



## **Review on the Status of Cost Stickiness and Future Prospects**

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**Abstract:** Based on a comprehensive review of the research results of cost stickiness at home and abroad, this paper reviews the history of cost stickiness at home and abroad and summarizes the current research situation. The Chinese literature on cost stickiness is obtained from China Known Net. The study of cost stickiness is divided into four parts: beginning research, existential research, influential factors and economic consequences research, summarizes the shortcomings of current domestic research on cost stickiness, put forward the direction and vision of future research.

**Keywords:** Cost sticky, Evaluation, Summary.

### **1. The initial study of cost Stickiness**

As early as 1993, when American scholar Banker and Johnston [1] studied the U.S. aviation industry, they found that the changes in the sales cost increase and decrease are not in pace with the changes in the operating income. Although this specific reason has not been explained, this early discovery confirmed The Existence of Expense Stickiness in Enterprises.

Soderstrom and Noreen (1997) [2] in the study of hospital cost management approach, found that there is a non-linear relationship between hospital management costs and operating income, with the sticky characteristics of Keynesian viscosity theory that management costs with the volume of business The increase was greater than the decrease, but the lack of clear evidence of cost stickiness did not clearly establish the cost of stickiness.

From this it can be seen that the concept of cost sticky proposed early stage, in some industry studies have found the possibility of cost sticky, also known as cost sticky research "budding period." The initial research has paved the way for the concept of cost stickiness, which provides the theoretical guarantee for the later research.

## **2. The study of the existence of cost stickiness**

Anderson, Banker, and Jankiraman (2003, ABJ) <sup>[3]</sup> selected 64,633 sample data from 7629 listed companies in the United States during the decade of 1979-1998 from the Compustat database of the Securities Research Center to determine whether there is a "cost-sticky" The concept of data consolidation and regression analysis. The results of the study show that SG & A rose 0.55% at the same time as business revenues rose 1%, while SG & A fell 0.35% when sales declined 1%, thus attesting to the existence of management There is a non-linear relationship between sales costs. As a result, they draw on the notion of viscosity in economics and extend it to the cost, and the notion of cost-stickiness is formally put forward, thereby creating an ABJ model for scholars to test the existence of cost-stickiness. With the sticky cost proposition, some foreign scholars add other cost subjects to the ABJ model for research. In 2007, Anderson and Lanen <sup>[4]</sup> proposed the concept of "anti-stickiness" as opposed to cost-stickiness, which is characterized by the fact that cost increases less as business volume increases than when business volume decreases Magnitude.

The issue of cost stickiness also aroused the great attention of domestic scholars, but the domestic research on cost stickiness lags behind. Through empirical analysis, the listed companies in China set out to prove and develop the foreign research results. Sun Zheng and Liu Hao (2004) <sup>[5]</sup> are the first scholars in China to study the problem of cost stickiness. Based on the concept of "Contract", "Efficiency" and "Socialism", they applied ABJ to the data of 292 listed companies in 1994-2001 The empirical study of the model confirms that there is indeed a "sticky cost" in our country. Due to the effect of intertemporal length, the cost-stickiness of China is stronger than that of the US listed companies, that is, the concept of cost viscous reversal is proposed. Kong Yusheng, Zhu Naiping, Kong Qinggen (2007) <sup>[6]</sup> further confirmed the correctness of the above argument. Wang Dong-jiao and Wang Yu-jiao (2013) <sup>[7]</sup> used Dan Weiss's cost-stick direct measurement model to conduct a statistical analysis of the cost habits of listed companies in China.

## **3. The impact of cost stickiness factor**

After the cost stickiness is proposed, more and more scholars have studied its influencing factors. In the existing research results, the management behavior and motivation, the existence of agency costs and a variety of macro and micro factors on the formation of cost sticky has a non-negligible role. This article is divided into subjective factors and objective factors are described in two categories.

### 3.1 The cost of sticky subjective factors

The subjective factors of cost stickiness are mainly based on the internal and external corporate governance perspectives. The specific research contents are as follows: management self-interest, free cash flow, manager's confidence in transition, executive compensation and board governance. In response to the above content, scholars at home and abroad to study the subjective factors of cost sticky.

