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Effects of ownership type of Chinese firms on the relationship between accounting conservatism and credit ratings

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ABSTRACT

Accounting conservatism (AC) is a fundamental element of financial reporting and indicates the quality of accounting information. It is particularly crucial in assessing the usefulness of accounting information as it determines a company's cost of capital in the bond market based on accounting information. This study analyzes the relationship between AC and bond credit ratings and whether this relationship differs depending on the company's ownership structure, specifically between Chinese-owned and privately held companies. This study utilizes the ordered probit regression methodology using financial data from the CSMAR database and Wind database for 2015-2019, using STATA. The results suggest two key findings. First, higher levels of AC are associated with higher credit ratings in the bond market. This finding is consistent with previous studies on AC. Second, Chinese government ownership negatively affects the relationship between AC and credit ratings. This implies that the impact of Chinese government ownership on the credit ratings of Chinese government-owned companies is already reflected in the bond market, meaning that ownership alone does not affect the relationship. Conversely, it implies that the level of AC and the type of private enterprise positively impact the process of determining the credit rating of private enterprises. These results imply that Chinese government-owned enterprises may be at a disadvantage compared to private enterprises in the bond market. However, the results also have policy implications, suggesting that Chinese government-owned enterprises are less significantly affected by credit ratings in the bond market due to their relatively strong government oversight and control.

Contribution/Originality: This study provides empirical evidence on the effect of ownership type on the relationship between accounting conservatism and bond market response. This study contributes to providing a political implication that the ownership type of a firm plays a role in creating a healthy market atmosphere.

1. INTRODUCTION

Credit rating agencies are important institutions in capital markets. Their main role is to assess the credit risk of borrowers or issuers of securities and to provide credit reports to investors to help them make more informed investment decisions. Graham and Harvey (2001) argue that maintaining or improving a firm's credit rating is the second most important financial decision, after formulating an effective financial response. Previous studies have shown that credit ratings affect the cost of capital, bond pricing, and investment decisions.

The theory of information asymmetry posits that, within the context of the capital market, the information required by market participants to make rational and accurate decisions is often deficient. Within the trading market, buyers' information sources are constrained, thereby conferring an absolute advantage to suppliers due to their superior knowledge of trading information compared to buyers. In the context of China's recent economic boom, there has been a considerable proliferation of corporate bonds. However, concomitant with this development, there have been a number of issues that have come to the fore, including but not limited to price distortion and inefficiencies in resource allocation due to information asymmetries. These issues hinder enterprises' ability to raise capital and reduce their debt repayment capacity, thereby impeding their reliance on the financial market to sustain the real economic system.

Conversely, the principle of accounting conservatism (hereinafter referred to as AC) is a pivotal factor in determining the quality of accounting information. Watts (2003) determined that AC constitutes a key component of accounting information quality, emerging between the parameters of management's remuneration contract and the firm's debt contract. Shareholders and investors utilize AC as a means of monitoring management's opportunistic behavior. In contrast, creditors employ AC to oversee listed companies, seeking to detect any potential manipulation of financial statements or discretionary adjustments to earnings.

The credit rating of a company is indicative of the quality of its management, financial strength, external resources, and market competitiveness. The existing research on AC and corporate credit ratings has, in general, been conducted separately, without any analysis of the relationship between the two. However, corporate control standards for AC affect each aspect of corporate credit ratings, which in turn influence overall creditworthiness. Thus, the research question of this study is whether corporate ownership type affects the relationship between AC and credit ratings.

Therefore, the aim of this study is to analyze the impact of AC on corporate credit ratings. In order to achieve this objective, the study will undertake a comprehensive examination of corporate internal and external management, financial, and non-financial factors.

Moreover, the disparities in corporate governance, government support, market competition, and accounting policies between SOEs and private firms in China may impede the firms' capacity to raise capital, capital financing costs, and management risks, which in turn may result in divergent conservative accounting policies and credit ratings. This study aims to analyze whether there are differences in the relationship between AC and corporate credit ratings depending on the ownership type of the firm.

2. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

2.1. Accounting Conservatism

Basu (1997) was the first to statistically measure AC, using a reverse-reaction model of earnings returns, with the firm's stock return as the source of information. If the stock return result is positive, it is good news, but if the stock return is negative, it is bad news, which means that the sustainability of accounting earnings is lower. Research has shown that bad news is less effective than good news in influencing the sustainability of accounting earnings. Beaver and Ryan (2000) first devised a reliable measure of AC, based on the ratio of the book value of equity to the market value of equity, and split this variable into two parts: deviation and lagged. They argued that, while both of these have an impact on subsequent net asset returns, the impact of the deviation component remains the same when unrecognized gains or losses are recognized at some point in the future, while the impact of the lagged component is reduced. Khan and Watts (2009) proposed the C-Score method to measure the AC of each firm and argued that AC can reduce agency costs between client and agent and mitigate information asymmetry between the two.

In addition to the continuous improvement of theory and model measurement, many scholars have combined AC with specific disciplines, such as financing costs, internal management, internal control, and corporate governance. Ball and Shivakumar (2005) adopted asymmetric forms of economic losses and economic returns and recognized them

asymmetrically in response to the relationship between earnings and cash flows, and finally presented a stepwise, linear model of the relationship between earnings accruals and cash flows. Ahmed, Billings, Morton, and Stanford-Harris (2002) began to link debt financing costs with AC, which can suppress firms' debt financing costs. Saad and Samet (2017) found that a decrease in AC increases the cost of equity capital, as firms face persistently higher risk, which is reflected in the price of their shares in the capital market. One important role of AC is to lower the agency costs that firms incur due to information asymmetry. AC increases the difficulty and cost of managing surplus (Watts, 2003). In addition, better corporate governance in terms of board independence is correlated with AC, while management ownership is not. Further research shows that political connections are positively related to a firm's future performance (Mohammed, Ahmed, & Ji, 2017).

In recent years, conservatism has received increasing attention in China with the development and normalization of the capital market. Zhao (2004) studied Chinese corporate data from 1994 to 2001 and concluded that AC exists in the Chinese capital market, and its level was much higher than before 1999. This indicates that the level of accounting soundness of companies in the Chinese capital market has gradually increased.

2.2. Credit Rate

Credit rating has attracted people's attention since its inception, serving as an important system for assessing default risk in enterprises. It significantly influences the growth and development of businesses. With the advancement of capital markets, statistical models for credit ratings have become increasingly sophisticated and diverse in recent years. For example, Nehrebecka (2018) combines binary logistic regression and Probit mixed models to compare the credit risk profiles of different enterprises. Hirk, Hornik, and Vana (2019) utilized a multivariate regression model to analyze credit ratings. Doumpos and Figueira (2019) examined multiple guideline alignment methods for modeling corporate credit ratings. Additionally, Golbayani, Florescu, and Chatterjee (2020) proposed using neural networks to predict corporate credit ratings and evaluated their prediction accuracy through vector machines and decision trees.

Except for research models and the measurement of credit ratings, existing research on corporate credit ratings primarily focuses on the factors influencing them. Some scholars have introduced specific financial indicators, such as the debt coverage ratio and debt-to-equity ratio, to assess their impact on credit ratings (Altman, Haldeman, & Narayanan, 1977; Beaver, 1966). Joe and Oh (2018) found that ratings are closely related to a firm's cash reserves. Since different ratings entail varying costs and revenues, increasing the cash reserves of firms sensitive to rating changes can raise the likelihood of rating adjustments.

Various studies have increasingly focused on the relationship between credit ratings and non-financial factors, gradually incorporating indicators such as macro market environment, development capacity, and rating agencies into the rating system. Hoque, Sultana, and Thalil (2016) studied the factors affecting credit ratings for small enterprises and found that indicators such as the gender, living conditions, and age of the enterprise owner impact credit ratings. Andreasen and Valenzuela (2016) argue that financial openness significantly influences the credit ratings of firms and countries, with the degree of impact determined by the development level of domestic financial markets. Kusano (2018) examined the impact of constructive, capitalized operating leases on Japanese credit ratings, reporting that credit rating agencies consider operating lease information reliable and include it as a factor in their assessments. Aktas, Petmezas, Servaes, and Karampatsas (2021) identified a curvilinear relationship between ratings and acquisitions, noting that post-acquisition stock returns follow an opposite pattern: higher-rated firms are more likely to be downgraded after an acquisition, whereas lower-rated firms are not, suggesting that acquisitions negatively affect the future ratings of higher-rated firms.

