exhibit more real activities manipulation and that the positive relation is driven by short-term compensation.

Prior studies discussed above in gender, age, education, overseas background, and compensations are more likely to have a moderating role on corporate social responsibility. Therefore, the following hypothesis is proposed.

H2: The heterogeneity of TMT (gender, age, degree, overseas background, and compensation) has a moderating effect on the relationship between CSR and corporate value.

Ⅲ. Research design and sample selection

1. Sample selection

We select 2010–2017 China Shenzhen Stock Exchange and Shanghai Stock Exchange A-share listed firms because the social responsibility score of China Hexun.com began in 2010. The corporate financial data is mainly derived from the China Stock Market & Accounting Research database, and the CSR performance data comes from the professional evaluation database of CSR performance in Hexun.com. The relevant data of the TMT are from the China Stock Market & Accounting Research database, the RESSET database, the GENIUS FINANCE database and firms' annual report.

We removed financial companies, ST companies (ST refers to stocks that have been specially processed by stock market in China to warn against the potential delisting risk), and data with incomplete information on the main indicators. In total, 16,387 sample observations from 2,997 companies were obtained. To eliminate the influence of extreme values on the regression results, all continuous variables that eventually enter the regression model are winsorized by the top and bottom 1%.

We used Stata 15.0 for data analysis, and the statistical significance of the reported regression coefficients is based on the heteroscedasticity consistent covariance matrix (White, 1980). A variance inflation factor (VIF) test was performed on the regression, and the results show no serious multicollinearity. Table 1 shows the year distribution of the sample

Table 1. Sample Distribution by Year

YEAR	N
2010	1,576
2011	1,818
2012	1,953
2013	1,922
2014	1,959
2015	2,103
2016	2,342
2017	2,714
Total (Firm)	16,387(2,997)

2. Variable Definition

2.1. Dependent variables

The explained variable in this study is corporate value. Corporate value is usually measured in two ways: corporate financial performance and corporate market performance. In the literature Raza et al. (2012) and Lee et al. (2016) used ROE to study the relationship between CSR and corporate financial performance. O'Sullivan and McCallig (2012), Servaes and Tamayo (2013), Harjoto and Jo (2015), Harjoto and Laksmana (2018), and Hu et al. (2018) used Tobin's Q to measure corporate market value. Thus, we select ROE to reflect short-term corporate financial performance and Tobin's Q to reflect long-term corporate market performance (Byun, 2018).

2.2. Independent variables

The independent variable is Corporate social responsibility total score (CSR). Following Wen and Song (2017) and Hu et al. (2018) on the measurement of CSR performance, we adopt CSR evaluation index system to measure CSR total score. The CSR evaluation index system covers shareholder responsibilities; employee responsibilities; supplier, customer, and consumer rights responsibilities; and environmental responsibility, and social responsibility. Each category consists of a minimum of 1 to a maximum of 5 sub-indicators to evaluate social responsibilities; it distributes them proportionally according to the weight of different industries (Appendix 1).

2.3. Moderator variables

TMT characteristics and heterogeneity are the moderating variables studied in this study. Finkelstein and Hambrick (1996) define the top executives as managers who are at the highest level of an enterprise, formulate and execute various strategies, control the operation and management activities of the enterprise, and assume overall coordination and organizational responsibilities. This view is generally recognized by academia. However, there exists no consensus on which managers should be members of the TMT. Thus, we choose to define whether a TMT member is disclosed in the China Stock Market & Accounting Research database.

The gender characteristic (TGEN) determines the proportion of women in the TMT. The age characteristic (TAGE) is measured by the average age of the TMT. The education level of the TMT (TDGE) is measured by its average academic qualifications. In this study, 1 means secondary school, 2 means college, 3 means undergraduate, 4 means master, and 5 means doctor degree. The overseas background (TSEA) is measured by the proportion of the TMT with overseas background. The oversea background of TMT represent they used to work or study abroad. The compensation characteristic (TCOM) is measured by the natural logarithm of the top management compensation.

TMT gender heterogeneity (HGEN), educational heterogeneity (HDEG), and overseas background heterogeneity (HSEA) require us to adopt the Herfindahl–Hirschman Index. This index was used by Blau (1977) to detect the heterogeneity of the team, and was widely used by scholars later.

$$H = 1 - \sum_{i=1}^{n} P_i^2 (i = 1, 2, \ldots, n)$$

In the above, Pi is the percentage of the i type members in the team, n is the number of different types, and H is the degree of heterogeneity, whose value is between 0 and 1. The larger the value of H, the higher the degree of team heterogeneity.

The age heterogeneity (HAGE) and the compensation heterogeneity (HCOM) are measured by the coefficient of variation. Allison (1978) concluded that the coefficient of variation is the best choice to measure inequality.

$$H = \frac{\sigma}{\mu}$$

In the above, σ is the standard deviation and μ is the average value. The larger the H value, the higher the degree of heterogeneity.

