Research on the Impact of Corporate Strategy on Expense Stickiness

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Abstract: This study integrates corporate strategy selection and expense stickiness into a unified research framework, using A-share listed companies from 2019 to 2023 as a sample to empirically examine the relationship between corporate strategy and expense stickiness, as well as its underlying mechanisms. The empirical results indicate that the more aggressive the corporate strategy, the stronger the expense stickiness. Offensive strategies tend to exacerbate expense stickiness, while defensive strategies significantly mitigate it. Corporate strategies influence expense stickiness through adjustment costs and agency costs, which serve as mediating mechanisms in the relationship between competitive strategy and expense stickiness.

***Keywords*:** corporate strategy; expense stickiness; agency costs; adjustment costs

1. Introduction

Anderson, Banker, and Janakiraman (2003) borrowed the concept of "price stickiness" proposed by Hamermesh et al. to define " expense stickiness" as the phenomenon where the increase in costs when business volume rises is greater than the decrease in costs when business volume falls by an equivalent amount[1]. The implementation of different corporate strategies typically leads to variations in development goals, overall operational structures, and cost expenditure budgets. Based on the rate of product and market renewal, corporate strategies can be categorized into three types: offensive, defensive, and wait-and-see. This study focuses on the differential impact of offensive and defensive strategies on expense stickiness. However, existing research has not explored how corporate strategies influence expense stickiness through agency costs and adjustment costs, nor has it examined the specific pathways through which corporate strategies affect expense stickiness. Therefore, this study holds significant theoretical and practical value.

2. Literature Review and Hypothesis Development

2.1 Literature Review

The concept of "expense stickiness" was first introduced by Anderson et al. (2003). Sun Zheng and Liu Hao (2004) brought this concept to China, using data from the Chinese capital market to confirm the existence of expense stickiness in Chinese listed companies[2]. In recent years, foreign scholars have begun to examine the characteristics and patterns of expense stickiness from the perspective of corporate strategy. Tang et al. (2011) found that companies adopting conventional strategic decisions tend to achieve average industry profits. However, due to optimistic expectations about the future and agency problems, managers may adopt offensive strategies to pursue excess profit, thereby incurring higher operational and financial risks. The uncertainty of the business environment means that companies will bear more adjustment costs, increasing the likelihood of expense stickiness[3].

2.2 Hypothesis Development

2.2.1 Existence of Expense Stickiness

Compared to corporate governance in mature market economies such as Europe and the United States, the governance structures and effectiveness of Chinese listed companies still require further improvement, with agency problems remaining prominent. This is likely to induce expense stickiness. Based on this analysis, we propose Hypothesis 1.

Hypothesis 1: Chinese listed companies have expense stickiness.

2.2.2 Differential Impact of Corporate Strategy Types on Expense Stickiness

(1) Agency Cost Pathway Analysis.

When companies implement offensive strategies, they typically make significant investments to develop new products and markets to expand their scale. Aggressive expansion provides managers with opportunities to increase their monetary compensation and perks[4]. In contrast, defensive strategies require companies to maintain relatively low costs and prices, offering the highest quality products and services at the lowest cost. When business volume declines, managers are less likely to engage in excessive perks, and their monetary compensation remains relatively stable, thereby mitigating the

expense stickiness induced by agency problems.

(2) Adjustment Cost Pathway Analysis.

When companies implement offensive strategies, they typically build specialized assets, which require long investment and construction periods and cannot be easily purchased in factor markets. The construction of these assets often involves long-term contracts, limiting downward adjustment flexibility. When implementing defensive strategies, companies typically do not make significant asset investments or enter into long-term contracts. The costs associated with short-term contracts and limited assets can be adjusted according to economic conditions, resulting in lower adjustment costs and weaker expense stickiness. Based on this analysis, we propose Hypotheses 2 and 3.

Hypothesis 2: Choosing an offensive strategy significantly strengthens a company's expense stickiness.

Hypothesis 3: Choosing a defensive strategy significantly weakens a company's expense stickiness.

3. Research Design

3.1 Definition of Key Variables

3.1.1 Dependent and Independent Variables

The dependent variable in this study is expense stickiness. The independent variable is corporate competitive strategy. Drawing on the literature of Ye Kangtao, Dong Xueyan et al. (2015) [1], six dimensions of corporate operations management were selected to measure corporate strategy:

Marketing and Promotion: Measured by the ratio of selling expenses to revenue.

