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Chapter: Understanding Your Local Economy: to Identify and Analyse Regional Trends

TRADE FRICTION AND ENTERPRISE COST LEADERSHIP STRATEGY: EMPIRICAL EVIDENCE FROM CHINA

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Annotation. Trade frictions occasionally occur with the rise of trade protectionism. Accordingly, effectively dealing with the impact of trade frictions in complex trade environments has aroused widespread concern in academic and practical circles. Although the choice of strategies has a bearing on the competitive advantage of enterprises, few empirical studies have been conducted on strategic choices based on a macro-trade environment. Drawing from competitive strategy theory and information asymmetry theory, using the data of Chinese listed companies from 2003 to 2021, the influence of trade frictions on the selection of enterprise cost leadership strategy was explored. Results show that under trade frictions, enterprises choose a cost leadership strategy to alleviate the negative impact of such obstacles. This finding holds even after a series of robustness and endogeneity tests. The action paths through which trade frictions affect enterprise cost leadership strategy are working capital management efficiency and inventory holding level. The influence of trade frictions on the selection of enterprise cost leadership strategy is mainly manifested in the samples with low management overconfidence. In addition, enterprises with high debt levels are more inclined to adopt a cost leadership strategy in the face of trade frictions. The conclusions reveal the action mechanism behind the selection of enterprise cost leadership strategy under the influence of trade frictions and provide empirical evidence for enterprises to cope with the uncertainty of the international trade environment, as well as practical insights for the real economy to reduce costs and achieve long-term sustainable development.

Keywords: trade friction, cost leadership strategy, working capital management, inventory holding level.

JEL classification: F13, F14, G41.

Introduction

Trade contacts are becoming more frequent under the background of globalization. However, trade disputes occasionally occur during international exchanges, resulting in worsening trade frictions. Dominated by multilateral trading systems such as the World Trade Organization (WTO), tariff barriers have gradually been replaced by non-tariff barriers, which have become a reasonable means of trade protectionism (Chandra, 2016). An increasing number of countries are using trade remedy measures

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under the rules and regulations of the WTO to restrict the sales of foreign products in their markets. The three most widely used trade remedy methods, namely, anti-dumping, countervailing, and safeguard measures, serve to protect the industries of importing countries and are direct manifestations of trade frictions (Hua *et al.*, 2019). Trade frictions lead to extreme uncertainties in trade policies and trade environments. Ultimately, the behaviors of enterprises, who are the micro-level actors in trade frictions, will have an impact on the macro-economy. The competitive strategy of an enterprise affects its business objectives, market behavior, and investment and financing decisions, as well as determines its development ceiling and resilience. The strategic choice of an enterprise is made after considering many factors, such as economy, policy, and industry environment (Menz *et al.*, 2021). Under the negative impact of trade frictions, do enterprises adjust their strategies in time for changes in the external environment? If so, what changes do they make to cope with the adverse effects of trade frictions? Studying this topic is of theoretical and practical significance and can provide micro-level empirical evidence for enterprises to cope with the uncertain international trade competition environment.

In this case, several scholars have focused on the micro-effect of trade frictions, and explored their impact on innovation activities (Bloom *et al.*, 2016; Pierce, 2016; Hombert, Adrien, 2018; Huang *et al.*, 2024), financial information disclosure (Godsell *et al.*, 2017), and investment and financing activities (Freestra *et al.*, 2015; Caldara *et al.*, 2020; Xie *et al.*, 2019; Chen *et al.*, 2020; Feng *et al.*, 2021) of enterprises, mostly the negative impacts on the enterprises in exporting countries. However, trade frictions and the selection of competitive strategies have not been integrated into a unified framework for investigation. Strategies constitute a key factor determining the success of business operations, and both the operational decisions and financial behaviors of enterprises are based on their established competitive strategies. The mechanisms through which trade frictions influence the selection of these strategies have yet to be sufficiently investigated. According to the competitive strategy and information asymmetry theories, trade frictions change the trade environment of enterprises, environmental changes are an important factor affecting organizational behaviors. Thus, under the negative impact of trade frictions, enterprises tend to be conservative, changing from the strategic level to adapt to changes in their external environment. So, the core question to be explored in this study is: how do trade frictions affect an enterprise's cost leadership strategy? Given this context, this study analyzed the influencing mechanism of trade frictions on enterprise cost leadership strategy using Chinese A-share listed companies from 2003 to 2021 as the research objects. It aimed to identify the heterogeneous influences of management overconfidence and debt constraint levels on enterprise cost leadership strategy under the impact of trade frictions (ALHumeisat, 2023; Nguyen *et al.,* 2024).

The marginal contributions of this study are as follows: (1) this study enriches and extends relevant literature on the micro-economic consequences of trade frictions. This study attempted to reveal the black box of trade frictions to influence enterprise cost leadership strategy from the lens of structured information texts, providing empirical evidence for enterprises to cope with the uncertainties of the internal trade environment. (2) This study presents empirical evidence to support the factors influencing enterprise cost leadership strategy. According to the results, enterprises adjust their internal strategies according to external environment changes under the negative impact of trade frictions and gain competitive edges in a cost-oriented manner, providing insights from emerging markets to anticipate the coping strategies of enterprises under uncertain environments. (3) As the Chinese economy transitions from high-speed to high-quality development, the cost problem of the real economy has become a key factor restricting economic development, and the principle of "reducing costs and increasing efficiency" has become a central focus in promoting economic reform. These conclusions provide insights for the real economy to reduce costs and achieve long-term sustainable development.

The rest of the study is structured as follows. In Section 1, we conduct a theoretical analysis and develop hypotheses. Drawing on the competitive strategy theory and information asymmetry theory, we preliminarily explore the impact of trade frictions on the selection of an enterprise's cost leadership strategy. Section 2 presents the data and methods. Here, we analyze how the sample is constructed, the sources of the data, and the processing of key data. Section 3 is dedicated to the result analysis. It showcases the main empirical findings of this study. Specifically, it reveals the relationship between trade frictions and the selection of an enterprise's cost leadership strategy. The action paths are manifested in the efficiency of working capital management and the level of inventory holding. Section 4 serves as a discussion section, where we analyze the research conclusions and prospects. Section 5 concludes the paper with implications. By integrating the research conclusions of this study, we offer corresponding countermeasures and suggestions for enterprises to navigate the uncertainties of the international trade environment and achieve long term sustainable development.

1. Theoretical Analysis and Research Hypotheses

Enterprises have adequate resources before being affected by trade frictions. However, once enterprises are investigated in connection to anti-dumping, countervailing, and safeguard measures, the uncertainty of their business expectations will intensify and the robustness of their environment will be challenged, even influencing their survival. Under this scenario, resources should be reasonably allocated to overcome obstacles. Strategic adjustment enables stakeholders to have a proper grasp of a company's situation (Sniazhko, 2019) and stabilize investor confidence.

On the one hand, competitive strategy theory argues that the competitive advantage of enterprises is the key factor that distinguishes them from competitors in the same industry, determining whether they can survive in the fierce market environment and even stand out (Hunková, Havierniková, 2024). Hence, competitive advantage is inseparable from the competitive strategy formulated by enterprises (Aly Hussien Aly Abdou, 2023; Majewska, Bełtowska, 2023). Under the impact of major emergencies, the competitive advantage of enterprises comes from how they monitor the environment and adjust their corresponding strategy (Sharma *et al.*, 2020; Zhao, Su, 2022). Competitive strategies are selected with the aim of achieving minimum cost with maximum benefits. In his work Competitive Strategy, Porter (1997) put forward the cost leadership strategy for the first time, laying particular emphasis on the strict control of costs, improvement of operational efficiency, and elimination of resource waste. He likewise suggested enterprises to make operational management decisions based on "cost reduction" and acquire competitive advantages by effectively controlling cost-driven factors and reconstructing value chains. On the other hand, according to the information asymmetry theory, trade frictions change the trade environment of enterprises, changes significantly influence organizational behaviors, and the external stakeholders of enterprises are usually disadvantaged in information. Faced with uncertain external environments and resource constraints, enterprises will thus tend to be more conservative, make changes from the strategic level, and select the cost leadership strategy to adapt to changes in the external environment.

