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Corporate Over-Indebtedness and the Development of New Productivity-Theoretical Mechanisms and Empirical Evidence

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Abstract: New-quality productive forces are of great significance to China's high-quality development. This study selects A-share listed companies in Shanghai and Shenzhen, China from 2011 to 2022 as research samples, and empirically explores the impact paths and mechanisms of corporate excessive leverage on new-quality productive forces. The results show that: First, corporate excessive leverage significantly inhibits the development of new-quality productive forces; second, mechanism tests indicate that corporate excessive leverage suppresses the development of new-quality productive forces through mechanisms such as reducing corporate innovation and widening internal pay gaps, and a series of robustness tests confirm that the aforementioned inhibitory mechanisms still hold. The research conclusions provide theoretical support and practical reference for deepening the understanding of the economic consequences of deleveraging policies and for the government to formulate policies to accelerate the formation of new-quality productive forces.

Keywords: Excessive Leverage; New-Quality Productive Forces; Innovation; Internal Pay Gap

1. Introduction

New-quality productive forces (NQPF) differ significantly from traditional ones: while the latter rely mainly on capital input and labor quantity-often facing insurmountable growth bottlenecks at a certain stage-the former are driven by technological innovation, emphasizing the trinity of innovation, emancipation and development. The 2024 Government Work Report re-emphasized the crucial value of accelerating NQPF development, and enterprises play an indispensable role in this process. Exploring how to stimulate enterprises' initiative and innovation to enhance their NQPF level thus has important theoretical and practical significance.

Existing studies show that when an enterprise's actual leverage exceeds its target, it falls into excessive leverage, triggering solvency risks and hindering technological innovation-an important driver of high-quality development. Since enhancing NQPF is closely linked to enterprise innovation, this study addresses key questions: Does excessive leverage affect NQPF? If so, what is the mechanism?

2. Theoretical Analysis and Research Hypotheses

In general, debt financing has both a financing effect (providing external funds for enterprises' financial investments) and a governance effect. It may also exacerbate shareholder-creditor conflicts due to divergent interests, indirectly affecting enterprises' development strategy formulation.

As a key component of Chinese-style modernization, new-quality productive forces form an integrated system covering at least technology, green development and digitalization. Both corporate high leverage and new-quality productive forces are

Published: 28 February 2026



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prominent current economic topics; clarifying their theoretical connections and action mechanisms is undoubtedly important. The theoretical analysis section of this paper focuses on in-depth demonstration of how corporate excessive leverage impacts new-quality productive forces and its underlying mechanisms, detailed as follows:

2.1. Corporate Excessive Leverage and New-Quality Productive Forces

According to dynamic equilibrium theory, enterprises' optimal capital structure results from dynamic trade-offs between bankruptcy risk, agency costs, and tax shield effects [1,2]. When the actual capital structure deviates from the target, enterprises typically take measures to adjust it [3]. Higher debt levels are often accompanied by more disposable funds.

Banks play a core role in China's financial system, dominating capital flow and allocation. Corporate fundraising is thus closely tied to debt financing channels like bank credit, with banks serving as pivotal capital guides. When a firm's asset scale is overly large, it usually indicates excessive debt accumulation beyond reasonable management limits, leading to "redundant funds."

Although some high-asset, high-reserve ("double-high") enterprises hold such excess capital as financial buffers, capital's profit-seeking nature drives enterprises to prioritize long-term investments in profitable real sectors for capital appreciation. Dividing corporate investments into industrial (fixed assets, M&A, R&D, etc.) and financial investments, enterprises allocate redundant funds from excessive leverage between the two.

In practice, financial investments have shorter payback periods. Especially when core business performance is poor or the stock market booms, financial investment returns often outperform industrial ones. This strong incentive leads enterprises to channel redundant funds from excessive leverage into financial investments. As more funds are diverted, excessive leverage reduces industrial investment and related human capital expenditures.

In summary, this paper proposes Hypothesis 1: Corporate excessive leverage inhibits the development of new-quality productive forces.

2.2. The Mechanism of the Impact of Corporate Excessive Leverage on New-Quality Productive Forces

2.2.1. The Mechanism of Reducing Corporate Innovation

In general, debt financing has both a financing effect (providing external funds for enterprises' financial investments) and a governance effect. It may also exacerbate shareholder-creditor conflicts due to divergent interests, indirectly affecting enterprises' development strategy formulation.