(2) R&D Innovation: Measured by the ratio of net intangible assets to revenue.

(3) Capital Intensity: Measured by the ratio of fixed assets to the number of employees.

(4) Fixed Asset Renewal: Measured by the ratio of net fixed assets to gross fixed assets.

(5) Management Expense Investment: Measured by the ratio of management expenses to revenue.

(6) Financial Leverage: Measured by the ratio of the sum of short-term loans, long-term loans, and bonds payable to the book value of equity.

The data for these six dimensions were calculated annually and scored on a scale of 0 to 5, with the lowest group assigned a score of 1 and the highest group assigned a score of 5. The scores for each company across the six variables were summed, resulting in a strategy score ranging from 6 to 30. A higher score indicates a more aggressive strategy.

3.1.2 Control Variables

(1) Asset Intensity (Cap): Measured by the natural logarithm of the ratio of total assets to revenue.

(2) Employee Intensity (EI): Measured by the natural logarithm of the ratio of the number of employees to revenue.

(3) Economic Growth Rate (Growth): Representing macroeconomic growth, measured by China's GDP growth rate.

(4) Dummy Variable (Suc): Representing whether a company's revenue has declined for two consecutive years. Suc is assigned a value of 1 if revenue has declined for two consecutive years and 0 otherwise.

(5) Year (Year).

3.2 Sample Selection and Data Sources

This study uses financial data from non-financial A-share listed companies from 2019 to 2023. The data were sourced from the CSMAR China Listed Company Financial Statement Database. The sample excluded companies with missing data, financial companies, ST companies, observations with negative selling or management expenses, and observations where selling or management expenses exceeded revenue. After processing, a total of 19,652 observations were obtained. Data analysis was conducted using Excel and SPSS 27.0.

3.3 Model Design

3.3.1 Construction of the Expense Stickiness Model

$$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]=\beta 0+\beta 1\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta 2\times \mathrm{Deci,t}\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta 3\mathrm{Controls}+\varepsilon \mathrm{i,t} \quad \text{Model (1)}$$

$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$ represents the change range of the sum of the corporate's selling expenses and administrative

expenses, and $Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$ represents the change range of the corporate's operating revenue; Dec is a dummy variable, indicating whether the operating revenue level in the current period has decreased. When the operating revenue in the current period is less than that in the previous period, Dec is taken as 1, otherwise it is 0. The coefficient β1 in the model represents the proportion by which the sum of selling expenses and administrative expenses increases correspondingly when the operating revenue increases by 1%. The coefficient (β1+β2) represents the proportion by which the sum of selling expenses and administrative expenses decreases correspondingly when the operating revenue decreases by 1%. If the coefficient β1 is greater than the coefficient (β1+β2), that is, when β2<0, it indicates the existence of expense stickiness. Controls represent the control variables related to this model.

3.3.2 Model Construction of Corporate Strategy and Expense Stickiness

In order to verify Hypothesis 2 and Hypothesis 3, this paper takes the strategic variable score (Strategy) as the independent variable and constructs the following model:

$$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]=\beta0+\beta1\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta2\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta3\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$$
$$\times Strategyi,t+\beta4\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Ln(Capi,t)+\beta5\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Ln(EIi,t)+\beta6\times Deci,t\times$$
$$Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Growthi,t+\beta7\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Suci,t+\beta8Year+\varepsilon i,t \quad \text{Model (2)}$$

3.3.3 Mechanism Test of the Impact of Corporate Strategy on Expense Stickiness

The mediating effect test models (4)-(6) are constructed as follows:

$$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]=\beta0+\beta1\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta2\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta3\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$$
$$\times Strategyi,t+\beta4\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Ln(Capi,t)+\beta5\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Ln(EIi,t)+\beta6\times Deci,t\times$$
$$Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Growthi,t+\beta7\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Suci,t+\beta8Year+\varepsilon i,t \quad \text{Model (3)}$$

$$Feei,t=\beta0+\beta1\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta2\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta3\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Strategyi,t+\beta4$$
$$\times Controls+\beta6Year+\varepsilon i,t \quad \text{Model (4)}$$

$$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]=\beta0+\beta1\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta2\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]+\beta3\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$$
$$\times Strategyi,t+\beta4\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Feei,t+\beta5\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Ln(Capi,t)+\beta6\times Deci,t\times$$
$$Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Ln(EIi,t)+\beta6\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]\times Growthi,t+\beta8\times Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$$