In addition, once an enterprise is investigated in relation to anti-dumping, countervailing, or safeguard measures, an "investigation effect" may occur (Feng *et al.*, 2021). That is, even if a trade friction case is judged, stakeholders (suppliers, customers, and management) are more pessimistic about future expectations of the enterprise, which may suppress normal production and sales activities and intensify demand uncertainty. Overproduction or overstock will aggravate the stock pressure of enterprises, and if products fail to enter the sales market in time, enterprises will face poor sales and suffer greater losses. The investigation of trade remedy is likely to lead to a positive verdict, leading enterprises to face high

anti-dumping or countervailing duties, or quota restrictions on safeguard measures, and, eventually, financial pressure. When the external environment of an enterprise changes, its internal resources are adjusted to adapt to the changes. In case of a deteriorating trade environment, the need for survival and development will seek a way out from within. Thus, the strategic choice of enterprises is particularly important at this time. To concentrate resources for coping with the negative impact of trade frictions and spend every resource on their "competitive edge", enterprises will reduce their production of goods or stocks, reduce the inventory holding level, and improve the efficiency of capital turnover from the perspective of cost control. Despite the loss of profit margins, enterprises will be able to maintain their place amid the fierce market competition. On the basis of these findings, the following hypothesis was proposed:

Hypothesis 1: When other conditions remain certain, enterprises impacted by trade frictions are more inclined toward the cost leadership strategy.

2. Methodology

2.1 Sample and Data

In this study, Chinese A-share listed companies from 2003 to 2021 were selected as the study samples. The year 2003 was chosen as the starting time of the samples because it marks the earliest disclosure of certain corporate governance indicators. To relieve possible reverse causality, both independent and control variables were lagged for one period, so the actual presentation interval of samples was 2004–2021. Given the current serious homogeneity of products in China, the causality between trade frictions and enterprise cost leadership strategy was tested using the investigation events initiated by foreign countries on anti-dumping, countervailing, and safeguard measures within the industry in China.

In this study, data were processed as follows: (1) Enterprise samples within the financial industry, (2) ST* and PT* enterprises, (3) companies listed in the present year, and (4) samples with missing financial data were excluded. After data processing, a total of 32,237 company-year effective observed values were obtained. To control the influence of extreme values on the regression result, all continuous variables were winsorized by ±1%. Company fixed effect and time fixed effect were also controlled by the model to eliminate the influence of time-invariant factors at the enterprise level and the common temporal trend on enterprise cost leadership strategy. Finally, clustering was performed at the company level to correct the standard error of the estimated values of coefficients (Liu *et al.*, 2023).

2.2 Modeling

The hypothesis was tested via regression using the ordinary least squares method based on Model (1). The trade friction encountered by enterprises was expected to be positively correlated with the selection of the cost leadership strategy (i.e., β_1 is positive). The model setting was as follows:

$$Cost = \alpha_0 + \beta_1 Friction_{t-1}/Intensity_{t-1} + \beta_2 ControlVariables_{t-1} + \Sigma Year + \Sigma Firm + \varepsilon \quad (1)$$

In the above model, where *t* represents time; *Cost* represents the cost leadership strategy of enterprises; *Friction* and *Intensity* are the core explanatory variables, respectively representing whether enterprises are affected by trade frictions and the intensity of the impact of trade frictions on enterprises; *α0* represents the constant term; *Control Variables* refers to the control variables; and *ε* is the random

disturbance term. To absorb the fixed effects as much as possible, this study simultaneously controlled for the year fixed effe*ct (Year*) and industry fixed effect (*Industry*).

2.3 Variables

The cost leadership strategy of enterprises was the explained variable in this study, and it was mainly measured by the word frequency of the cost leadership strategy disclosed in the Wingo financial text database. Loughran, McDonald (2011) believed that word frequency-based text analysis is an effective scientific means of capturing the meaning of words and that Word2Vec machine learning technology-based text analysis has advantages over the artificial word list defining method, making it conducive to avoiding deviation and weak correlation caused by artificial defining. Therefore, in the present study, seed words were extracted by referring to Li, Zou (2024), and 15 seed word sets were determined initially *t* based on the "seed word set+ similar word extension," which converted the words in annual reports into multidimensional vectors under the context. Then, the similarities of vectors were calculated, the similar words of the above seed word sets under the financial reporting environment were acquired, the seed word sets were extended, and a total of 125 words related to the cost leadership strategy were determined. Finally, the proportion of the 125 words in the total word frequency of the whole test of annual reports was multiplied by 100 to measure the cost leadership strategy indicators of enterprises.

Trade friction was the explanatory variable in this study, and relevant data were derived from the trade remedy information network of the Ministry of Commerce of the People's Republic of China. Following Yang *et al.* (2018) and Wan *et al.* (2022), trade friction was measured in two ways based on industry level. Specifically, the cases of "response to export lawsuits" in the information network and the industries involved were manually collected. These industries were compared and matched with the industry classification released the by China Securities Regulatory Commission (CSRC) in 2012. In case of any inconsistency between the classification of involved industries listed in the trade remedy information network and the industry classification released in 2012, the CSRC industries to where the products involved in cases belonged were judged via search engines (e.g., Baidu). Drawing lessons from previous studies, the first measuring indicator for the explained variable was whether the industry of enterprises was affected by trade frictions, manifested as follows: If any trade friction event (including investigation on anti-dumping, countervailing, and safeguard measures) occurred within the industry in the previous year, the explained variable was 1; otherwise, it was 0. The second indicator was the influence intensity of trade frictions on enterprises. The intensity of trade frictions encountered by enterprises was measured by adding 1 to the number of cases regarding the investigation of anti-dumping, countervailing, and safeguard measures suffered by the subdivided industry of enterprises in the previous year. The greater the intensity, the higher the degree of trade friction encountered by enterprises.

Table 1. Connotation and definition of main variables

Variable type	Variable code	Variable name	Variable definition and description
Explained variable	*Cost*	Cost leadership strategy	*Cost* means the average frequency of the word set related to the cost leadership strategy per 100 words in the annual reports.
Explanatory variable	*Friction*	Whether the industry of enterprises was affected by trade frictions	1 if any trade friction event (including investigation of anti-dumping, countervailing, and safeguard measures) occurred within the industry in the previous year; 0 otherwise.

