

Article

Teachers in the Top Management Team and Corporate Social Responsibility

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Abstract: Firms are required to consider all stakeholders' interests and achieve coordinated development of the company, society, and the environment. Teachers are often associated with high moral standards and dedication to others. Top managers in the top management team (TMT) are responsible as corporate executives for corporate governance and outcomes. How top managers' teaching experience affects corporate social responsibility (CSR) therefore becomes a meaningful question. Based on A-share listed firms in China from 2010 to 2019, we empirically analyze the effects of teachers as top managers on firm CSR performance. According to our sample, 13.75% of A-share listed firms have top managers with teaching experience in the TMT. We find that the occurrence of teachers in the TMT has a positive impact on CSR, especially on sub-indicators like shareholder responsibility; employee responsibility; supplier, customer, and consumer responsibility; and environmental responsibility. Firms with more teachers in the TMT exhibit higher CSR performance. Further results indicate that this effect is significant only when top managers are also directors on the board. We use the propensity score matching method to alleviate the endogeneity problem and obtain robust results.



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1. Introduction

As executive officers, the top managers in a TMT play an important role in the organization, and their characteristics will affect decision-making of the firm [1]. The extant literature has shown that professors on the board will affect several corporate outcomes. Cho et al. [2] suggest that U.S. firms with professor directors on the board tend to have better CSR performance. However, there are some limitations when this argument applies to other countries. For example, in China, the Securities Regulatory Commission (CSRC) imposed a policy on listed companies in 2001 that the independent directors should have at least 5 years' legal, economics, or other work experience to fulfill their duties. As a result, almost 90% of listed companies in China have university or college professor directors on their board for their in-depth expertise in certain areas. In this circumstance, the arguments about the effect of professor directors on corporate outcomes [2,3] lose their effectiveness in China. The professor is a teaching profession of the highest rank in a university or college, who is often expert in one specific field with a post-graduate, typically doctoral, degree. Among the group of teachers, professors are more likely to be critical and intelligent. Hence, the extant literature emphasizes the academic background and professional advice of professors for firms. Our study considers that the professional ethics and self-discipline of a teacher would imprint substantively on his future career. As such, there is motivation to study whether firms with executives of teaching experience exhibit better CSR performance.

Teachers, as engineers of the human soul, take the heavy responsibility of influencing and teaching the next generation. This profession is an old profession and has always

played an important role in human history. Han Yu, a famous Chinese poet, thinker, and politician living in the Tang Dynasty, once defined a teacher in his essay *Shi Shuo* (Discourse on Teacher) as one who could propagate doctrine, impart professional knowledge, and resolve doubts. It can be seen that teachers have always played a role in imparting knowledge and cultivating personality. In the modern era, the roles of teachers are diverse, including designers, facilitators of learning, organizers, managers, mentors, partners, and service providers, just to name a few. Due to the importance and particularity of teachers' work, teachers' professional ethics are relatively strict. Generally speaking, teachers have a high level of ethics and social responsibility [2].

Three kinds of force drive firms to fulfill CSR: legitimate, economic, and moral. Firstly, the implementation of CSR and the disclosure of relevant information are driven by providing legitimacy to corporate activities [4–7]. CSR can help firms to establish positive images and alleviate the possible negative impact of engaging in some special activities [5]. Secondly, CSR is driven by economic motives. Firms can improve their brand image, promote consumers' willingness to purchase their products, and enhance customers' loyalty by conducting CSR activities, which further improves firm performance [8,9]. Thirdly, firms are driven by moral motive, and the top managers' own moral norms are important factors affecting whether the firm practices CSR. Sometimes firms are driven by managers' values, not by legitimacy or economic motives [10].

Extant literature tends to focus on legitimate and economic motivation, while research on moral motivation is limited. When we are looking into the impact of top managers' teaching experience on CSR, our focus is on moral motivation. Extant research has found that the personal experiences of corporate top managers, such as those in military, academic, or overseas contexts, can influence firm performance and CSR by affecting their psychological situation and behavior [3,11,12]. Teachers are often associated with high moral standards and willingness to sacrifice their personal interests. However, what about the interest of the company? It is meaningful to examine the relationship between individual-level teaching experience and firm-level CSR performance.

In this paper, we aim to take up a novel perspective to link top managers' teaching experience with firm CSR performance, which enriches the literature on corporate executives' past experiences and their effects on firm behavior and performance. We investigate whether the occurrence of top managers with teaching experience in the TMT is related to CSR performance. We estimate the impact of the teaching experience ratio in the TMT. We then examine whether the impact of top managers' teaching experience depends on their dual role as directors on the board. As the leader of the TMT, the CEO's teaching experience is also brought into analysis to explain its importance to CSR. In further discussion, as a comparison, we suggest that the teaching experience of directors on the board is unrelated to CSR performance when we rule out the independent directors.

The present paper is organized as follows: Section 2 reviews the theoretical background and proposes the hypotheses. Section 3 introduces the data and research method, including sample, variables, and empirical models. Section 4 reports empirical results. Section 5 checks the robustness and discusses further results. Section 6 concludes.

2. Theoretical Background and Hypotheses

2.1. Past Experiences and Individual's Behavior

Several studies have shown that past experiences can have profound impacts on individuals' psychology and behavior. For instance, soldiers who have experienced wars generally are more able to cope with emergencies and survive in extreme environments than ordinary people who do not have this experience [13,14]. Meantime, soldiers who survived war have a much higher probability of suffering from mental illness than ordinary people [15]. Nolen-Hoeksema and Morrow [16] find that students who experienced more dangerous situations in an earthquake had more negative emotions after the earthquake. The sufferers are often risk-averse and more conservative due to the change of sufferers' perception of risk by natural disasters [17]. A similar effect on risk-taking and preference in

corporate financial policies occurs for people born during the Great Depression [18]. CEOs who experienced the Great Depression are more likely to question the reliability of the external environment and prefer a low-leveraged capital structure [19,20]. CEOs' military service experience is associated with conservative corporate policies and ethical behavior, thus lowering corporate investment, making involvement in corporate fraudulent activity less likely, and improving performance during industry downturns [11].

Members in the same group share their knowledge, skills, attitudes, and values [21]. In addition to the job-related core competencies, people with the same occupations also share common professional norms and values. Larson [22] argues that occupations contain three universal dimensions: the cognitive dimension, normative dimension, and evaluative dimension. The normative dimension means that each profession has its own unique professional norms and ethical guidelines. DiMaggio and Powell [23] find that professionalization-rooted normative pressure can cause organizational isomorphism. People create a professional identity at work, and people with the same professional identity tend to advocate for similar professional norms and values [24].

People's past experience and environment may form special characteristics that uniquely predict some patterns of their decision-making behavior and have a lasting effect [25]. This is imprinting theory. Especially for early careers, such as being a teacher, the shared norms and values originated from a strict code of professional ethics exert a lasting influence on people's future careers [26,27]. When these people become corporate top leaders, many of these attitudes are likely to carry over into the new career. Several studies indicate that these imprints may cross organizational boundaries [28,29].

2.2. TMT Heterogeneity and Corporate Outcomes

According to upper echelon theory, the personal characteristics of managers can influence firm behavior and performance [1]. Upper echelon theory suggests that the personal characteristics of managers, such as age, professional experience, education, financial status, and the heterogeneity among the TMT members can influence aspects of firm performance, such as profitability [30,31], innovation [32,33], financial reporting quality [34], and sustainability [35,36], through affecting corporate strategic choices.

TMT is widely studied in the literature, from cognitive characteristics to values and perceptions [37]. Numerous studies have investigated the heterogeneity in top managers, such as age [38], identity [39], management styles [40,41], and professional background [42]. Research in the human capital of top managers finds that top management team heterogeneity in education is positively associated with firms' competitive moves [43] and innovations [44,45]. Recent literature highlights the role of social capital, such as the political connections between top managers and local government [46,47]. From the perspective of corporate management, gender heterogeneity studies of top managers indicate that female managers exhibit more risk-averse behavior concerning employees and customers [48,49].

2.3. Top Managers and Corporate Social Responsibility

According to the widely accepted stakeholder framework for analyzing and evaluating corporate social performance [50], CSR can be divided into different sub-indicators such as shareholder equity responsibility; employee responsibility; supplier, customer, and consumer rights responsibility; environmental responsibility; and social responsibility contribution. Among these stakeholders, shareholders and employees are internal stakeholders, while supplier, customer, consumer rights, environmental, and social responsibility represent external stakeholders. CSR in developed countries has emerged as a key element for business and academics, while CSR practices and studies in developing countries still need to improve [51,52].

Recent research explores factors affecting CSR performance and disclosure, such as gender diversity [53–55], CEO duality [56,57], and board independence [58,59]. Research has found that the demographic characteristics of TMT members can influence corporate strategic change [60]. A study of Chinese listed companies finds that firms with female

CEOs have better CSR performance [61]. Manner [62] also finds that female managers can positively affect the fulfillment of CSR, and extensive professional background for managers will have a positive impact on CSR. In addition to gender, there are also other characteristics affecting corporate social responsibility. The educational background of top managers influences CSR performance, in that top managers with a bachelor's degree in economics will have a negative impact on CSR, while top managers with a bachelor's degree in humanities will have a positive impact on CSR [62].

