

A Five-year Summary of Cost Stickiness Research

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Abstract. In the existing research on cost stickiness, the research on the existence, causes and influencing factors of cost stickiness is more systematic, while the research on economic consequences is more fragmented. As one of the information basis for stakeholder decision-making, it is of great significance to study its latest achievements. This paper reviews the relevant literature on the influencing factors and economic consequences of cost stickiness in the past five years, and summarizes the impact of management characteristics, digitization and intelligence, R & D innovation, earnings management, financing constraints, policies and economic environment on cost stickiness and the economic consequences of cost stickiness on corporate performance, corporate value and corporate risk. On this basis, two suggestions for future research are put forward. First of all, in terms of research content, this paper suggests paying more attention to the micro level. For example, whether managers make decisions to adjust the changes of corporate finance and operating conditions based on the phenomenon of cost stickiness, whether external stakeholders will respond to the stickiness of the enterprise and the economic consequences of cost anti-stickiness. In terms of research methods, the existing literature is mainly based on empirical research, and there are relatively few case studies. It is suggested to further expand case studies to help business practice and academic research.

Keywords: Cost stickiness, literature review, influencing factor, economic consequences.

1. Introduction

Cost stickiness is the phenomenon of asymmetric change between cost and business volume, that is, the increase of cost when the business volume rises is greater than the decrease of cost when the business volume decreases. Through the regression of large sample data of listed companies in the United States, Anderson et al. found that the proportion of cost increase when sales revenue increased by 1 unit was greater than the proportion of cost decrease when sales revenue decreased by 1 unit. They defined this phenomenon as cost stickiness. Based on the research of ABJ (2003), Subramaniam merged sales cost into sales and management cost, and defined it as total cost. Using large sample data for empirical research, the total cost also showed sticky characteristics, and the concept of cost stickiness was formally proposed. Since then, many scholars have begun to explore the field of cost stickiness, and their research content has gradually expanded from the study of the existence of cost stickiness to the study of the causes, influencing factors and economic consequences of cost stickiness.

A review of the literature in the last five years reveals that there has been almost no research related to cost stickiness in the last five years, as research on the existence and causes of cost stickiness has basically reached a consistent and stable conclusion. On the contrary, due to the changes in the environment, big data and intelligence have deeply affected enterprises, and many scholars continue to enrich the research on the influencing factors and economic consequences of cost stickiness in this context. Thus, this paper will summarize the research results of the latest five years and look forward to the research direction of the next five years in terms of the influencing factors and economic consequences of cost stickiness.

2. Factors Affecting Cost Stickiness

Reviewing the literature related to the influencing factors of cost stickiness in the past five years, it can be found that in the literature on the influencing factors of cost stickiness, the research hotspots focus on management characteristics, digitization and intelligence, R & D innovation, policy and

economic environment. Considering that the actual research is generally centered on hot keywords, combined with other influencing factors to verify its impact on cost stickiness, this paper reviews the research on the influencing factors of cost stickiness based on hot keywords. The research on the influencing factors of cost stickiness can be divided into two aspects : internal factors and external factors. From the perspective of the number of documents, the research on internal factors is far more than the research on external factors. Among them, the internal factors are based on the management characteristics as the research core. external factors are based on policy and economic environment as the core of the study. At the same time, the enterprise is in a complex economic environment, and there will be many factors acting on the cost stickiness of the enterprise. The research often requires a combination of various influencing factors for in-depth discussion.

2.1. Internal Factors

2.1.1 Management characteristics

Due to the different characteristics of each executive and the different environment, their decisions are different. From the existing explanation theory of cost stickiness, it can be seen that managers' decision-making plays an important role in the process of cost stickiness. The characteristics of managers or management teams are closely related to cost stickiness. The specific characteristics include management background, management overconfidence, management incentives and other management-related characteristics.