Both AC and credit ratings are influenced by factors such as corporate governance and the quality of accounting information. Furthermore, these two variables are reported to influence capital market reactions, managerial opportunistic behavior, and capital procurement costs, respectively. However, because corporate ownership type has

a greater impact on corporate valuation than firm-level characteristics, ownership type is expected to be an important moderator of the relationship between these two variables.

2.3. Hypotheses Development

The above studies have shown that the high and low levels of AC affect each dimension of a company's management level, management ability, and financial situation, which are also factors in measuring a company's credit rating. With the rapid development of the capital market, as financing becomes more common, corporate credit ratings can protect investors by reducing information asymmetry to a certain extent. In the context of corporate credit ratings, AC is an important indicator that affects corporate growth and is considered an important characteristic worthy of attention in debt contracts.

Chen, Hemmer, and Zhang (2007) argue that AC is a universal phenomenon because AC can effectively reduce retained earnings management, make retained earnings information more accurate, and reduce deviations. Compared with general accounting principles, AC principles can help investors reduce information risk. Conservative accounting calculations for credit ratings by financial analysts can improve the quality of earnings and protect investors from the risk of bankruptcy, reaching the level of credit ratings by credit rating agencies. In addition, Ahmed et al. (2002) compared measures of conservatism and argued that AC reduces conflicts in dividend policy and helps to evaluate credit ratings. Therefore, the following hypotheses are developed in this study.

Hypothesis 1: Accounting conservatism is positively related to a firm's credit rating.

Chinese enterprises are divided into two types, based on ownership: SOEs and private enterprises. Child and Rodrigues (2005) highlight that SOEs in China are characterized by political objectives, and their investment decisions are not consistent with the profit maximization strategies of private firms. There are some differences in the impact of AC on SOEs and private firms. Managers in SOEs lack experience in socialized management; therefore, as long as they maintain good relations with senior leaders who issue orders, they are not at risk of being eliminated.

Therefore, managers end up with full control of the enterprise and are very likely to make poor investment decisions for their own benefit, damaging the interests of other entities participating in the control of the enterprise, and undermining the positive effects of AC. Although there is a certain relationship between SOEs and credit ratings, this relationship is affected by policy risk. Changes in government policies or government intervention in enterprises can affect the management and credit ratings of SOEs. Therefore, we expect the relationship between SOEs' credit ratings and AC to change depending on the ownership type of Chinese firms and the level of AC, and, therefore, we formulate the following hypothesis.

Hypothesis 2: The positive relationship between accounting conservatism and credit ratings will be weaker for SOEs.

3. RESEARCH MODELS AND DATA

3.1. Research Models

In this study, the research model aims to analyze the impact of AC on corporate credit ratings. In Equation 1, the dependent variable is the firm's credit rating (GRADE), which is expressed as an ordinal variable from 1 to 16. Additionally, firm size, debt-to-equity ratio, market-to-book value ratio, return on total assets, firm characteristics, and operating cash flow are included as control variables to construct the research model. STATA was used for this analysis.

$$GRADE_{i,t} = \beta_0 + \beta_1 CONS_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MTB_{i,t} + \beta_5 ROA_{i,t} + \beta_6 SOE_{i,t} + \beta_7 CFO_{i,t} + \sum YEAR + \sum IND + \varepsilon_{i,t} \quad (1)$$

And Equation 2 is a research model designed to analyze the impact of whether a company is state-owned (SOE) on the relationship between AC and corporate credit ratings. Specifically, it investigates whether the effect of AC on the bond market differs between Chinese state-owned enterprises and private enterprises. Therefore, a positive (+)

value for the interaction term CONS X SOE indicates that the degree of AC in government-owned enterprises exerts a greater influence on the bond market.

$$GRADE_{i,t} = \delta_0 + \delta_1 CONS_{i,t} + \delta_2 SOE_{i,t} + \delta_3 CONS_{i,t} X SOE_{i,t} + \delta_4 SIZE_{i,t} + \delta_5 LEV_{i,t} + \delta_6 MTB_{i,t} + \delta_7 ROA_{i,t} + \delta_8 CFO_{i,t} + \sum YEAR + \sum IND + \varepsilon_{i,t} \quad (2)$$

Variable Definitions

GRADE: Firm's credit rating.