There are also voluminous studies looking at the impact of top managers' deeper characteristics such as values, personality, and attitudes on CSR. Swanson [63] investigates top managers' values regarding CSR and suggests that there are two types of responsible managers, those refraining from harmful behavior toward stakeholders and the others promoting the interests of stakeholders, and these two choices are influenced by the values of the managers. Similarly, Hemingway and MacLagan [64] argue that top managers' values can influence the adoption and implementation of CSR, meaning economic factors are no longer the only influencing ones. Through the follow-up study examining Standard & Poor's 1500 Index companies from 2001 to 2010, Tang et al. [65] finds that the arrogance of top managers will have a significant negative impact on CSR, but this impact will be weakened by the increased dependence of stakeholders. Sturdivant and Ginter [66] identify that when managers are more tolerant and more positive about business and social issues, CSR performance will be improved, especially in terms of ecological protection, consumer responsibility, and employee welfare. Disclosure of CSR is also influenced by top managers' attitudes toward social expectations [67].

2.4. Characteristics of Teachers and Teachers in Business

Teaching as a profession is perceived to be associated with dedication and a strong sense of morality. Teachers are generally considered to be responsible, willing to participate in social activities, and willing to undertake social obligations and attach importance to social morality.

From the perspective of psychology, the theory of vocational choice suggests a strong link between personality and career interests [68]. According to this theory, people with a supportive orientation to their personality would like to interact with others and be willing to teach others. Therefore, people with a supportive orientation to their personality tend to become teachers.

Most research on teachers focuses on teaching processes such as improving student performance, teaching effectiveness, and teaching methods [69,70], while "teachers' morality" emphasizes the professional ethics of teachers. For learning experience in childhood, Yamamura et al. [71] argues that teacher–pupil gender matching affects CSR preference formation differently, while female teachers only affect male pupils' corporate responsibility later in life.

Each country has its own professional ethics system for teachers, such as the code of ethics adopted by the National Education Association in the United States in 1975, which comprehensively addresses and clearly defines the teacher's responsibilities to students and the overall ethical requirements of the teacher profession [72]. It is suggested that the ethical environment of an organization would promote organizational citizenship behavior in teachers, which relates to extra responsibility and action beyond the call of duty [73,74]. For teachers, their perceptions of CSR can enhance job satisfaction and organizational identification, which subsequently affect their voluntary behavior [75].

In 1991, China issued its code of professional ethics for primary and secondary school teachers, which was the first time China implemented a code for teachers. The code of professional ethics was revised in 1997 and 2008. These three editions of the code of professional ethics for teachers focus on responsibility to students, dedication, discipline, and abiding by the law. In 2005, China's Ministry of Education issued a document named *Opinions on Further Strengthening and Improving Teachers' Morality*, clearly stating that teachers should be willing to contribute, work towards the prosperity of the country, and set

good examples for students through high moral standards. These guidelines of professional ethics show that it is always a major priority in China to raise “teachers’ morality”.

In conjunction with the self-discipline of a teacher, these external norms would imprint substantively on teachers’ daily conduct and behavioral patterns. In addition, the merits of a teacher, such as devotion, dedication, willingness for sharing, and attention to others’ interests, may also contribute to their social responsibility. Scholars have also invoked the concept of imprinting in organization theory [27]. Therefore, the firm’s top management team having members with teaching experience will make it more likely to make strategic decisions favoring CSR.

Based on the above literature review and discussion, we form the following hypotheses:

Hypothesis 1 (H1). *The occurrence of top managers with teaching experience in the top management team has a positive impact on firm CSR performance.*

Hypothesis 2 (H2). *With a larger proportion of top managers with teaching experience in the top management team, firm CSR performance is better.*

3. Data and Methods

3.1. Data Sources

We conduct analysis on the A-share listed firms of China from 2010 to 2019, excluding financially distressed firms and firms in the financial industry. The “distressed” firms in China are treated with ST or * ST (standing for special treatment), and are identified based on the regulations of CSRC. For firms in the financial industry, the financial reporting standard applied is different from other industries. The final full sample has 15,681 observations from 10 years for 2686 unique firms and 33,818 unique top managers. We choose 2010 as the starting year of the sample, because the CSR reporting on the listed firms we use in the present study was inaugurated in 2010.

Top managers’ personal information is mainly collected from the China Stock Market and Accounting Research (CSMAR) database, a major listed firms database in China, supplemented by Wind Economics Database, a major alternative to CSMAR, as well as a widely used search engine in China, Baidu.com. The working experience of top managers is collected from their resumes through CSMAR database and then crosschecked with Wind and Baidu.com for verification. We set up a dictionary to include keywords about teaching experience and then search through resumes by using Python. We define the top managers’ teaching experience as those who once were or now are teachers. The teaching experience ranges from primary to higher education, from which devotion, dedication, and a strong sense of morality are derived, but the functional personnel experiences in the respective institutions are excluded, such as administrative, accountant, or HR experience. We collect the top managers’ information including teaching experience, gender, age, and tenure, and we then generate the TMT-level data for each firm.

The firm-level data (e.g., Leverage, Tobin’s q, Industry) comes from CSMAR database, and the CSR data comes from Hexun CSR evaluation reporting system. The detailed explanation of the data will be introduced in the following sections, and the descriptions of all variables are included in Table 1.

Table 1. Summary Description of Variables.

Variable	Description
CSR	Overall CSR performance rated by a full score of 100 points from Hexun.
CSR Rank	The ranking of CSR rated by a five-point scale, 5 indicating the company’s CSR above 80 points, and 1 indicating CSR below 20 points.
CSR Holder	Sub-indicator: shareholder equity responsibility.
CSR Employ	Sub-indicator: employee responsibility.
CSR Customer	Sub-indicator: supplier, customer, and consumer rights responsibility.
CSR Envir	Sub-indicator: environmental responsibility.
CSR Social	Sub-indicator: social responsibility contribution.

Table 1. *Cont.*

Variable	Description
TMTTE	1 if a firm has top managers with teaching experience in the TMT, and 0 otherwise.
TMTTERatio	The percentage of top managers with teaching experience in the TMT.
TMTmale	The percentage of males in the TMT.
TMTage	The average age of top managers in the TMT.
TMTtenure	The average number of months top managers serve in their position.
TMTTERatio (on the board)	The percentage of top managers with teaching experience who are also on the board.
TMTTERatio (not on the board)	The percentage of top managers with teaching experience who are not on the board.
CEOTE	1 if a firm has a CEO with teaching experience, and 0 otherwise.
CEOmale	1 if CEO is male, and 0 if CEO is female.
CEOage	The age of CEO.
CEOTenure	The number of months CEO serves in the position.
BoardTE	1 if a firm has directors on the board excluding the independent directors.
BoardTERatio	The percentage of directors on the board excluding the independent directors.
BoardMale	The percentage of males on the board excluding the independent directors.
BoardAge	The average age of directors on the board excluding the independent directors.
BoardTenure	The average number of months directors serve in their position.
Duality	1 if the CEO and the chairman of the board are the same person, and 0 otherwise.
FirmAge	The number of years since the firm was established.
SOE	1 if a firm is state-owned, and 0 otherwise.
HI	Herfindahl Index that measures the equity concentration, specifically the sum of squares of the shareholding ratio of the three largest shareholders.
Indep Board	The percentage of independent directors on the board.
Leverage	The number of directors on the board excluding the independent directors.
Growth	The total liabilities divided by the total assets, measured at the fiscal year end.
Tobinq	The year-to-year growth rate of the firm gross operating income, measured at the fiscal year end.
IR	Tobin's Q. The market value of the firm divided by the asset replacement cost, measure at the fiscal year end.
MR	The institutional shareholding ratio measured by the percentage of shares held by institutional investors at the fiscal year end.
Province	Management shareholding ratio measured by the percentage of shares held by the management at the fiscal year end.
Industry	The registration location of a company, including 22 provinces, 4 municipalities, and 5 autonomous regions.
Year	The industry classification for listed companies published by China Securities Regulatory Commission (CSRC) in 2012.
	The year, from 2010 to 2019.

3.2. Dependent Variables

CSR scores and ranks come from CSR rating agency Hexun (Beijing, China), one of the largest financial research and information service platforms in China, which provides a systematic assessment of CSR for Chinese listed companies. Hexun obtains original firm CSR information from the China listed firm CSR research database and follows international rating agencies' standards such as MSCI (Morgan Stanley Capital International) and KLD (Kinder, Lydenberg, Domini) Index. Hexun CSR rankings have been adopted by prior studies [76–80].

The overall CSR performance (CSR) is rated by a full score of 100 points and contains five sub-indicators: shareholder equity responsibility (CSR Holder); employee responsibility (CSR Employ); supplier, customer, and consumer rights responsibility (CSR Customer); environmental responsibility (CSR Envir); and social responsibility contribution (CSR Social). The ranking of CSR performance (CSR Rank) is performed using a five-point scale, with 5 indicating the company's CSR score is above 80 points and 1 indicating it is below 20 points.