2.4. Control variables

There are many factors affecting corporate value (Raza et al., 2012; Lee et al., 2016; O'Sullivan and McCallig, 2012; Servaes and Tamayo, 2013; Harjoto and Jo, 2015; Harjoto and Laksmana, 2018; and Hu et al., 2018; Byun, 2018). According to relevant research literature, net cash flow from operating activities (CF), corporate age (AGE), increase rate of main business revenue (IRBR), sustainable growth rate (SGR), proportion of top 10 shareholders (TOP10), debt assets ratio (LEV), and enterprise size (SIZE) all have an effect on the value of an enterprise. To eliminate the errors caused by these effects, we use them as control variables. The annual control variables (YEAR) and dummy variables of the industry (INDUSTRY) are also used as control variables.

3. Model Setting

$$
\begin{aligned}
ROE(TOBINQ) = &\ \alpha + \beta_1 CSR + \beta_2 M + \beta_3 CSR*M + \beta_4 CF \\
&+ \beta_5 AGE + \beta_6 IRBR + \beta_7 SGR + \beta_8 TOP10 \\
&+ \beta_9 LEV + \beta_{10} SIZE + \sum YEAR + \sum INDUSTRY + \epsilon \qquad (1)
\end{aligned}
$$

Dependent Variables
ROE　　　=　　Return on equity. Net income divided by stockholders'　equity
TOBINQ　=　　Market value of equity plus the book value of debt/Total　asset

Independent Variables　(CSR)
CSR　　　=　　Corporate social responsibility total score

Moderator Variables (M)
TGEN　　　=　　The proportion of women in TMT
TAGE　　　=　　Average age of TMT
TDGE　　　=　　Average education of TMT
TSEA　　　=　　The proportion of TMT with overseas background
TCOM　　　=　　LN (Total annual compensation of TMT)
HTOTAL　=　　Heterogeneity total score (HGEN+HAGE+HDGE+HSEA+HCOM)
HGEN　　　=　　Gender heterogeneity of TMT
HAGE　　　=　　Age heterogeneity of TMT
HDGE　　　=　　Education heterogeneity of TMT
HSEA　　　=　　Overseas experience heterogeneity of TMT
HCOM　　　=　　Compensation heterogeneity of TMT

Control Variables

CF	=	Net cash flow from operating activities
AGE	=	Years of company establishment
IRBR	=	Increase rate of main business revenue
SGR	=	Sustainable growth rate
TOP10	=	The total shareholding ratio of the top ten shareholders
LEV	=	Total liabilities/Total assets
SIZE	=	Enterprise size

IV. Empirical Process and Result Analysis

1. Descriptive Statistics

Table 2 presents the summary statistics of the regression variables. The mean (median) value of ROE is 0.071 (0.073) and the minimum and maximum values of ROE are -0.664 and 0.347. The mean (median) of TOBINQ is 2.804 (2.144) and the minimum and maximum values of TOBINQ are 0.859 and 19.115. There is a large difference in corporate value among sample firms. Further, the mean (median) of CSR is 26.766 (22.620) and CSR ranges from -4.160 to79.170, indicating that sample firms have considerable differences in fulfilling their CSR.

In Table 2, the mean of TGEN (percentage of female in TMT) is 15.2%, indicating that the percentage of women in the TMT is low. The mean of TAGE (average age of TMT) is 46.790, ranging from 37.400 to 55.333, which indicates TMT members are generally middle-aged. The mean of TDEG (average education level of TMT) is 3.273, with three point for undergraduates, indicating that the TMT has a higher education above a bachelor's degree. The mean of TSEA (percentage of overseas background in TMT) is 4.5%, ranging from 0 to 50%, which suggests the percentage of overseas background in the TMT is relatively low. The mean of TCOM (Annual Compensation for TMT) is 14.774, ranging from 12.449 to 16.937, thus there is a large difference among firms as well.

TMT heterogeneity among firms are also shown in Table 2. The mean of HGEN (TMT gender heterogeneity) is 0.211, the mean of HAGE (TMT age heterogeneity) is 0.126, and the mean of HSEA (TMT oversea background heterogeneity) is 0.065, indicating that gender, age, and oversea background heterogeneity are relatively low. However, the mean of HDEG (TMT education level heterogeneity) is 0.496, ranging from 0 to 0.738, indicating that TMT education level is highly heterogeneous. The mean of HCOM (TMT annual compensation heterogeneity) is 0.391, ranging from 0.031 to 1.298, indicating that the TMT annual compensation heterogeneity among firms is quite different.

In particular, in Table 3 and Figure1, the mean of TMT characteristics and heterogeneity is increasing every year.

Table 2. Descriptive Statistics for Variable Measures

Variables	Mean	Std	Min	Q1	Median	Q3	Max
ROE	0.071	0.001	-0.664	0.035	0.073	0.114	0.347
TOBINQ	2.804	0.016	0.859	1.475	2.144	3.375	19.115
CSR	26.766	0.135	-4.160	17.300	22.620	28.850	79.170
TGEN	0.152	0.001	0.000	0.000	0.143	0.250	0.667
TAGE	46.790	0.028	37.400	44.333	46.857	49.375	55.333
TDEG	3.273	0.004	2.000	3.000	3.333	3.600	4.286