Table 1 (*continuation*). Connotation and definition of main variables

Variable type	Variable code	Variable name	Variable definition and description
	Intensity	The influence intensity of trade frictions on enterprises	Ln (the number of cases regarding the investigation of anti-dumping, countervailing, and safeguard measures in the previous year + 1)
Control variable	*SIZE*	Enterprise size	*SIZE* means Ln (the total assets of the enterprise at the end of the previous year).
	LEV	Financial leverage	*LEV* means total liabilities at the end of the previous period / total assets at the end of the previous period.
	ListAge	Years of establishment	*ListAge* means Ln (the company's list age + 1) and lagged by one period.
	ROA	Profitability	*ROA* means Net profit of the company in the previous year / total assets at the end of the previous year.
	SOE	Nature of property right	*SOE* means 1 if the nature of property rights of an enterprise is that of a state-owned enterprise in the previous year; 0 otherwise.
	Investor	Shareholding ratio of institutional investors	*Investor* meas the proportion of shares of listed companies held by institutional investors in an enterprise in the previous year.
	Ind_Ratio	Proportion of independent directors	*Ind_Ratio* means the proportion of independent directors on the enterprise's board of directors at the end of the previous year.
	Board_Size	Board size	*Board_Size* means Ln (the number of members on the enterprise's board of directors in the previous year).
	DUAL	Duality	*DUAL* means 1 if the chairman of the board and the general manager of an enterprise in the previous year were the same person; 0 otherwise.
	Mgt_Holding	The shareholding ratio of management	*Mgt_Holding* means the proportion of shares of listed companies held by the management at the end of the previous year.
	FIRST	The shareholding ratio of the largest shareholder	*FIRST* means the proportion of shares of listed companies held by the enterprise's largest shareholder at the end of the previous year.
	Firm	Company fixed effect	Dummy variables are used to control the influencing factors at the individual level that do not change over time.
	Year	Time fixed effect	Dummy variables are used to control the influencing factors of enterprises that may change with the trend over time.

Source: own calculations.

Taking the findings obtained by Sheng *et al.* (2021) and Xu *et al.* (2024) for reference, control variables were selected from two levels. From the angle of enterprise features, five control variables were chosen: enterprise size, financial leverage, years of establishment, profitability, and nature of property rights. From the perspectives of corporate internal governance and external supervision, six control variables

were chosen: the shareholding ratio of institutional investors, the proportion of independent directors, board size, duality, the shareholding ratio of management, and the shareholding ratio of the largest shareholder. The financial data of companies were derived from the China Stock Market & Accounting Research (CSMAR) database. The concrete connotations and definitions of the above variables are listed in *Table 1*.

2.4 Descriptive Statistical Analysis

Table 2 displays the descriptive statistical results of enterprises. Panel A presents the basic statistics of the main variables.

Table 2. Descriptive statistics results

Panel A: Basic statistics of the main variables								
Variable	**N**	**Mean**	**S.d.**	**Min**	**P25**	**P50**	**P75**	**Max**
Cost	32,237	0.445	0.145	0.173	0.336	0.425	0.532	0.872
Friction	32,237	0.475	0.499	0	0	0	1	1
Intensity	32,237	0.753	0.959	0	0	0	1.386	3.714
SIZE	32,237	22.07	1.26	19.64	21.16	21.89	22.78	26.05
LEV	32,237	0.439	0.201	0.059	0.282	0.439	0.592	0.904
ListAge	32,237	2.159	0.733	0.693	1.609	2.303	2.773	3.296
ROA	32,237	0.041	0.058	-0.255	0.015	0.038	0.069	0.211
Investor	32,237	0.458	0.238	0.001	0.28	0.484	0.644	0.908
SOE	32,237	0.422	0.494	0	0	0	1	1
Ind_Ratio	32,237	0.37	0.054	0	0.333	0.333	0.417	0.571
Board_Size	32,237	2.149	0.203	1.609	1.946	2.197	2.197	2.708
DUAL	32,237	0.244	0.43	0	0	0	0	1
Mgt_Holding	32,237	0.108	0.182	0	0	0.001	0.156	0.662
FIRST	32,237	0.350	0.15	0.088	0.231	0.328	0.452	0.748
Cost	16,919	0.389	0.1276908	15318	0.506	0.5056859	−0.117***	*Cost*
Intensity	16,919	0	0	15318	1.585	0.7840789	−1.585***	*Intensity*
SIZE	16,919	22.15	1.312017	15318	21.97	1.192337	0.177***	*SIZE*
LEV	16,919	0.452	0.2078162	15318	0.426	0.1929272	0.026***	*LEV*
ListAge	16,919	2.222	0.7319051	15318	2.089	0.727175	0.133***	*ListAge*
ROA	16,919	0.041	0.0583178	15318	0.042	0.058678	−0.002**	*ROA*
Investor	16,919	0.475	0.2355449	15318	0.439	0.2391175	0.036***	*Investor*
SOE	16,919	0.461	0.4984976	15318	0.379	0.4850639	0.082***	*SOE*
Ind_Ratio	16,919	0.372	0.0550402	15318	0.369	0.0525894	0.003***	*Ind_Ratio*
Board_Size	16,919	2.149	0.2113796	15318	2.149	0.1931751	0	*Board_Size*
DUAL	16,919	0.228	0.4193812	15318	0.262	0.4397612	−0.034***	*DUAL*
Mgt_Holding	16,919	0.094	0.1718901	15318	0.123	0.1921837	−0.029***	*Mgt_Holding*
FIRST	16,919	0.353	0.1545564	15318	0.346	0.1454169	0.006***	*FIRST*

Notes: in the brackets are the T values adjusted through company-level clustering. ***, **, and * represent the significance levels (double-tail) of 1%, 5%, and 10%, respectively.

Source: own calculations.

The statistical results show that the mean value of *Cost* was 0.445, meaning that the average frequency that the word set related to the cost leadership strategy appears per 100 words of the annual reports of listed companies was 0.445. The median was 0.425, which was slightly lower than the mean value, and the data showed a right shift. The mean value of *Friction* was 0.475, indicating that, on average, 47.5% of the enterprises were negatively impacted by anti-dumping, countervailing, and safeguard measures. The

mean value of *Intensity* was 0.753, manifesting that the industry of the enterprise samples encountered 1.2 times (e0.753-1) of trade remedy investigations on anti-dumping, countervailing, or safeguard measures on average. The mean value of enterprise size (*SIZE*) was 22.07 and the standard deviation was 1.26, reflecting the generally large size of Chinese listed companies with relatively high total assets. The mean value of the asset-liability ratio (*LEV*) was 0.439, the standard deviation was 0.201, the maximum value was 0.904, and the average debt ratio reached 43.9%. Great differences were also observed between enterprises. The mean value of years of establishment (*ListAge*) was 2.159, the number of listed years was 7.66 (e2.159-1) on average, and the standard deviation was 0.733, indicating the considerable differences between listed companies. The mean value of the return on assets (*ROA*) was 0.041, the minimum value was −0.255, and the maximum value was 0.211, indicating that the average return on assets was 4.1% and that significant differences existed between enterprises. The mean value of the shareholding ratio of institutional investors (*Investor*) was 0.458, indicating that, on average, institutional investors held 45.8% of the shares. The average value of nature of property rights (*SOE*) was 0.422, manifesting that state-owned enterprises accounted for an average of 42.2% while non-state-owned ones accounted for over half. Therefore, the latter plays a decisive role in China's national economy. The mean value of the proportion of independent directors (*Ind_Ratio*) was 0.37, with independent directors accounting for 37.0% of the total number of directors in listed companies. This figure was slightly higher than the requirement proposed by CSRC, that is, at least one-third of the board members in listed companies should be independent directors. The mean value of the board size (*Board_Size*) was 2.149, indicating that, on average, the number of board members all exceeded 8 (e2.149). The mean value of president and general manager duality (*DUAL*) was 0.244, indicating that an average of 24.4% of enterprise presidents acted as general managers concurrently. The mean value of the shareholding ratio of management (*Mgt_Holding*) was 0.108, and enterprise management held 10.8% of the shares of listed companies on average. The mean value of shareholding ratio of the largest shareholder (*First*) was 0.350, meaning that shares were relatively concentrated in Chinese listed companies. The average shareholding ratio of the largest shareholder reached 35.0%, the minimum value was 0.088, maximum value was 0.748, and significant differences were found between enterprises in the shareholding ratio of the largest shareholder. Panel B displays the mean value difference test of main variables, indicating that the frequency for the cost leadership strategy of trade investigation groups to appear in annual reports was significantly higher than that of non-trade investigation groups, preliminarily proving that enterprises will choose the cost leadership strategy in the face of a deteriorated external environment due to trade frictions.