Innovation is the primary driver of enterprise development. From the innovation input perspective, debt financing often constrains enterprises' R&D and other innovation-related investments, a view supported by existing empirical studies [4,5]. The pecking order theory suggests that large enterprises prioritize internal financing for innovation [6], but internal financing carries financial instability risks [7], and unbalanced innovation fund allocation may disrupt innovation activities and cause heavy losses [8]. Thus, external financing is the main fund source for corporate technological innovation.

Corporate leverage ratio is a key financial indicator for investors like commercial banks [9]. All else equal, a lower leverage ratio signals stronger financial performance, helping enterprises obtain external financing at lower costs-encouraging high-leverage enterprises to reduce on-book leverage. Heavier debt burdens worsen corporate risk profiles and credit standings, increasing additional costs, exacerbating financial pressure, and crowding out R&D and innovation resources, thereby hindering technological innovation.

In summary, Hypothesis 2 is proposed: Corporate excessive leverage reduces corporate innovation, which further inhibits the development of new-quality productive forces.

2.2.2. The Mechanism of Increasing Internal Corporate Compensation Gap

Excessive leverage weakens debt financing's inherent "debt governance effect"-specifically, its role in curbing managers' abuse of free cash flow for inefficient investments-thus facilitating managers' pursuit of private interests via financial investments. When enterprises have substantial free cash flow, managers tend to retain funds or invest in inefficient projects (prioritizing personal interests over shareholder returns like dividends), widening the compensation gap between managers and employees.

It was founded that a significant expansion of top management team (TMT) internal compensation gaps reduces corporate R&D investment, and this negative impact is exacerbated by larger board sizes [10]. Widened executive compensation gaps undermine TMT unity and collaboration, impairing coordinated innovation strategy decisions, hindering critical R&D investment processes, and ultimately damaging long-term innovation capabilities [11]. Extant research confirms that increased corporate internal compensation gaps impair innovation, which in turn affects new-quality productive forces.

In summary, this paper proposes Hypothesis 3: Corporate excessive leverage widens the internal compensation gap within enterprises, which further hinders the development of new-quality productive forces.

3. Research Design

3.1. Data Sources

To test the hypotheses proposed in this paper, this study employs data of listed companies on China's Shanghai and Shenzhen A-share markets from 2011 to 2022, all sourced from the CSMAR Database and WIND Database. The data are processed in accordance with the research principles as follows:

Removing samples with missing key financial data;

Excluding samples of enterprises labeled as ST or *ST in the current year;

Deleting samples with only one year of data. Ultimately, a total of 32, 598 firm-year observations from 3, 892 listed companies are obtained. To mitigate biases caused by outliers, this study conducts a 1% winsorization on all continuous variables.

3.2. Variable Definition

3.2.1. Dependent Variable (Newpro).

This paper measures corporate new-quality productive forces using the entropy method. The measurement framework is developed on the basis of the two-factor theory of productivity, starting from the two core elements of labor and production tools [12].

3.2.2. Independent Variable (Overlev).

The independent variable is the degree of corporate excessive leverage. Following existing practices, the difference between the actual leverage ratio and the target leverage ratio is used as the indicator to measure excessive leverage [13]. This paper conducts a year-by-year Tobit regression on the sample using the following model to predict the corporate target leverage ratio:

$$Lev_{i,t} = \alpha_0 + \alpha_1 Soe_{i,t-1} + \alpha_2 ROA_{i,t} + \alpha_3 Growth_{i,t-1} + \alpha_4 Size_{i,t-1} + \alpha_5 Top1_{i,t-1} + \alpha_6 Fata_{i,t-1} + \alpha_7 IndLev_{i,t-1} + \varepsilon_{it} \quad (1)$$

In Model (1), i and t denote the firm and its fiscal year, respectively. Lev represents the corporate asset-liability ratio. Soe denotes the nature of corporate ownership. ROA

stands for return on assets. Growth indicates the growth rate of operating income. Size represents firm size. Top1 refers to the shareholding ratio of the largest shareholder. Fata denotes the proportion of fixed assets. Indlev refers to the industry leverage ratio, defined as the median of corporate leverage ratios within the industry in a given year.

