How does the absorbed slack impact corporate social responsibility? Exploring the nonlinear effect and condition in China

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Abstract

This study investigates the impact of absorbed slack on corporate social responsibility (CSR) and the moderating effects of political and equity relationships on the main effect. Multiple regression analysis was used on 2175 samples of 435 publicly listed Chinese firms for the period 2012 to 2016 to empirically test the influence of absorbed slack on CSR. The empirical results show that the impact of absorbed slack on CSR is inverted U-shaped. Furthermore, when compared to companies with low political connections, the inverted U-shape between the absorbed slack and CSR in highly politically connected companies is more pronounced. Compared to companies with low ownership concentrations, the inverted U-shape between absorbed slack and CSR in high ownership concentration enterprises is more pronounced.

Keywords Absorbed slack · Corporate social responsibility · Political connection · Ownership concentration · China

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Introduction

China, as the world's largest developing country, has recently made remarkable achievements in its economic development. Overall, Chinese society is becoming more conscious of corporate social responsibility (CSR). Companies' production and operations consume a significant amount of societal resources, and their social responsibility is of great significance to charities and social development. On the one hand, the current research on CSR in China needs further theoretical exploration (Wang et al., 2016). On the other hand, because of the vast differences between Chinese and Western culture, research on CSR is still needed in the Chinese context (Chu et al., 2020; Ma & Bu, 2021).

The concept of CSR was first proposed in the West in the early twentieth century (Bowen, 1953), and it has piqued the interest of academic and practical circles ever since. The idea that enterprises should fulfill some responsibilities to society beyond making profits for the shareholders has been a consensus in both academic and practitioner communities for centuries (Carroll, & Shabana, 2010). As part of CSR, enterprises spontaneously integrate societal and environmental concerns into their internal production processes and operations, as well as in their other activities related to their stakeholders. Although some scholars have argued that the only goal of an enterprise as a utilitarian organization is to create wealth for its shareholders (Friedman, 2007), the majority of scholars believe that enterprises do not operate in a vacuum, but rather achieve their goals by using resources from all sectors of society (Mulligan, 1986; Schaefer, 2008). Therefore, enterprises should achieve their goals through various forms to meet the expectations of different stakeholders (Wang et al., 2016).

An increasing number of scholars have investigated CSR in China, such as in environmental protection and CSR reports (Marquis & Qian, 2014). There are numerous theoretical perspectives on CSR; the agency theory regards CSR as an agency cost (McWilliams et al., 2006), the stakeholder theory stresses that enterprises must fulfill social responsibilities to meet the requirements of multiple stakeholders (Freeman, 1984), and the legitimacy theory emphasizes that CSR can help enterprises obtain legitimacy (Campbell, 2007).

Although several existing studies on CSR exist, there are still gaps. First, the present research on CSR primarily focuses on the outcome of CSR (Graafland & Mazereeuw-Van der Duijn Schouten, 2012) and has focused less on its antecedents, particularly the relationship between absorbed slack and CSR. Unabsorbed slack, including enterprise's cash flow, has a higher liquidity and conversion ability than absorbed slack. Liquidity and conversion have direct impacts on an enterprise's behavior (e.g., over-investment and easy-decision) (Latham & Braun, 2008; Miller & Chen, 2004). Thus, as a type of enterprise behavior, CSR is closely related to internal absorbed slack. Second, the findings on the impact of absorbed slack on CSR are inconsistent. For example, Xu et al. (2015) found that absorbed slack is not related to CSR. However, Mattingly and Olsen (2018) found that absorbed slack positively impacts CSR. Thus, we aim to reexamine this relationship and assume that the relationship has an inverted U-shaped effect. Third,

in China's current market conditions, CSR behaviors are internally constrained by equity relationships and externally affected by political relationships (Qin et al., 2018). However, few studies have highlighted the effect of absorbed slack on CSR under different internal and external conditions. Therefore, it is necessary to investigate the impacts of various situations on CSR.

In this study, we investigate the impact of absorbed slack on CSR from the perspectives of firm behaviors, goals, and resource allocations based on the behavioral theory of the firm. Absorbed slack includes idle human resources, management expenses, wages, production equipment, and other important illiquid assets (Bourgeois, 1981; Greve, 1998; Voss et al., 2008). When a resource is fully utilized, highly specialized, and strategically important to an organization, it is considered an absorbed slack resource (Lawson, 2011). Research on slack has gradually evolved from an early focus on enterprise performance and innovation to decision-making behaviors.