CONS: A measure of accounting conservatism.

SOE: Dummy variable equal to 1 for state-owned enterprises and 0 for private enterprises.

SIZE: Firm size = natural logarithm of total assets.

LEV: Debt-to-equity ratio = Total debt / Total assets.

MTB: Market-to-book value ratio.

ROA: Return on Assets = Net Income / Total Assets.

CFO: Operating cash flow = Cash flow from operating activities / Total assets.

∑YEAR: Year dummy.

∑IND: Industry dummy.

3.2. Variables Measurement

Equation 3 is a model of Basu (1997)'s asymmetric timeliness, where losses from bad news are recognized sooner than gains from good news. Watts (2003) refers to conservatism as a law that requires stricter validation by requiring earlier recognition of costs relative to benefits. In Equation 3, the symbol denotes the effect of good news on net income, and the symbol denotes the effect of bad news on net income and stock returns.

The independent variable, AC (CONS), is estimated using the conditional conservatism used by Lara, Osma, and Penalva (2016). In addition, Khan and Watts (2009) utilized investment opportunity indicators, such as litigation, taxation, regulation, and contracts, proposed by Watts (2003), to measure Basu (1997) AC. They constructed a measurement model by considering variables such as firm size (SIZE), market-to-book (MTB), and debt-to-equity (LEV) ratios.

$$NI_i = \lambda_0 + \lambda_1 D_i + \lambda_2 R_i + \lambda_3 D_i X R_i + \varepsilon_i \quad (3)$$

Where,

NI: Net Income.

D: Dummy variable that equals 1 (Bad news) if the stock return is negative or 0 (Good news).

R: Stock return.

e: residual term.

The AC used in Lara et al. (2016) is the average of the sum of the G-score and C-score over three years, based on the Khan and Watts (2009) model, which itself is derived from the Basu (1997) model. It is calculated in decile order for each year. The decile ranking for each year is determined by assigning a number from 0 to 9, from the lowest AC group to the highest AC group, and dividing this number by 9 (resulting in values of 0, 1/9, ..., 8/9, 1) (Lee, Kim, & Park, 2020).

$$G - Score_i = \lambda_2 = \mu_0 + \mu_1 SIZE_i + \mu_2 MTB_i + \mu_3 LEV_i \quad (4)$$

$$C - Score_i = \lambda_3 = \varphi_0 + \varphi_1 SIZE_i + \varphi_2 MTB_i + \varphi_3 LEV_i \quad (5)$$

We calculate the coefficient values of each variable in Equation 6 and obtain the G-Score (β_3), which represents the timeliness of gains to good news, and the C-Score (β_4), which represents the timeliness of additional gains to bad news, by firm and year. The sum of the G-Score and C-Score represents the timeliness (sensitivity) of total profits to bad news. The variables in ~ are added to control for the fact that the Khan and Watts (2009) model includes interaction terms between firm-specific, investment, and opportunity characteristics.

$$NI_i = \lambda_0 + \lambda_1 D_i + \lambda_2 (\mu_1 SIZE_i + \mu_2 MTB_i + \mu_3 LEV_i) + \lambda_3 D_i X (\mu_1 SIZE_i + \mu_2 MTB_i + \mu_3 LEV_i) + \varepsilon_i$$

$$= \lambda_0 + \lambda_1 D_i + \lambda_2(\mu_1 SIZE_i + \mu_2 MTB_i + \mu_3 LEV_i) + \lambda_3(\mu_2 D_i XSIZE_i + \mu_2 D_i XMTB_i + \mu_3 D_i XLEV_i) + \varepsilon_i \quad (6)$$

Credit ratings are divided into subject credit ratings and bond credit ratings. The two essentially perform the same role and function and exist to mitigate information asymmetry between the rated entity and investors, and to allocate resources effectively. Subject credit ratings are based on relatively long-term considerations. The credit rating of an entity is based on a relatively long-term consideration, where the rating agency follows certain procedures and methods to fully understand, investigate, and assess the safety and reliability of the entity's credit behavior. Corporate credit ratings are divided into nine grades, from AAA to C, and other credit ratings can be fine-tuned with + and -. Bond ratings are primarily based on the creditworthiness of the issuing entity and are assessed by considering various factors such as collateral.