×Suci,t+β9Year+εi,t Model (5)

Model (3) - (5) refer to the mediating effect test method proposed by Wen Zhonglin et al. (2004). In Model (4), Fee represents the administrative expense ratio (administrative expenses/operating revenue), which serves as a proxy variable for measuring the corporate's agency cost. When subsequently verifying the mediating role of adjustment cost, Fee is replaced with Employee, which represents human - capital cost and serves as a proxy variable for measuring adjustment cost; Controls represent the control variables that affect the corporate's administrative expenses.

4. Empirical Results

4.1 Descriptive Statistics

Table 1 reports the descriptive statistical results of the main research variables in this paper. The means of the expense change $Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$ and the operating revenue change $Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$ are 0.061 and 0.060 respectively, indicating that the sales and administrative expenses (the sum of administrative expenses and selling expenses) and operating revenues of listed companies in China show a year-by-year growth trend, and the change range of expenses is greater than that of revenues. The average value of the corporate strategic variable score (Strategy) is 18, which is consistent with the median value of 18 of the quantified corporate strategic variable score. The minimum and maximum values are 6 and 30 respectively, indicating that listed companies in China generally implement a more aggressive strategy, and there are significant differences in the strategies implemented among enterprises.

Table 1. Descriptive Statistics of Variables

Variables	Sample Size	Minimum Value	Maximum Value	Average Value	Median Value	Standard Deviation
$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$	19652	-2.842	4.225	0.061	0.064	0.262
$Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	19652	-4.875	6.851	0.060	0.062	0.365
$Dec_{i,t}\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	19652	-4.875	0	-0.078	0	0.208
Strategy	19652	6	30	18	18	4.077

4.2 Hypothesis Testing

4.2.1 Regression Analysis of Expense Stickiness and Corporate Strategy (Full Sample)

Table 2 below shows the regression analysis results of expense stickiness and corporate strategy. In the Column (1), β1 is 0.586 and is significantly positive at the 1% level, indicating that for every 1% increase in operating revenue, the selling and administrative expenses increase by 58.6%; β2 is 0.139 and is significantly negative at the 1% level, indicating that for every 1% decrease in operating revenue, the selling and administrative expenses only decrease by 44.7% (58.6% - 13.9%), that is, the selling and administrative expenses decrease 13.9% less. This shows that the phenomenon of expense stickiness is widely exists in listed companies in China. Hypothesis 1 is proven.

In the Column (2), Stick= $Deci,t\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$ represents expense stickiness, and the coefficients of its interaction terms with Strategy is -0.063, which are significantly negative at the 5% level. This indicates that the more aggressive the strategy formulated and implemented by the enterprise is, the higher the level of expense stickiness will be.

Table 2. Regression Analysis of Expense Stickiness and Corporate Strategy (Full Sample)

	Model (1)		Model (2)
	(1)		(2)
$Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	0.586*** (65.535)		0.585*** (65.343)
$Dec_{i,t}\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	-0.139*** (-15.554)		-0.077*** (-2.668)
Stick×Strategy			-0.063** (-2.292)
Constant	0.019*** (9.512)	-41.281*** (-17.588)	0.020*** (9.689)

4.2.2 Test of the Agency Cost Mechanism of the Impact of Corporate Strategy on Expense Stickiness

As shown in Table 3, Columns (1) to (3) represent the test of the agency cost mediating mechanism of the offensive strategy, and $Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$ represents the change in expenses. The coefficient of Stick×Strategy in Column (1) is -0.019, which is significant at the 10% level, indicating that the offensive strategy significantly strengthens the enterprise's expense stickiness. The coefficient of Stick×Strategy in Column (2) is 0.264, which is significant at the 1% level, indicating that the more aggressive the corporate strategy is, the higher the administrative expense ratio will be, and the offensive strategy can significantly affect the enterprise's administrative expense ratio. The coefficient of Stick×Strategy in Column (3) is -0.023, which is significant at the 10% level and is smaller than the coefficient of Stick×Strategy (-0.019) in Column (1), indicating that the offensive strategy can strengthen the enterprise's expense stickiness by affecting the administrative expense ratio. Similarly, the regression results show that the defensive strategy can weaken the enterprise's expense stickiness by affecting the administrative expenses.