Political connections imply that enterprises develop relations with government departments through formal or informal means. Previous studies have shown that CSR behavior is affected by political connections (Li & Xie, 2014). Developing political connections is important for enterprises because it can help them carry out certain actions that are impossible for those without political connections (e.g., longer debt maturities, larger financing amounts, higher financial leverage, and entering monopolistic industries) (Fan et al., 2007). A previous study found that in Pakistan, enterprises with political connections received bank financing twice as often as enterprises without political connections (Sapienza, 2004). In addition, Li et al. (2008) found that Chinese private entrepreneurs' party memberships allowed them to easily obtain loans from state-owned banks and financial institutions. Additionally, entrepreneurs who are representatives of the National People's Congress, in China, can improve their market shares (Lu, 2011). Studies have further found that politicians assist enterprises with political connections in obtaining more loans from banks, resulting in increased political donations from enterprises (Dinc, 2005).

Ownership concentration is an important factor in corporate governance (Shleifer & Vishny, 1997). CSR is affected by the capital structure of a company's internal governance elements (Gao & Zheng, 2010). The ownership structure affects the controlling rights and interests of shareholders in an enterprise. Additionally, it may lead to a series of agency problems. For example, enterprises tend to actively disclose social responsibility reports to dispel the public's doubts about their legitimacy (Chen et al., 2018) and to ensure the stability of their governance structures. Khan et al. (2013) discussed the impact of corporate governance structures on CSR disclosures in emerging economies. A series of empirical studies have shown that when discussing CSR, external political relationships and the internal equity structures of corporate governance cannot be separated (Li & Xie, 2014; Qin et al., 2018). Therefore, this study investigates the moderating effects of political connections and ownership concentrations on the relationship between absorbed slack and CSR.

Our research develops the literature on organizational slack and CSR. Compared to previous studies on unabsorbed slack and CSR (Islam et al., 2021; Vanacker et al., 2017), this study focuses on the impact of absorbed slack on CSR behavior and discovers an inverted U-shaped relationship. We explored the moderating mechanisms

affecting CSR from internal ownership concentration and external political connection perspectives. Based on existing literature and specifically the request for Chinese CSR (Ma & Bu, 2021), our study contributes to the literature on extant behavioral theory of the firm by using Chinese enterprises' data and explores the applicability of slack, the core concept of this theory, in the Chinese context.

Theoretical analysis and hypotheses development

Absorbed slack and CSR

Slack refers to potentially available resources that can be transformed and allocated to achieve organizational goals. Slack is a core concept of a firm's behavioral theory (Argote & Greve, 2007; Bromiley, 2009; Cyert & March, 1963), which has two major forms: unabsorbed and absorbed slack (Voss et al., 2008). Slack reflects the ease of recovery and use of various idle resources. Unabsorbed slack refers to the resources that can be used at any time and are held in idle funds; it is the most liquid form of slack. Greve (1998) defined unabsorbed slack as a capital reserve that can cover corporate financial expenditures in a short period of time. Absorbed slack refers to non-liquid resources accumulated in an organization. Absorbed slack is the slack with the highest degree of absorption in an organization and is characterized by a higher degree of organization specificity and has a stronger strategic value than unabsorbed slack (Vanacker et al., 2017). Cyert and March (1963) proposed that absorbed slack is an organizational buffer, which is something that buffers the organization against unexpected problems. (Chen & Huang, 2010). Although the liquidity of absorbed slack is lower than that of unabsorbed slack, absorbed slack can still provide flexibility to help enterprises cope with environmental uncertainty, which guarantees enterprises' strategic decisions.

Instead of merely possessing resources, it is critical that resources are utilized to achieve enterprises' goals through rational resource allocations (Sirmon et al., 2007). Corporate goals comprise internal production goals, operational goals, and external non-economic long-term goals. Enterprise managers' decision-making processes in the pursuit of corporate goals are important. They have the right to allocate and dispose of enterprise resources, as well as to use those resources to achieve internal and external goals (Vanacker et al., 2017). The utilization of unabsorbed slack not only contributes to daily operations, but also helps enterprises cope with unexpected events (Bourgeois, 1981). In the Chinese context, CSR is the external goal that enterprises must pursue. Current research also finds that possessing absorbed slack can help enterprises make decisions that exceed financial goals (Nohria & Gulati, 1996).

Absorbed slack has the following advantages for enterprises to fulfill CSR: First, it can help enterprises retain key employees (Campbell et al., 2012), idle human resources in one section of an enterprise can help alleviate the pressure caused by a shortage of human resources in another section to maintain the stability of the enterprise (Welbourne & Cyr, 1999; Williamson, 2000). Idle human resources can also assist in CSR by allowing employees to perform community or voluntary services.

Second, absorbed slack can help enterprises reduce the cost of fulfilling CSR and improve resource utilization efficiencies, for example, Xu et al. (2015) found that companies donate inventories rather than cash during an earthquake. Third, absorbed slack can help enterprise decision-makers solve problems effectively and make long-term strategic decisions (Moch & Pondy, 1977; Sirmon et al., 2007), which assists managers in avoiding short-sighted behaviors and allows them to complete additional strategic tasks and activities (Simon, 1957). For example, during the COVID-19 pandemic in 2020, Chinese enterprises with slack employees, idle equipment, and inventory could effectively deal with emergency recruitment, personnel shortages, and raw material supplies, helping society by reallocating redundant personnel, using idle equipment capacities, and redistributing inventories during the pandemic.