In terms of management background, Huang Lei found that team age heterogeneity, education level heterogeneity and tenure heterogeneity will significantly increase corporate costs, but professional background heterogeneity is conducive to reducing corporate costs. After considering the CEO power, the expansion of CEO power is conducive to coordinating the views of the senior management team and reducing costs. after interacting with the four factors of executive characteristics, team age heterogeneity, education level heterogeneity, tenure heterogeneity, and professional background heterogeneity have been weakened or strengthened[1]. Zhao Xin and Yang Shizhong found that executives' academic experience can significantly reduce the cost stickiness of enterprises. further from the perspective of the internal and external environment of the enterprise, it is proved that the reduction of managers' optimistic expectations and agency costs is an important mechanism for executives' academic experience to affect the cost stickiness of the enterprise[2]. Li Ziyang et al. found that CEO's R & D background has a positive impact on the cost stickiness of enterprises[3].

In terms of management self-confidence, the current research results have not yet been unified. Li Yan et al. found that executives' overconfidence supports the executive ability theory, which can significantly inhibit the cost stickiness of enterprises on the basis of alleviating corporate agency problems and strengthening managers' rational behavior and decision-making[4]. However, Gu Xiaohan and Ma Zezhi found that the degree of managers' self-confidence is positively correlated with the cost stickiness of enterprises[5].

In terms of salary incentives, Suo and Sui found that management incentives can significantly inhibit the cost stickiness of enterprises[6]. Wu Chengsong and Tian Yuji found that the increase of external unfairness of executive compensation significantly aggravated the cost stickiness of enterprises[7]. After considering the characteristics of the executive team, it is found that the lower the proportion of women in the executive team, the lower the education level, and the longer the tenure, the more significant the positive impact of external unfairness of compensation on corporate cost stickiness.

In addition, Jiyeon Lee et al. analyzed the data of Korean listed companies from 2000 to 2013, and found that the cost stickiness of the joint CEO structure is lower than that of the single CEO structure[8]. Sun Hejie and Wang Beichen found that there is a common problem of cost stickiness in China 's A-share listed companies:the greater the management power, the more serious the cost stickiness problem.High-quality internal control can constrain management power, thereby reducing the level of cost stickiness[9]. Ruining Guo et al. found that the greater the power of managers, the

higher the cost stickiness of enterprises, showing a significant positive correlation[10]. Even if the quality of internal control is good, the influence of management power on cost stickiness cannot be weakened. Zhang Lu found that managers' ability can significantly inhibit the cost stickiness of enterprises[11]. The higher the uncertainty of economic policy, the more significant the inhibitory effect of managerial ability. Yi Biwen found through empirical tests that there is a negative correlation between the enthusiasm of management to disclose tone and corporate cost stickiness, supporting the agency cost view of cost stickiness[12]. The negative correlation between the enthusiasm of the management of state-owned enterprises to disclose tone and the cost stickiness of enterprises, and the negative correlation between the enthusiasm of the management of enterprises with poor quality of information disclosure and the cost stickiness of enterprises is more significant. Xin Huiqin and Liang Jingjing found that in the year of executive change, the company's cost stickiness was significantly enhanced[13]. In one or two full accounting years after the change of senior executives, the change of senior executives has a weakening effect on cost stickiness, which is mainly due to the short-sighted behavior of new executives, such as cutting advertising and R & D expenses, for self-interested motives. Further distinguishing the nature of property rights for verification, it is found that the strengthening effect of executive change on cost stickiness only exists in non-state-owned enterprises.

2.1.2 Digitalization and intelligence

In recent years, with the continuous application of a new generation of Internet technology, especially with the continuous penetration of artificial intelligence, big data, cloud computing and other technologies into enterprises, the digital economy has been contributing more and more to China's economic growth, and the digital economy has become a new growth point of China's economy. In this context, enterprises, as the main body of the market, are the main force for the development of the digital industry, and a large number of scholars have already studied the impact of the implementation of the digital economy as well as intelligent transformation on the cost of enterprises.

