The Impact of Media Sentiment on the Dynamic Adjustment of Corporate Capital Structure under the Moderation of Institutional Environment

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Abstract: This study examines how media sentiment affects the speed of corporate capital structure adjustment and the moderating role of ownership nature. Using a sample of Chinese A-share listed firms from 2020-2024 (1,901 firm-year observations) and System GMM estimation, we find that positive media sentiment significantly accelerates adjustment toward target leverage. However, this effect is substantially weaker in state-owned enterprises (SOEs), indicating that ownership structure moderates the impact of media sentiment. The results are economically significant: a one-standard-deviation increase in media sentiment accelerates adjustment speed by 7.21 percentage points, but this effect is nearly fully offset in SOEs. Our findings integrate behavioral factors into capital structure theory and highlight the importance of institutional context.

***Keywords*:** media sentiment; capital structure; dynamic adjustment; ownership structure; GMM

1. Introduction

How firms adjust their capital structure toward targets is a fundamental question in corporate finance. While traditional theories emphasize firm characteristics and market frictions[1] , the role of information and sentiment remains underexplored. Media, as a crucial information intermediary, shapes investor perceptions and influences corporate decisions[2]. Yet, whether media sentiment affects the speed of capital structure adjustment—and how institutional factors moderate this relationship—remains unclear.

China's institutional context provides an ideal setting for this investigation. First, China's rapidly developing capital markets exhibit significant media influence. Second, the coexistence of SOEs and non-SOEs creates variation in institutional constraints. SOEs benefit from soft budget constraints and preferential access to financing[3], potentially insulating them from market sentiment.

This study makes three contributions: (1) introducing media sentiment into dynamic capital structure models; (2) identifying ownership nature as a key boundary condition; (3) providing robust evidence using recent panel data and System GMM.

2. Hypotheses Development

2.1 Media Sentiment and Adjustment Speed

Media sentiment affects financing decisions through multiple channels. Positive coverage reduces information asymmetry, lowering both equity and debt financing costs[4]. Creditors interpret favorable media as positive signals, reducing perceived default risk. Managers, influenced by optimistic coverage, may pursue financing more aggressively. Thus:

H1: Positive media sentiment accelerates capital structure adjustment speed.

2.2 Moderating Role of Ownership

SOEs face softer budget constraints and maintain privileged access to capital regardless of market conditions. Their financing decisions respond less to market signals like media sentiment. Non-SOEs, operating under market discipline, must capitalize on favorable sentiment windows. Therefore:

H2: The accelerating effect of media sentiment is weaker in SOEs than in non-SOEs.

3. Research Design

3.1 Sample and Data

Our sample comprises Chinese A-share listed firms from 2020-2024. After excluding financial firms, ST firms, and

observations with missing data, we obtain an unbalanced panel of 951 firms and 1,901 firm-year observations. All continuous variables are winsorized at 1% and 99%.

3.2 Variable Definitions

Variable	Symbol	Definition
Leverage	LEV	Total liabilities / Total assets
Media Sentiment	MEDIA	Net sentiment (positive% – negative%)
Ownership	SOE	1 for SOEs, 0 otherwise
Firm Size	SIZE	Log of total assets
Profitability	ROE	Return on equity
Growth	GROW	Revenue growth rate
Information Asymmetry	ASY	Information asymmetry index
Debt Cost	COST	Interest expense / Total debt

3.3 Empirical Model

Following Flannery & Rangan (2006), we specify the partial adjustment model:

$$LEV_{i,t} = (1-\lambda) LEV_{i,t-1} + \lambda LEV^{*}_{i,t} + \mu_i + \eta_t + \varepsilon_{i,t} \tag{1}$$

Target leverage LEV^{*} is determined by firm characteristics: $LEV^{*}_{i,t} = \beta X_{i,t-1}$