Although absorbed slack can benefit an enterprise, the behavioral theory of the firm holds that there are disadvantages in maintaining excessive absorbed slack within an enterprise (Bromiley, 1991). Nohria and Gulati (1996) highlighted that excessive absorbed slack restricts managers' decision-making behaviors. Some studies found that absorbed slack can cause managers to be overly optimistic about the operations and management of enterprises. Therefore, they do not make additional strategic decisions or exhibit innovative behaviors (Kim et al., 2008; Simon, 1957).

When there is little or no slack, the primary goal of an organization is to use the limited resources to run the organization and achieve its goals. Absorbing slack is an efficiency-oriented function in an enterprise (Singh, 1986). However, the continuous increase in absorbed slack has adverse effects on CSR once it exceeds a critical point.

According to the behavioral theory of the firm, excessive slack is not conducive to achieving corporate goals. This may lead to idleness in managers' decision-making. Corporations' efficiencies in resource utilization may decline as a result of ample budgets (Cyert & March, 1963). Bromiley (2009) proposed that appropriate slack is conducive to the realization of enterprise goals. Thus, we argue that excessive absorbed slack leads to decreased motivations to fulfill CSR and a reduction in CSR outcomes. First, from the perspective of corporate motivation, Nohria and Gulati (1996) found that excessive slack led to a decrease in innovative decision-making, and an increase in managers' complacency and idleness, and thereby a lack of initiatives to fulfill CSR. Overconfident managers may result in decision inertia, resulting in them being slow to send the correct market signals, being unmotivated, and not setting objectives to implement additional strategic actions (Cheng & Kesner, 1997), being unmotivated, and not setting objectives to implement additional strategic actions (Cheng & Kesner, 1997). Additionally, a few studies have found that excessive absorbed slack may lead managers to focus on behaviors that are not conducive to an enterprise's development. For example, the managers of an enterprise may use slack human resources for inefficient merger and acquisition projects (Roberts, 1990), achieve managers' personal goals by reallocating idle resources, such as selling inventory to companies associated with the managers at low prices, expanding production capacities into saturated markets, and taking actions to improve managers' business records. These behaviors negatively impact CSR. Second, excessive slack leads to a decrease in decision-making efficiency (Cyert & March, 1963).

Thus, even though CSR is fulfilled, the outcomes are not satisfactory. Therefore, this study proposes that excessive slack may lead to a decrease in CSR, while appropriate slack maximizes CSR. Based on the above analyses, this study proposes the following hypothesis.

Hypothesis 1 The relationship between absorbed slack and CSR is an inverted U-shape. Levels of absorbed slack that are too high or too low lead to reduced CSR levels, and moderate levels of absorbed slack maximize CSR.

The moderating effect of political connection

Political connections refer to enterprises' establishment of contacts with government agencies or government officials through formal or informal means to obtain political resources (Faccio, 2006). There are two forms of political connections. First, top managers of enterprises are employed by government legislature, or other political institutions. Second, an enterprise's senior managers and top executives establish contact with officials or government departments through other ties, such as relatives and friends (Sheng et al., 2011).

The strength of political connections can assist enterprises to obtain absorbed slack. Previous studies have found that political connections positively impact enterprises, including improved performances and returns on investments, and through tax subsidies (Li et al., 2008; Roberts, 1990). In China, compared to enterprises with low political connections, enterprises with high political connections are more likely to have absorbed slack. For example, government policy in recruitment may influence whether enterprises can recruit more employees, qualify to purchase more equipment or operate a business. The differences in abilities to absorb slack further affect the levels of CSR.

Simultaneously, companies need to allocate more slack resources to CSR behaviors to maintain their political party relationships. For example, Sims (2003) found that corporate donations can help build political reputations, decision-maker relationships, and political bargaining capital, resulting in the acquisition of political resources (Sims, 2003). CSR is an important way to strengthen and stabilize political connections (Li et al., 2013). Enterprises can undertake community actions by using idle human resources and surplus inventory, protecting the environment, and supporting disaster-stricken areas to help the government undertake social security functions.

In summary, enterprises with high political connections may achieve higher CSR levels through the utilization of absorbed slack (Zheng & Zhang, 2016). However, Simon (1957) found too much slack may lead to overconfidence in managers, which ultimately leads to inefficient decision-making. We believe that when the internal absorbed slack is too high, managers from enterprises with high political connections have both "absorbed slack confidence" and "political connection confidence." This dual confidence may lead to higher levels of decision-making inertia among managers, preventing them from engaging in additional strategic activities, ultimately resulting in a decline in CSR. From a political point of view, when

an enterprise has low political connections and absorbed slack, its first priority is only to improve performance. Such enterprises may fail to fulfill CSR, waste internal resources and not have any positive impacts on corporate performances. In contrast, when absorbed slack is too high, managers from enterprises with low political connections do not need to adopt CSR to maintain their political relationships with political parties because they do not have many connections. However, although such managers also have decision inertia compared to the dual decision inertia of enterprises with high political connections, the impacts of not implementing CSR activities may be lessened. Based on the above analysis, this study proposes the following hypothesis.