In terms of digitalization, Chen Yinfei and Deng Yahui found that digital finance inhibits the cost stickiness of enterprises, and this inhibition is persistent[14]. The analysis of the channel of action shows that digital finance inhibits firms' cost stickiness by alleviating management agency problems and reducing managers' optimistic expectations. Diandian Chen et al. found that digital transformation reduces adjustment costs, undermines management's optimistic expectations, and reduces agency costs, thus inhibiting cost stickiness[15]. Guan Huayu found that cost stickiness exists in A-share listed companies, and carrying out the digital economy increases the cost stickiness of enterprises, equity concentration and the nature of equity have a moderating effect between digital economy inputs and enterprise cost stickiness, i.e., equity concentration aggravates the stickiness of digital economy inputs on the costs of listed companies, and when the enterprise is a state-owned enterprise, the effect of digital economy inputs on the cost stickiness of listed companies presents a more significant state[16]. Zhao Ling and Huang Hao found that digital transformation significantly reduces the cost stickiness of firms, and this reduction effect is more pronounced when the firm's supplier and customer concentration is low as well as when the firm is separated from its customers and suppliers[17].

In terms of intelligence, Yue, Yujun, and Gu, Meng found that overall intelligence has a dampening effect on cost stickiness in manufacturing firms. Intelligentization suppresses cost stickiness by adjusting the cost path and management's optimistic expectation path, while the path mechanism of suppressing cost stickiness through agency conflict is not significant[18]. Further, Yue, Yujun and Gu, Meng find that artificial intelligence has a reducing effect on cost stickiness, which is more significant in manufacturing firms with higher asset specialization and greater environmental uncertainty[19]. Artificial intelligence reduces cost stickiness through the path of cost adjustment and management optimistic expectations, but not through the path of agency conflict. In manufacturing firms with weak asset specialization and low environmental uncertainty, AI increases cost stickiness, but only in samples with low internal control quality. The reduction effect of AI on cost stickiness is

somewhat persistent, and the reduction effect on material resource cost stickiness is more significant. A recent study by Yue Yujun and Gu Meng found that manufacturing firms' costs and revenues change in the same direction, but the magnitude of cost reduction when revenues decrease is lower than the magnitude of cost increase when revenues increase, i.e., there is the phenomenon of cost stickiness. Manufacturing firms that choose different forms of strategies exhibit very different cost behaviors, and differentiated strategy manufacturing firms have stronger cost stickiness compared to cost-leading strategy manufacturing firms[20]. Intelligent transformation can effectively inhibit manufacturing firms' cost stickiness, and its inhibitory effect is more obvious in differentiated strategy manufacturing firms than in cost-leading strategy manufacturing firms. In addition, Quan Xiaofeng and Li Gang found that the promotion negatively affects the cost stickiness of enterprises, indicating that the promotion of smart manufacturing has the inhibitory effect of cost stickiness[21]. Mechanism analysis found that smart manufacturing inhibits enterprise cost stickiness mainly through the channels of optimizing enterprise resource allocation efficiency and improving enterprise information processing capability. Li Wanhong and Wang Fan found that intelligent transformation has a significant positive effect on the performance level of traditional manufacturing enterprises, and intelligent transformation can improve the performance level of traditional manufacturing enterprises by reducing cost stickiness[22].

In terms of financial sharing, scholars agree that financial sharing can reduce cost stickiness. Xu Hanyou et al. found that manufacturing enterprises have a significant reduction in cost stickiness after the implementation of financial sharing[23]. Nachao Hong et al. found that financial sharing can significantly reduce the cost stickiness of enterprise groups[24]. This is mainly manifested in the reduction of operating cost stickiness rather than production cost stickiness. Reduce subsidiary operating cost stickiness, rather than parent company operating cost stickiness. In terms of the mechanism of action, enterprise groups can reduce agency costs through financial sharing, or improve the efficiency of resource adjustment, and thus reduce cost stickiness. Li Hezun et al. found that the implementation of ERP system can reduce the stickiness of operating costs and sales and management costs[25]. Further analysis shows that the reduction effect of ERP system on cost stickiness is more significant in sub-samples with poor internal information environment, higher asset intensity, higher management optimistic expectation tendency and stronger empire building motivation, indicating that ERP system can increase information quality on the basis of the original information environment, and reduce cost stickiness by reducing resource adjustment cost, restraining managers' optimistic expectation deviation and reducing agency problems.