Chen, Lu and Sougiannis (2012)<sup>[8]</sup> Manager-Based Imperatives for "Empire-Building" From the subjective, cost-sticking factors, we study four variables: free cash flow, CEO experience, senior tenure and executive compensation And confirms the conclusion that the cost stickiness is affected by the agency problem. Our country Xie Bao, Hui Lili (2014)<sup>[9]</sup> for China's manufacturing listed companies, but also the above four variables as an alternative variable of corporate governance to prove that our good corporate governance guidelines have a weakening effect on cost sticky, and Chinese enterprises in the maturity of the cost of a higher degree of viscosity. Wanshouyi, Wang Hongjun (2011)<sup>[10]</sup> first based on the principal-agent theory through the 2007-2009 research on China's manufacturing listed companies data, the free cash flow as a variable added to the executive management of self-interest to go, confirmed Self-serving behavior of management is more serious, the higher the enterprise cost sticky, full-time separation, increase the proportion of independent directors help control the level of cost sticky. Others, on the other hand, looked at executive compensation, managers' overconfidence, and managers' expectations as a contributing factor to cost stickiness. Chen, Gores and Nasev (2013)<sup>[11]</sup> studied managers from the perspective of overconfidence. That is, management's expectations of future market demand determine the reduction or maintenance of economic resources when a company faces declining sales while overconfident managers overestimate the growth of future sales to make decisions that sustain economic resources, resulting in Cost sticky to maintain a high level. Liang Shangkun (2015)<sup>[12]</sup> used debt constraints as a regulatory variable to study the relationship between managers' overconfidence and cost-stickiness. Research shows that overconfidence does not significantly increase firm cost stickiness when debt constraints are high. This finding reveals the impact of managers' overconfidence on the company's cost performance and also shows the positive governance effect of debt constraints.

### 3.2 The objective impact of cost sticky factors

The objective influencing factors of cost stickiness are mainly reflected in the market competition in industry, the quality of accounting information, the capital structure, the degree of marketization, the nature of property rights, the capacity utilization rate,

macroeconomic fluctuations, firm size, national policies, laws and regulations, etc. In these areas, the study of cost stickiness.

Lusha, Zheng Yuga (2016) <sup>[13]</sup> combined the two factors of management incentives and property rights to study the impact on cost stickiness. The results show that, compared with the non-state-owned enterprises, the executive pay incentive has a more significant impact on the cost-stickiness of state-owned enterprises. Compared with state-owned enterprises, the impact of management equity incentives on the cost-stickiness of non-state-owned enterprises is even more significant.

Awad Elsayed Awad Ibrahim (2015) <sup>[14]</sup> While studying the cost stickiness in Egypt, the study compared the cost-sticky values of cost-viscous boom (2006-2008) with the economic recession (2009-2011) and found that during the boom period Cost sticky strong, and when the economic downturn, there is the phenomenon of anti-cost sticky.

For the first time, Calleja et al. (2006) <sup>[15]</sup> found a positive correlation between capital intensity and labor intensity and cost stickiness. In recent years, domestic scholars such as Yang Chunli, Yang Qin (2015) <sup>[16]</sup>, Luo Yunshi (2016) <sup>[17]</sup>, Yang Dingquan and Gao Caina (2016) <sup>[18]</sup> have discovered the costs of high-tech enterprises, manufacturing and aviation equipment enterprises Viscosity is also affected by the positive correlation between capital intensity and labor intensity.

In addition, the introduction of laws and regulations and cultural differences may also lead to changes in the cost of viscosity. Zanella et al. (2015) <sup>[19]</sup> studied the cost-stickiness of listed companies in the United Arab Emirates and argued that the employment protection legislation of foreign workers is the main cause of cost stickiness. Karen Kitching (2016) <sup>[20]</sup> and others analyzed the culture of 39 countries as the influencing factors of cost stickiness. The results show that the cost stickiness is weaker for countries with more cultural background, thus confirming the cultural differences The impact of cost stickiness.

#### **4. Cost sticky economic consequences of research**

Since the study of cost stickiness not only helps scholars reveal the cost management behavior of enterprises, but also establishes a bridge between the interaction between management accounting and financial accounting, scholars begin to study the economic consequences of cost stickiness. From this point of view to verify the impact of cost sticky corporate earnings, corporate performance and other aspects of the impact.