Hypothesis 2 Political connections may strengthen the inverted U-shaped relationship between absorbed slack and CSR. Compared to enterprises with low political connections, the inverted U-shaped relationship between absorbed slack and CSR is more pronounced in enterprises with high political connections.

The moderating effect of ownership concentration

Ownership concentration is an important factor in corporate governance structures (Shleifer & Vishny, 1997). In a company with a low concentration of ownership, the major shareholders' control ability is weak and conflicts of interest between different shareholders may exist. The higher the ownership concentration, the stronger the control of the major shareholders over an enterprise, and two effects are generated: the support effect and the tunneling effect (Li et al., 2015a, 2015b). The major shareholders may have a strong willingness and motivation to supervise management to realize the enterprise's goals because of their high share concentrations. Large shareholders may use their control advantages to maximize their own private interests at the expense of other shareholder interests, effectively tunneling the company (Demsetz & Lehn, 1985). We believe that ownership concentration affects resource allocations and the decision-making and behavior of enterprises (Feng et al., 2011).

Large shareholder interests tend to be consistent with the long-term goals of enterprises with high ownership concentrations. Large shareholders tend to take the initiative to fulfill their social responsibilities out of the long-term interests of enterprises. When the absorbed slack in an enterprise is high it indicates that large shareholders, who have the advantage of actual controlling rights, promote the reallocation of unabsorbed slack by directly participating in the decision-making processes, such as donating surplus inventory, supervising and controlling management, calling on idle human resources to provide community services to fulfill CSR, maintaining internal and external communications, forming a good corporate reputation, and further promoting long-term developments.

However, when the absorbed slack is too high, large shareholders may use absorbed slack to engage in behaviors that are not conducive to CSR. Previous studies have found that a high ownership concentration may lead to large shareholder tunneling behaviors, such as damaging the interests of small and medium shareholders through repurchasing securities, asset transfers, internal transactions, and so on

(Johnson et al., 2000), leading to a decline in CSR. When ownership concentration is low, the decentralization of ownership implies that the goals of different shareholders may not be consistent with long-term development goals, leading to conflicts within organizations. When absorbed slack is low, the enterprise will solve the problem of inconsistency of interests between different shareholders and internal conflicts within the organization through the allocation of absorbed slack. For example, resources are used to first realize the enterprise's goal of maximizing the company's value or shareholders' wealth. Absorbed slack may not fulfill CSR that consumes enterprise resources and may not bring immediate returns to the enterprise. However, when the absorbed slack is too high, the balance between shareholders, which is caused by the decentralization of ownership, inhibits individual shareholders' behavior in tunneling the company. In this case, CSR may solve the contradictions and conflicts between shareholders. Hence, enterprises may choose to fulfill their social responsibilities.

In summary, low ownership concentration may weaken the relationship between absorbed slack and CSR. Based on the above analysis, this study proposes the following hypothesis.

Hypothesis 3 Ownership concentration strengthens the inverted U-shaped relationship between absorbed slack and CSR. Compared to enterprises with low ownership concentrations, the inverted U-shaped relationship between absorbed slack and CSR is more pronounced in enterprises with high ownership concentrations.

Methodology

Sample selection and data sources

This study used second-hand data for the analysis. The data come from publicly listed Chinese firms in the China Stock Market and Accounting Research (CSMAR) database, and CSR ratings come from the CSR Rating Agency, which creates the Runling Global CSR Report database (also known by its English acronym, RKS; <http://www.rksratings.com>). To ensure the reliability and authenticity of the data, this study also combines the annual reports of listed companies, internet media, and other channels to supplement the executive information data, and strives for accurate and reliable data quality.

Reference to previous studies (He et al., 2017; Zhao et al., 2019), we first conducted the following screening and processing of the research data: we eliminated the following data. First, listed companies in the financial and insurance industries; in China, their financial statements are significantly different from those of other industries. The main business revenue of these companies is represented in data that are not included in the financial statements. Second, ST (special treatment) companies, which are typically those companies that have drawn attention to unusual financial situations; they show negative profits, and their business data are full of extremes and outliers. Third, foreign-funded enterprises, since the purpose of our research is to investigate absorbed slack and CSR in the Chinese context. Forth,

samples from the associated data had multiple missing values, a high number of missing values may affect the accuracy of our model. Finally, a balanced panel data spanning five years were created for this study, comprising a set with a sample of 435 A-share listed companies, and a data volume of 2175. Stata 15.0 was used for data processing and empirical analysis.