The predicted value of this model is defined as the corporate target leverage ratio. This paper defines the difference between the actual leverage ratio and the target leverage ratio as the excessive leverage ratio, which measures the degree of corporate excessive leverage and is denoted by Overlev.

3.2.3. Corporate Innovation

Corporate innovation is measured by the number of granted patents of the enterprise, calculated as the natural logarithm of (number of granted patents + 1). [13] The internal corporate compensation gap (Fgp) is measured by the ratio of average management pay (AMP) to average employee pay (AEP) [14,15].

3.2.4. Control Variables.

The following control variables are selected: Total Liability Ratio (TI), measured as the ratio of total liabilities to total assets; Firm Size (Size), expressed as the natural logarithm of total assets; Firm Age (Age), represented as the natural logarithm of (number of listing years + 1); Return on Assets (Roa), calculated as net profit divided by total assets; Cash Flow (Cflow), measured as the ratio of net cash flow from operating activities to total assets; CEO Duality (Dual), a dummy variable indicating whether the CEO and chairman positions are held by the same person (coded as 1 if yes and 0 otherwise); Ownership Concentration (Top10), measured by the shareholding percentage of the top 10 shareholders; Independent Director Ratio (Indep), calculated as the ratio of the number of independent directors to the total number of board members; Management Shareholding Ratio (Mshare), measured as the proportion of shares held by management to the total listed shares of the company; and Board Size (Board), expressed as the natural logarithm of the number of board members [12,16].

3.3. Model Selection

To examine the impact of corporate excessive leverage on new-quality productive forces, the basic econometric model selected in this paper is as follows:

$$Nepro_{i,t} = \alpha_0 + \alpha_1 Overlev_{i,t} + \alpha_3 control_{i,t} + \lambda_{i,t} + u_t + \varepsilon_{i,t} \quad (2)$$

where $Nepro_{i,t}$ denotes the new-quality productive forces of the i -th firm in the t -th year, and $Overlev_{i,t}$ represents the excessive leverage level of the i -th firm in the t -th year. The coefficient of $Overlev_{i,t}$ measures the degree of the impact of corporate excessive leverage on the performance of new-quality productive forces. Controls $\{i, t\}$ denotes the set of control variables. This paper also controls for year and firm fixed effects, and $\varepsilon_{i,t}$ represents the random error term.

3.4. Descriptive Statistics

Table 1 presents the descriptive statistics of the variables. The dependent variable, new-quality productive forces, has a mean of 5.0538, a minimum value of 0.6917, and a maximum value of 14.4145, indicating that there are significant differences in new-quality productive forces across different enterprises. The independent variable, excessive leverage, has a maximum value of 0.3978 and a minimum value of -0.3513, which provides a realistic basis for examining the impact of corporate excessive leverage on new-quality productive forces. The descriptive statistics of the remaining variables are shown in Table 1 and are not elaborated upon here.

Table 1. Descriptive Statistics of Variables.

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Overlev	32, 598	-0. 0017	0. 1518	-0. 3513	0. 3978
Newpro	32, 598	5. 0538	2. 4529	0. 6917	14. 4145
TI	32, 598	0. 4277	0. 2033	0. 0596	0. 8845
Size	32, 598	22. 2686	1. 2794	19. 9906	26. 0627
Age	32, 598	2. 2067	0. 7695	0. 6931	3. 4965
Roa	32, 598	0. 0387	0. 0620	-0. 2033	0. 2085
cflow	32, 598	0. 0468	0. 0674	-0. 1457	0. 2306
Dual	32, 598	0. 2809	0. 4495	0. 0000	1. 0000
Top10	32, 598	0. 5791	0. 1500	0. 2430	0. 9018
Indep	32, 598	0. 3768	0. 0537	0. 3333	0. 5714
Mshare	32, 598	0. 3911	0. 2340	0. 0000	0. 9866
Board	32, 598	2. 1202	0. 1956	1. 6094	2. 6391

4. Empirical Results and Analysis

4.1. Baseline Regression Results

Columns (1)-(2) of Table 2 present the regression results of excessive leverage on new-quality productive forces for the full sample. Column (1) excludes control variables, whereas Column (2) incorporates control variables. It can be observed that, after controlling for year and firm fixed effects, an increase in excessive leverage does not contribute to the development of new-quality productive forces, and this conclusion remains consistent when control variables are included. The results in Column (2) are therefore taken as the reference for subsequent analysis.