#### 4.1 The impact of cost stickiness on earnings management

In terms of earnings management research, Banker and Chen (2006)<sup>[21]</sup> calculated the corporate profits based on the traditional model and predicted the future accounting earnings of the firm. This is the first time that costs are divided into two parts: cost change and cost stickiness. This in turn will establish a CVCS model based on cost stickiness, which can effectively predict accounting surpluses. The Weiss (2010)<sup>[22]</sup> study, on the other hand, analyzed the accuracy of the accounting earnings forecast using cost stickiness. He found that financial analysts are more inaccurate in predicting corporate accounting surpluses in firms with higher cost stickiness and financial analysts less willing to forecast accounting surpluses in those firms. Based on this, our country also has a certain amount of literature on the impact of cost stickiness on the prediction of corporate earnings. Su Wenbing, Li Xinhe and Duan Zhixiang (2012)<sup>[23]</sup> set up a profit forecast model that includes the cost-cost stickiness by using the listed companies in our country and compare with the real profitability level, which confirms the accuracy of the cost-sticky sticky model prediction. Managers provide a scientific basis for management accounting decisions.

#### 4.2 The impact of cost sticky on the performance of enterprises

Sun Zheng and Liu Hao (2004)<sup>[5]</sup> are the first scholars in China to introduce the influence of cost stickiness on firm performance. They made a brief speculation that cost stickiness will have an impact on firm long-term performance but have an impact on short-term performance Not obvious. At present, more than a dozen scholars in our country have studied the impact of cost stickiness on business performance.

Xu Fang (2014)<sup>[24]</sup> based on a review of the literature on cost-stickiness, summarizes the characteristics of cost-stickiness, the reasons for cost stickiness and possible economic consequences. Through theoretical analysis and drawing on the conclusions of previous studies, it is concluded that there is no statistically significant correlation between the management expense ratio of listed companies and the next performance of the company.

Xiao Zhe Rong, Zhang Chutang (2017)<sup>[25]</sup> and Ge Yao (2017)<sup>[26]</sup> conducted empirical research on the economic effects of cost stickiness using the listed companies in China from 2011 to 2015 and analyzed the impact of cost stickiness on firm performance. The results show that the cost-stickiness can promote the improvement of firm performance to a certain extent, while the effect of cost-stickiness on the promotion of firm performance is insignificant.

## 5. The literature review

Through the combing of the previous research results, it can be seen that the cost-stickiness has been raised from the initial development to the development for only a dozen years. Although it has changed from the initial existence of the cost-stickiness, the factors that affect the degree of stickiness, as well as different industries, different countries, The difference between the cost viscosities of enterprises of different nature and the deep-seated causes behind the analysis of other disciplines, to the study of the impact of cost stickiness on the accuracy of corporate earnings forecasts and business performance, and achieved some results. But there is still plenty of room to expand the depth and breadth of research.

(1) From the point of view of research content, the current research on cost stickiness focuses on the verification of its existence, influencing factors and their differences analysis, and most of the research is still based on an application and part of foreign research results Fixed. Although in recent years, some scholars have gradually shifted the focus of cost stickiness to the study of their economic consequences, the research coverage is still very narrow and the research results are limited. What is the impact of cost stickiness on the business? As a measure of the performance of coal enterprises an important measure of business performance, will be affected by cost sticky? This is not analyzed.

(2) According to the measurement of cost stickiness, most scholars use the Anderson (2003) model to test the cost change rate and the rate of change of income as the research variables. However, this model requires a large amount of data regression to get a cost-sticky Therefore, it can only be applied to measure the cost stickiness of macroscopic aspects such as industry. It is hard to get the cost stickiness of a certain company in a year, so it has some limitations. However, Weiss (2010) proposed a new model that is rarely used by scholars due to the need for manual screening and calculation.

(3) Judging from the use of cost stickiness, few scholars have studied the applicability of cost stickiness in other industries. In previous studies, scholars analyzed many of the factors that have an impact on cost stickiness, but rarely consider how to use these factors to improve and utilize cost stickiness. Many scholars are more on the most cost-stick manufacturing industry analysis, in other industries involving very little cost management. Therefore, in the future, enterprises can adjust and improve their business performance through cost-stick research so as to promote their good development.