3.3. Independent Variables

There are several independent variables depending on the research questions in different models. The first key independent variable is teacher occurrence in the TMT (TMTTE), identifying whether TMT has at least one top manager with teaching experience. The second is the teaching experience ratio of TMT (TMTTEratio), indicating the proportion of top managers with teaching experience in TMT. We also test the teaching experience of the CEO and the board with other variables (e.g., CEOTE and BoardTE).

3.4. Control Variables

According to the literature, in our main regression, we control for various variables at two levels, TMT-level and firm-level, as well as industry, province, and year fixed effects.

3.4.1. TMT-Level

Gender (TMTmale). Women are generally considered to be compassionate, and female managers are found to have a positive impact on CSR performance [62,81]. Therefore, we generate a dichotomous variable to control for the proportion of males in TMT.

Age (TMTage). Studies have shown that as age increases, the willingness of managers to comply with ethics increases, and the willingness to challenge existing industries and organizational structures declines; this reduces the probability of managers violating laws and ethics and leads to better CSR [82]. Therefore, we control for the average age of TMT members.

Tenure (TMTtenure). Longer tenure helps managers to establish better relationships with social groups [83]. This variable is constructed by the number of average months TMT members serve in their position.

3.4.2. Firm-Level

Duality. The same person serving as the chairman and CEO simultaneously will influence the fairness and effectiveness of the board's supervision [84]. Duality is found to have a negative impact on the fulfillment of CSR [85]. Therefore, we control for this factor with a dichotomous variable coded "1" for duality and "0" otherwise.

Firm age (FirmAge). The longer a firm is established, the more it attaches importance to the responsibility of diversity and the environment [86]. Moreover, the older an enterprise is, the more it understands the needs of stakeholders, and it has more knowledge and experience to meet them. We measure firm age by the number of years since establishment.

Firm ownership (SOE). Firm ownership may affect the performance of CSR [87]. This is a dichotomous variable with "1" for state-owned enterprises and "0" otherwise.

Equity concentration (HI). Research has found a negative relationship between firm equity concentration and CSR performance among European listed companies [88]. We use Herfindahl Index to measure the equity concentration, specifically Herfindahl 3, which is the sum of squares of the first three major shareholders' shareholding ratio of the company.

Independent director ratio (Indep). Independent directors are independent of shareholders and internal employees, and they form an independent judgment on corporate affairs. The proportion of independent directors is positively associated with the independence of the board and socially responsible behavior of the firm [85]. The variable is constructed as the number of independent directors over the total number of board members.

Board size (Board). Boards with more members are more effective in avoiding the occurrence of corporate irregularities and facilitating CSR performance [89]. The variable is constructed by the number of board members excluding the independent directors.

Leverage. Titman [90] found that a company with a high leverage ratio has a higher risk of bankruptcy and a lower ability to fulfill its commitments, which makes it difficult to meet the needs of its stakeholders. Therefore, we control for the leverage ratio of the firm as measured by total liabilities over total assets.

Firm growth (Growth). The growth rate of the business can influence firm behavior. The variable is measured by the year-to-year growth rate of a firm's gross operating income.

Performance (Tobinq). Financial performance may inversely affect CSR performance [91]. We use Tobin's Q to identify the firm value, which refers to the ratio of firm market value to the asset replacement cost.

Institutional shareholding ratio (IR). In general, institutional investors tend to hold shares for a long time and pay more attention to corporate sustainability [92]. There is a significant positive correlation between institutional investors' long-term shareholding and CSR [93]. The variable is measured by the number of shares held by institutional investors over the total number of shares of the firm.

Management shareholding ratio (MR). Khan et al. [94] found that the shareholding ratio of management is negatively correlated with CSR disclosure. The variable is measured by the number of shares owned by management over the total number of shares of the firm.

3.5. Distribution of Sample

In Table 2, we show the distribution of sample firms over 10 years and 18 industries. Panel A of Table 2 shows that 13.75% of the sample have top managers with teaching experience in the TMT. Conditioning for the teacher occurrence in TMT, the percentage of teachers in the TMT is on average 17.3% and stable over the years. From 2010 to 2015, the number and the percentage of firms having at least one top manager with teaching experience increased year by year.

Panel B of Table 2 shows the heterogeneity of TMT in the different industries according to the industry classification by China Securities Regulatory Commission (CSRC). In our sample, there is a large proportion of firms from manufacturing, wholesale, and retail trade, which accounts for 70% of the total. The scientific research and technical services industry; the information transmission, software, and information technology services industry; and the arts, sports, and entertainment industry have the highest proportion of firms having top managers with teaching experience in the TMT across the years. The percentages are 24.44%, 22.86%, and 20.13%, respectively. Conditioning for the teacher occurrence in TMT, the percentage of teachers in the TMT is highest in the education industry at 26.69%, as we expected.

Table 2. Distribution of Sample Firms by Year and Industry.

Panel A: Distribution of Sample Firms by Year					
Year	# of Firms	# of Firms Having Top Managers with Teaching Experience in the TMT	% of Firms Having Top Managers with Teaching Experience in the TMT	# of Firms Having Top Managers with Teaching Experience in the TMT (>1)	Mean % of Teachers in the TMT Conditional on the Teacher Occurrence
2010	1112	139	12.50	92	19.55
2011	1456	195	13.39	131	19.47
2012	1668	233	13.97	149	17.55
2013	1667	234	14.04	148	16.90
2014	1658	246	14.84	159	16.80
2015	1744	281	16.11	179	16.26
2016	1912	287	15.01	191	16.36
2017	1983	302	15.23	208	17.13
2018	2237	223	9.97	157	17.44
2019	244	16	6.56	12	17.38
Total	15,681	2156	13.75	1426	17.30

Table 2. Cont.

Panel B: Distribution of Sample Firms by Industry				
Industry	# of Firm-Years	# of Firm-Years Having Top Managers with Teaching Experience in the TMT	% of Firm-Years Having Top Managers with Teaching Experience in the TMT	Mean % of Teachers in the TMT Conditional on the Teacher Occurrence
Agriculture, forestry, animal husbandry, and fishery	221	31	14.03	12.03
Mining	430	39	9.07	14.45
Manufacturing	9952	1376	13.83	17.53
Production and supply of electric power, heat, gas, and water	627	63	10.05	18.84
Construction	459	84	18.30	16.07
Wholesale and retail trade	1026	100	9.75	17.75
Transportation, warehousing, and postal services	577	52	9.01	16.64
Accommodation and restaurants	71	12	16.90	23.49
Information transmission, software, and information technology services	608	139	22.86	17.00
Real estate	887	115	12.97	16.43
Leasing and business services	191	34	17.80	14.30
Scientific research and technical services	90	22	24.44	15.23
Water conservancy, environment, and public facilities management industry	159	14	8.81	13.29
Residential services, repair, and other services	13	2	15.38	5.84
Education	13	4	30.77	26.69
Health and public services	15	2	13.33	15.88
Arts, sports, and entertainment	159	32	20.13	19.19
Generals	183	35	19.13	21.55
Total	15,681	2156	13.75	17.30

Note: Panel A and B of the table are based on the sample of 15,681 observations from 2010 to 2019.

3.6. Empirical Models

We apply two empirical models to test the hypotheses. Each model controls for both TMT- and firm-level variables with industry, province, and year fixed effects. We use multi-linear regressions to implement the models. In order to reduce heteroscedasticity, a robust standard error is adopted.

Model 1 tests the relationship between teacher occurrence in the TMT and CSR performance, and Model 2 focuses on the impact of the teaching experience ratio of TMT on the CSR performance, testing Hypotheses 1 and 2.

$$\text{CSR performance}_{i,t} = \alpha + \beta \text{TMTTE}_{i,t} + \gamma \text{Control}_{i,t} + \text{Industry FE} + \text{Province FE} + \text{Year FE} + \varepsilon_{i,t} \quad (1)$$

$$\text{CSR performance}_{i,t} = \alpha + \beta \text{TMTTERatio}_{i,t} + \gamma \text{Control}_{i,t} + \text{Industry FE} + \text{Province FE} + \text{Year FE} + \varepsilon_{i,t} \quad (2)$$

4. Results

4.1. Descriptive Statistics

Panel A of Table 3 shows the summary statistics for all the variables: CSR performance, TMT characteristics, CEO characteristics, board characteristics, and firm characteristics. The CSR score is between -4.09 to 75.29 on a 100-point scale, and the average is 26.23 . All CSR indicators have positive mean values, among which the sub-indicator of shareholder equity responsibility is the highest. In our observations, 14% of the TMT have at least one top manager with teaching experience. The mean percentage of top managers with teaching experience in the TMT is 2%.

Table 3. Summary Statistics and Correlation of the Variables.