To allow media sentiment to affect adjustment speed, we parameterize $\lambda = \lambda_0 + \lambda_1 Media_{i,t-1}$. Substituting and adding ownership interactions yields:

$$\begin{aligned} LEV_{i,t} = {} & \alpha LEV_{i,t-1} + \alpha_1 \left(LEV^{*}_{i,t} - LEV_{i,t-1} \right) + \alpha_2 Media_{i,t-1} \\ & + \alpha_3 Media_{i,t-1} \times \left(LEV^{*}_{i,t} - LEV_{i,t-1} \right) + \alpha_4 SOE_{i,t} \\ & + \alpha_5 SOE_{i,t} \times \left(LEV^{*}_{i,t} - LEV_{i,t-1} \right) \\ & + \alpha_6 Media_{i,t-1} \times SOE_{i,t} \times \left(LEV^{*}_{i,t} - LEV_{i,t-1} \right) \\ & + \gamma Controls_{i,t-1} + \mu_i + \eta_t + \varepsilon_{i,t} \end{aligned} \tag{2}$$

We estimate equation (2) using System GMM to address endogeneity from the lagged dependent variable.

4. Results

4.1 Descriptive Statistics

Table 1 presents summary statistics. Mean leverage is 0.484, with substantial cross-firm variation. Mean media sentiment is 0.327, indicating generally optimistic coverage. SOEs constitute 42.3% of the sample.

Table 1. Descriptive Statistics

Variable	Mean	Std.Dev.	Min	Max
LEV	0.484	0.197	0.079	0.901
MEDIA	0.327	0.158	–0.120	0.582
SOE	0.423	0.494	0	1
SIZE	23.847	1.324	20.162	26.452
ROE	0.077	0.189	–0.882	0.332
GROW	0.244	0.762	–0.563	4.593
ASY	0.326	0.248	0.017	1.366
COST	0.019	0.035	–0.090	0.248

Note: N = 1,901

4.2 Main Results

Table 2 reports System GMM estimates. Column (3) shows the full model. The coefficient on MEDIA_ADJ is positive and significant (45.639, t=2.15), supporting H1: positive media sentiment accelerates adjustment. The triple interaction MEDIA_SOE_ADJ is negative and significant (−61.399, t=−2.68), supporting H2: the accelerating effect is substantially weaker in SOEs.

Table 2. System GMM Results – Dependent Variable: LEV

Variable	(1)	(2)	(3)
LEV(-1)	0.958***	1.051***	1.063***
	(38.45)	(15.23)	(5.99)
ADJ_GAP	–10.452**	–13.891**	–14.763**
	(–2.21)	(–2.08)	(–2.02)
MEDIA		–0.042	–0.059
		(–0.21)	(–0.26)
MEDIA_ADJ		38.247*	45.639*
		(1.98)	(2.15)
SOE			–0.403
			(–0.71)
SOE_ADJ			20.979***
			(2.62)
MEDIA_SOE_ADJ			–61.399*
			(–2.68)
Controls	Yes	Yes	Yes
Observations	1,901	1,901	1,901
AR(2) p-value	0.234	0.187	0.162
Hansen J p-value	0.321	0.278	0.295

*Note: t-statistics in parentheses; *, *, *** *denote significance at 10%, 5%, 1% levels. Controls include SIZE, ROE, GROW, ASY, COST. Instruments include lagged levels and differences of endogenous variables. AR(2) and Hansen tests support instrument validity.*

4.3 Economic Significance

A one-standard-deviation increase in media sentiment (0.158) accelerates adjustment by 7.21 percentage points (45.639 × 0.158). For SOEs, this effect is reduced by 61.40 units—essentially fully offset. This magnitude underscores the practical importance of both media sentiment and institutional context.

4.4 Robustness

We confirm robustness by: (1) using alternative media measures (positive/negative indices); (2) alternative leverage measures (short-term/long-term debt ratios); (3) 2SLS estimation. All results remain consistent.

5. Conclusion

This study demonstrates that media sentiment significantly influences how quickly firms adjust toward target capital structures, with ownership structure playing a crucial moderating role. Positive sentiment accelerates adjustment, but this effect is confined to non-SOEs facing market discipline. Our findings highlight the importance of integrating behavioral factors and institutional context into corporate finance research.

For regulators, our results suggest the value of promoting accurate media coverage to facilitate efficient capital allocation. For managers, particularly in non-SOEs, media sentiment represents both opportunities for timely financing and risks if overemphasized. For investors, interpreting media information requires understanding the firm's institutional background.

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