Empirical research model

Previous studies have found that CSR lags, which means that changes in indicators in the current year affect CSR in the following year rather than having an immediate impact in the current year (Marquis & Qian, 2014; Yu et al., 2015). Therefore, in this study, CSR is lagged by one year in the model. This can solve the model's endogenous problem to a certain extent.

The following models were constructed to test the three hypotheses:

$$CSR_{i,t+1} = \beta_0 + \beta_1 Slack_{i,t} + \beta_2 Slack_{i,t}^2 + \beta_3 Control_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$CSR_{i,t+1} = \beta_0 + \beta_1 Slack_{i,t} + \beta_2 Slack_{i,t}^2 + \beta_3 Pc_{i,t} + \beta_4 Slack_{i,t} * Pc_{i,t} + \beta_5 Slack_{i,t}^2 * Pc_{i,t} + \beta_6 Control_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$CSR_{i,t+1} = \beta_0 + \beta_1 Slack_{i,t} + \beta_2 Slack_{i,t}^2 + \beta_3 Oc_{i,t} + \beta_4 Slack_{i,t} * Oc_{i,t} + \beta_5 Slack_{i,t}^2 * Oc_{i,t} + \beta_6 Control_{i,t} + \varepsilon_{i,t} \quad (3)$$

CSR represents CSR as the explained variable, *Slack* represents the level of absorbed slack, *Slack*² represents the square of absorbed slack as the explanatory variable, *Pc* is the degree of political connection, *Oc* is the degree of ownership concentration as the moderator variable, and *Control* is another variable that may affect CSR, which is controlled in the model.

Model (1) was used to verify the main effect of Hypothesis 1. Model (2) is based on Model (1) by adding the interaction term of absorbed slack and political connection and the interaction term of absorbed slack squared and political connection, used to test Hypothesis 2. Model (3) is based on Model (1) by adding the interaction term of absorbed slack and ownership concentration and the interaction term of absorbed slack squared and ownership concentration, used to test Hypothesis 3.

Measures

Explained variable: CSR

This study uses a third-party professional report scoring method to measure CSR based on previous research methods. The Runling Global RKS CSR report score

was used to create the CSR index used in this study. The full score is 100. The higher the corporate score, the better the CSR. Runling Global is an authoritative third-party social responsibility assessment agency for China's A-share listed companies. Since its establishment in 2007, the social responsibility scores of A-share listed companies have been reported annually. Its social responsibility report has the advantages of objectivity and systematism (Marquis & Qian, 2014).

Explanatory variable: absorbed slack

To measure absorbed slack, most empirical studies use the work of Bourgeois (1981) as the measurement index. Absorbed slack is organizational slack with low liquidity, difficult transformation, and strong specificity, including fixed assets, human resources, and inventory. It is generally measured by management and financial cost rates and other indicators (Iyer & Miller, 2008; Singh, 1986; Su & Liu, 2018; Wang & Cheng, 2014; Wiseman & Bromiley, 1996). In this study, our measure of absorbed slack is the management ratio (i.e., management cost divided by sales). In the CSMAR database, management cost refers to different expenses incurred by the management of an enterprise to organize and manage production and operation activities. The management cost and sales in the CSMAR database are sorted using an algorithm according to the financial statements of an enterprise, so they can be used directly.

Moderating variables: political connection and ownership concentration

This study refers to the research methods of Faccio (2006) and Fan et al. (2007). It judges whether an enterprise has a political connection by collecting the publicly available background information on the boards of directors and supervisors. Specifically, this study totals the number of directors and supervisors who have been in government organizations, deputies to the National People's Congress, or members of the Chinese People's Political Consultative Conference. It then compares them to the number of directors and supervisors. The higher the proportion, the stronger the political connection.

Information on the political connections of Chinese enterprises is primarily obtained from the annual reports of enterprises, in which the resumes of senior executives, as well as the boards of directors and supervisors, are recorded in detail in the column of "directors, supervisors, senior managers, and employees" from which the political connections of enterprises can be determined. In this study, the CSMAR database sorted out the number of people using an algorithm. For the missing samples in the database, we manually collected the annual reports of each company to determine the number of people with political connections.

This study draws on the research of Hu et al. (2018) and Xiong and Huang's (2016) research on the measurement of ownership concentration. It selects the sum of the shareholding ratios of the top ten shareholders to measure ownership concentration.