TSEA	0.045	0.001	0.000	0.000	0.000	0.000	0.500
TCOM	14.774	0.006	12.449	14.279	14.761	15.258	16.937
HTOTAL	1.291	0.003	0.354	1.012	1.279	1.557	2.445
HGEN	0.211	0.001	0.000	0.000	0.245	0.375	0.500
HAGE	0.126	0.000	0.030	0.091	0.122	0.155	0.284
HDEG	0.496	0.001	0.000	0.444	0.500	0.611	0.738
HSEA	0.065	0.001	0.000	0.000	0.000	0.000	0.494
HCOM	0.391	0.002	0.031	0.214	0.352	0.522	1.298
CF	0.042	0.001	-0.224	0.003	0.042	0.083	0.257
IRBR	0.215	0.004	-0.575	0.001	0.129	0.301	4.124
AGE	15.614	0.043	2.000	12.000	16.000	19.000	32.000
SGR	0.058	0.001	-0.404	0.022	0.053	0.091	0.413
TOP10	0.594	0.001	0.213	0.483	0.606	0.717	0.908
LEV	0.418	0.002	0.028	0.242	0.408	0.584	0.884
SIZE	22.046	0.010	19.491	21.093	21.857	22.790	26.186

Table 3. Distribution of TMT Characteristics and Heterogeneity (Mean) by Year

YEAR	TGEN	TAGE	TDEG	TSEA	TCOM	HTOTAL	HGEN	HAGE	HDEG	HSEA	HCOM
2010	0.138	45.448	3.231	0.034	14.424	1.216	0.191	0.128	0.486	0.047	0.364
2011	0.139	45.735	3.235	0.036	14.573	1.238	0.193	0.128	0.492	0.052	0.372
2012	0.147	46.160	3.247	0.039	14.659	1.260	0.205	0.127	0.493	0.057	0.375
2013	0.148	46.700	3.276	0.040	14.747	1.261	0.207	0.125	0.493	0.061	0.372
2014	0.150	47.068	3.283	0.045	14.816	1.285	0.211	0.124	0.500	0.067	0.382
2015	0.153	47.364	3.292	0.048	14.868	1.323	0.215	0.124	0.503	0.071	0.408
2016	0.163	47.505	3.309	0.052	14.904	1.343	0.224	0.125	0.502	0.076	0.415
2017	0.166	47.530	3.288	0.057	14.996	1.352	0.225	0.128	0.498	0.081	0.418

Figure 1. TMT Comprehensive Heterogeneity (Mean) by Year
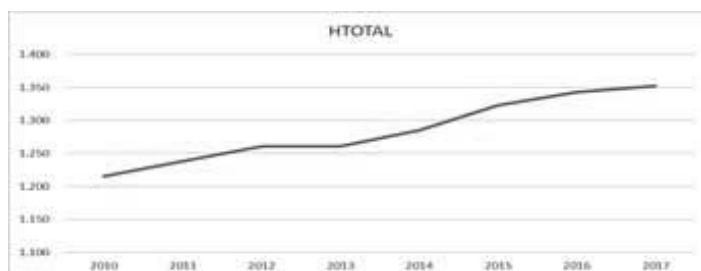
2. Correlation analysis of variables

In Table 4, TMT characteristics and heterogeneity are generally correlated with ROE, TOBINQ, and CSR. Especially, TGEN and TSEA are positively correlated with ROE and TOBINQ. TAGE is negatively correlated with ROE and TOBINQ. TDEG, and TCOM are positively correlated with ROE, but are negatively correlated with TOBINQ. HTOTAL, HGEN, and HSEA are positively correlated with ROE and TOBINQ; HAGE, HDEG, and HCOM are only positively correlated with TOBINQ.

TAGE, TDEG, and TCOM are positively and significantly correlated with CSR, but TGEN is negatively correlated with CSR. However, TMT heterogeneity, except HSEA are negatively correlated with CSR. Similarly, whether it has a moderating effect or not requires further analysis by adding control variables.

3. Analysis of regression results

Table 5 shows the regression results of the moderating effect of TMT characteristics on relationship between CSR and ROE. Column (1) is regressions for gender moderating effect, column (2) is for age moderating effect, column (3) is for education moderating effect, column (4) is for overseas background moderating effect, and column (5) is for compensation moderating effect. As shown in column (3) of Table 5, coefficient of TDEG*CSR (coefficient = -0.0002, robust t = -3.63) is only statistically significant on ROE. This results indicate that the education of the TMT has a linear moderating effect on the relationship between CSR and ROE.

Table 6 shows the regression results of the moderating effect of TMT characteristics on relationship between CSR and TOBINQ. In column (1) ~ (5) of Table 6, all interaction terms are statistically significant. TGEN*CSR (coefficient = -0.015, robust t = -2.95) is negatively significant on TOBINQ, but TAGE*CSR (coefficient = 0.00005, t = 2.18), TDEG*CSR (coefficient = 0.009, t = 6.00), TSEA*CSR (coefficient = 0.020, t = 2.61), and TCOM*CSR (coefficient = 0.012, t = 13.00) are positively significant on TOBINQ. This regression results mean that the magnitude, sign, or strength of the effect of CSR on TOBINQ depends on the variable TMT characteristics. In other words, the conditional effect of TMT characteristics on TOBINQ when CSR increases by one unit is stronger than the conditional effect of TMT characteristics on ROE when CSR increases by one unit. That is, age, education, overseas background and compensation of TMT have a positive effect on firm's long-term performance along with corporate CSR.