2.1.3 Research and development innovation

Innovation and development is a key driving factor for the strategic adjustment of economic structure, and a fundamental support and key driving force for the realization of comprehensive development under the overall layout of the "Five-in-One". Most scholars believe that the "cost stickiness" phenomenon of enterprises may intensify with the strengthening of enterprise innovation intensity, and only a few scholars have come to the opposite conclusion.

Han Lanlan found that innovation investment can promote the creation of cost stickiness. Internal control quality has a moderating effect on innovation inputs affecting cost stickiness[26]. Compared to firms with low internal control quality, the effect of innovation input on cost stickiness is greater in firms with high internal control quality. He Xi-Qiong and Yang Chang-An found that the greater the intensity of firms' innovation inputs, the stronger the cost stickiness, and this facilitating effect is stronger in firms with high-tech qualifications, among which it is strongest in firms not obtaining high-tech qualifications for the first time[27]. Further tests found that cost stickiness is significantly stronger in firms with a lower proportion of R&D investment converted into intangible assets and a higher number of patents. Bingxin Yang and Gengfei Chen found that firms' R&D intensity is positively related to cost stickiness[28]. Environmental uncertainty strengthens the effect of firms' R&D intensity on cost stickiness, i.e., the greater the environmental uncertainty, the stronger the contribution of firms' R&D intensity to cost stickiness. Further, Chen Gengfei and Yang Bingxin found that firm innovation intensity strengthens cost stickiness[29]. Asset specialization strengthens

the effect of firm innovation intensity on cost stickiness, i.e., the stronger the asset specialization, the stronger the strengthening effect of firm innovation intensity on cost stickiness. Wu, Yingzhi empirically found that there is a significant positive correlation between cost stickiness and debt default risk of manufacturing firms. The ability of new product research and development significantly weakens the driving effect of cost stickiness on debt default risk in manufacturing firms[30]. Supply chain commercial credit plays a partial mediating effect in the relationship between cost stickiness and debt default risk. However, Yongqiang Liu draws the opposite conclusion that the dynamic capability of art innovation significantly reduces firms' cost stickiness[31].

2.1.4 Earnings management

The main types of surplus management are accrued surplus management and real surplus management. Existing studies have investigated the impact of surplus management on cost stickiness from these two aspects respectively.

In the study of accrual surplus management, Liu Jing et al. found that the total cost, cost of goods sold and sales and administrative expenses of enterprises in the automobile industry are sticky, and with the growth of time span, sales and administrative expenses stickiness shows inversion[32]. Positive accruals management (loss reversal and loss avoidance) weakens the cost stickiness of firms, while negative accruals management ("taking a big bath") strengthens cost stickiness. Xin Wang finds that accrual surplus management significantly inhibits firms' cost stickiness, while true surplus management exacerbates firms' cost stickiness. The higher the tax aggressiveness the higher the degree of cost stickiness of enterprises[33]. The degree of tax aggressiveness significantly inhibits the governance effect of accrual surplus management on expense stickiness, and at the same time significantly enhances the exacerbating effect of true surplus management on expense stickiness. In the study of true surplus management, Chen Gen found that upwardly regulated true surplus management strengthens firms' cost stickiness[34]. Downward-regulated true surplus management weakens firms' cost stickiness. Three different forms of true surplus management: abnormal net operating cash flows, abnormal production costs, and abnormal discretionary expenses have different effects on cost stickiness.

There are also studies that do not make a distinction between them, Peng Fei found that there is a certain degree of cost stickiness in listed companies in China, and when corporate managers try to cost surplus growth or reduction, it will form a kind of cost stickiness enhancement or weakening effect[35]. Sui Zhilin and Sui Jingjing found that the higher the degree of surplus management, the higher the cost stickiness of enterprises, the two are significantly positively correlated. Management incentives can significantly inhibit the cost stickiness of enterprises. Management incentives significantly weaken the correlation between surplus management and cost stickiness.