Zhang and Jiao (2017) argue that, for unsecured bonds, the bond rating is the same as the rating of the issuing entity, and, at the same time, Cao (2012) shows that there is no difference between the rating of the entity and the bond rating in the corporate bond market in a certain region. Therefore, this study adopts the method of Liu (2019) to use the bond rating as a measure of corporate creditworthiness. The highest credit rating used in this study is AAA, the lowest is C, and the ratings are numbered from 1 to 16, arranged from low to high.

3.3. Data

This study is based on a sample of A-share corporate bond issuers listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange in China from 2015 to 2019. To ensure comparability across samples, we excluded companies in the financial industry, companies with non-December financial statements, and companies for which financial data could not be collected. All continuous variables were winsorized at the upper and lower 1% levels to control for the effects of extreme values. The annual credit ratings of listed companies, totaling 4,358 firm-years, were collected from the Wind database, and key financial data were obtained from the CSMAR database. The final sample for empirical analysis consists of 4,358 firm-years. The observations based on CSMAR's financial data amounted to 15,957 firm-years, while the observations selected based on the Wind database's credit ratings totaled 4,258 firm-years.

Table 1 shows the distribution of the sample by year and credit rating, with the largest number of firms belonging to AA (1,702 firm-years), and 678 firm-years belonging to the highest rating of AAA. The lowest grade, C, has a relatively small sample of 10 firm-years.

Table 1. Distribution of data by year and credit rating.

GRADE	Fiscal Year					Total
	2015	2016	2017	2018	2019	
AAA	89	116	130	156	187	678
AA+	96	124	156	199	227	802
AA	238	303	337	385	439	1,702
AA-	92	107	119	159	197	674
A+	40	47	62	74	106	329
A	8	11	14	17	14	64
A-	2	8	7	9	7	33
BBB+	7	5	7	8	10	37
BBB	1	2	2	4	4	13
BBB-	0	0	0	2	3	5
BB+	0	0	0	0	1	1
BB	0	0	0	0	1	1
B	0	0	0	0	1	1
CCC	0	1	1	1	1	4
CC	0	1	1	1	1	4
C	0	1	1	3	5	10
Total	573	726	837	1,018	1,204	4,358

4. EMPIRICAL ANALYSIS RESULT

4.1. Descriptive Statistics and Correlation Analysis

Table 2 presents the descriptive statistics of the variables used in this study. The dependent variable, credit rating (GRADE), has a mean of 13.990 and a standard deviation of 1.606. The independent variable, AC (CONS), has a mean of 0.550 and a standard deviation of 0.315. The mean of SOE is 0.495, indicating that SOE accounts for approximately 49.5% of the total sample.

The mean of the control variable, firm size (SIZE), is 23.309. The mean and median values of LEV are 0.526 and 0.528, respectively, with little difference, suggesting that the sample firms are in a relatively stable financial position. The mean of return on assets (ROA) is 0.030, which is positive, and the mean of cash flow from operations (CFO) is 0.049. These descriptive statistics for these variables show that each major variable is normally distributed.

Table 2. Descriptive statistics of major variables (N=4,358).