Table 2. Baseline Regression Results.

	(1) Full Sample Newpro	(2) Full Sample Newpro	(3) Overlev<0 Newpro	(4) Overlev>0 Newpro	(5) Overlev_media Newpro
Overlev	-0. 1625* (0. 0750)	-1. 1133*** (0. 1573)	-1. 3640*** (0. 2401)	-0. 7118*** (0. 2157)	-0. 5768 (0. 5267)
Size		0. 0199 (0. 0283)	0. 0104 (0. 0527)	-0. 0476 (0. 0291)	-0. 0410 (0. 0739)
TI		0. 9150*** (0. 1708)	1. 9266*** (0. 2568)	0. 2174 (0. 2070)	1. 2797*** (0. 3704)
Roa		-1. 9684*** (0. 1943)	-1. 8731*** (0. 3005)	-1. 7453*** (0. 2412)	-1. 5355*** (0. 4037)
Cflow		1. 3543*** (0. 1529)	0. 8217*** (0. 2447)	1. 3274*** (0. 1787)	-0. 9973*** (0. 3009)
Board		-0. 0533 (0. 0936)	0. 2006 (0. 1409)	-0. 3725** (0. 1214)	-0. 2041*** (0. 4037)
Dual		-0. 0122 (0. 0264)	0. 0276 (0. 0409)	-0. 0222 (0. 0347)	-0. 0269 (0. 0497)
Top10		-0. 4797*** (0. 1380)	-1. 1963*** (0. 2364)	-0. 0506 (0. 1588)	-0. 7537* (0. 2666)
Age		0. 6046*** (0. 0460)	0. 6637*** (0. 0693)	0. 5248*** (0. 0638)	0. 4174*** (0. 0979)
Mshare		0. 0161 (0. 1136)	0. 1826 (0. 1749)	0. 0947 (0. 1609)	0. 2068 (0. 2388)
Indep		-0. 4578	-0. 4130	-0. 5855	-0. 4575

		(0. 2739)	(0. 3837)	(0. 3709)	(0. 2412)
Constant	5. 0535***	3. 4615***	3. 1845**	5. 8088***	2. 4703
Term	(0. 0068)	(0. 6360)	(1. 1863)	(0. 6693)	(1. 6403)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
N	32598	32598	16307	15526	9, 251
R2	0. 7816	0. 7889	0. 8304	0. 8013	0. 8473

Notes: The estimated coefficients of the variables are reported above the parentheses, and the standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Although the difference between the actual leverage ratio and the target leverage ratio (denoted as OverLev) directly reflects the level of corporate excessive leverage, a negative value of OverLev (i.e., less than 0) indicates that the actual leverage held by the enterprise is below its target level, implying a state of insufficient leverage. This distinction necessitates a further investigation into the separate effects of excessive and insufficient leverage on new-quality productive forces. Accordingly, the sample is divided into two groups based on whether the variable OverLev is negative, and separate tests are conducted. The regression coefficient in Column (4) is -0.7118, which is significantly negative at the 1% level, indicating that excessive leverage inhibits the development of new-quality productive forces.

Based on the principle of normal distribution, samples with excessive leverage levels near zero and within the 30% standard deviation interval are defined as exhibiting reasonable leverage. The results in Column (5) show that, for enterprises within this reasonable leverage range, the negative effect of excessive leverage on new-quality productive forces is not statistically significant.

4.2. Endogeneity Treatment and Robustness Tests

4.2.1. Endogeneity Treatment

To avoid the endogeneity problem caused by potential reverse causality between the dependent variable and the core independent variable, as well as to prevent circular reasoning, this paper mitigates endogeneity by introducing instrumental variables in the regression analysis. Drawing on existing literature [17], this paper employs two instrumental variables and uses the Ordinary Least Squares (OLS) regression method: first, Overlev-IV1, the average financing status of other enterprises in the same industry (two-digit code for manufacturing) and the same year as the target enterprise; second, Overlev-IV2, the average excessive leverage of other enterprises in the same city and the same year as the target enterprise. Theoretically, the average financing status and average excessive leverage of other enterprises do not affect the new-quality productive forces of the target enterprise, but they do influence its excessive leverage, meaning the instrumental variables satisfy the conditions of exogeneity and relevance.