Table 4. Pearson Correlations of Regression Variables (TMT Characteristics and Heterogeneity)

	TGEN	TAGE	TDEG	TSEA	TCOM	HTOTAL	HGEN	HAGE	HDEG	HSEA	HCOM
TAGE	-0.180***										
TDEG	-0.069***	0.058***									
TSEA	0.047***	-0.044***	0.173***								
TCOM	-0.061***	0.202***	0.307***	0.131***							
HTOTAL	0.504***	-0.163***	-0.048***	0.408***	0.076***						
HGEN	0.944***	-0.173***	-0.069***	0.043***	-0.024***	0.537***					
HAGE	0.155***	-0.214***	-0.189***	0.076***	-0.117***	0.353***	0.158***				
HDEG	-0.007	0.011	-0.160***	0.017**	0.084***	0.445***	0.017**	0.125***			
HSEA	0.049***	-0.058***	0.176***	0.962***	0.151***	0.440***	0.050***	0.086***	0.044***		
HCOM	0.103***	-0.083***	0.015*	0.111***	0.038***	0.701***	0.100***	0.149***	0.053***	0.120***	
ROE	0.031***	-0.039***	0.021***	0.028***	0.229***	0.019**	0.034***	-0.007	0.009	0.028***	-0.012
TOBINQ	0.123***	-0.139***	-0.054***	0.096***	-0.136***	0.118***	0.117***	0.091***	0.027***	0.094***	0.024***
CSR	-0.027***	0.046***	0.146***	-0.001	0.284***	-0.056***	-0.024***	-0.097***	-0.028***	-0.0001	-0.038***
CF	-0.006	0.073***	-0.009	0.025***	0.110***	-0.0004	-0.010	-0.027***	-0.010	0.018**	0.009
IRBR	0.022***	-0.090***	0.018**	0.026***	0.002	0.069***	0.024***	0.031***	0.011	0.028***	0.076***
AGE	0.036***	0.218***	0.092***	-0.067***	0.110***	0.003	0.034***	-0.027***	-0.060***	-0.069***	0.059***
SGR	0.024***	-0.043***	0.043***	0.019**	0.205***	0.013*	0.025***	-0.015**	0.005	0.020**	-0.006
TOP10	0.006	-0.036***	-0.020***	0.068***	0.076***	0.051***	0.009	0.010	0.020***	0.071***	0.026***
LEV	-0.121***	0.167***	0.159***	-0.076***	0.164***	-0.097***	-0.117***	-0.140***	-0.049***	-0.078***	0.025***
SIZE	-0.157***	0.301***	0.309***	0.008	0.496***	-0.070***	-0.146***	-0.206***	-0.032***	0.012	0.047***

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Regression Results of the Moderating Effect of TMT Characteristics on the Relationship between CSR and ROE

	(1)	(2)	(3)	(4)	(5)
Intercept	0.007	0.010	-0.002	0.007	0.036***
	(0.69)	(1.03)	(-0.16)	(0.75)	(3.77)
CSR	0.0005***	0.0005***	0.001***	0.0005***	0.0005***
	(19.25)	(19.10)	(19.32)	(19.18)	(18.29)
TGEN	0.001				
	(0.61)				
TAGE		0.0002*			
		(1.90)			
TDEG			-0.003***		
			(-5.06)		
TSEA				-0.001	
				(-0.28)	
TCOM					0.005***
					(9.47)
TGEN*CSR	0.0001				
	(0.85)				
TAGE*CSR		0.000005			
		(1.00)			
TDEG*CSR			-0.0002***		
			(-3.63)		
TSEA*CSR				-0.000002	
				(-0.01)	
TCOM*CSR					-0.00004
					(-1.46)
CF	0.080***	0.079***	0.078***	0.080***	0.077***
	(11.35)	(11.28)	(11.13)	(11.36)	(11.15)
IRBR	-0.000003	0.0001	-0.00003	0.00001	0.0003
	(0.00)	(0.10)	(-0.03)	(0.01)	(0.28)
AGE	-0.0002***	-0.0002***	-0.0002***	-0.0002***	-0.0002***
	(-2.86)	(-3.09)	(-2.81)	(-2.87)	(-2.61)
SGR	0.952***	0.952***	0.952***	0.952***	0.947***
	(78.20)	(78.17)	(78.22)	(78.19)	(77.43)
TOP10	0.030***	0.030***	0.029***	0.030***	0.030***
	(14.66)	(14.68)	(14.38)	(14.68)	(14.81)
LEV	-0.041***	-0.041***	-0.041***	-0.041***	-0.039***
	(-13.69)	(-13.64)	(-13.65)	(-13.67)	(-13.25)
SIZE	0.001	0.0005	0.001**	0.001	-0.001
	(1.35)	(1.06)	(2.15)	(1.34)	(-1.61)
YEAR	Included	Included	Included	Included	Included
INDUSTRY	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387
R-squared	0.861	0.861	0.861	0.861	0.862
F	798.45***	792.24	794.78***	790.30***	808.18***

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 6. Regression Results of the Moderating Effect of TMT Characteristics on the Relationship between CSR and TOBINQ