Variables	Mean	SD	Min.	Q1	Median	Q3	Max.
GRADE	13.990	1.606	1	13	14	15	16
CONS	0.550	0.315	0.000	0.333	0.556	0.778	1.000
SIZE	23.309	1.243	20.031	22.446	23.131	24.073	26.326
LEV	0.526	0.174	0.063	0.407	0.528	0.652	0.894
MTB	1.147	1.059	0.150	0.485	0.838	1.446	10.656
ROA	0.030	0.054	-0.356	0.012	0.028	0.052	0.191
SOE	0.495	0.500	0	0	0	1	1
CFO	0.049	0.062	-0.146	0.014	0.049	0.084	0.241

Note: Definitions of variables are as follows.
GRADE: Firm's credit rating.
CONS: A measure of accounting conservatism.
SOE: Dummy variable equal to 1 for state-owned enterprises and 0 for private enterprises.
SIZE: Firm size = natural logarithm of total assets.
LEV: Debt-to-equity ratio = total debt/total assets.
MTB: Market to book value ratio.
ROA: Return on Assets = Net Income/Total Assets.
CFO: Operating cash flow=Cash flow from operating activities/Total assets.
∑YEAR: Year dummy.
∑IND: Industry dummy.

Table 3 shows the correlations of the main variables used in this study. The dependent variable, credit rating (GRADE), has a significant negative relationship with the independent variable, AC (CONS), at the 1% level. This indicates that as AC increases, the firm's credit rating decreases. There is a significant positive relationship between SOEs, which indicates whether a firm is owned by the Chinese government, and credit ratings. Among the control variables, credit ratings are positively related to firm size (SIZE), debt-to-equity ratio (LEV), return on assets (ROA), and cash flow from operations (CFO) at the 1% level, and significantly negatively related to market-to-book (MTB) at the 1% level. At the same time, the AC (CONS) is significantly positively related to SOE, which is a proxy for the ownership type of the firm. Among the control variables, it is negatively correlated with firm size (SIZE), market-to-book (MTB), return on assets (ROA), and cash flow from operations (CFO) at the 1% level, and significantly positively correlated with debt-to-equity (LEV).

Table 3. Pearson correlation analysis.

Variables	*GRADE*	*CONS*	*SIZE*	*LEV*	*MTB*	*ROA*	*SOE*
CONS	-0.143***	1					
SIZE	0.622***	-0.095***	1				
LEV	0.124***	0.393***	0.471***	1			
MTB	-0.269***	-0.132***	-0.468***	-0.497***	1		
ROA	0.162***	-0.227***	0.032**	-0.351***	0.300***	1	
SOE	0.325***	0.038**	0.316***	0.197***	-0.273***	-0.071***	1
CFO	0.134***	-0.092***	0.028*	-0.222***	0.163***	0.332***	-0.015

Note: ***, ** and * indicate statistical significance level at 1%, 5% and 10% levels.
Refer to the note in Table 2 for the definitions of the variables.

4.2. Univariate Analysis

Table 4 shows the results of testing for differences in the means of the variables between SOEs (SOE=1) and private firms (SOE=0). The means of GRADE for SOEs and private firms are 14.518 and 13.473, respectively, which are significantly different at the 1% level. The mean of CONS is 0.538, which is significantly lower than the mean of 0.562 at the 5% level, indicating a higher level of AC in SOEs.

Table 4. Univariate t-test analysis.

Variables	(1) *SOE*=0	(2) *SOE*=1	Mean-Diff. (1-2)
GRADE	13.473	14.518	-1.045***
CONS	0.538	0.562	-0.024**
SIZE	22.921	23.706	-0.785***
LEV	0.492	0.561	-0.068***
MTB	1.433	0.855	0.577***
ROA	0.034	0.026	0.008***
CFO	0.050	0.048	0.002

Note: *** and ** indicate statistical significance level at 1% and 5% levels.
Refer to the note in Table 2 for the definitions of the variables.

4.3. Regression Results

This study conducted an empirical analysis to examine the impact of AC on corporate credit ratings. Table 5 shows the results of the ordered probit regression analysis of the impact of AC on corporate credit ratings. The main variable of interest is the AC (CONS), and the coefficient of CONS is used to test [Research Hypothesis 1].

The empirical results indicate that higher AC is associated with higher credit ratings, and state-owned enterprises (SOEs) are also associated with higher credit ratings. SOEs are firms that are directly or indirectly owned by the Chinese government and are generally supported and guaranteed by the government, which is interpreted as a higher credit rating.

Table 5. Results of probit regression analysis.