2.1.5 Financing constraints

Zhang Legend and Sun Yi found that corporate debt constraints can inhibit management's overinvestment behavior, which in turn reduces firms' cost stickiness, i.e., overinvestment plays a mediating effect between debt constraints and cost stickiness[36]. Meidan found that financing constraints and internal control have complementary effects in suppressing cost stickiness, and this complementary effect of financing constraints and internal control is stronger and more significant in private manufacturing firms and manufacturing firms facing strong product market competition[37]. Sun and Zhang find that corporate financialization has an inhibitory effect on cost stickiness[38]. This inhibitory effect is significant in samples with weak financing constraints, strong arbitrage motives, state-owned enterprises, and weak profitability, indicating that there is heterogeneity in the effects of financialization on cost stickiness between firms inclined to arbitrage motives and those inclined to value-preservation motives, and the stronger the firms' arbitrage motives are, the more pronounced is the negative relationship between financialization and cost stickiness, which verifies that arbitrage-type financial investment has a "crowding-out" effect from the perspective of cost stickiness. This finding verifies the "crowding out" effect of arbitrage financial investment from the perspective of cost stickiness. Chen Yufeng and Ma Yanbai found that endogenous financing strengthens the cost

stickiness of firms, while debt financing and equity financing weaken the cost stickiness of firms[39]. The moderating effect of product market competition on the strengthening of cost stickiness by endogenous financing is insignificant, while the weakening effect of debt and equity financing on firms' cost stickiness will be more prominent in firms with a high degree of competition. Cheng Qunrui and Li Jigang find that debt financing reduces firms' cost stickiness, and this inhibition is more significant under high economic policy uncertainty[40].

2.2. External Factors

2.2.1 Policy and economic environment

The impact of policies on the cost stickiness of firms, including specific policies and government subsidies. The economic environment, on the other hand, focuses on the impact of the international environment and the quality of domestic economic development.

Cheng Ping found that economic policy uncertainty does not significantly increase firms' cost stickiness when financing constraints are strong[41]. And when the quality of firms' internal control is high, economic policy uncertainty does not significantly increase firms' cost stickiness either. Cao Xiaoxue and Dong Wenjing find that the implementation of the "reform program" reduces the cost stickiness of centralized enterprises[42]. The inhibiting effect of the "reform program" on cost stickiness is affected by the level of management shareholding and equity concentration. Zang Wenjiao and Zhang Yugui found that the pension insurance premium reduction policy reduces cost stickiness, and the findings are more significant in firms with low wage levels, high employee intensity, small size, and non-state ownership[43]. Han Lanlan and Li Baixing found that industrial policy has resource and signaling effects, and firms supported by industrial policy have higher cost stickiness compared to firms not supported by industrial policy[44]. The cost stickiness of state-owned enterprises supported by industrial policy is more obvious than that of private enterprises. The cost stickiness of enterprises supported by industrial policy is more obvious when the environmental uncertainty is low than when the environmental uncertainty is high. Hong Herb et al. found that industrial policy positively affects cost stickiness, and the effect is mainly generated through the fiscal and tax support effect, while the signaling effect positively affects cost stickiness in high-growth firms as well as in the year when the policy is introduced[45]. The mechanism test finds that industrial policies exacerbate cost stickiness by stimulating the investment of key production resources such as capital, labor and technology.

Luo Dongliang and Jiao Yumeng found that government subsidies enhance cost stickiness, institutional shareholders can inhibit cost stickiness, and institutional shareholders negatively regulate the relationship between government subsidies and cost stickiness[46]. Nan Xiaoli and Zhang Min found that government subsidies significantly enhance cost stickiness[47]. This relationship is particularly pronounced under low financing constraints and does not change significantly when operating income declines continuously, suggesting that government subsidies enhance cost stickiness through the management agency problem, but there is no evidence to support the idea of adjustment costs and optimistic management expectations.