3. Results Analysis

3.1 Baseline Regression Analysis

Table 3 depicts the influence of trade frictions on enterprise cost leadership strategy. Columns (1) and (2) are univariate regression results, and the explanatory variables are whether the enterprise is affected by trade frictions (*Friction*) and the intensity of the impact of trade frictions (Intensity), respectively. Thus, only the company and year-fixed effects were controlled, while other regression results that might affect enterprise cost leadership strategy were not. The regression results showed that, without adding other control variables, the coefficients indicating whether the enterprise was affected by trade frictions (*Friction*) and the intensity of trade friction (*Intensity*) were 0.011 and 0.009, respectively. Moreover, both were significantly positively correlated with the explained variable—cost leadership strategy (*Cost*)—at the 1% level. Columns (3) and (4) exhibit the regression results after adding control variables. The multiple regression results showed that the lower the leverage level (*LEV*), the shorter the listing period

(*ListAge*), and the higher the shareholding ratio of the largest shareholder (*First*), the more likely the enterprise would choose the cost leadership strategy. Therefore, *Hypothesis 1* was supported by the results in *Table 3*.

Table 3. Trade friction and cost leadership strategy

Variables	(1)	(2)	(3)	(4)
	Cost	***Cost***	***Cost***	***Cost***
Friction	0.011*** (4.200)		0.011*** (4.077)	
Intensity		0.009*** (4.344)		0.009*** (4.250)
SIZE			−0.003 (−1.172)	−0.003 (−1.072)
LEV			−0.024*** (−2.600)	−0.025*** (−2.644)
ListAge			−0.019*** (−4.301)	−0.019*** (−4.272)
ROA			−0.017 (−1.088)	−0.016 (−1.037)
Investor			−0.017 (−1.605)	−0.017 (−1.575)
SOE			−0.004 (−0.607)	−0.005 (−0.649)
Ind_Ratio			−0.005 (−0.207)	−0.004 (−0.163)
Board_Size			−0.012 (−1.412)	−0.012 (−1.408)
DUAL			0.002 (0.727)	0.002 (0.773)
Mgt_Holding			−0.011 (−0.811)	−0.011 (−0.777)
FIRST			0.032* (1.801)	0.033* (1.844)
Constant	0.415*** (47.275)	0.414*** (46.773)	0.536*** (9.454)	0.529*** (9.331)
Company	Control	Control	Control	Control
Year	Control	Control	Control	Control
Observations	32,237	32,237	32,237	32,237
Adj-R2	0.685	0.685	0.687	0.687

Notes: in the brackets are the T values adjusted through company-level clustering. ***, **, and * represent the significance levels (double-tail) of 1%, 5%, and 10%, respectively.

Source: own calculations.

3.2 Robustness Test

As revealed by the principal regression test results, enterprises strategically conduct cost control to cope with changes in the external environment under the negative impact of trade frictions. The influence of trade frictions on enterprise innovation has been explored in previous literature. It is believed that enterprises negatively impacted by trade frictions will pay more attention to innovation and enhance the

irreplaceability of their products by increasing investments on innovation and R&D so their products can be distinguished from competitors and gain competitive advantages. In this study, the innovative strategy of the total frequency for differentiation strategy-related word sets that appear per 100 words in annual reports in the WinGo financial and economic database was adopted, and the test results are displayed in columns (1) and (2) of *Table 4*.

Table 4. Robustness test

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	DIFF	*DIFF*	*Strategy*	*Strategy*	*Cost*	*Cost*	*Cost*	*Cost*	*Cost*	*Cost*
Friction	−0.001		0.128**		0.008***		0.009***		0.011**	
	(−0.422)		(2.271)		(3.190)		(3.366)		(2.397)	
Intensity		−0.001		0.114***		0.007***		0.009***		0.009**
		(−0.331)		(3.388)		(3.789)		(3.789)		(2.535)
SIZE	0.015***	0.015***	−0.312***	−0.306***	−0.003	−0.003	−0.003	−0.003	−0.003	−0.003
	(4.482)	(4.481)	(−7.397)	(−7.263)	(−1.216)	(−1.117)	(−1.134)	(−1.045)	(−1.227)	(−1.121)
LEV	−0.064***	−0.064***	0.694***	0.683***	−0.019**	−0.019**	−0.033***	−0.034***	−0.024***	−0.025***
	(−5.083)	(−5.075)	(3.823)	(3.765)	(−2.002)	(−2.041)	(−3.191)	(−3.243)	(−2.702)	(−2.733)
ListAge	−0.020***	−0.020***	0.643***	0.644***	−0.025***	−0.024***	−0.024***	−0.023***	−0.019***	−0.019***
	(−3.182)	(−3.186)	(6.611)	(6.624)	(−5.425)	(−5.392)	(−4.344)	(−4.315)	(−4.684)	(−4.706)
ROA	0.094***	0.094***	−1.011**	−0.994**	−0.023	−0.023	−0.031	−0.029	−0.017	−0.016
	(4.419)	(4.418)	(−2.552)	(−2.510)	(−1.540)	(−1.515)	(−1.633)	(−1.542)	(−1.062)	(−1.008)
Investor	0.013	0.013	−0.353	−0.349	−0.019*	−0.018*	−0.023**	−0.023**	−0.017	−0.017
	(0.926)	(0.924)	(−1.627)	(−1.610)	(−1.784)	(−1.749)	(−2.016)	(−2.008)	(−1.427)	(−1.403)
SOE	−0.012	−0.012	0.368***	0.366***	−0.003	−0.003	−0.005	−0.005	−0.004	−0.005
	(-1.436)	(−1.433)	(3.344)	(3.329)	(−0.366)	(−0.385)	(−0.520)	(−0.552)	(−0.621)	(−0.667)
Ind_Ratio	−0.019	−0.019	0.335	0.340	−0.014	−0.014	−0.006	−0.004	−0.005	−0.004
	(−0.567)	(−0.570)	(0.631)	(0.639)	(−0.614)	(−0.579)	(−0.238)	(−0.178)	(−0.221)	(−0.172)
Board_Size	0.006	0.006	−0.505***	−0.508***	−0.016*	−0.016*	−0.006	−0.006	−0.012*	−0.012*
	(0.495)	(0.494)	(−2.828)	(−2.848)	(−1.737)	(−1.739)	(−0.682)	(−0.665)	(−1.873)	(−1.840)
DUAL	0.004	0.004	0.044	0.047	0.001	0.001	0.003	0.003	0.002	0.002
	(0.962)	(0.958)	(0.718)	(0.759)	(0.216)	(0.241)	(0.912)	(0.937)	(0.761)	(0.802)
Mgt_Holding	0.063***	0.063***	−1.760***	−1.758***	−0.017	−0.017	−0.001	−0.001	−0.011	−0.011
	(3.150)	(3.147)	(−5.260)	(−5.257)	(−1.274)	(−1.251)	(−0.058)	(−0.062)	(−1.000)	(−0.961)
FIRST	0.003	0.003	0.037	0.050	0.037**	0.038**	0.033*	0.034*	0.032**	0.033**
	(0.155)	(0.152)	(0.132)	(0.180)	(2.020)	(2.065)	(1.737)	(1.790)	(2.392)	(2.423)
Constant	−0.057	−0.057			0.594***	0.585***	0.532***	0.524***	0.536***	0.529***
	(−0.802)	(−.797)			(10.327)	(10.179)	(8.712)	(8.599)	(9.935)	(9.813)
Company	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Year	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Observations	32,237	32,237	20,331	20,331	30,635	30,635	24,125	24,125	32,237	32,237
Pseudo-R2	0.756	0.756	0.0562	0.0566	0.704	0.705	0.681	0.681	0.687	0.687

Notes: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively; the values in brackets represent robust standard errors.