	(1)	(2)	(3)	(4)	(5)
Intercept	19.802***	19.861***	20.891***	19.986***	20.675***
	(55.60)	(54.93)	(57.25)	(56.66)	(57.20)
CSR	0.007***	0.007***	0.005***	0.007***	0.004***
	(8.95)	(9.13)	(7.57)	(9.66)	(5.29)
TGEN	0.183**				
	(2.17)				
TAGE		−0.002			
		(−0.40)			
TDEG			0.391***		
			(14.18)		
TSEA				1.187***	
				(7.90)	
TCOM					0.106***
					(5.36)
TGEN*CSR	−0.015***				
	(−2.95)				
TAGE*CSR		0.0005**			
		(2.18)			
TDEG*CSR			0.009***		
			(6.00)		
TSEA*CSR				0.020***	
				(2.61)	
TCOM*CSR					0.012***
					(13.00)
CF	1.647***	1.653***	1.780***	1.617***	1.606***
	(7.53)	(7.52)	(8.20)	(7.42)	(7.44)
IRBR	0.154***	0.154***	0.155***	0.149***	0.170***
	(4.02)	(4.03)	(4.07)	(3.91)	(4.47)
AGE	0.008***	0.008***	0.007***	0.009***	0.007***
	(2.81)	(2.97)	(2.65)	(3.32)	(2.70)
SGR	2.714***	2.719***	2.730***	2.718***	2.736***
	(11.97)	(11.98)	(12.14)	(12.04)	(12.11)
TOP10	1.577***	1.584***	1.648***	1.558***	1.618***
	(18.40)	(18.42)	(19.31)	(18.20)	(18.98)
LEV	−0.557***	−0.560***	−0.557***	−0.534***	−0.585***
	(−6.31)	(−6.34)	(−6.35)	(−6.09)	(−6.74)
SIZE	−0.824***	−0.827***	−0.875***	−0.834***	−0.866***
	(−46.83)	(−46.33)	(−48.65)	(−47.83)	(−48.33)
YEAR	Included	Included	Included	Included	Included
INDUSTRY	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387
R-squared	0.460	0.460	0.467	0.463	0.467
F-test	238.04***	238.97***	242.43***	239.00***	242.24***

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 7. Regression Results of the Moderating Effect of TMT Heterogeneity on the Relationship between CSR and ROE

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.007	0.006	0.006	0.007	0.007	0.007
	(0.78)	(0.65)	(0.65)	(0.77)	(0.75)	(0.73)
CSR	0.001***	0.005***	0.001***	0.001***	0.0005***	0.0005***
	(19.21)	(19.23)	(19.02)	(19.23)	(19.20)	(19.14)
HTOTAL	0.0001					
	(0.10)					
HGEN		0.002				
		(1.37)				
HAGE			0.006			
			(1.06)			
HDEG				0.001		
				(0.47)		
HSEA					-0.001	
					(-0.37)	
HCOM						-0.002
						(-1.25)
HTOTAL*CSR	0.0002***					
	(3.74)					
HGEN*CSR		0.0001				
		(0.84)				
HAGE*CSR			0.001**			
			(2.08)			
HDEG*CSR				0.0004***		
				(3.2)		
HSEA*CSR					0.00006	
					(0.43)	
HCOM*CSR						0.0002***
						(2.96)
CF	0.080***	0.080***	0.080***	0.080***	0.080***	0.080***
	(11.35)	(11.35)	(11.36)	(11.37)	(11.35)	(11.37)
IRBR	0.00002	-0.00001	-0.00003	0.00003	0.00002	0.0001
	(0.02)	(-0.01)	(-0.03)	(0.03)	(0.02)	(0.1)
AGE	-0.0002***	-0.0002***	-0.0002***	-0.0002***	-0.0002***	-0.0002***
	(-2.94)	(-2.89)	(-2.92)	(-2.85)	(-2.88)	(-2.85)
SGR	0.952***	0.952***	0.952***	0.952***	0.952***	0.952***
	(78.1)	(78.19)	(78.09)	(78.22)	(78.18)	(78.1)
TOP10	0.030***	0.030***	0.030***	0.030***	0.030***	0.030***
	(14.65)	(14.65)	(14.57)	(14.66)	(14.68)	(14.70)
LEV	-0.041***	-0.040***	-0.041***	-0.041***	-0.041***	-0.041***
	(-13.67)	(-13.66)	(-13.70)	(-13.69)	(-13.67)	(-13.63)
SIZE	0.001	0.001	0.001	0.001	0.001	0.001
	(1.31)	(1.40)	(1.41)	(1.32)	(1.34)	(1.35)
YEAR	Included	Included	Included	Included	Included	Included
INDUSTRY	Included	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387	16387
R-squared	0.861	0.861	0.861	0.861	0.861	0.861
F	791.71***	794.97***	797.34***	798.85***	790.93***	792.41***

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 7 shows the regression results of the moderating effect of TMT heterogeneity on relationship between CSR and ROE. Column (1) is regression for TMT heterogeneity total score(HTOTAL), Column (2) is for gender heterogeneity (HGEN) moderating effect, column (3) is for age heterogeneity (HAGE) moderating effect, column (4) is for education heterogeneity (HDGE) moderating effect, column (5) is for overseas background heterogeneity (HSEA) moderating effect, and column (6) is for compensation heterogeneity (HCOM) moderating effect. HTOTAL in column (1) is the sum of HGEN, HAGE, HDGE, HSEA, and HCOM.