Wang Yong and Feng Yao found that international oil price uncertainty leads to an increase in the adjustment cost for firms to cut investment, which in turn strengthens firms' cost stickiness, and this strengthening effect is more significant in firms with high financial redundancy and firms with more investment opportunities[48]. Lanlan Han and Baixing Li find that high quality economic development reduces firms' cost stickiness, and internal control quality has a moderating effect on high quality economic development and firms' cost stickiness[49].

3. Economic Consequences of Cost Stickiness

In the last five years, there has been relatively little research on the economic consequences of cost stickiness, with research results focusing on three aspects of cost stickiness on corporate performance, corporate value and business risk.

3.1. Corporate Performance

Existing research findings on the impact of cost stickiness on firm performance have not yet been harmonized, and are broadly divided into three views: the inhibitory view, the facilitative view, and the inverted "U" shape.

In support of the inhibitory view, Hanming Chen found that energy industry enterprises become more sticky, and the realization of their benefits becomes more and more unsatisfactory[50]. Corporate capital structure and equity structure play opposite moderating roles on the relationship between the two, in which the irrationality of the gearing ratio negatively moderates the relationship between the two, and the degree of equity concentration positively moderates the relationship between the two. Linjie Li and Xiaohui Zhang found that cost stickiness is significantly negatively related to firm performance, cost stickiness is significantly positively related to organizational redundancy, organizational redundancy is significantly negatively related to firm performance, and organizational redundancy has a partially mediating role in the effect of cost stickiness on firm performance[51]. Chenyi Ye found that firms' cost stickiness will harm firm performance, and at the same time, low mobility organizational redundancy plays a significant mediating role[52]. Secondly, according to the nature of property rights, with the help of subgroup test, it is concluded that illiquid organizational redundancy has a partial mediating effect in state-owned enterprises, while in non-state-owned enterprises, it shows a full mediating effect. In support of the promotion view, He Yu and Dai Beijia found that cost stickiness can promote corporate performance to a certain extent, and equity structure has a moderating effect on the relationship between the two[53].

Some scholars believe that cost stickiness has an inverted U-shaped relationship with firm performance. Luo Manxue and Fu Gang found that China's Shanghai A-share listed companies in the paper industry as a whole have the phenomenon of environmental cost stickiness[54]. Environmental cost stickiness has an inverted U-shaped relationship with the performance of listed companies in the paper industry. Xue Weijun found that the increase of cost stickiness is not favorable to the short-term performance of enterprises, but favorable to the long-term performance of enterprises[55]. Managerial motivation has an obvious moderating effect on the relationship between cost stickiness and enterprise performance, and managerial motivation for optimal decision-making helps to weaken the negative impact of cost stickiness on short-term enterprise performance and increase the positive impact of cost stickiness on long-term enterprise performance; on the contrary, managerial motivation for self-interested behavior strengthens the negative impact of cost stickiness on short-term enterprise performance, while weakening the positive impact of cost stickiness on long-term enterprise performance.

In addition, Li Wanhong and Wang Fan found that intelligent transformation has a significant positive effect on the performance level of traditional manufacturing enterprises, and intelligent transformation can improve the performance level of traditional manufacturing enterprises by reducing cost stickiness. Li Wei and Teng Yun found that the cost stickiness of listed companies in the retail industry has a significant negative impact on the performance of corporate mergers and acquisitions[56]. The increase in cost stickiness of listed companies in retail industry leads to the tendency of corporate shareholders to possess corporate resources, which increases the redundant resources of the company and leads to the breakage of the balance of input and output of the company, which makes the M&A performance of the company decrease. Quan Xiaofeng and Zhu Yuxiang found that in companies with "employee care" culture, labor cost stickiness can better promote total factor productivity, improve future company performance, and ultimately realize the "reciprocal effect" between the company and its employees[57]. The "reciprocal effect" between firms and employees is ultimately realized. Cao, Xiaoxue, and Zhang, Ziwen find that deleveraging can improve overall firm performance and can contribute to the improvement of overall firm performance by curbing the cost stickiness problem[58]. Xu, Chaoyang et al. confirm the partial mediating effect of cost stickiness, i.e., better internal control quality can improve financial performance by reducing cost stickiness of firms[59].