Source: own calculations.

In particular, the regression coefficients of both Friction and Intensity were insignificant, indicating that enterprises would not choose the innovative strategy under the negative impact of trade frictions. This study attributed this finding to the following reasons: First, the innovative strategy highlights that enterprise products or services will stand out among competitive products through innovation and R&D. However, R&D is an activity needing substantial capital input, with relatively high risk, but failing to achieve desired results within a short term. In the context of trade frictions, the most urgent and realistic demand of enterprises is to "survive", and the strategy implemented aims to see the effect within a relatively short period, because compared with the cost leadership strategy, the risk of implementing the innovative strategy is higher, supporting the regression result of *Hypothesis 1* indirectly. Second, the strategy choice of enterprises (*Strategy*) was defined using a dummy variable. Specifically, the variable was defined as 1 if the ratio of enterprise cost leadership strategy in the present year to the word frequency of innovative strategy-related word sets was greater than the mean value of the ratio of the cost leadership strategy of total samples to the innovative strategy; otherwise, it was 0. Since the explained variable was a dummy variable, the regression was performed using a Probit model. The

regression results listed in columns (3) and (4) of *Table 4* revealed that both explanatory variables Friction and Intensity were significantly positively correlated with the explained variable Strategy, indicating the robustness and reliability of principal regression results. Third, since the new accounting standards were initially implemented in China in 2007, considering the comparability of financial statement items before and after the implementation, the company samples before 2007 were excluded in the robustness test to retest the hypothesis. The results in columns (5) and (6) of *Table 4* clearly illustrate that the change in sample interval would not result in fundamental changes in the conclusions of this study. The coefficients of the explanatory variables Friction and Intensity were 0.008 and 0.007, respectively, and both showed significantly positive correlations with the explained variable—cost leadership strategy (*Cost*)—at the 1% level. Fourth, to eliminate the influence of the financial crisis and COVID-19 on the regression results, the samples during the 2008–2009 and 2020–2021 periods underwent regression once again, and the regression results are exhibited in columns (7) and (8) of *Table 4*. The regression results showed that both explanatory variables Friction and Intensity were significantly positively correlated with the explained variable—cost leadership strategy (*Cost*)—at the level of 1%, indicating that the result was still robust after the exclusion of principal regression results. Fifth, the principal regression results were clustered at a company level. In the robustness test, clustering was performed at the industry level, and the regression results are displayed in Columns (9) and (10) of *Table 4*. According to the robustness test results based on clustering at the industry level, despite the declining significance of the regression result, both explanatory variables Friction and Intensity were significantly positively correlated with the explained variable—cost leadership strategy (*Cost*)—at the 5% level, and the regression conclusion remained robust and reliable. In particular, trade frictions would force enterprises to conduct local strategic adjustments and implement the cost leadership strategy to cope with the negative impact brought by trade frictions.

3.3 Endogeneity test

To alleviate the endogeneity problem caused by selection bias, first, with reference to Zhang *et al*. (2024), the non-treatment effect was relieved through propensity score matching (PSM). The return on assets of enterprises in the previous period, board size, shareholding ratio of institutional investors, growth, the shareholding ratio of the largest shareholder, net amount of cash flow generated by operational activities, and nature of property rights were selected as covariates for matching by neighborhood 1:2. The matched results were subject to regression again. The regression results listed in columns (1) and (2) of *Table 5* showed that after PSM, the explanatory variables *Friction* and *Intensity* both presented significantly positive correlations with the explained variable—cost leadership strategy (*Cost*). Second, based on Mazumder, Saha (2021), the robustness test was performed through the entropy balance method. Compared with PSM, the advantage of entropy balance lies in it allocating a continuous weight to each observation in the control group so that the experimental group is approximate to the control group in the distribution moments on each covariate (i.e., first-order moment is the mean value, second-order moment is the variance, and third-order moment is the skewness). This ensures the distribution similarity of high-order moments of each covariate between the experimental group and control group without causing the loss of observed values. In this study, the first-order moment of each covariate was adjusted, through which the values in the control group were reweighed to match the values of the same moments in the treatment group. Regression was performed again. The regression results of entropy balance reported in columns (3) and (4) of *Table 5* show that the explanatory variables *Friction* and *Intensity* were significantly positively correlated with the explained variable—cost leadership strategy (*Cost*)—at the 1% level, indicating that the conclusions were still robust after the endogeneity problem of selection bias was mitigated.

Table 5. Propensity score matching and entropy balancing

Variables	(1)	(2)	(3)	(4)
	PSM	***PSM***	***Entropy***	***Entropy***
	Cost	***Cost***	***Cost***	***Cost***
Friction	0.012*** (3.817)		0.011*** (4.077)	
Intensity		0.009*** (4.020)		0.008*** (4.050)
SIZE	−0.003 (−0.992)	−0.003 (−1.027)	−0.003 (−0.952)	−0.003 (−1.097)
LEV	−0.024** (−2.307)	−0.020* (−1.846)	−0.022** (−2.397)	−0.026** (−2.549)
ListAge	−0.022*** (−4.406)	−0.019*** (−3.651)	−0.020*** (−4.497)	−0.021*** (−4.389)
ROA	−0.024 (−1.362)	−0.007 (−0.404)	−0.013 (−0.841)	−0.008 (−0.505)
Investor	−0.015 (−1.216)	−0.019 (−1.580)	−0.019* (−1.710)	−0.021* (−1.844)
SOE	−0.003 (−0.365)	−0.009 (−1.116)	−0.004 (−0.573)	−0.006 (−0.771)
Ind_Ratio	−0.011 (−0.421)	0.001 (0.042)	−0.001 (−0.053)	0.010 (0.403)
Board_Size	−0.014 (−1.437)	−0.012 (−1.187)	−0.013 (−1.515)	−0.012 (−1.306)
DUAL	0.001 (0.291)	0.001 (0.327)	0.002 (0.527)	0.003 (1.064)
Mgt_Holding	−0.015 (−0.977)	−0.013 (−0.781)	−0.010 (−0.767)	−0.010 (−0.668)
FIRST	0.034* (1.687)	0.042** (2.030)	0.039** (2.115)	0.039** (1.989)
Constant	0.536*** (8.628)	0.532*** (8.046)	0.525*** (9.056)	0.546*** (8.860)
Company	control	control	control	control
Year	control	control	control	control
Observations	24,973	22,931	32,237	32,237
Adj-R2	0.683	0.678	0.687	0.678

Notes: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively; the values in brackets represent robust standard errors.

Source: own calculations.

Table 6. Regression results of instrumental variable on the impact of trade frictions on the cost leadership strategy of enterprises

Variables	(1)	(2)
	Cost	***Cost***
Friction	0.173*** (4.367)	
Intensity		0.086*** (4.179)
SIZE	0.002 (0.694)	0.003 (0.931)
LEV	−0.027*** (−2.846)	−0.030*** (−3.142)
ListAge	−0.021*** (−4.418)	−0.019*** (−4.126)
ROA	−0.000 (−0.013)	0.001 (0.070)
Investor	−0.017 (−1.549)	−0.014 (−1.271)
SOE	−0.004 (−0.539)	−0.007 (−0.974)
Ind_Ratio	−0.005 (−0.232)	0.005 (0.210)
Board_Size	−0.017* (−1.867)	−0.015* (−1.668)
DUAL	0.001 (0.420)	0.003 (0.993)
Mgt_Holding	−0.026* (−1.810)	−0.015 (−1.131)
FIRST	0.037** (2.049)	0.042** (2.355)
Constant	0.358*** (5.100)	0.358*** (5.129)
Company	control	control
Year	control	control
Observations	32,237	32,237
The F-statistics in the first stage	62.47	45.88

Notes: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively; the values in brackets represent robust standard errors.