In column (1), (3), (4), and (6) of Table 7, HTOTAL*CSR (coefficient = 0.0002, robust-t = 3.74), HAGE*CSR (coefficient = 0.001, robust-t = 2.18), HDEG*CSR (coefficient = 0.004, robust-t = 3.20), and HCOM*CSR (coefficient = 0.002, robust-t = 2.96) are positively significant, respectively. This regression results mean that the magnitude, sign, or strength of the effect of CSR on ROE depends on the TMT heterogeneity. In other words, the conditional effect of TMT heterogeneity on ROE when CSR increases by one unit is generally strong and significant. The more diverse the age, education, and compensation, the more positive on the short-term performance along with corporate CSR.

Table 8 shows the regression results of the moderating effect of TMT heterogeneity on relationship between CSR and TOBINQ. Similar to Table 7, Five interaction terms are statistically significant on TOBINQ; HTOTAL*CSR (coefficient = -0.005, robust-t = -2.92), HGEN*CSR (coefficient = -0.010, t = -2.45), HAGE*CSR (coefficient = -0.072, t = -4.58), and HCOM*CSR (coefficient = -0.009, robust-t = -2.92) are positively significant and HSEA*CSR (coefficient = 0.011, t = 2.02) is negatively significant. This regression results mean that the magnitude, sign, or strength of the effect of CSR on TOBINQ depends on the TMT heterogeneity variables. In other words, it is a conditional effect of TMT heterogeneity on TOBINQ when CSR increases by one unit. Further, the conditional effect of TMT heterogeneity on TOBINQ when CSR increases by one unit is stronger than the conditional effect of TMT characteristics on TOBINQ when CSR increases by one unit. This means that the more heterogeneous gender, age, and compensation, the less positive impact of CSR on firm's long-term performance. According to Tables 7 and 8, the greater the heterogeneity of TMT, the more difficult it is to sustain the positive effect of CSR in the long-term.

4. Additional Analyses

In this section, we analyze the nonlinear relationship between the TMT characteristics and heterogeneity and corporate value. As mentioned earlier, the upper echelons theory holds that the cognition and values of executives affect their decision-making behaviors, which, in turn, affects corporate value. We find that the extant literature generally focused on the linear relationship between the TMT characteristics and corporate value as well as between the TMT heterogeneity and corporate value. Few studies examine nonlinear relationships. Hence, our work enriches extant theories.

Table 8. Regression results of the moderating effect of TMT heterogeneity on the relationship between CSR and TOBINQ

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	19.820***	19.817***	19.935***	19.859***	19.989***	19.902***
	(56.35)	(55.66)	(56.31)	(56.49)	(56.71)	(56.49)

CSR	0.007***	0.007***	0.006***	0.007***	0.007***	0.007***
	(9.14)	(9.05)	(8.45)	(9.43)	(9.63)	(9.53)
HTOTAL	0.176***					
	(5.51)					
HGEN		0.125*				
		(1.77)				
HAGE			-0.515*			
			(-1.92)			
HDEG				-0.016		
				(-0.21)		
HSEA					0.873***	
					(8.18)	
HCOM						0.194***
						(3.40)
HTOTAL*CSR	-0.005***					
	(-2.92)					
HGEN*CSR		-0.010**				
		(-2.45)				
HAGE*CSR			-0.072***			
			(-4.58)			
HDEG*CSR				-0.003		
				(-0.62)		
HSEA*CSR					0.011**	
					(2.02)	
HCOM*CSR						-0.009***
						(-2.92)
CF	1.646***	1.648***	1.649***	1.643***	1.636***	1.634***
	(7.54)	(7.53)	(7.54)	(7.51)	(7.51)	(7.49)
IRBR	0.143***	0.154***	0.157***	0.154***	0.148***	0.145***
	(3.76)	(4.02)	(4.10)	(4.01)	(3.89)	(3.83)
AGE	0.008***	0.008***	0.008***	0.008***	0.009***	0.007***
	(2.96)	(2.85)	(2.99)	(2.86)	(3.35)	(2.77)
SGR	2.719***	2.714***	2.731***	2.720***	2.714***	2.742***
	(12.02)	(11.97)	(12.06)	(12.00)	(12.01)	(12.10)
TOP10	1.566***	1.579***	1.591***	1.589***	1.558***	1.581***
	(18.28)	(18.45)	(18.53)	(18.53)	(18.21)	(18.42)
LEV	-0.542***	-0.558***	-0.566***	-0.563***	-0.531***	-0.567***
	(-6.15)	(-6.33)	(-6.42)	(-6.37)	(-6.06)	(-6.43)
SIZE	-0.826***	-0.825***	-0.831***	-0.827***	-0.834***	-0.829***
	(-47.47)	(-46.91)	(-47.46)	(-47.54)	(-47.86)	(-47.58)
YEAR	Included	Included	Included	Included	Included	Included
INDUSTRY	Included	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387	16387
R-squared	0.461	0.46	0.46	0.46	0.463	0.46
F	238.43***	237.92***	238.94***	237.83***	239.14***	238.18