Panel A: Summary Statistics						
Variable	Obs	Mean	Std. Dev.	Min	Median	Max
CSR performance						
CSR	15,681	26.23	17.58	−4.09	22.47	75.29
CSR Rank	15,681	2.22	0.66	1	2	5
CSR Holder	15,681	13.84	6.25	−3.14	14.35	24.84
CSR Employ	15,681	3.03	3.48	0	1.71	15
CSR Customer	15,681	2.14	5.12	0	0	19
CSR Envir	15,681	2.23	5.55	0	0	23
CSR Social	15,681	4.97	4.38	−8.1	4.58	17.4
TMT characteristics						
TMTTE	15,681	0.14	0.34	0	0	1
TMTTratio	15,681	0.02	0.07	0	0	0.36
TMTmale	15,681	0.85	0.16	0	0.89	1
TMTage	15,681	47.41	3.66	33.27	47.5	60.6
TMTtenure	15,681	47.92	23.36	0	44.38	200.8
CEO characteristics						
CEOTE	15,681	0.04	0.19	0	0	1
CEOmale	15,681	0.94	0.24	0	1	1
CEOage	15,681	49.58	6.49	25	50	81
CEOtenure	15,681	50.62	40.56	0	40	255
Board characteristics						
BoardTE	15,681	0.19	0.39	0	0	1
BoardTERatio	15,681	0.03	0.08	0	0	0.43
BoardMale	15,681	0.88	0.15	0	0.94	1
BoardAge	15,681	49.54	3.95	34.29	49.67	65.17
BoardTenure	15,681	50.23	25.21	0	46.11	185.5
Firm characteristics						
Duality	15,681	0.23	0.42	0	0	1
FirmAge	15,681	16.92	5.7	1	17	51
SOE	15,681	0.44	0.5	0	0	1
HI	15,681	0.17	0.12	0.01	0.14	0.56
Indep	15,681	0.37	0.05	0.29	0.33	0.57
Board	15,681	9.59	2.9	3	9	19
Leverage	15,681	0.46	0.21	0.05	0.46	1.23
Growth	15,681	0.2	0.52	−0.69	0.11	4.09
TobinQ	15,681	2.21	1.55	0.93	1.71	10.71
IR	15,681	6.54	7.1	0	4.11	35.66
MR	15,681	0.1	0.18	0	0	0.69
Year	15,681	2015	2.58	2010	2015	2019
Industry	15,681	4.75	3.46	1	3	19
Province	15,681	13.75	7.74	1	13	31
Panel B: Differences in Firms with and without Teaching Experience of Top Managers						
Variables	Without Teachers in the TMT (N = 13,525)		With Teachers in the TMT (N = 2156)		MeanDiff	
CSR	26.04	−17.41	27.4	−18.58	−1.360 ***	
CSR Rank	2.209	−0.65	2.26	−0.71	−0.050 ***	
CSR Holder	13.76	−6.25	14.34	−6.25	−0.582 ***	
CSR Employ	3	−3.46	3.25	−3.58	−0.250 ***	
CSR Customer	2.093	−5.06	2.462	−5.49	−0.368 ***	

Table 3. Cont.

CSR Envir	2.194 −5.52	2.459 −5.76	−0.265 **
CSR Social	4.987 −4.37	4.856 −4.44	0.131
Duality	0.219 −0.41	0.334 −0.47	−0.115 ***
FirmAge	17.05 −5.67	16.09 −5.86	0.966 ***
SOE	0.462 −0.5	0.336 −0.47	0.126 ***
HI	0.168 −0.12	0.156 −0.12	0.012 ***
Indep	0.371 −0.05	0.377 −0.06	−0.006 ***
Board	9.559 −2.88	9.753 −3.01	−0.193 ***
Leverage	0.457 −0.21	0.454 −0.21	0.003
Growth	0.199 −0.53	0.206 −0.5	−0.00700
TobinQ	2.195 −1.54	2.302 −1.6	−0.108 ***
IR	6.372 −7.03	7.576 −7.48	−1.204 ***
MR	0.091 −0.17	0.131 −0.19	−0.040 ***

Note: Panel A and B of the table are based on the sample of 15,681 observations from 2010 to 2019. Panel A reports summary statistics for all the variables: CSR performance, TMT characteristics, CEO characteristics, board characteristics, and firm characteristics. Panel B compares the mean differences in the variables between two groups: firms without teachers in the TMT (TMTTE = 0) and firms with teachers in the TMT (TMTTE = 1). Robust standard deviation in parentheses; ** $p < 0.01$, *** $p < 0.001$.

Panel B of Table 3 presents the mean differences in variables between two groups: firms without teachers in the TMT (TMTTE = 0) and firms with teachers in the TMT (TMTTE = 1). Firms with teachers in the TMT perform better than firms without teachers in most CSR indicators except the sub-indicator of social responsibility. Private and young firms prefer to bring teachers into the TMT. Tobin's Q is significantly higher in firms with teachers in the TMT.

4.2. Main Results

Table 4 shows the multi-linear regression results of two models: Model 1 (Columns 1, 3, 5, 7, 9, 11, and 13) to test Hypothesis 1 and Model 2 (Columns 2, 4, 6, 8, 10, 12, and 14) to test Hypothesis 2. We examine the occurrence and proportion of top managers with teaching experience in the TMT using different measures. Panel A of Table 4 presents the results where dependent variables are CSR score and CSR rank, while Panel B of Table 4 presents the results where dependent variables are the five different CSR sub-indicators.

Table 4. TMT Teaching Experience and CSR performance.

	CSR		CSR Rank	
	(1)	(2)	(3)	(4)
TMTTE	1.270 *** (0.390)		0.049 *** (0.015)	
TMTTeration		5.606 *** (2.033)		0.217 *** (0.078)
TMTmale	1.719 ** (0.803)	1.721 ** (0.802)	0.085 *** (0.031)	0.085 *** (0.031)
TMTage	0.162 *** (0.039)	0.162 *** (0.039)	0.003 ** (0.001)	0.003 ** (0.001)
TMTtenure	0.040 *** (0.006)	0.040 *** (0.006)	0.001 *** (0.000)	0.001 *** (0.000)
Duality	−1.101 *** (0.299)	−1.095 *** (0.298)	−0.036 *** (0.011)	−0.036 *** (0.011)
FirmAge	0.094 *** (0.026)	0.093 *** (0.026)	0.002 ** (0.001)	0.002 ** (0.001)
SOE	2.328 *** (0.337)	2.317 *** (0.337)	0.098 *** (0.013)	0.097 *** (0.013)
HI	19.590 *** (1.189)	19.551 *** (1.189)	0.431 *** (0.046)	0.429 *** (0.046)
Indep	7.224 *** (2.794)	7.350 *** (2.797)	0.430 *** (0.108)	0.435 *** (0.108)
Board	0.057 (0.049)	0.061 (0.049)	0.003 * (0.002)	0.003 * (0.002)
Leverage	−9.304 *** (0.696)	−9.295 *** (0.695)	−0.114 *** (0.027)	−0.113 *** (0.027)
Growth	1.310 *** (0.224)	1.314 *** (0.224)	0.020 *** (0.008)	0.020 *** (0.008)
TobinQ	−1.201 *** (0.087)	−1.203 *** (0.087)	−0.030 *** (0.003)	−0.030 *** (0.003)
IR	0.501 *** (0.020)	0.502 *** (0.020)	0.014 *** (0.001)	0.014 *** (0.001)
MR	1.041 (0.752)	1.035 (0.752)	−0.087 *** (0.028)	−0.087 *** (0.028)
Constant	9.407 *** (2.279)	9.399 *** (2.281)	1.622 *** (0.087)	1.622 *** (0.087)
Province Fixed Effect	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
N	15,681	15,681	15,681	15,681
Adj. R ²	0.206	0.206	0.171	0.171
F–Statistics	97.507	97.397	49.355	49.343

Panel B: Teaching Experience of Top Managers and Sub-Indicators of CSR

	CSR Holder		CSR Employ		CSR Customer		CSR Envir		CSR Social	
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TMTTE	0.313 ** (0.129)		0.262 *** (0.074)		0.363 *** (0.116)		0.364 *** (0.122)		−0.059 (0.094)	
TMTTeration		0.943 (0.666)		0.848 ** (0.356)		2.048 *** (0.628)		1.662 *** (0.621)		0.033 (0.467)
TMTmale	0.443 (0.284)	0.441 (0.284)	0.818 *** (0.154)	0.817 *** (0.154)	0.525 ** (0.242)	0.528 ** (0.241)	0.877 *** (0.244)	0.878 *** (0.244)	−0.853 *** (0.214)	−0.852 *** (0.214)
TMTage	0.102 *** (0.014)	0.102 *** (0.014)	0.023 *** (0.008)	0.023 *** (0.008)	0.015 (0.012)	0.015 (0.012)	0.031 * (0.012)	0.031 ** (0.012)	−0.009 (0.010)	−0.009 (0.010)
TMTtenure	0.011 *** (0.002)	0.011 *** (0.002)	0.004 ** (0.001)	0.004 *** (0.001)	0.010 *** (0.002)	0.009 *** (0.002)	0.008 *** (0.002)	0.008 ** (0.002)	0.008 *** (0.002)	0.008 *** (0.002)
Duality	−0.189 * (0.109)	−0.183 * (0.109)	−0.231 *** (0.057)	−0.227 *** (0.057)	−0.264 *** (0.087)	−0.267 *** (0.087)	−0.302 *** (0.092)	−0.301 *** (0.092)	−0.132 * (0.079)	−0.135 * (0.079)

Table 4. Cont.