Table 3 reports the estimation results of the instrumental variables. It can be observed that Columns (1) and (3) show a significant correlation between the instrumental variables and the endogenous variable excessive leverage (Overlev) in the first stage. The second-stage estimation results indicate that the regression coefficients of corporate excessive leverage (Overlev) on new-quality productive forces (Newpro) are all significantly negative. These findings suggest that after effectively mitigating the endogeneity problem in this paper, corporate excessive leverage still exerts a significant negative inhibitory effect on new-quality productive forces. This further verifies that the selection of instrumental variables in this paper is reasonable and effective, and also indicates that the empirical test results of this paper are robust and reliable.

Table 3. Regression Results of Endogeneity Tests.

Variable	(1)	(2)	(3)	(4)
	Overlev	Newpro	Overlev	Newpro
	2SLS		2SLS	
	First-Stage Regression		First-Stage Regression	
<i>Overlev-IV1</i>	0. 2267*** (0. 0255)	-		
<i>Overlev-IV2</i>			0. 0170** (0. 0063)	-
	Second-Stage Regression		Second-Stage Regression	
<i>Overlev</i>	-	-44. 2652*** (6. 4020)	-	-70. 8305* (28. 9698)
<i>Control Variables</i>	Yes	Yes	Yes	Yes
<i>Year Fixed Effects</i>	Yes	Yes	Yes	Yes
<i>Firm Fixed Effects</i>	Yes	Yes	Yes	Yes
<i>R2</i>	0. 8450	0. 6258	0. 8450	0. 2850
<i>N</i>	32, 597	32, 597	30, 988	30, 988

Notes: The estimated coefficients of the variables are reported above the parentheses, and the robust standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. The same applies to the following tables.

4.2.2. Robustness Tests

To ensure that the regression results of the model remain reasonably robust under different parameter settings, this paper mainly adopts four methods for robustness tests: replacing the explanatory variable, replacing the sample, adding control variables, and double clustering.

(1) Replacing the explanatory variable: To test the robustness of the above empirical results, this paper re-measures corporate excessive leverage (*Overlev*) for further verification. The industry-average asset-liability ratio and the median industry asset-liability ratio are used as the firm's target asset-liability ratio. The degree of corporate excessive leverage is quantified by subtracting the above preset indicators from the actual asset-liability ratio. The regression results are detailed in Table 4. In Table 4, *Overlev1* and *Overlev2* are the excessive leverage calculated by taking the mean and median of the industry-year asset-liability ratio as the target leverage ratio, respectively. As shown in the table, the regression coefficients of *Overlev1* and *Overlev2* are significantly negative at the 1% level, indicating that the results of this study are robust.

(2) Replacing the sample: From a diachronic perspective, the investigation period of this study is 2011 to 2022. However, there were IPO suspensions during this period, which may have affected firms' financing strategies and excessive leverage status, thereby influencing the conclusions of this study. To eliminate this impact, this study excludes the periods affected by policy changes for re-verification. Specifically, two IPO suspensions occurred during the research period: from October 2012 to January 2014, and from July to November 2015. After excluding these suspension periods (i. e. , the second half of 2012, the entire year of 2013, the first half of 2014, and the second half of 2015), the model is re-run on the adjusted sample. The results are detailed in Column (3) of Table 4. The regression results are basically unchanged and remain significantly negative at the 1% level.

Table 4. Regression Results of Robustness Tests.

Variable	(1) Replacing the Explanatory Variable Newpro	(2) Replacing the Explanatory Variable Newpro	(3) Replacing the Sample Newpro	(4) Adding Control Variables Newpro	(5) Double Clustering Newpro
<i>Overlev</i>			-1.0656*** (0.1895)	-1.2089*** (0.1575)	-1.1133*** (0.2410)
<i>Overlev1</i>	-6.7941*** (0.5608)				
<i>Overlev2</i>		-5.2407*** (0.4480)			
<i>Control Variables</i>	Yes	Yes	Yes	Yes	Yes
<i>Mfee</i>				-0.1294 (0.2793)	
<i>Occupy</i>				-4.8152*** (0.5063)	
<i>TobinQ</i>				-0.0475*** (0.0105)	
<i>Constant</i>	0.0593 (0.6721)	0.7471 (0.6537)	4.4860*** (0.9438)	3.1429*** (0.6429)	3.4614* (1.3581)
<i>Year Fixed Effects</i>	Yes	Yes	Yes	Yes	Yes
<i>Firm Fixed Effects</i>	Yes	Yes	Yes	Yes	Yes
<i>R2</i>	0.7903	0.7901	0.8502	0.7902	0.7889
<i>N</i>	32,598	32,598	23,821	32,598	32,598