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 9. Regression Results of the Nonlinear Effect of TMT Characteristics on ROE

	(1)	(2)	(3)	(4)	(5)
Intercept	0.007	0.009	-0.001	0.007	0.039***
	(0.79)	(0.98)	(-0.08)	(0.72)	(3.95)
CSR	0.0005***	0.0005***	0.001***	0.0005***	0.0005***
	(19.17)	(19.18)	(19.38)	(19.22)	(18.38)
TGEN	0.004*				
	(1.89)				
TAGE		0.0001*			
		(1.71)			
TDEG			-0.003***		
			(-5.30)		
TSEA				-0.004	
				(-0.75)	
TCOM					0.005***
					(9.49)
TGEN²	-0.025***				
	(-2.83)				
TAGE²		-0.00002			
		(-1.30)			
TDEG²			-0.002**		
			(-2.26)		
TSEA²				0.013	
				(0.73)	
TCOM²					0.002***
					(2.98)
Control variables	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387
R-squared	0.861	0.861	0.861	0.861	0.862
F-test	790.90***	791.84***	794.16***	790.60***	809.48***

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 9 reports the regression results of the nonlinear effect of TMT characteristics on ROE. TGEN (coefficient = 0.004, robust-t = 1.89) and TGEN² (coefficient = -0.025, robust-t = -2.83) in column (1) indicate that the TGEN (proportion of female executives) and corporate performance (ROE) have an inverted U-shaped relationship. Similarly, TDEG (coefficient =-0.003, robust-t=-5.30) and TDEG² (coefficient = -0.002, robust-t = -2.26) are significant, which suggests that the education level of the TMT has a negative effect on firm performance (ROE); further, as the level of education increases, the intensity of the effect increases as well. TCOM (coefficient = 0.005, robust-t=9.49) and TCOM² (coefficient = 0.002, robust-t=2.98) also indicate that the compensation of the TMT has a positive effect on firm performance (ROE); further, as the compensation increases, the intensity of the effect increases as well.

Table 10. Regression Results of the Nonlinear Effect of TMT Characteristics on TOBINQ

	(1)	(2)	(3)	(4)	(5)
Intercept	19.773***	19.832***	20.852***	19.968***	20.916***
	(55.64)	(54.85)	(57.24)	(56.68)	(57.35)
CSR	0.007***	0.007***	0.006***	0.007***	0.006***
	(9.48)	(9.52)	(8.75)	(9.60)	(8.34)
TGEN	0.128				
	(1.27)				
TAGE		-0.002			
		(-0.45)			
TDEG			0.408***		
			(13.85)		
TSEA				1.304***	
				(4.70)	
TCOM					0.119***
					(6.10)
TGEN²	0.481				
	(1.06)				
TAGE²		0.0002			
		(0.29)			
TDEG²			0.124***		
			(3.08)		
TSEA²				-0.48	
				(-0.44)	
TCOM²					0.187***
					(11.47)
Control variables	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387
R-squared	0.460	0.460	0.467	0.463	0.466
F	237.99***	238.64***	241.23***	239.57***	241.43***

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Like Table 9, Table 10 reports the regression results of the nonlinear effect of TMT characteristics on TOBINQ. In column (3), the coefficient of TDEG is 0.408 (robust-t=13.85) and the coefficient of TDEG² is 0.124 (robust-t = 3.08), which indicates that the education level of the TMT has a positive effect on TOBINQ; further, as the level of education increases, the intensity of the effect increases. Similarly, TCOM (coefficient = 0.119, robust-t=6.10) and TCOM² (coefficient = 0.187, robust-t=11.47) also indicate that the compensation of the TMT has a positive effect on TOBINQ; further, as the compensation increases, the intensity of the effect increases.

Table 11. Regression Results of the Nonlinear Effect of TMT Heterogeneity on ROE

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.008	0.009	0.007	0.007	0.007	0.007
	(0.80)	(0.91)	(0.74)	(0.74)	(0.76)	(0.71)
CSR	0.0005***	0.0005***	0.0005***	0.0005***	0.0005***	0.0005***
	(19.22)	(19.14)	(19.23)	(19.22)	(19.22)	(19.15)
HTOTAL	0.0003					
	(0.37)					
HGEN		0.002				
		(1.46)				
HAGE			0.009			
			(1.51)			
HDEG				0.001		
				(0.62)		
HSEA					0.001	
					(0.13)	
HCOM						0.00002
						(0.01)
HTOTAL^2	-0.003**					
	(-2.46)					
HGEN^2		-0.038***				
		(-3.45)				
HAGE^2			-0.185**			
			(-2.39)			
HDEG^2				0.002		
				(0.26)		
HSEA^2					-0.006	
					(-0.30)	
HCOM^2						-0.008**
						(-2.04)
Control variables	Included	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387	16387
R-squared	0.861	0.861	0.861	0.861	0.861	0.861
F	791.92***	792.29***	793.59***	798.71***	790.34***	795.23***