FirmAge	−0.001 (0.009)	−0.002 (0.009)	0.011 ** (0.005)	0.010 * (0.005)	0.019 ** (0.008)	0.018 ** (0.008)	0.010 (0.008)	0.010 (0.008)	0.056 *** (0.006)	0.056 *** (0.006)
SOE	−0.076 (0.113)	−0.082 (0.113)	0.819 *** (0.067)	0.815 *** (0.068)	0.574 *** (0.102)	0.575 *** (0.102)	0.871 *** (0.104)	0.869 *** (0.104)	0.148 * (0.086)	0.151 * (0.086)
HI	11.033 *** (0.392)	11.019 *** (0.392)	1.806 *** (0.236)	1.795 *** (0.236)	2.093 *** (0.357)	2.086 *** (0.357)	2.494 *** (0.385)	2.484 *** (0.385)	2.172 ** (0.281)	2.177 *** (0.281)
Indep	−5.702 *** (0.918)	−5.657 *** (0.918)	2.751 *** (0.552)	2.787 *** (0.553)	4.241 *** (0.822)	4.264 *** (0.823)	4.198 *** (0.903)	4.233 *** (0.904)	1.493 ** (0.687)	1.478 ** (0.687)
Board	−0.069 *** (0.017)	−0.068 *** (0.017)	0.019 * (0.010)	0.020 ** (0.010)	0.061 *** (0.014)	0.062 *** (0.014)	0.046 *** (0.016)	0.047 *** (0.016)	−0.000 (0.012)	−0.000 (0.012)
Leverage	−10.694 *** (0.258)	−10.686 *** (0.257)	0.842 *** (0.135)	0.847 *** (0.135)	0.498 ** (0.199)	0.494 ** (0.198)	1.235 *** (0.216)	1.236 *** (0.216)	−1.199 *** (0.189)	−1.203 *** (0.189)
Growth	1.107 *** (0.095)	1.107 *** (0.095)	0.060 (0.043)	0.060 (0.043)	−0.138 ** (0.058)	−0.136 ** (0.058)	−0.073 (0.064)	−0.072 (0.064)	0.359 *** (0.073)	0.359 *** (0.073)
TobinQ	−0.581 *** (0.036)	−0.581 *** (0.036)	−0.070 *** (0.016)	−0.071 *** (0.016)	−0.163 *** (0.025)	−0.164 *** (0.025)	−0.188 *** (0.024)	−0.188 *** (0.024)	−0.199 *** (0.028)	−0.199 *** (0.028)
IR	0.239 *** (0.006)	0.239 *** (0.006)	0.052 *** (0.004)	0.052 *** (0.004)	0.087 *** (0.006)	0.087 *** (0.006)	0.065 *** (0.006)	0.066 *** (0.006)	0.056 *** (0.005)	0.056 *** (0.005)
MR	3.736 *** (0.288)	3.741 *** (0.288)	−0.710 *** (0.144)	−0.706 *** (0.144)	−1.120 *** (0.217)	−1.129 *** (0.218)	−0.864 *** (0.238)	−0.867 *** (0.238)	−0.007 (0.189)	−0.012 (0.189)
Constant	13.124 *** (0.780)	13.106 *** (0.780)	−1.476 *** (0.455)	−1.489 *** (0.456)	−2.862 *** (0.678)	−2.847 *** (0.678)	−3.794 *** (0.743)	−3.794 *** (0.744)	4.391 *** (0.581)	4.402 *** (0.581)
Province Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	15,681	15,681	15,681	15,681	15,681	15,681	15,681	15,681	15,681	15,681
Adj. R ²	0.283	0.283	0.188	0.188	0.171	0.171	0.172	0.172	0.221	0.221
F-Statistics	314.271	313.551	64.138	63.944	41.760	41.851	43.110	43.243	26.504	26.468

Note: This table presents the multi-linear regression results of Model 1 (Column 1 and 3) and Model 2 (Column 2 and 4) with province-level, industry-level, and year fixed effects. TMTTE equals 1 if a firm has top managers with teaching experience in the TMT, and 0 otherwise; TMTratio is the percentage of top managers with teaching experience in the TMT; robust standard errors in parentheses; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Panel A shows that the occurrence of top managers with teaching experience (TMTTE) in the TMT is significantly related to a higher level of CSR score and CSR rank in Column (1) and Column (3). Column (2) and Column (4) provide statistically significant evidence that overall CSR performance will improve as the proportion of top managers with teaching experience (TMTTEratio) increases in the TMT. Our results show empirical evidence and further strengthen earlier findings of Tilcsik [27], Marquis and Tilcsik [25], and Azoulay et al. [26] that past experience as a teacher is likely to exert a lasting influence on future careers. Thus, top managers with teaching experience tend to behave in favor of CSR practice.

In Panel B of Table 4, except for the sub-indicator of social responsibility contribution (CSR Social) in Column (13) and Column (14), all reported results support a positive relationship between the teaching experience and firm CSR performance at the 1% significant level. Moreover, the reported coefficients for sub-indicators are close and around 0.3. These results suggest that the positive effects of teaching experience are comparatively larger for environmental responsibility (0.364) and supplier, customer, and consumer rights responsibility (0.363). Overall, these results are in line with the two hypotheses.

4.3. Top Managers on the Board/Not on the Board

In this section, we further evaluate whether the impact of top managers' teaching experience on CSR performance depends on their dual role as directors on the board.

Table 5 reports the results of all CSR measures testing for the percentage of top managers with teaching experience who are also on the board and not on the board in the same regression. In all columns, the reported coefficients of TMTTRatio (on the board) have the same signs and significance as those for the full sample.

Table 5. Teaching Experience of Top Managers on/not on the Board and CSR Performance.

	(1) CSR	(2) CSR Rank	(3) CSR Holder	(4) CSR Employ	(5) CSR Customer	(6) CSR Envir	(7) CSR Social
TMTTRatio (on the board)	4.638 *** (1.332)	0.179 *** (0.051)	0.448 (0.421)	0.820 *** (0.238)	1.644 *** (0.405)	1.574 *** (0.434)	0.121 (0.293)
TMTTRatio (not on the board)	1.363 (2.046)	0.057 (0.076)	1.025 (0.681)	0.122 (0.358)	0.437 (0.625)	0.121 (0.600)	−0.349 (0.504)
TMTmale	1.746 ** (0.801)	0.086 *** (0.030)	0.441 (0.284)	0.822 *** (0.154)	0.537 ** (0.241)	0.888 *** (0.243)	−0.850 *** (0.214)
TMTage	0.162 *** (0.039)	0.003 ** (0.001)	0.102 *** (0.014)	0.023 *** (0.008)	0.015 (0.012)	0.031 ** (0.012)	−0.009 (0.010)
TMTtenure	0.040 *** (0.006)	0.001 *** (0.000)	0.011 *** (0.002)	0.004 *** (0.001)	0.009 *** (0.002)	0.008 *** (0.002)	0.008 *** (0.002)
Duality	−1.116 *** (0.299)	−0.037 *** (0.011)	−0.183 * (0.109)	−0.232 *** (0.057)	−0.273 *** (0.087)	−0.310 *** (0.092)	−0.136 * (0.079)
FirmAge	0.093 *** (0.026)	0.002 ** (0.001)	−0.002 (0.009)	0.010 ** (0.005)	0.018 ** (0.008)	0.010 (0.008)	0.056 *** (0.006)
SOE	2.330 *** (0.337)	0.098 *** (0.013)	−0.081 (0.113)	0.818 *** (0.068)	0.579 *** (0.102)	0.873 *** (0.104)	0.151 * (0.085)
HI	19.556 *** (1.189)	0.429 *** (0.046)	11.029 *** (0.392)	1.796 *** (0.236)	2.086 *** (0.357)	2.482 *** (0.385)	2.172 *** (0.282)
Indep	7.296 *** (2.796)	0.433 *** (0.108)	−5.660 *** (0.918)	2.775 *** (0.553)	4.247 *** (0.822)	4.211 *** (0.905)	1.477 ** (0.687)
Board	0.059 (0.049)	0.003 * (0.002)	−0.067 *** (0.017)	0.019 ** (0.010)	0.062 *** (0.014)	0.046 *** (0.016)	−0.001 (0.012)
Leverage	−9.326 *** (0.695)	−0.114 *** (0.027)	−10.69 *** (0.257)	0.841 *** (0.135)	0.484 ** (0.198)	1.225 *** (0.216)	−1.202 *** (0.189)
Growth	1.313 *** (0.224)	0.020 *** (0.008)	1.107 *** (0.095)	0.060 (0.043)	−0.136 ** (0.058)	−0.071 (0.064)	0.359 *** (0.073)
TobinQ	−1.203 *** (0.087)	−0.030 *** (0.003)	−0.581 *** (0.036)	−0.071 *** (0.016)	−0.164 *** (0.025)	−0.188 *** (0.024)	−0.199 *** (0.028)
IR	0.501 *** (0.020)	0.014 *** (0.001)	0.239*** (0.006)	0.052 *** (0.004)	0.087 *** (0.006)	0.065 *** (0.006)	0.056 *** (0.005)
MR	1.052 (0.752)	−0.086 *** (0.028)	3.741*** (0.288)	−0.704 *** (0.144)	−1.122 *** (0.217)	−0.862 *** (0.238)	−0.010 (0.189)
Constant	9.430 *** (2.280)	1.623 *** (0.087)	13.111 *** (0.780)	−1.480 *** (0.456)	−2.839 *** (0.678)	−3.781 *** (0.744)	4.400 *** (0.581)
Province Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	15,681	15,681	15,681	15,681	15,681	15,681	15,681
Adj. R ²	0.206	0.171	0.283	0.188	0.171	0.172	0.221
F-Statistics	91.928	46.703	294.301	60.745	39.651	41.360	24.867

Note: Top managers are divided into two groups: on the board and not on the board. TMTTRatio (on the board) is the percentage of top managers with teaching experience who are also on the board; TMTTRatio (not on the board) is the percentage of top managers with teaching experience who are not on the board; robust standard errors in parentheses; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

However, it is surprising to find that the coefficients on TMTTRatio (not on the board) lack significance. Hence, compared to people who only serve as top managers, the teaching experience of people who serve as both top managers and directors may be relatively more critical when affecting CSR performance. One possible explanation for this is that top managers with a dual role as directors have more power in conducting corporate social responsibility, which is similar to the theories of CEO duality. Duality provides CEOs greater power in corporate decisions [95,96].