Source: own calculations.

Although the factors that might affect enterprise cost leadership strategy were controlled as much as possible in the regression, variables might still be omitted such that they affect the regression results. Given this, to alleviate the possible omitted variables and reverse causality, the instrumental variable method was adopted to alleviate the endogeneity problem. Following Bloom *et al.* (2016), the one-phase lagged comparative advantage of USA exports to China in the base period (*Import_Penetration*) was taken as the instrumental variable. Specifically, the comparative advantage was measured by multiplying the ratio of the total amount of products imported by industry *i* in China from the US to the total amount

of products imported by this industry in the world by the total amount of products imported from the US into China in the present year, and the logarithm was taken from the obtained value. The regression results of the instrumental variable are displayed in *Table 6*. The results of IV-2SLS showed that after all control variables and fixed effects were controlled, a significantly positive correlation was still observed between trade friction and enterprise cost leadership strategy. The F-statistics in the first stage were 62.47 and 45.88, respectively, indicating that the principal regression results were still robust after considering the possible omitted variable and the endogeneity problem of reverse causality.

3.4 Mechanism Test

The principal regression test results reveal that under the negative impact of trade frictions, enterprises will adjust their competitive strategies, a practice mainly manifested by the implementation of the cost leadership strategy. If so, what is the influence mechanism of trade frictions on the enterprise's choice of cost leadership strategy? To address this question, this study tested the mechanism for trade frictions to promote enterprises' selection of the cost leadership strategy. First, trade frictions will intensify the uncertainties of enterprises' future demands and the fluctuation of sales revenue. Under a disadvantageous external environment, enterprises must seek ways out in internal resources to gain specific competitive advantages. According to the methods of Wang (2019) and Khan *et al*. (2024), the influence mechanism of trade frictions on enterprise cost leadership strategy was tested using working capital management efficiency and inventory holding level. Working capital management efficiency is defined as the current turnover period of receivables + inventory turnover period − turnover period of accounts payable. In this study, working capital management efficiency was an inverse indicator, and the lower the value, the higher the working capital management efficiency. Inventory holding level is defined as the ratio of the current inventory to the average assets of enterprises. The test results are listed in *Table 7*. Columns (1) and (2) present the regression results of the explanatory variable *Friction*, and columns (3) and (4) display the regression results of the explanatory variable *Intensity*.

Table 7. Influence mechanism of trade frictions on enterprises' choice of the cost leadership strategy

Variables	(1)	(2)	(3)	(4)
	DWC	***Inventory***	***DWC***	***Inventory***
Friction	−0.080*** (−3.271)	−0.007*** (−2.870)		
Intensity			−0.061*** (−3.317)	−0.005*** (−2.729)
SIZE	0.133*** (3.345)	−0.012*** (−3.831)	0.132*** (3.301)	−0.012*** (−3.865)
LEV	0.004 (0.033)	0.117*** (9.758)	0.007 (0.052)	0.117*** (9.761)
ListAge	−0.023 (−0.457)	0.005 (1.144)	−0.024 (−0.476)	0.005 (1.127)
ROA	−0.616*** (−3.379)	0.086*** (5.781)	−0.622*** (−3.406)	0.086*** (5.762)
Investor	−0.299** (−2.380)	−0.011 (−0.949)	−0.301** (−2.400)	−0.011 (−0.965)
SOE	−0.070 (−0.614)	−0.001 (−0.155)	−0.068 (−0.598)	−0.001 (−0.137)

Table 7 (*continuation*). Influence mechanism of trade frictions on enterprises' choice of the cost leadership strategy

Variables	(1)	(2)	(3)	(4)
	DWC	***Inventory***	***DWC***	***Inventory***
Ind_Ratio	0.453* (1.789)	0.037 (1.486)	0.446* (1.760)	0.036 (1.464)
Board_Size	−0.170 (−1.555)	0.002 (0.222)	−0.170 (−1.559)	0.002 (0.217)
DUAL	−0.013 (−0.434)	0.001 (0.378)	−0.013 (−0.465)	0.001 (0.354)
Mgt_Holding	−0.062 (−0.495)	−0.006 (−0.426)	−0.066 (−0.523)	−0.006 (−0.449)
FIRST	0.494** (2.244)	0.054*** (2.896)	0.489** (2.220)	0.054*** (2.875)
Constant	−1.580* (−1.921)	0.325*** (4.660)	−1.534* (−1.862)	0.328*** (4.698)
Company	control	control	control	control
Year	control	control	control	control
Observations	32,231	32,231	32,231	32,231
Adj-R2	0.709	0.764	0.709	0.765

Notes: in the brackets are the T values adjusted through company-level clustering. ***, **, and * represent the significance levels (double-tail) of 1%, 5%, and 10%, respectively.

Source: own calculations.

The regression results show that under the negative impact of trade frictions, the working capital management efficiency of enterprises is improved and the inventory holding level is reduced. This study attributes this outcome to working capital management and inventory management being important aspects of enterprise cost management. The improvement of working capital management efficiency means that the cash turnover cycle is shortened, the accounts receivable and inventory of enterprises can be converted into cash faster, and the term of accounts payable to suppliers can be prolonged. Affected by unfavorable factors in the external environment of trade frictions, enterprises need to withdraw funds quickly to cope with the possible adverse effects of trade frictions, such as loss of customers, decline in sales expectations, and high payments of anti-dumping or countervailing duties. Moreover, the high inventory holding level increases the storage cost of enterprises and occupies their working capital. The high fixed or storage cost means that enterprise must operate close to the production capacity or purchase quantity; otherwise, it will be subject to overcapacity or excessive supply, which will lead to the decline of the price (Casali, 2017). Meanwhile, the higher storage cost also increases the cash flow burden of the enterprise. On the other hand, the inventory produced or held by enterprises is based on the judgment of future expectations. In general, if enterprises expect higher demands for products in the future, they will increase inventory investment and hold a higher inventory level to prevent the out-of-stock phenomenon. On the contrary, if the enterprise expects that product demand will be impacted in the future, it will choose to stop and reduce the inventory holding level to avoid slow sales due to excessive stocking. The improvement of working capital management efficiency and the reduction of inventory holding level are the ways for enterprises to reduce costs as business entities. Although these ways may sacrifice profits to a certain extent, they can help revitalize the resources at hand and gain a competitive advantage in the fierce market competition

3.5 Heterogeneity Test

3.5.1 Heterogeneity Test of Management Overconfidence Level

According to Western classical economics, the subject is completely rational when making decisions, aiming to maximize utility, but in reality, the subject is usually in a bounded rationality state between complete rationality and incomplete rationality. The upper echelons theory proposed by Hambrick and Mason (1984) holds that senior management masters enterprise resources and acts as the executor of enterprise behaviors. The management style of senior management will affect the strategy choice and behavioral decision of the enterprise. Overconfidence is a cognitive bias in psychology, referring to the fact that managers overestimate the probability of success while underestimating the probability of failure (Aabo *et al.*, 2021), which, to some extent, reflects the cognitive level and risk preference of management. Impacted by trade frictions, how will the overconfidence level of managers affect the competitive strategy of enterprises?