Table 3. Corporate Strategy and Expense Stickiness - Test of the Agency Cost Mediating Mechanism

	High_Str			Low_Str		
	(1)	(2)	(3)	(4)	(5)	(6)
(Fee)	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$	Fee	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$	Fee	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$
$Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	0.575*** (38.458)	0.161*** (10.945)	0.576*** (38.465)	0.573*** (52.721)	0.076*** (5.942)	0.573*** (52.720)
$Dec_{i,t}\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	-0.220* (-1.236)	-3.259*** (-18.695)	-0.152* (-0.810)	-0.369** (-2.525)	-0.109* (-0.637)	-0.238* (-1.522)
Stick×Strategy	-0.019* (-0.245)	0.264*** (3.416)	-0.023* (-2.292)	0.087* (1.494)	-0.007* (-0.097)	0.075* (1.289)
Sticek×Fee			-0.020* (-1.083)			-0.027** (-2.343)
Constant	-29.850*** (-8.675)	-0.027* (-0.011)	-29.908*** (-8.691)	-39.685*** (-12.636)	-350.538* (-0.927)	-39.704*** (-12.645)

4.2.3 Test of the Adjustment Cost Mechanism of the Impact of Corporate Strategy on Expense Stickiness

As shown in Table 4, Columns (1) to (3) represent the test of the agency cost mediating mechanism of the offensive strategy, and $Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$ represents the change in expenses. The coefficient of Stick×Strategy in Column (1) is -0.019, which is significant at the 10% level, indicating that the offensive strategy significantly strengthens the enterprise's expense stickiness. The coefficient of Stick×Strategy in Column (2) is 0.125, which is significant at the 10% level, indicating that the more aggressive the corporate strategy is, the higher the human capital intensity will be, and the offensive strategy can significantly affect the enterprise's human capital cost. The coefficient of Stick×Employee in Column (3) is -0.011, which is significant at the 10% level, indicating that the human capital intensity can significantly affect the enterprise's expense

stickiness. The coefficient of Stick×Strategy in Column (3) is -0.020, which is significant at the 10% level and is smaller than the coefficient of Stick×Strategy (-0.019) in Column (1), indicating that the offensive strategy can strengthen the enterprise's expense stickiness by affecting the human capital cost. Similarly, the regression results show that the defensive strategy can weaken the enterprise's expense stickiness by affecting the human capital cost.

Table 4. Corporate Strategy and Expense Stickiness - Test of the Adjustment Cost Mediating Mechanism

	High_Str			Low_Str		
	(1)	(2)	(3)	(4)	(5)	(6)
(Employee)	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$	Employee	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$	Employee	$Ln\left[\frac{Expense_{i,t}}{Expense_{i,t-1}}\right]$
$Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	0.575*** (38.458)	-0.075*** (-4.772)	0.576*** (38.465)	0.573*** (52.721)	-0.143*** (-11.880)	0.565*** (51.699)
$Dec_{i,t}\times Ln\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$	-0.220* (-1.236)	-6.236*** (-33.358)	-0.150* (-0.794)	-0.369** (-2.525)	-3.899*** (-24.098)	-0.383** (-2.604)
Stick×Strategy	-0.019* (-0.245)	0.125* (1.508)	-0.020* (-0.227)	0.087* (1.494)	-0.027* (-0.416)	0.085* (1.441
Stick×Employee			-0.011* (-1.109)			-0.350*** (-3.121)
Constant	-29.850*** (-8.675)	13.700* (1.370)	-29.905*** (-8.690)	-39.685*** (-12.636)	39.785*** (3.2510	-38.753*** (-14.505)

5. Research Conclusions

Taking corporate strategy as the starting point, this paper examines the impact of different corporate strategic choices on expense stickiness and its influencing mechanism from the perspectives of agency problems of expense stickiness, adjustment costs, and the bounded rationality of managers. Using the data of A-share listed companies in China from 2019 to 2023 as samples, this paper finds that the more aggressive the corporate strategy is, the higher the level of expense stickiness will be. The offensive strategy will exacerbate expense stickiness, while the defensive strategy will alleviate it. At the same time, this paper verifies that agency costs and adjustment costs are the mediating mechanisms through which corporate strategy affects expense stickiness.

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