3.2. Corporate Value

Enterprise value is a reflection of a firm's profitability and is closely related to performance. As the research on the impact of cost stickiness on performance has achieved certain results, scholars have begun to explore the relationship between cost stickiness and firm value.

Hou Xiaohong found that cost stickiness has an inverted U-shaped relationship with firm value: when cost stickiness based on selling and administrative expenses is less than 2.0467, cost stickiness is positively correlated with firm value, and a more efficient and competitive resource allocation plan brings "good" stickiness[60]. When cost stickiness is greater than 2.0467, "bad" stickiness due to excessive redundancy and inefficient allocation of resources is negatively related to firm value. Gao Yacui and Jin Xiuping found that cost stickiness is negatively correlated with firm value during 2011-2015, i.e., when there is excess capacity, and cost stickiness is positively correlated with firm value of listed coal companies during 2016-2018[61]. Asset structure exacerbates the negative correlation between cost stickiness and firm value during overcapacity.

3.3. Corporate Risk

Cost stickiness is a reflection of asymmetric changes in revenues and costs, and the larger the asymmetric changes, the greater the performance volatility and the greater the uncertainty faced by the enterprise. Enterprise risk, as one of the economic consequences that managers pay close attention to, and its relationship with cost stickiness have attracted more and more attention from academics.

Geng Yunjiang and Wang Liqiong found that cost stickiness significantly exacerbates enterprise risk. Internal control quality can effectively regulate the impact of cost stickiness on enterprise risk[62]. Li Wenchang and Wang Hao found that there is a significant positive correlation between cost stickiness and enterprise risk[63]. Bingqian Zhao found that the higher the cost stickiness the higher the corporate debt risk[64]. The higher the level of information sharing significantly suppresses corporate debt risk. The level of information sharing significantly weakens the correlation between expense stickiness and corporate debt risk. Xiao Xiang found that cost stickiness significantly increases business risk, and the results are consistent after considering cost counter-stickiness[65]. Further research finds that external supervision has a weakening moderating effect on the business risk brought by cost stickiness, and the above effect is more obvious in state-owned enterprises. For Big 4 and non-Big 4 audited firms, different forms of external supervision have different moderating effects. Cha Daolin found that the higher the level of cost stickiness of enterprises, the higher the risk of debt default. A lower level of cost stickiness reduces the risk of debt default because it enhances the operating ability of the firm[66].

4. Summary

By combing the research results of cost stickiness in the past five years, it can be seen that in the research on the influencing factors of cost stickiness, the latest research focuses on management characteristics, digitization and intelligence, R & D innovation, policy and economic environment. Compared with previous research, it has obvious characteristics of the times. In the study of the economic consequences of cost stickiness, corporate performance, corporate value and corporate risk are still the key words of traditional economic consequences research, and there is still a lack of innovation.

Therefore, this paper argues that future research should try to broaden the coverage of research content and actively explore other economic consequences caused by cost stickiness. It can be the economic consequences related to the firm itself, such as making changes to the adjustment of the cost structure, capital structure, budget, changing the dividend distribution policy, credit policy, or even making changes in activities such as employee recruitment and executive appointments. Or it is the study of economic consequences related to stakeholders, such as whether creditors raise the threshold of financing as a result, whether accounting firms make adjustments to their auditing work as a result, whether it will have an impact on making judgments about the type of audit report opinions, whether suppliers and customers change their relevant decisions as a result, and so on.

In terms of research methods, the existing literature is mainly based on empirical research, and there are relatively few case studies. However, case studies are not only beneficial to the business

practice of the industry, but also very important for the construction of the theoretical system of cost stickiness. Perhaps valuable propositions can be abstracted from specific examples. Therefore, this paper suggests that the development direction of future research can be expanded to case studies.

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