*** p<0.01, ** p<0.05, * p<0.1

　　Table 11 reports the regression results of the nonlinear effect of TMT heterogeneity on ROE. The coefficient of HTOTAL^2 is -0.003 (robust-t=-2.46), the coefficient of HGEN^2 is -0.038 (robust-t=-3.45), the coefficient of HAGE^2 is -0.185 (robust-t=-2.39), and the coefficient of HCOM^2 is -0.008 (robust-t=-2.04), indicating that TMT heterogeneity show nonlinearity. Table 12 also reports the regression results of the nonlinear effect of TMT heterogeneity on TOBINQ. The coefficient of HTOTAL^2 is 0.246 (robust-t=3.92), the coefficient of HGEN^2 is 1.474 (robust-t=2.84), the coefficient of HSEA^2 is 1.838 (robust-t=1.89), and the coefficient of HCOM^2 is 0.637 (robust-t=3.13), indicating that TMT heterogeneity has nonlinearity.

Table 12. Regression Results of the Nonlinear Effect of TMT Heterogeneity on TOBINQ

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	19.798***	19.718***	19.903***	19.837***	19.914***	19.906***
	(56.34)	(55.44)	(56.39)	(56.40)	(56.44)	(56.59)
CSR	0.007***	0.007***	0.007***	0.007***	0.007***	0.007***
	(9.77)	(9.52)	(9.47)	(9.53)	(9.60)	(9.69)
HTOTAL	0.156***					
	(4.99)					
HGEN		0.122*				
		(1.73)				
HAGE			−0.412			
			(−1.45)			
HDEG				0.072		
				(0.73)		
HSEA					0.432*	
					(1.86)	
HCOM						0.055
						(0.86)
$(HTOTAL)^2$	0.246***					
	(3.92)					
$(HGEN)^2$		1.474***				
		(2.84)				
$(HAGE)^2$			1.527			
			(0.39)			
$(HDEG)^2$				0.437		
				(1.33)		
$(HSEA)^2$					1.838*	
					(1.89)	
$(HCOM)^2$						0.637***
						(3.13)
Control variables	Included	Included	Included	Included	Included	Included
N	16387	16387	16387	16387	16387	16387
R-squared	0.461	0.460	0.460	0.460	0.463	0.461
F	239.16***	238.42***	238.15***	237.86***	239.58***	239.26***

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

V. Conclusion

In this essay, we analyzed the moderating effect of corporate TMT characteristics and TMT heterogeneity on the relationship between CSR and corporate value. We constructed a moderating effect test model based on the data of China's A-share listed firms from 2010 to 2017.

The study found that, first, the characteristics of the TMT have a moderating effect on the relationship between CSR and corporate value. For example, the educational degree of TMT has a negative effect on the relationship between CSR and ROE. The TMT age, education degree, overseas background, and compensation have a positive moderating effect on CSR and corporate market value. The TMT gender has a negative moderating effect on the relationship between CSR and TOBINQ.

Second, the heterogeneity of TMT has a moderating effect on the relationship between CSR and corporate value. Especially, the heterogeneity of age, education degree, and compensation

have a positive effect on the relationship between CSR and ROE. The gender, age, and compen-sation heterogeneity of the TMT have a negative moderating effect on the relationship between CSR and corporate market value. The comprehensive heterogeneity of TMT has a moderating effect on the relationship between CSR and ROE as well as on the relationship between CSR and TOBINQ. In an additional analysis, we analyzed the nonlinear relationship between the characteristics and the heterogeneity of the TMT and corporate value. We can find the various characteristics and the heterogeneity of the TMT show the nonlinearity.

Further, this current work has limitations that future research should overcome. First, we used the total score of CSR. In future, we can analyze the moderating effect of the TMT charac-teristics, and TMT heterogeneity based on the various dimensions of social responsibility. Second, because of the special nature of state-owned enterprises in China, the samples can be grouped to compare and analyze the moderating effects of the TMT characteristics and TMT heterogeneity on CSR and corporate value under different ownership situations.

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Appendix 1. Hexun.com Listed Company Corporate Social Responsibility Professional Evaluation Index System

First level indicators	Secondary indicators
Shareholder responsibility(Weights : 30%)	Profit level (10%)
	Debt paying ability (3%)
	Return on investment (8%)
	Penalty status (5%)
	Innovation (4%)
Staff responsibility(Weights : 15%) (Consumer industry weights:10%)	Staff income and training (5%) (Consumer industry 4%)
	Safe Production (5%) (Consumer industry 3%)
	Take care of employees (5%) (Consumer industry 3%)
Supplier, customer, and consumer rights responsibilities(Weights : 15%) (Consumer industry weights: 20%)	product quality (7%) (Consumer industry 9%)
	After-sales service (3%) (Consumer industry 4%)
	Integrity and fair competition (5%) (Consumer industry 7%)
Environmental responsibility(Weights : 20%) (Manufacturing industry weights: 30%) (Service industry weights:10%)	Environmental protection and governance (Weights : 20%) (Manufacturing industry 30%) (Service industry 10%)
Social responsibility (Weights:20%) (Manufacturing industry weights:10%) (Service industry weights:30%)	Degree of social contribution (20%) (Manufacturing industry 10%) (Service industry 30%)