4.4. CEO with Teaching Experience and CSR

As the leader of the top management team, we suggest that it is also important to recognize the impact of the CEO's teaching experience on firm CSR performance. Table 6

presents the regression results with CEO controls and firm-level control variables. We examine the effect of the CEO's teaching experience on overall CSR performance and find positive results for CSR and CSR rank at the 5% significance level (Columns 1 and 2). For sub-indicators, there is only a significantly negative relation between CEO's teaching experience and social responsibility contribution (CSR Social) in Column (7), while other coefficients are positive. Overall, the impact of the CEO's teaching experience is consistent with the aggregate impact of top managers' teaching experience on CSR in the main regressions. Referring to the coefficients in Column 1, firms having a CEO with teaching experience (1.540) have larger impacts on CSR score compared to firms having a TMT with teaching experience (1.270) in Table 4.

Table 6. Teaching Experience of CEO and CSR Performance.

	(1) CSR	(2) CSR Rank	(3) CSR Holder	(4) CSR Employ	(5) CSR Customer	(6) CSR Envir	(7) CSR Social
CEOTE	1.540 ** (0.693)	0.066 ** (0.026)	0.254 (0.240)	0.508 *** (0.135)	0.494 ** (0.201)	0.593 *** (0.221)	−0.357 ** (0.157)
CEOmale	−0.026 (0.533)	−0.011 (0.021)	0.143 (0.187)	0.160 (0.103)	−0.105 (0.163)	0.030 (0.159)	−0.252 * (0.132)
CEOage	0.048 ** (0.020)	0.001 (0.001)	0.041 *** (0.007)	0.005 (0.004)	0.000 (0.006)	0.006 (0.006)	−0.005 (0.005)
CEOtenure	0.025 *** (0.003)	0.001 *** (0.000)	0.006 *** (0.001)	0.004 *** (0.001)	0.007 *** (0.001)	0.006 *** (0.001)	0.002 *** (0.001)
Duality	−1.357 *** (0.303)	−0.043 *** (0.011)	−0.319 *** (0.111)	−0.276 *** (0.058)	−0.305 *** (0.088)	−0.361 *** (0.093)	−0.112 (0.082)
FirmAge	0.093 *** (0.026)	0.002 ** (0.001)	−0.001 (0.009)	0.010 * (0.005)	0.018 ** (0.008)	0.009 (0.008)	0.057 *** (0.006)
SOE	2.821 *** (0.331)	0.113 *** (0.013)	0.118 (0.111)	0.906 *** (0.066)	0.676 *** (0.099)	0.996 *** (0.103)	0.142 * (0.084)
HI	19.464 *** (1.188)	0.428 *** (0.046)	10.978 *** (0.390)	1.837 *** (0.235)	2.085 *** (0.356)	2.517 *** (0.386)	2.051 *** (0.279)
Indep	7.247 *** (2.808)	0.427 *** (0.108)	−5.590 *** (0.923)	2.790 *** (0.554)	4.205 *** (0.824)	4.214 *** (0.907)	1.379 ** (0.688)
Board	0.062 (0.049)	0.004 * (0.002)	−0.067 *** (0.017)	0.022 ** (0.010)	0.063 *** (0.014)	0.049 *** (0.016)	−0.006 (0.012)
Leverage	−9.367 *** (0.695)	−0.114 *** (0.027)	−10.719 *** (0.257)	0.870 *** (0.134)	0.495 ** (0.199)	1.256 *** (0.216)	−1.282 *** (0.189)
Growth	1.251 *** (0.223)	0.018 ** (0.008)	1.086 *** (0.095)	0.054 (0.043)	−0.149 ** (0.058)	−0.083 (0.064)	0.347 *** (0.073)
TobinQ	−1.233 *** (0.087)	−0.031 *** (0.003)	−0.595 *** (0.036)	−0.077 *** (0.016)	−0.169 *** (0.025)	−0.196 *** (0.024)	−0.196 *** (0.028)
IR	0.502 *** (0.020)	0.014 *** (0.001)	0.239 *** (0.006)	0.052 *** (0.004)	0.087 *** (0.006)	0.065 *** (0.006)	0.057 *** (0.005)
MR	0.504 (0.744)	−0.103 *** (0.028)	3.537 *** (0.286)	−0.775 *** (0.142)	−1.228 *** (0.215)	−0.976 *** (0.235)	−0.074 (0.188)
Constant	16.952 *** (1.792)	1.847 *** (0.068)	16.379 *** (0.606)	−0.116 (0.353)	−1.448 *** (0.520)	−1.869 *** (0.572)	4.131 *** (0.455)
Province Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	15,681	15,681	15,681	15,681	15,681	15,681	15,681
Adj. R ²	0.205	0.171	0.281	0.188	0.171	0.171	0.220
F-Statistics	93.966	48.115	308.589	62.509	41.402	42.078	24.781

Note: CEOTE equals 1 if a firm has CEO with teaching experience, and 0 otherwise; robust standard errors in parentheses; * $p < 0.10$;

** $p < 0.05$; *** $p < 0.01$.

5. Robustness Check and Further Discussion

5.1. Alleviation of Endogeneity Problem

There is a possible self-selection problem that firms with better CSR may be more likely to attract top managers with teaching experience. We use the propensity score matching method (PSM) to alleviate the endogeneity concern.

Treatment status is identified by the occurrence of teachers in the TMT (TMTTE = 1 for the treated and TMTTE = 0 for the untreated observations). We esti-

mate the Logit model to obtain the propensity scores by bootstrapping the standard error with 500 replications. Panel A of Table 7 shows the average treatment effect on the treated (ATT), the average treatment effect on the untreated (ATU), the average treatment effect (ATE) for CSR (Column 1), and CSR rank (Column 2). All the average treatment effects are significant at the 1% significance level, which indicates that the occurrence of teachers in the TMT can improve CSR performance.

Table 7. Robustness Check with PSM.

Panel A: PSM Results								
(1)			(2)					
CSR			CSR Rank					
ATT		1.303 ** (0.646)				0.054 ** (0.025)		
ATU		1.794 *** (0.604)				0.074 *** (0.022)		
ATE		1.726 *** (0.552)				0.071 *** (0.020)		
Observations		15,681				15,681		
Panel B: Covariate Imbalance Testing								
Variable	Sample	Treatment Group	Control Group	%Bias	Bias	t-Value	p-Value	V(t)/V(c)
Duality	Pre-matching	0.334	0.219	25.9	11.74	0		
	Post-matching	0.334	0.333	0.1	99.6	0.03	0.974	
FirmAge	Pre-matching	16.087	17.053	−16.7	−7.31	0	1.07	
	Post-matching	16.086	15.89	3.4	79.8	1.11	0.265	1.08
SOE	Pre-matching	0.336	0.462	−26	−11	0		
	Post-matching	0.336	0.338	−0.4	98.5	−0.13	0.897	
HI	Pre-matching	0.156	0.168	−10	−4.31	0	0.99	
	Post-matching	0.156	0.159	−2.3	76.6	−0.78	0.436	1.04
Indep	Pre-matching	0.377	0.371	11	4.93	0	1.22 *	
	Post-matching	0.377	0.375	1.9	82.7	0.6	0.546	1.05
Leverage	Pre-matching	0.454	0.457	−1.4	−0.62	0.533	1.01	
	Post-matching	0.454	0.452	1	32.4	0.32	0.749	0.99
Growth	Pre-matching	0.206	0.199	1.4	0.58	0.559	0.90 *	
	Post-matching	0.206	0.198	1.5	−6.6	0.49	0.627	0.92
TobinQ	Pre-matching	2.303	2.195	6.8	2.99	0.003	1.08	
	Post-matching	2.303	2.271	2	70.3	0.66	0.511	1.01
IR	Pre-matching	7.576	6.372	16.6	7.32	0	1.13 *	
	Post-matching	7.567	7.666	−1.4	91.8	−0.41	0.679	0.83 *
MR	Pre-matching	0.131	0.091	22	9.84	0	1.22 *	
	Post-matching	0.131	0.133	−0.8	96.5	−0.23	0.815	0.89 *
Industry	Pre-matching	4.983	4.708	7.7	3.43	0.001	1.22 *	
	Post-matching	4.981	4.906	2.1	72.9	0.67	0.503	1.13 *
Province	Pre-matching	13.225	13.832	−8.1	−3.38	0.001	0.82 *	
	Post-matching	13.229	13.446	−2.9	64.3	−0.97	0.33	0.88 *

Note: 1. “Pre-matching” refers to the sample without matching the treatment group with the control group, and “Post-matching” refers to the groups after matching. 2. “Treatment Group” and “Control Group” refer to firms with and without people with teaching experience in the TMT, respectively. 3. Standard errors are calculated using bootstrap with 500 replications. 4. ***, ** and * represent significance at 1%, 5% and 10% level, respectively.