## References

- [1] Banker, R.D. and Johnston, H.H. An empirical study of cost drivers in U.S. airline industry [J]. *The Accounting Review*. 1993, 68 (3): 576-601
- [2] Noreen, E. and Soderstrom, N. The accuracy of proportional cost models: Evidence from hospital service department [J]. *Review of Accounting Studies*. 1997, 2: 89-114
- [3] Anderson Mark C, Banker Rajiv D, Janakiraman Surya N. Are selling, general, and administrative costs "sticky"? [J]. *Journal of Accounting Research*, 2003, 41 (1): 47-63.
- [4] Anderson S W, Lanen W N. *Understanding Cost Management: What Can We Learn from the Empirical Evidence on "Sticky Costs?"* Ann Arbor, 2007
- [5] Sun Zheng, Liu Hao. "Sticky" Behavior of China's Listed Companies [J]. *Journal of Economic Research*, 2004,12: 26-34.
- Kong Yusheng, Zhu Naiping, Kong Qinggen .Study on Cost Stickiness: Empirical Evidence from Chinese Listed Companies [J]. *Accounting Research*.2007,11: 58-65
- [7] Wang Dongqing, Wang Yjiao. Listed companies cost habits measure and statistical analysis [J]. *Accounting Monthly* .2013,08: 07-09.
- [8] Chen, CX, Lu, H., and Sougiannis, T. The agency problem, corporate governance, and the asymmetrical behavior of Selling, General, and Administrative costs [J]. *Contemporary Accounting Research*. 2012, 29: 252- 282.
- [9] Xie Bao, Hui Lili. Agency Problems, Corporate Governance and Corporate Cost Stickiness - Empirical Data from Chinese Manufacturing Enterprises [J]. *Management Review*. 2014 (12): 142-159.
- [10] Wansou Yi, Wang Hongjun. Management self-interest, the board of directors governance and cost sticky - Empirical evidence from the Chinese manufacturing listed companies [J] .2011, 3: 26-33.
- [11] Chen, C. X., Gores, T., and Nasev, J. Managerial overconfidence and cost stickiness [R]. Working paper, University of Illinois. 2013.
- [12] Liang Shangkun. Manager overconfidence, debt constraints and cost sticky [J]. *Nankai Management Review*, 2015,03: 122-131.
- [13] Lu Sha, Zheng Yujia. Management Incentives, Property Rights and Cost Stickiness - Evidence from Listed Manufacturing Companies in China [J] .*Chinese Journal Conference*, 2016,15: 40-43.
- [14] Awad Elsayed awad Ibrahim, Economic growth and cost stickiness: evidence from Egypt [J]. *Journal of Financial Reporting and Accounting*, 2015, 119-140.
- [15] Balakrishnan, R., Calleja, M. J., and Soderstrom, N. Does capacity utilization affect the 'stickiness' of costs? [J]. *Journal of Accounting, Auditing and Finance*. 2006,19: 283-299.
- [16] Yang Chunli, Yang Qin. High-tech enterprise cost sticky and its objective factors [J]. *Modern Management Science*, 2015,09: 64-66.
- [17] Luo Yu Shi.Study on Cost Stickiness of China's Manufacturing Listed Companies [J]. *Market Modernization*, 2016,03: 80-81.
- [18] Yang Dingquan, Gao Caina. Research on Cost Stickiness of Aviation Equipment Enterprises [J], *Management Engineer*, 2016,04: 17-21.
- [19] Z anella F, O yelere P, Hossain S. A re costs really sticky? Evidence from pblicly listed companies in the UA E [J]. *Aplied E conomics*, 2015, 47 (60).
- [20] Karen Kitching, Raj Mashruwala, Mikhail Pevzner. Culture and Cost Stickiness: A Cross-country Study [J]. *International Journal of Accounting*, 2016, 09: 402-417.
- [21] Banker RD, Byzalov D, Chen L T. Employment protection legislation, adjustment costs and cross-country differences in cost behavior [J], *Journal of Accounting and Economics*, 2013, 55 (1): 111-127.
- [22] Weiss, D. Cost Behavior and Analysts' Earnings Forecasts [J]. *The Accounting Review*, 2010, 85 (4): 1441-1471.
- [23] Su Wenbing, Li Xinhe, Duan Zhixiang.Earnings forecast based on cost stickiness and its accuracy test [J]. *Mathematical Statistics and Management*,2012 (5): 930-939.

- [24] Xu Fang. Listed companies cost sticky on corporate performance [J] Shengli Oilfield Party School, 2014.3: 68-71
- [25] Xiao Zhen-rong, Zhang Chu-tang. An Empirical Study on Cost Stickiness and Management Performance of Automobile Manufacturing Listed Companies [J]. Modern Commerce and Industry, 2017,02: 113-116.
- [26] GE Yao. Studies on the Effect of Cost Stickiness on Firm Performance - Evidence from Listed Companies in China [J]. Price Theory and Practice, 2017.06: 100-104.