Control variables

This study controls the influence of financial leverage, enterprise size, enterprise age, enterprise performance, type of ownership, two-position integration, year, and industry on the level of CSR, referring to previous literature. (1) *Financial leverage*: Financial leverage indicates an enterprise's equity structure (Li et al., 2013). Enterprises with higher amounts of slack are believed to have financial flexibility because of their low leverage (Graham & Harvey, 2001). Li et al. (2013) found a positive relationship between leverage and CSR reports. Thus, this study takes financial leverage as a control variable. This variable is measured as the ratio of total liabilities to total assets. (2) *Enterprise size*: Generally, large enterprises are more capable of fulfilling CSR missions than small enterprises. It is measured by the natural logarithm of total corporate assets. (3) *Enterprise age*: We calculate the enterprise age by subtracting the time of establishment from the current year, 2021. (4) *Enterprise performance*: Enterprises with better performances are more likely to engage in CSR because they are more capable of doing so. We measure performance using the return on assets (ROA) ratio which is net profit divided by average total assets. (5) *Type of ownership*: It reflects whether enterprises are state-owned enterprises (SOEs). If they are, then this variable is assigned the value of 1; otherwise, 0. (6) *Two-position integration*: In our analysis, if the same person is the chairperson, and general manager, then this variable is assigned the value of 1; otherwise, 0. (7) *Year*: The variable is a virtual variable of the year. (8) *Industry*: Enterprises in different industries may differ in their CSR goals and performances. We refer to the China Securities Regulatory Commission 2012 to determine the industries of listed companies. The main variables and measurement methods used in this study are listed in Table 1.

Results

Descriptive statistics

Table 2 reports the descriptive statistics of the main variables and the correlation coefficients between the explanatory variables and the explained variables. The average value of CSR is 39.552, the standard deviation is 12.291, the minimum value is 15.115, and the maximum value is 87.947, which indicates that there are obvious differences in the levels of CSR between 2012 and 2016. The average value of enterprises' absorbed slack (Slack) is 0.078, the standard deviation is 0.056, the minimum value is 0.002, and the maximum value is 0.0412, which shows that different enterprises have different levels of absorbed slack. The correlation coefficient between absorbed slack and CSR is significant at a 1% confidence level. The correlation coefficient between the square of absorbed slack and CSR is significant at a 5% confidence level.

Table 1 Main variables and measurement

Types	Name	Definition	Measurement
Explained variable	CSR	Corporate social responsibility	Running global RKS corporate social responsibility report score The full score is 100, the higher the corporate score, the better the performance of corporate social responsibility
Explanatory variables	Slack	Absorbed slack	Management cost/sales revenue
	Slack ²	The square of absorbed slack	(Management cost/sales revenue) ²
Moderators	Pc	Political connection	If a company executive has been or is now a government agency, an NPC representative or a CPPCC member, the value shall be 1, otherwise 0, divided by the sum of the number of board of directors and board of supervisors
Control variables	Oc	Ownership concentration	The sum of the shareholding ratio of the top ten shareholders
	Leverage	Financial leverage	Total liabilities/total assets
	Asset	Enterprise size	Natural logarithm of total corporate assets
	Age	Enterprise age	Year minus time of establishment
	Roa	Enterprise performance	Net profit/total assets
	Soe	Property right nature	State-owned enterprises 1, non-state-owned enterprises 0
	Post	Two-position integration	If the chairman and general manager are one, then 1, otherwise 0
	Year	Year	Virtual variable of year
	Industry	Industry	According to China Securities Regulatory Commission 2012 industry standards of listed companies

Table 2 Descriptive statistics

Variable	Average value	Standard deviation	Minimum	Maximum	Correlation coefficient
CSR	39.552	12.291	15.115	87.947	–
Slack	0.078	0.056	0.002	0.412	– 0.083***
Slack ²	0.009	0.015	0	0.170	– 0.058**
Political connection	0.268	0.228	0	1	0.071***
Ownership concentration	0.589	0.166	0.127	0.985	0.313***
Financial leverage	0.513	0.205	0.007	1.344	0.100***
Asset	23.272	1.518	19.197	28.508	0.470***
Age	16.724	4.966	2	36	– 0.095***
Enterprise performance	0.038	0.168	– 0.682	7.44	0.007
Two-position integration	0.142	0.349	0	1	– 0.059**
Property right nature	0.701	0.457	0	1	0.135***

* $p < .10$ ** $p < .05$ *** $p < .01$

Hypothesis testing

The data were processed prior to executing a regression analysis. This study conducted a tail reduction of the main continuous variables at a significance level of 1% to avoid the influence of abnormal values on the empirical results. Furthermore, this study standardized the main explanatory variables to standardize the data results and the variance inflation factor (VIF) test was conducted on the model's main variables. The results show that the VIF of all variables is less than 10, eliminating the multicollinearity problem. Finally, this study used the Hausman test to check the data of the fixed-effect and random-effect models, respectively. The results show that $P < 0.001$, rejecting the original hypothesis; thus, this study used a fixed-effect model for analysis. The fixed-effects model can partially solve the endogenous problem caused by missing variables.

Table 3 shows the regression analysis results for absorbed slack, political connections, ownership concentrations, and CSR. Model 0 is the basic model, and Model 1 tests the main effect of the relationship between absorbed slack and CSR. The results show that there is a significant positive correlation between absorbed slack and CSR ($\beta = 0.125$, $P < 0.001$), and a significant negative correlation between the square of absorbed slack and CSR ($\beta = -0.0214$, $P < 0.05$). The results show that there is a significant inverted U-shaped relationship between absorbed slack and CSR. When the level of absorbed slack is low, the level of CSR is low. With an increase in absorbed slack, the level of CSR also increases. However, once the level of absorbed slack is too high, CSR declines. Therefore, Hypothesis 1 of this study was verified.