Panel B of Table 7 shows the covariate imbalance testing. Standardized biases (%bias) of variables in post-matching are all smaller than 10%, and all the t-tests cannot reject the null hypothesis that there is no difference between the treatment group and the control group. The standardized bias of variables is reduced after matching, which can also be seen in Figure 1a. In Figure 1b, all the observations are on support. Figure 1c,d show the kernel density of the treatment and control groups before and after matching.

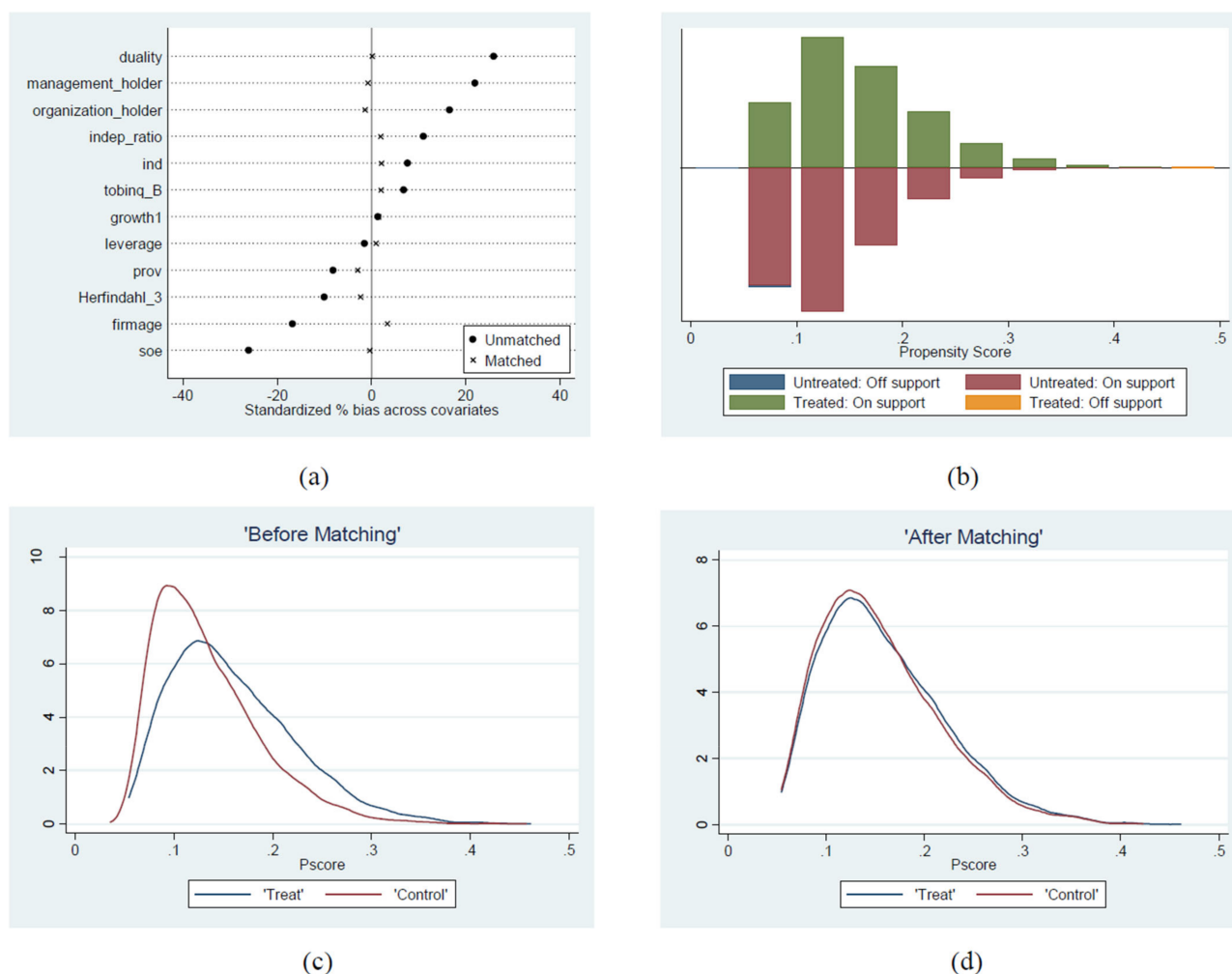


Figure 1. (a) Standardized % Bias, (b) Propensity Score Histogram, (c) Kernel Density of the Treatment, and (d) Control Groups Before and After Matching.

5.2. Directors on the Board and CSR

Cho et al. [2] indicates that firms with professor directors are more likely to have a higher level of CSR performance. As we mention at the beginning, there are a large number of professor directors in Chinese listed firms due to the policy imposed by CSRC. Therefore, we seek to argue that the occurrence of teachers on the board and the percentage of teachers on the board will lose their significance in affecting CSR performance if we exclude all independent directors from the sample.

Panel A of Table 8 shows that the occurrence of teachers on the board (BoardTE) and the percentage of teachers on the board (BoardTERatio) are insignificant for both CSR (Columns 1 and 2) and CSR rank (Columns 3 and 4), as we expected. Panel B of Table 8 also shows the same patterns in sub-indicators of CSR.

Table 8. Teaching Experience of Directors on the Board and CSR Performance.

Panel A: Teaching Experience of Directors and CSR Score and Rank										
	CSR		CSR Rank							
	(1)	(2)	(3)	(4)						
BoardTE	−0.345 (0.364)		−0.017 (0.014)							
BoardTERatio		0.204 (1.952)		−0.019 (0.076)						
TMTTE	1.374 *** (0.434)	1.171 ** (0.476)	0.056 *** (0.017)	0.050 *** (0.018)						
BoardMale	0.672 (1.076)	0.662 (1.076)	0.012 (0.041)	0.011 (0.041)						
BoardAge	0.299 *** (0.050)	0.293 *** (0.050)	0.008 *** (0.002)	0.008 *** (0.002)						
BoardTenure	0.044 *** (0.009)	0.044 *** (0.009)	0.001 *** (0.000)	0.001 *** (0.000)						
TMTmale	1.562 (1.059)	1.570 (1.059)	0.084 ** (0.040)	0.084 ** (0.040)						
TMTage	−0.058 (0.056)	−0.053 (0.056)	−0.003 (0.002)	−0.002 (0.002)						
TMTtenure	0.002 (0.010)	0.002 (0.010)	0.000 (0.000)	0.000 (0.000)						
Duality	−0.949 *** (0.299)	−0.952 *** (0.299)	−0.032 *** (0.011)	−0.032 *** (0.011)						
FirmAge	0.094 *** (0.026)	0.094 *** (0.026)	0.002 ** (0.001)	0.002 ** (0.001)						
SOE	2.501 *** (0.341)	2.504 *** (0.341)	0.102 *** (0.013)	0.102 *** (0.013)						
HI	19.516 *** (1.185)	19.513 *** (1.185)	0.429 *** (0.046)	0.429 *** (0.046)						
Indep	7.047 ** (2.787)	7.124 ** (2.785)	0.423 *** (0.108)	0.427 *** (0.108)						
Board	0.121 ** (0.049)	0.118 ** (0.049)	0.005 *** (0.002)	0.005 *** (0.002)						
Leverage	−9.319 *** (0.694)	−9.329 *** (0.694)	−0.114 *** (0.027)	−0.114 *** (0.027)						
Growth	1.369 *** (0.224)	1.366 *** (0.223)	0.021 *** (0.008)	0.021 *** (0.008)						
TobinQ	−1.150 *** (0.087)	−1.152 *** (0.087)	−0.028 *** (0.003)	−0.029 *** (0.003)						
IR	0.492 *** (0.020)	0.492 *** (0.020)	0.013 *** (0.001)	0.013 *** (0.001)						
MR	1.346 * (0.752)	1.320* (0.752)	−0.078 *** (0.028)	−0.080 *** (0.028)						
Constant	3.518 (2.406)	3.543 (2.408)	1.472 *** (0.092)	1.473 *** (0.092)						
Province Fixed Effect	Yes	Yes	Yes	Yes						
Industry Fixed Effect	Yes	Yes	Yes	Yes						
Year Fixed Effect	Yes	Yes	Yes	Yes						
N	15,681	15,681	15,681	15,681						
Adj. R ²	0.210	0.210	0.173	0.173						
F-Statistics	81.324	81.311	40.535	40.412						
Panel B: Teaching Experience of Directors and Sub-Indicators of CSR										
	CSR Holder		CSR Employ		CSR Customer		CSR Environment		CSR Social	
	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
BoardTE	0.027 (0.125)		−0.087 (0.072)		−0.150 (0.109)		−0.207 * (0.117)		0.076 (0.089)	
BoardTERatio		0.197 (0.629)		−0.284 (0.373)		0.127 (0.599)		−0.325 (0.636)		0.462 (0.445)
TMTTE	0.256 * (0.143)	0.242 (0.155)	0.306 *** (0.084)	0.301 *** (0.093)	0.428 *** (0.129)	0.334 ** (0.140)	0.460 *** (0.139)	0.399 *** (0.153)	−0.106 (0.104)	−0.131 (0.114)
BoardMale	−0.312 (0.373)	−0.310 (0.373)	0.650 *** (0.209)	0.645 *** (0.209)	0.113 (0.327)	0.109 (0.327)	0.326 (0.332)	0.317 (0.332)	−0.174 (0.286)	−0.168 (0.286)
BoardAge	0.158 *** (0.017)	0.158 *** (0.017)	0.057 *** (0.010)	0.057 *** (0.010)	0.036 ** (0.015)	0.034 ** (0.015)	0.054 *** (0.016)	0.052 *** (0.016)	−0.001 (0.013)	−0.002 (0.013)
BoardTenure	0.015 *** (0.003)	0.015 *** (0.003)	0.004 * (0.002)	0.004 * (0.002)	0.009 *** (0.003)	0.009 *** (0.003)	0.009 *** (0.003)	0.009 *** (0.003)	0.006 ** (0.002)	0.006 ** (0.002)
TMTmale	0.753 ** (0.363)	0.752 ** (0.363)	0.460 ** (0.205)	0.463 ** (0.205)	0.494 (0.319)	0.498 (0.319)	0.725 ** (0.325)	0.730 ** (0.325)	−0.735 *** (0.282)	−0.737 *** (0.282)
TMTage	−0.016 (0.019)	−0.016 (0.019)	−0.021 * (0.011)	−0.020 * (0.011)	−0.010 (0.017)	−0.008 (0.017)	−0.008 (0.018)	−0.006 (0.018)	−0.006 (0.014)	−0.006 (0.015)
TMTtenure	−0.002 (0.004)	−0.002 (0.004)	0.001 (0.002)	0.001 (0.002)	0.002 (0.003)	0.001 (0.003)	−0.000 (0.003)	−0.000 (0.003)	0.003 (0.003)	0.003 (0.003)