(3) Adding control variables: Additional firm-level control variables are included: Management expense ratio (Mfee): measured by the ratio of management expenses to operating income;

Large shareholder fund occupation (Occupy): represented by the ratio of other receivables to total assets;

Tobin's Q (TobinQ): measured as (circulating market value+number of non-circulating shares × net asset per share+book value of liabilities) divided by total assets.

The regression results after adding the control variables are shown in Column (4) of Table 4. Corporate excessive leverage still inhibits the development of new-quality productive forces at the 1% significance level, indicating that the empirical results of this study are robust.

(4) Double clustering: To address the problems of heteroscedasticity and serial correlation, this paper implements double clustering on the standard errors, specifically at the firm and year levels, to enhance the robustness of model estimation and improve the reliability of empirical results.

4.2.3. Mechanism Tests

Theoretical Hypothesis 2 proposed earlier indicates that corporate excessive leverage inhibits the development of new-quality productive forces by reducing corporate innovation; Hypothesis 3 suggests that corporate excessive leverage significantly suppresses the development of new-quality productive forces by widening the internal

pay gap within enterprises. To verify the analysis of the theoretical mechanisms, this section empirically tests and validates Hypotheses 2 and 3.

The test results are presented in Columns (1)-(4) of Table 5. The results in Columns (1) and (3) show that corporate excessive leverage significantly reduces corporate innovation, thereby inhibiting the development of new-quality productive forces, which validates Hypothesis 2. The findings in Columns (2) and (4) demonstrate that corporate excessive leverage significantly widens the internal pay gap within enterprises, further suppressing the development of new-quality productive forces, confirming Hypothesis 3. The theoretical mechanisms of this paper are thus verified: specifically, the theoretical channels through which corporate excessive leverage inhibits the development of new-quality productive forces-via reducing corporate innovation and widening internal pay gaps-do exist in practice.

Table 5. Regression Results of Mechanism Tests.

Variable	(1) patent	(2) Fgp	(3) Newpro	(4) Newpro
<i>Overlev</i>	-0.1876* (0.0747)	2.2950*** (0.3021)		
<i>patent</i>			0.2001*** (0.0115)	
<i>Fgp</i>				-0.0427*** (0.0041)
<i>Control Variables</i>	Yes	Yes	Yes	Yes
<i>Year Fixed Effects</i>	Yes	Yes	Yes	Yes
<i>Firm Fixed Effects</i>	Yes	Yes	Yes	Yes
<i>R2</i>	0.7631	0.7310	0.7911	0.7950
<i>N</i>	32,598	31,656	32,598	31,656

5. Conclusions and Policy Implications

Research Findings: First, corporate excessive leverage does effectively inhibit the development of new-quality productive forces. Second, corporate excessive leverage suppresses the development of new-quality productive forces by inhibiting corporate innovation and widening internal pay gaps within enterprises. Third, the inhibitory effect of corporate financialization on the development of new-quality productive forces is more pronounced for private enterprises, large-sized enterprises, and enterprises located in the eastern regions.

Policy Implications: Based on the in-depth analysis of this paper, in the current and future periods, the following efforts are beneficial to more effectively mitigate the inhibitory impact of corporate excessive leverage on new-quality productive forces.

Against the macro backdrop of the in-depth implementation of deleveraging policies, the primary task is to accurately grasp the core concept of structural deleveraging. It is crucial to recognize that a high-debt status is not equivalent to excessive leverage, and a clear distinction must be drawn between the two. Regarding corporate debt issues, it is recommended to implement precision management strategies. Specifically, enterprises should be finely classified according to their actual debt levels, and differentiated, highly targeted policy measures should be tailored to achieve more effective debt regulation. More specifically, policymakers should not merely focus on the overall debt level of enterprises; instead, they need to conduct an in-depth analysis of the rationality of debt structure, debt-servicing capacity, and the future development potential of enterprises, thereby avoiding the negative effects that may be caused by a "one-size-fits-all" deleveraging approach. The implementation of such precision policies will not only effectively alleviate the debt pressure on some enterprises but also promote the

optimization and upgrading of the economic structure, ultimately realizing the high-quality development of the economy.