Table 3 The regression analysis results

Variables	Model 0	Model 1	Model 2	Model 3
Slack		0.125***	0.128***	0.130***
Slack ²		− 0.0214**	− 0.0257**	− 0.0236**
Political connection			0.00323	
Ownership concentration				0.0292
Slack * political connection			0.0206	
Slack ² * political connection			− 0.0138*	
Slack * ownership concentration				0.0250
Slack ² * ownership concentration				− 0.0165*
Financial leverage	− 0.0332	− 0.0313	− 0.0336	− 0.0284
LnAsset	0.0932	0.127**	0.129**	0.129**
Age	0.143	0.103	0.103	0.0972
Enterprise performance	− 0.0114	0.000199	0.000950	0.00122
Two-position integration	− 0.0349	− 0.0331	− 0.0281	− 0.0339
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R ²	0.114	0.120	0.121	0.120

* $p < .10$ ** $p < .05$ *** $p < .01$

Models 2 and 3 test the moderating effect of political connection and ownership concentration on the main effect. In Model 2, the interaction terms of absorbed slack and political connection and the interaction terms of the absorbed slack squared and political connection are added. The results show that the regression coefficient of the interaction between absorbed slack and political connection is positive but not significant ($\beta = 0.0206$, $P > 0.01$). In contrast, the interaction between absorbed slack squared, and political connection was significant and negative ($\beta = -0.0138$, $P < 0.01$).

In Model 3, we add the interaction term of absorbed slack and ownership concentration and the interaction term of absorbed slack squared and ownership concentration. The results show that the interaction between the square of absorbed slack and ownership concentration is significantly negative ($\beta = -0.0165$, $P < 0.01$). Therefore, it can be said that political connection and ownership concentration strengthen the inverted U-shaped relationship between absorbed slack and CSR.

Robustness test

The measurement methods for the two regulatory variables were replaced to test the robustness of the model. According to previous studies (Li et al., 2015a, 2015b), political connections can be measured by the number of government officials or deputies to the National People's Congress in the top management team. Ownership

concentration can be measured by the sum of the shareholding ratios of the top five shareholders. The regression results of this study, after changing the variable measurement method, are presented in Table 4.

In Table 4, Model 4 is the basic model. Model 5 tested the main effect. Models 6 and 7 test Hypotheses 1 and 2, respectively. It is found that after the alternative measurement of key variables, the results of the robustness test in Models 5, 6, and 7 are still significant; that is, political connection and ownership concentration strengthen the inverted U-shaped relationship between absorbed slack and CSR.

Discussion

Based on the behavioral theory of the firm, our study empirically tests the relationship between absorbed slack and CSR, and the moderating effects of political connections and ownership concentrations. The empirical results are as follows.

First, our study finds that the relationship between absorbed slack and CSR has an inverted U-shape. With an improvement in the level of absorbed slack, on the one hand, the managers of enterprises have sufficient slack to resist uncertainty. On the other hand, they can realize the external goals of enterprises and fulfill social responsibilities through the allocation of resources, so that the levels of CSR also improve. So, there is a critical value for the level of absorbed slack. Once it exceeds that critical value, with continuous increases in the levels of absorbed slack,

Table 4 The results of robustness test

Variables	Model 4	Model 5	Model 6	Model 7
Slack		0.125***	0.111***	0.130***
Slack ²		− 0.0214**	− 0.0260**	− 0.0231**
Political connection			0.0276	
Ownership concentration				0.0240
Slack * political connection			0.0282	
Slack ² * political connection			− 0.0166*	
Slack * ownership concentration				0.0372
Slack ² * ownership concentration				− 0.0165*
Financial leverage	− 0.0332	− 0.0313	− 0.0747**	− 0.0304
LnAsset	0.0932	0.127**	0.128*	0.133**
Age	0.143	0.103	0.0895	0.0951
Enterprise performance	− 0.0114	0.000199	− 0.0145	0.000919
Two-position integration	− 0.0349	− 0.0331	− 0.0890*	− 0.0334
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R ²	0.114	0.120	0.044	0.120

* $p < .10$

** $p < .05$

*** $p < .01$

managers may produce redundant “inertia,” that is, they will relax their minds, observations and anticipations of their external environments, and the level of CSR will decline. A moderate level of absorbed slack is conducive to maximizing CSR. A level of absorbed slack that is too high or too low will inhibit the level of CSR.

Second, political connections strengthen the inverted U-shaped relationship between absorbed slack and CSR. Compared to enterprises with low levels of political connections, enterprises with high levels of political connections will grow faster, with an increase in absorbed slack. Highly politically related enterprises need to maintain political relations through stronger levels of social responsibility and obtain scarce external political resources. However, after the level of absorbed slack reaches a critical point, because of the coexistence of political and redundant resources, managers will double their overconfidence. The higher the level of absorbed slack, the faster CSR will fall. Therefore, political connections strengthen the inverted U-shaped effect of absorbed slack on CSR.