Variables	GRADE	
	Coeff.	z-stat.
CONS	0.286***	3.80
SOE	0.618***	14.93
SIZE	1.389***	48.99
LEV	-2.756***	-16.34
MTB	0.056**	2.47
ROA	0.878**	2.33
CFO	1.927***	6.18
ΣYEAR & ΣIND	Included	
pseudo R^2	0.3521	
LR chi^2	5060.70***	
Log likelihood	-4656.022	
N	4,358	

Note: *** and ** indicate significance at 1% and 5% levels.
Refer to the note in Table 2 for the definitions of the variables.

Table 6 shows the impact of AC on the credit ratings of firms, according to whether they are SOEs or not. Similarly, an ordered probit regression is conducted to test Hypothesis 2, with the coefficient of CONS×SOE, the interaction variable between AC and SOE.

The coefficient of CONS×SOE is -0.403, with a z-value of -3.40, which is significant and negative at the 1% level, indicating that the relationship between the level of AC and a firm's credit rating is smaller for SOEs than for private firms. This suggests that the conservative treatment of SOEs' accounting and financial information does not have a

significant impact on their credit ratings or is less sensitive. This may be due to the special status of SOEs or government support.

Table 6. Ordered probit regression results: Interaction with SOEs.

Variables	GRADE	
	Coeff.	z-stat.
CONS	0.474***	5.07
SOE	0.855***	10.53
CONS×SOE	-0.403***	-3.40
SIZE	1.390***	49.02
LEV	-2.758***	-16.35
MTB	0.059***	2.58
ROA	0.811**	2.15
CFO	1.914***	6.14
ΣYEAR & ΣIND	Included	
pseudo R^2	0.3529	
LR chi^2	5072.26***	
Log likelihood	-4650.244	
N	4,358	

Note: *** and ** indicate statistical significance level.at 1% and 5% levels.
Refer to the note in Table 2 for the definitions of the variables.

5. CONCLUSION AND IMPLICATIONS

This study has enriched the current research perspective on the impact of accounting conservatism (AC) on corporate credit ratings by conducting a series of empirical analyses. However, given the time and other constraints, this study still has certain limitations. Firstly, the influencing factors of corporate credit ratings should be further investigated, and the selection of control variables should be more comprehensive to ensure the authenticity and objectivity of the research results. Secondly, the sample is not disaggregated, and the differences that may exist between different samples in various regions or industries are not specifically analyzed. Thirdly, contrary to our thesis, a firm's credit rating may influence AC, as firms with higher credit ratings tend to adopt more conservative accounting policies, which may help improve their credit ratings. Therefore, the possible endogeneity problem between a firm's AC and its credit rating should also be considered.

This study analyzes the impact of AC on corporate credit ratings. The independent variable, AC, is a form of conditional conservatism. The dependent variable, credit rating, is the corporate credit rating provided by Wind Rating Information Co.

The empirical results of this study are as follows.

First, there is a significant positive relationship between AC and corporate credit rating. This indicates that higher AC correlates with higher corporate credit ratings. Firms adopting conservative accounting policies can generally achieve higher credit ratings, which may positively influence the firm's cost of capital and other financial transactions.

Second, we use interaction variables to examine the relationship between AC and corporate credit ratings of SOEs, and find that, for SOEs, higher AC is associated with lower corporate credit ratings. This suggests that the conservative treatment of SOEs' accounting and financial information does not have a significant impact on their credit ratings or is less sensitive. This may be due to the special status of SOEs or government support.

This study suggests the following future research directions. First, it focuses on Chinese listed companies; however, to generalize the results, analysis of data across multiple countries is necessary. Second, while the study analyzed a pooled sample, future research should utilize the PSM methodology to analyze samples based on ownership type.

The contributions of this study are as follows: Considering that internal and external joint management is necessary to improve a firm's credit rating, this study includes firm characteristics as an interaction factor, which diversifies the research perspective by analyzing whether AC and firm characteristics are complementary or substitutive for a firm's credit rating. It is also important for improving the current credit rating system by better understanding the AC of firms and improving their credit ratings.

This study makes a political implication that the relationship between AC and credit ratings is expected to play a certain role in improving corporate governance and creating a healthy market atmosphere.

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