Table 8. Cont.

Duality	−0.117 (0.109)	−0.117 (0.109)	−0.205 *** (0.058)	−0.205 *** (0.057)	−0.242 *** (0.087)	−0.243 *** (0.087)	−0.273 *** (0.092)	−0.274 *** (0.092)	−0.128 (0.079)	−0.129 (0.079)
FirmAge	−0.001 (0.009)	−0.001 (0.009)	0.010 ** (0.005)	0.010 ** (0.005)	0.019 ** (0.008)	0.019 ** (0.008)	0.010 (0.008)	0.010 (0.008)	0.056 *** (0.006)	0.056 *** (0.006)
SOE	−0.011 (0.114)	−0.010 (0.114)	0.817 *** (0.068)	0.817 *** (0.068)	0.615 *** (0.104)	0.617 *** (0.104)	0.904 *** (0.106)	0.905 *** (0.106)	0.182 ** (0.087)	0.183 ** (0.087)
HI	10.953 *** (0.390)	10.952 *** (0.390)	1.781 *** (0.235)	1.783 *** (0.235)	2.101 *** (0.357)	2.099 *** (0.357)	2.491 *** (0.386)	2.492 *** (0.386)	2.191 *** (0.281)	2.188 *** (0.281)
Indep	−5.683 *** (0.915)	−5.689 *** (0.914)	2.767 *** (0.550)	2.786 *** (0.550)	4.157 *** (0.822)	4.191 *** (0.821)	4.123 *** (0.902)	4.168 *** (0.902)	1.452 ** (0.688)	1.437 ** (0.688)
Board	−0.042 ** (0.017)	−0.041 ** (0.017)	0.030 *** (0.010)	0.029 *** (0.010)	0.072 *** (0.014)	0.070 *** (0.014)	0.059 *** (0.016)	0.057 *** (0.016)	0.001 (0.013)	0.002 (0.013)
Leverage	−10.675 *** (0.257)	−10.675 *** (0.257)	0.851 *** (0.135)	0.849 *** (0.135)	0.484 ** (0.199)	0.480 ** (0.199)	1.228 *** (0.216)	1.224 *** (0.216)	−1.218 *** (0.189)	−1.217 *** (0.189)
Growth	1.133 *** (0.095)	1.133 *** (0.095)	0.066 (0.043)	0.066 (0.043)	−0.127 ** (0.058)	−0.128 ** (0.058)	−0.060 (0.064)	−0.062 (0.064)	0.363 *** (0.073)	0.363 *** (0.073)
TobinQ	−0.558 *** (0.035)	−0.559 *** (0.035)	−0.064 *** (0.016)	−0.064 *** (0.016)	−0.154 *** (0.025)	−0.155 *** (0.025)	−0.177 *** (0.024)	−0.178 *** (0.024)	−0.196 *** (0.028)	−0.196 *** (0.028)
IR	0.235 *** (0.006)	0.235 *** (0.006)	0.051 *** (0.004)	0.051 *** (0.004)	0.085 *** (0.006)	0.085 *** (0.006)	0.064 *** (0.006)	0.064 *** (0.006)	0.055 *** (0.005)	0.055 *** (0.005)
MR	3.842 *** (0.287)	3.842 *** (0.287)	−0.623 *** (0.144)	−0.626 *** (0.144)	−1.073 *** (0.217)	−1.085 *** (0.218)	−0.789 *** (0.239)	−0.800 *** (0.239)	−0.019 (0.190)	−0.019 (0.190)
Constant	10.460 *** (0.820)	10.463 *** (0.820)	−2.680 *** (0.481)	−2.682 *** (0.482)	−3.681 *** (0.716)	−3.669 *** (0.717)	−4.943 *** (0.774)	−4.939 *** (0.775)	4.310 *** (0.621)	4.317 *** (0.621)
Province Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	15,681	15,681	15,681	15,681	15,681	15,681	15,681	15,681	15,681	15,681
Adj. R ²	0.290	0.290	0.191	0.191	0.172	0.172	0.173	0.173	0.222	0.222
F-Statistics	257.974	257.965	53.513	53.450	34.485	34.330	35.890	35.743	21.509	21.522

Note: BoardTE equals 1 if a firm has directors on the board excluding independent directors. BoardTEratio is the percentage of directors on the board excluding the independent directors. Robust standard errors in parentheses; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

6. Conclusions

Driven by self-orientation and the code of professional ethics for teachers, teachers tend to have a strong sense of social responsibilities. Drawing upon upper echelon theory and imprinting theory, we use A-share listed companies from 2010 to 2019 in China to empirically test the association between top managers with teaching experience and firm CSR performance. As an extension to current evidence about the moral motives of directors [2], our study tries to provide some interpretations in the Chinese context. The responsibility and role of the board directors vary across countries, and nearly 90% of listed firms in China have professor directors on their board due to the independent director policy imposed by the China Securities Regulatory Commission (CSRC) in 2001. Based on our results, we find those top managers who are corporate executives, the teaching experience of whom affects CSR performance. We find that the occurrence of teachers in the TMT has a positive impact on CSR, and CSR is better with a larger percentage of top managers with teaching experience. The results are almost the same when we test for the sub-indicators of CSR (shareholder responsibility; employee responsibility; supplier, customer, and consumer responsibility; and environmental responsibility).

Next, we investigate the heterogeneity of teacher top managers. We find that top managers with teaching experience affect CSR differently depending on their dual role as directors on the board. If they only serve as top managers in the TMT, their teaching experience does not improve firm CSR performance. Furthermore, we find that firms with teacher CEOs have better CSR. The results are robust when we use the propensity score matching method (PSM) to partially address the endogeneity of teacher top managers. In further discussion, we show the invalidation of teacher directors improving CSR by excluding the independent directors from the board. This section complements the analysis of impact of teacher directors on CSR by analyzing the Chinese sample.

In conclusion, we provide a novel perspective to explore top managers' impact on CSR, emphasizing the important role of top managers in CSR decision-making and enriching the

upper echelon theory and CSR research. We use adequate data to identify the contribution of top managers' teaching experience to firm CSR. Our study complements the literature on the understanding of the TMT attributes and CSR performance. However, we cannot analyze the heterogeneous effect of top managers in relation to their academic disciplines due to the limitation of data. In addition to CSR performance, we believe that top managers' teaching experience may also affect other firms' behavior and performance.

Based on our research, we elaborate empirical evidence on the contributing factors of a firm's CSR and thus offer some implications in practice. In accordance with CSR requirements and rising attention from stakeholders, it provides new ideas both for the evaluation of executives and the improvement of CSR. On one hand, the management team including teaching experience will increase the overall level of morality and cultivate social obligation across the company. On the other hand, such moral standards and values will prompt them to encourage more CSR practices and activities in the management decision-making.

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