The "illusion of control" of managers is often the root of overconfidence and is closely related to the resources and control force that managers have. Based on this, and drawing from the study of Wei (2018), management overconfidence was measured using the gender, age, education background, and duality of the CEO. For the respective regression test, the samples were divided into two groups: a group with high management overconfidence levels and a group with low management overconfidence levels. The results are displayed in columns (1) and (2) of *Table 8*. The regression results showed that in case of high management overconfidence level, the coefficients of explanatory variables Friction and Intensity were 0.008 and 0.006, respectively, with significant levels of 5% and 10%; when the management overconfidence level was low, the coefficients of both *Friction* and *Intensity* were 0.003, but both were insignificant. The reason is that senior management not only consists of the formulators of company strategies but also the supervisors of strategy implementation. Trade frictions have a negative impact on enterprises, and managers with low overconfidence levels will be more robust when encountering the negative impact of trade frictions. They will correctly recognize the adverse effects and consequences of a deteriorated trade environment and adjust company strategies in a timely manner based on such expectations. On the contrary, managers with high overconfidence levels may underestimate the risks triggered by trade frictions to production and operational activities and overestimate their power of mastering unknown risks, thus failing to adjust enterprise strategies from the cost perspective.

Table 8. Heterogeneity test of management overconfidence level

Variables	Lower management overconfidence level		Higher management overconfidence level	
	(1)	(2)	(3)	(4)
Friction	0.008** (1.970)		0.003 (0.642)	
Intensity		0.006* (1.934)		0.003 (1.064)
SIZE	−0.004 (−0.925)	−0.004 (−0.879)	0.002 (0.388)	0.002 (0.407)
LEV	−0.025* (−1.741)	−0.025* (−1.738)	−0.025 (−1.619)	−0.025 (−1.633)

Table 8 (*continuation*). Heterogeneity test of management overconfidence level

Variables	Lower management overconfidence level		Higher management overconfidence level	
	(1)	(2)	(3)	(4)
ListAge	−0.023*** (−3.473)	−0.023*** (−3.470)	−0.008 (−1.066)	−0.008 (−1.055)
ROA	−0.037 (−1.584)	−0.036 (−1.541)	−0.013 (−0.544)	−0.013 (−0.542)
Investor	0.003 (0.164)	0.002 (0.150)	−0.059*** (−3.335)	−0.059*** (−3.320)
SOE	−0.014 (−1.324)	−0.014 (−1.334)	−0.008 (−0.608)	−0.008 (−0.620)
Ind_Ratio	−0.025 (−0.754)	−0.024 (−0.726)	−0.011 (−0.294)	−0.010 (−0.266)
Board_Size	−0.029** (−2.261)	−0.029** (−2.267)	−0.005 (−0.364)	−0.005 (−0.354)
DUAL	−0.000 (−0.015)	−0.000 (−0.018)	0.003 (0.657)	0.003 (0.672)
Mgt_Holding	−0.002 (−0.070)	−0.002 (−0.081)	−0.025 (−1.065)	−0.024 (−1.050)
FIRST	0.008 (0.318)	0.009 (0.352)	0.048 (1.360)	0.048 (1.374)
Constant	0.607*** (6.703)	0.601*** (6.646)	0.427*** (4.146)	0.423*** (4.106)
Company	control	control	control	control
Year	control	control	control	control
Observations	14,709	14,709	11,159	11,159
Adj-R2	0.735	0.735	0.717	0.717

Notes: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively; the values in brackets represent robust standard errors.

Source: own calculations.

3.5.2 Heterogeneity test of debt constraints

Debt means there are creditors in the enterprise. As an important stakeholder, creditors are concerned about whether loans provided to the enterprise can be recovered within the specified time. Hence, they have sufficient motivation to supervise the business management activities of the enterprise. Under the negative impact of trade frictions, will different levels of debt ratio have a heterogeneous impact on an enterprise's implementation of cost leadership strategy? Given this, the samples were divided into groups with high debt levels and with low debt levels according to the sample mean of the asset–liability ratio for the respective regression test. The regression results are listed in *Table 9*. Columns (1) and (2) display the regression results of enterprises with high debt levels, and Columns (3) and (4) exhibit the regression results with low debt levels.

The regression results of Columns (1) and (2) in *Table 9* show that the regression coefficients of Friction and Intensity were 0.009 and 0.007, respectively, which were significant at the 1% level compared with the explained variable—cost leadership strategy. The regression results of columns (3) and (4) exhibited that the regression coefficients of Friction and Intensity were 0.005 and 0.003, respectively, and were not

significantly correlated with the explained variable—cost leadership strategy. This shows that compared with the group with lower debt levels, enterprises with higher debt levels are more inclined to choose the cost leadership strategy when they are subjected to trade frictions. In this regard, the explanation in this study is that creditors of enterprises with higher debt levels have more incentive to supervise and review the business management activities of enterprises to judge whether there is risk in loan (Liu, Liu, 2019; Wang *et al*.,2021). Therefore, under the negative influence of trade frictions, enterprises are more motivated to adjust their strategies and implement the cost leadership strategy to improve their fundamentals.

Table 9. Heterogeneity test of debt constraints

Variables	Higher debt levels		Lower debt levels	
	(1)	(2)	(3)	(4)
Friction	0.009** (2.352)		0.005 (1.388)	
Intensity		0.007** (2.231)		0.003 (1.373)
Size	−0.002 (−0.505)	−0.002 (−0.441)	−0.003 (−0.765)	−0.003 (−0.741)
Lev	−0.030* (−1.699)	−0.031* (−1.726)	0.006 (0.345)	0.006 (0.333)
ListAge	−0.024*** (−3.067)	−0.024*** (−3.069)	−0.020*** (−2.982)	−0.019*** (−2.971)
ROA	−0.002 (−0.104)	−0.002 (−0.078)	−0.021 (−0.937)	−0.021 (−0.931)
Investor	0.006 (0.402)	0.006 (0.412)	−0.014 (−0.857)	−0.014 (−0.861)
SOE	−0.001 (−0.139)	−0.002 (−0.180)	−0.011 (−1.070)	−0.011 (−1.071)
Ind_Ratio	0.023 (0.751)	0.024 (0.797)	−0.022 (−0.648)	−0.022 (−0.641)
Board_Size	0.004 (0.316)	0.004 (0.329)	−0.029** (−2.434)	−0.029** (−2.434)
DUAL	0.007 (1.562)	0.007 (1.575)	−0.002 (−0.402)	−0.001 (−0.385)
Mgt_Holding	−0.039 (−1.596)	−0.039 (−1.610)	0.002 (0.094)	0.002 (0.110)
FIRST	−0.011 (−0.480)	−0.010 (−0.454)	0.060* (1.957)	0.061** (1.979)
Constant	0.476*** (5.983)	0.470*** (5.894)	0.566*** (5.973)	0.563*** (5.948)
Company	control	control	control	control
Year	control	control	control	control
Observations	16,083	16,083	16,154	16,154
Adj-R^2	0.683	0.683	0.727	0.727

Notes: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively; the values in brackets represent robust standard errors.

Source: own calculations.

4. Discussions

Hypothesis 1 was supported by the multiple regression results. Specifically, enterprises impacted by trade frictions are more likely to implement the cost leadership strategy, and working capital management efficiency and inventory holding level exert important mechanism effects as follows:

First, trade frictions pose a negative impact on enterprises, which will be turned to the cost leadership strategy under the goal of "cost reduction." Thus, *Hypothesis 1* was verified. This finding coincides with the conclusion drawn by Feng *et al.* (2021), Jiang *et al.* (2022) and Pan *et al.* (2024). Impacted by trade frictions, the uncertainties of the macro-economy and trade environment are intensified. On the one hand, the operating risk faced by enterprises is aggravated (Liu *et al.*, 2020), their demands shrink, and internal sales personnel are faced with enormous pressure; on the other hand, external stakeholders are increasingly pessimistic about enterprises, and the external financing ability of enterprises is affected (Berman *et al.*, 2015). Therefore, to concentrate resources to deal with the negative effects of trade frictions and spend every penny on the "cutting edge," enterprises will implement the cost leadership strategy from the perspective of cost control.