References

1. L. Anderloni, and D. Vandone, "Risk of over-indebtedness and behavioural factors," In *Risk tolerance in financial decision making*, 2011, pp. 113-132. doi: 10.1057/9780230303829_5
2. R. Disney, S. Bridges, and J. Gathergood, "Drivers of Over-indebtedness," *Report to the UK Department for Business*, 2008.
3. S. Byoun, "How and when do firms adjust their capital structures toward targets?," *The Journal of Finance*, vol. 63, no. 6, pp. 3069-3096, 2008.
4. T. V. Le, and J. P. O'Brien, "Can two wrongs make a right? State ownership and debt in a transition economy," *Journal of Management Studies*, vol. 47, no. 7, pp. 1297-1316, 2010. doi: 10.1111/j.1467-6486.2010.00916.x
5. R. Ortega-Argiles, R. Moreno, and J. S. Caralt, "Ownership structure and innovation: is there a real link?," *The Annals of Regional Science*, vol. 39, no. 4, pp. 637-662, 2005.
6. J. R. Brown, S. M. Fazzari, and B. C. Petersen, "Financing innovation and growth: Cash flow, external equity, and the 1990s R&D boom," *The journal of finance*, vol. 64, no. 1, pp. 151-185, 2009.
7. R. E. Carpenter, and B. C. Petersen, "Is the growth of small firms constrained by internal finance?," *Review of Economics and statistics*, vol. 84, no. 2, pp. 298-309, 2002. doi: 10.1162/003465302317411541
8. B. H. Hall, A. B. Jaffe, and M. Trajtenberg, "Market value and patent citations: A first look," 2000.
9. D. Zelalem, "The impact of financial leverage on the performance of commercial banks: Evidence from selected commercial banks in Ethiopia," *International Journal of Accounting, Finance and Risk Management*, vol. 5, no. 1, pp. 62-68, 2020.
10. Z. Tan, X. Wu, and R. Chu, "Impact of Pay Gap on Innovation Performance: The Moderating Role of Top Management Team Diversity," *Sustainability*, vol. 16, no. 17, p. 7459, 2024. doi: 10.3390/su16177459
11. A. Eisdorfer, C. Giaccotto, and R. White, "Capital structure, executive compensation, and investment efficiency," *Journal of Banking & Finance*, vol. 37, no. 2, pp. 549-562, 2013. doi: 10.1016/j.jbankfin.2012.09.011
12. F. Xie, N. Jiang, and X. Kuang, "Towards an accurate understanding of 'new quality productive forces'," *Economic and Political Studies*, vol. 13, no. 1, pp. 1-15, 2025. doi: 10.1080/20954816.2024.2386503
13. H. Liang, and W. Huang, "Technological Innovation Spurring New Quality Productive Forces and Its Global Effect," *China Finance and Economic Review*, vol. 14, no. 1, pp. 50-69, 2025. doi: 10.1515/cfer-2025-0003
14. O. Faleye, E. Reis, and A. Venkateswaran, "The determinants and effects of CEO-employee pay ratios," *Journal of Banking & Finance*, vol. 37, no. 8, pp. 3258-3272, 2013. doi: 10.1016/j.jbankfin.2013.03.003
15. RD Banker, D. Bu, and M. N. Mehta, "Pay gap and performance in China," *Abacus*, vol. 52, no. 3, pp. 501-531, 2016. doi: 10.1111/abac.12082
16. S. Bahoo, M. Cucculelli, and D. Qamar, "Artificial intelligence and corporate innovation: A review and research agenda," *Technological Forecasting and Social Change*, vol. 188, p. 122264, 2023. doi: 10.1016/j.techfore.2022.122264
17. X. Gong, J. Mu, Q. Yin, Y. Zhao, and H. Cheng, "PEER EFFECTS OF OVER-INDEBTEDNESS AND CORPORATE PERFORMANCE: FROM THE PERSPECTIVE OF INSTITUTIONAL ENVIRONMENT," *Transformations in Business & Economics*, vol. 23, no. 3, 2024.

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