Third, ownership concentration strengthens the inverted U-shaped relationship between absorbed slack and CSR. The higher the concentration of equity, the stronger the control of the top shareholders. Based on long-term goals and relying on the control and supervision of management, major shareholders will be more inclined to fulfill CSR. However, if there is too much absorbed slack, large shareholders may also choose inefficient mergers and acquisitions, asset transfers, and other avenues that damage the interests of other shareholders, and the level of CSR will decline. When the ownership concentration is low, due to the different interests of different shareholders, and when the absorbed slack level is low, the first consideration is the maximization of common interests, rather than the level of CSR. However, when the absorbed slack level is too high, the fulfillment of CSR mitigates the conflict of interests among shareholders.

Theoretical implications

Our study offers several important theoretical implications. First, previous studies mainly explored the relationship between unabsorbed slack and CSR, among which the existing findings are inconsistent (Miller & Chen, 2004; Xu et al., 2015). Additionally, less attention has been paid to the impact of absorbed slack on CSR (Kim et al., 2019; Xiao & Li, 2018). Our study investigates the inverted U-shaped relationship between absorbed slack and CSR based on the behavioral theory of the firm. Low or high levels of absorbed slack are not conducive to achieving the maximum level of CSR, and a moderate level of absorbed slack is conducive to it. By investigating the impact mechanism of CSR from the perspective of absorbed slack, this study enriches the theoretical model of the relationship between absorbed slack and CSR.

Second, existing literature rarely explores the impact mechanism of internal and external relations on CSR (Gao & Zheng, 2010; Khan et al., 2013). In China, both managers' resource allocation behaviors and enterprises' social goals are influenced by internal capital relationships and external political ties (Rauf et al., 2021). Our study examines the moderating effects of external political relations and internal

equity relations on the main effect, finding that political connections and ownership concentration strengthen the inverted U-shaped impact of absorbed slack on CSR. Our discussion of the boundary conditions enriches the relevant research.

Third, our study contributes to the extant literature on the behavioral theory of the firm (Argote & Greve, 2007; Cyert & March, 1963). The relationship between resource allocation and firm objectives is an important proposition in the behavioral theory of the firm (Cyert & March, 1963; George, 2005), and managers are the individuals empowered to make decisions about dealing with and allocating resources in an enterprise. Our study fully demonstrates how senior executives influence CSR through resource allocation. In addition, existing research calls for the application and development of more Western theories in Chinese contexts (Barkema et al., 2015; Ma & Bu, 2021). Future studies can further explore the effects of absorbed slack in a Chinese context based on our study.

Practical implications

The findings from our study can be applied as follows: first, an appropriate level of absorbed slack can maximize CSR. Therefore, enterprise managers will be able to maintain certain levels of absorbed slack on the basis of normal operations, including inventory and personnel slack, which is conducive to the realization of CSR goals. Second, in the Chinese context, the performance of CSR helps enterprises obtain political connections, and thereby obtain the necessary legitimacy for their survival. In turn, political connections strengthen the levels of CSR. For some enterprises with high political connections, it is necessary to maintain their status by increasing their CSR activities, simultaneously, they should be cautious to not use CSR in bribery and corruption. Third, in terms of ownership structure, the concentration of the ownership structure is conducive to the improvement of the level of CSR. Finally, since CSR is a long-term strategic investment, it cannot increase an enterprise's financial returns in the short term. However, it has the potential to add value to an enterprise (Porter & Kramer, 2006). In the long term, it can attract talent and reduce hidden costs. Enterprises must maintain certain levels of absorbed slack. It can help them resist external risks and uncertainties and also maximize CSR.

Research limitations and outlooks

Although our study finds that a moderate level of absorbed slack is conducive to the optimal performance of CSR, the optimal structural proportion of absorbed slack and unabsorbed slack within enterprises has not yet been explored. Future research can further explore the structural relationships between these two factors and explore the optimum levels of absorbed slack that are conducive to their CSR. Political connections are important situational factors in Chinese enterprise management (Peng & Luo, 2000; Wang et al., 2017). It is necessary for future researchers to combine the influence of political factors when exploring CSR in China.

We explored the inverted U-shaped relationship between absorbed slack and CSR. However, we did not expand this to the impact mechanism of absorbed slack

on different CSR dimensions, such as charitable donations and environmental protection (Wang et al., 2015; Zhang et al., 2019). After Carroll (1991) proposed a pyramid model of CSR, research in this area has been further classified and refined. Therefore, researchers can further explore the impact mechanisms of absorbed slack on different types of CSR in future, for example, the influence between slack and environmental protection in China.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Research involving human participants This article does not contain any studies with human participants performed by any of the authors.

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