Second, cost control and management are crucial to the cost leadership strategy. The improvement of working capital management efficiency and the reduction of the inventory holding level are the mechanisms by which trade frictions affect the cost leadership strategy of enterprises, which is consistent with the conclusions of Wang (2019), Khan *et al.* (2021) and Lu *et al*. (2023). Under the negative impact of trade frictions, enterprises will actively adjust their cost management strategies and realize cost management and control by optimizing production processes, improving efficiency, accelerating the cash turnover cycle, and reducing the inventory level, thus dispersing the uncertain risks brought by trade frictions. In this respect, enterprises can make dynamic adjustments according to different external environments, and crises can be turned into opportunities.

Third, the manager is the actual decision-maker of enterprise management activities, and their characteristics affect the financial and business decisions of the enterprise (Hambrick and Mason, 1984). The future expectations of management constitute an important factor considered when making decisions. The overestimation of managers' abilities usually lead to cognitive bias (Aabo *et al.*, 2021), managers will hold more optimistic expectations due to high confidence, while managers with low confidence will have great crisis consciousness, leading them to select the cost leadership strategy. From this perspective, enterprises can recruit managers of different traits under diverse environments and then make various strategic decisions.

Fourth, debtors need to repay the capital and interest on time. Therefore, enterprises with high debt constraints are more motivated to control costs through leadership strategy under the pressure of creditors when faced with uncertain expectations brought about by trade frictions, thus ensuring that the profits of enterprises are enough to pay for loans. As mentioned above, creditors are available to supervise enterprises due to debts, and appropriate debts are good for optimizing resource allocation (Yin *et al.*, 2021) and corporate governance structure (Naciti *et al.*, 2021).

Conclusions and Implications

Main Findings

In this study, the influence of trade frictions on enterprise cost leadership strategy was investigated using the sample data of Chinese listed companies from 2003 to 2021. The following conclusions were drawn: under the negative impact of trade frictions, enterprises tend to reduce costs and cope with the negative

impact of trade frictions by controlling the relevant factors that drive the cost leadership strategy, such as reducing the inventory holding level and improving working capital management efficiency. This finding remained valid after a series of robustness and endogeneity tests. In the face of the uncertainty brought by trade frictions, the overconfidence level and debt constraints of managers have an impact on the implementation of the cost leadership strategy. Specifically, if managers have low overconfidence and high debt constraints, enterprises are more motivated to surpass the predicament by implementing the cost leadership strategy of reducing costs and improving operational efficiency.

Managerial Implications

According to the above conclusions, the following suggestions were proposed.

First, enterprises should treat the crisis correctly and raise their awareness of cost control. Under the impact of external unfavorable conditions, enterprises will be subjected to a greater shortage of resources. However, enterprises can cope with the adverse effects brought by trade frictions more calmly if they can fully realize the importance of the cost leadership strategy, reduce the inventory turnover cycle, improve working capital management efficiency, and reduce the opportunity cost of funds.

Second, efforts should be made to accelerate industrial upgrading, speed up the development of leading industries, and improve the competitiveness of the industrial chain. For a long time, the fields where China was investigated for trade remedy measures were mainly concentrated in low value-added industries, such as labor-intensive textiles and light industry. However, these fields now extend to high-tech industries such as biopharmaceuticals and chips, and even to intellectual property rights. Therefore, trade frictions will inevitably transit from low-end to high-end industries. We must be aware that the economic growth mode relying on cheap labor, and at the expense of environmental pollution, is unsustainable. We should focus on high-tech industries and products and shift to high-quality development. Furthermore, every effort should be made to overcome the problem of "clutch at the throat" in key technologies, enhance our position in the division of the global value chain, and improve the independent controlling ability of the industrial and supply chains.

Third, effective bilateral and multilateral trade communication and early warning mechanisms should be established. Relevant government departments should build and implement an effective, government-led trade friction early warning index system, in coordination with industry associations and dominated by enterprises.

Limitations and Future Directions

Naturally, this study has some limitations. As for the measurement of trade friction and the definition of indicators, whether enterprises were impacted by trade frictions was determined by whether their industry was investigated in connection to anti-dumping, countervailing, and safeguard measures. In the follow-up study, affected products can be determined by the four-, six-, or eight-digit numbers of the export product code (HS code) in the China customs database, and the products can be matched with the listed companies producing/ selling such products in financial reports so the result obtained has finer granularity. In future research, efforts can be made to distinguish initial and final judgment results through multidimensional measurement methods for further research. The influencing degree of trade frictions on enterprises can also be measured by the duration of trade remedy measures, thus overcoming the simplicity in the measurement of trade frictions and enhancing the scientificity and reliability of the study. Moreover, the influence of trade frictions encountered by the micro-enterprises in

one country was discussed and analyzed. In further research, the influence of the trade remedy measures initiated by a country on its micro-enterprises can be further investigated to explore the action mechanism of trade frictions on the micro-financial behaviors of enterprises from different perspectives.

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PREKYBOS TRINTIES IR ĮMONIŲ SĄNAUDŲ LYDERYSTĖS STRATEGIJA: EMPIRINIAI ĮRODYMAI IŠ KINIJOS

Wei Chen, Jingjuan Ma

Santrauka. Prekybos trintis kartais atsiranda stiprėjant prekybos protekcionizmui. Todėl veiksmingas prekybos trinties poveikio mažinimas sudėtingoje prekybos aplinkoje sukėlė didelį susirūpinimą akademiniuose ir praktikų sluoksniuose. Nors strategijų pasirinkimas turi įtakos įmonių konkurenciniam pranašumui, buvo atlikta nedaug empirinių tyrimų, susijusių su strateginiais pasirinkimais, pagrįstais makroprekybos aplinka. Remiantis konkurencinės strategijos teorija ir informacijos asimetrijos teorija, pasitelkus Kinijos biržinių bendrovių 2003–2021 m. duomenis, buvo tiriama prekybos trinties įtaka įmonių sąnaudų lyderystės strategijos pasirinkimui. Rezultatai atskleidė, kad, esant prekybos trinčiai, įmonės pasirenka sąnaudų lyderystės strategiją, kad sumažintų neigiamą tokių kliūčių poveikį. Ši išvada išlieka net atlikus keletą tvirtumo ir endogeniškumo bandymų. Veiksmų keliai, kuriais prekybos trintis veikia įmonės sąnaudų valdymo strategiją, yra apyvartinio kapitalo valdymo efektyvumas ir atsargų laikymo lygis. Prekybos trinties įtaka įmonių sąnaudų lyderystės strategijos pasirinkimui daugiausia susijusi su imtimis, kurios pasižymi menku valdymo pasitikėjimu. Be to, įmonės, turinčios didelę skolą, yra labiau linkusios taikyti sąnaudų lyderystės strategiją susidūrusios su prekybos trintimi. Išvadose atskleidžiamas veiksmų mechanizmas, kuriuo remiantis parenkama įmonių sąnaudų lyderystės strategija, veikiama prekybos trinties. Jose taip pat pateikiami empiriniai įrodymai, kad įmonės gali įveikti tarptautinės prekybos aplinkos neapibrėžtumą. Be to, pateiktos praktinės įžvalgos realiajai ekonomikai dėl to, kaip sumažinti išlaidas ir pasiekti ilgalaikį tvarų vystymąsi.

Reikšminiai žodžiai: prekybos trintis; sąnaudų valdymo strategija; apyvartinio kapitalo valdymas; atsargų laikymo lygis.