

Study on financial flexibility in the digital transformation of enterprises

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Abstract: *Since the COVID-19 outbreak in 2020, digital technology and industry have demonstrated its strong role. At the same time, the instability of the external environment requires enterprises to improve the management ability of financial resources and increase the financial flexible reserves to deal with adverse events and grasp the investment opportunities. In this paper, the data of Shanghai-Shenzhen A-share listed companies from 2009 to 2020 are selected to explore the relationship and action mechanism of financial flexibility and digital transformation. The research results show that the financial flexibility has a significant impact on the digital transformation, and the cash flexibility has a more obvious effect on the digital transformation, and the R&D investment and financing constraints play an intermediary role. The research conclusion provides new reference and inspiration for enterprises to improve the level of innovation investment and realize high-quality development.*

Keywords: *Financial flexibility; digital transformation; R&D investment; financing constrain*

1. Introduction

Data is called the new oil of today's world (Xie Kang et al., 2020). Its fusion ability is very strong, and any other production factors can be well combined, give full play to its advantages. The digital economy is the direction of its future development, a new driving force and a new opportunity for economic growth, and a common choice for all countries to respond to the COVID-19 pandemic. As a new focus of the future development model of digital economy, its development necessity and urgency of digital transformation are also constantly highlighted [1]. Xi general secretary in the conference many times emphasizes the enterprise digital strategic transformation of important leading role, points out that "the world economy digital transformation is the trend of The Times, the new industrial revolution will profoundly reshape the human society", for the current big digital economy era push micro operators of the innovation upgrade pointed out the direction of the transformation [2].

Financial flexibility is the emergency defense mechanism of enterprises, which have the ability to change the amount of disposable cash flow and time distribution (Zhang Wenwen, 2020). The increase of financial flexible reserve improves the level of enterprises to deal with emergencies, so that their resources can be effectively allocated and engaged in innovative activities. Enterprises can give full play to the cultivation of digital transformation ability with financial flexibility. Enterprises need to maintain sufficient capital investment to maintain the digital transformation of enterprises, but they are still in an immature capital market, and the financing costs and effects in different ways will be different [3-4]. Insourcing financing is the primary choice for enterprises when financing new projects. Ge Jiashu (2008) believes that enterprises can timely understand the actual financial situation of the company through financial flexibility, and predict the future investment risks of the enterprise. With the further increase of financial flexible cash reserve capacity, enterprises can also guarantee a certain amount of liquidity funds, so as to reduce financial leverage.

Under the continuous impact of COVID-19, enterprises are generally faced with the uncertainty of external investment environment and have relatively low risk tolerance. Most enterprises are faced with high external financing cost constraints in the process of transformation and improvement of digital management. However, the digital transformation of enterprises still has the characteristics of long implementation time, great difficulty and great uncertainty, and it needs sufficient funds to guarantee its development [5]. Therefore, in the case that the external financing environment cannot be changed, digital transformation is crucial to how to improve the risk handling capacity as soon as possible, quickly choose the most suitable internal financial policies for them, provide timely funds for their innovative business activities, and help enterprises to further achieve high-quality leapfrog development of the economy. So, does maintaining good financial flexibility help enterprises to

achieve digital transformation?

This paper selects the a-share listed companies from 2009 to 2020 as the research sample, explore the relationship between financial flexibility and digital transformation, and understand the mechanism of financial flexibility on the digital transformation, subdivide the financial flexibility into debt flexibility and cash flexibility, analyze the relationship between financial flexibility and the digital transformation, considering the macroeconomic environment fluctuation, investigate the impact of economic policy uncertainty on the relationship between the two [6-7].

2. Theoretical analysis and hypothesis are proposed

The ever-changing market environment, which also brings great challenges to the sustainable development of enterprises. Enterprises need to maintain organizational flexibility to cope with the changes in the external environment. Financial flexibility can enable enterprises to reserve more monetary funds and reduce financial leverage [8-9]. Therefore, financial flexible reserve effectively reduces the risk measurement of innovation activities, so as to increase investment and accelerate the process of digital transformation of enterprises.

Digital transformation is not just a simple technological change, but also closely related to the value proposition of the enterprise, the mode of business organization and management, production and manufacturing process and other aspects. Long-term, tortuous and uncertainty are the biggest difficulties facing the process of digital transformation (Matt, 2015). Due to these challenges in the digital transformation, a large amount of money needs to be continuously invested in the process of promoting the digital transformation of enterprises [10]. The theoretical interpretation research and application analysis of digital transformation also have their own focuses and different perspectives, but at the same time, it is completely undeniable that digital technology is always one of the key core elements to promote digital transformation (Han Jiaping, 2022; Zhu Xiumei et al., 2022). Only with good financial flexible reserve can the enterprise guarantee continuous R&D investment, which is conducive to its reform and innovation activities, so as to accelerate the speed of enterprise digital transformation (Wang Aiqun et al., 2017; Zhao Huaxiang et al., 2010). Therefore, technological innovation activities are an indispensable part of the enterprise to achieve digital transformation. Have high financial flexible reserves, enterprise innovation activity motivation will increase, R&D investment on the quantity of a certain guarantee, also makes the enterprise have more sufficient conditions, for innovation activities have the stronger initiative, strengthen the enterprise innovation activities, but also accelerate the process of enterprises to realize the digital transformation [11-12].

When seeking financing support for new projects, enterprises should give priority to enterprise endogenous financing, followed by seeking external financing and equity financing (Myers et al., 1983). In a fully mature capital market, the above three financing channels have had exactly the same effect. However, information asymmetry and agency problems always exist in the incomplete market. Compared with managers, the channels for external stakeholders to obtain internal information are not smooth enough, which leads to the increased cost of external financing (Fazzari, 1988). Therefore, the managers and the interests of the owner is not completely consistent, serious information asymmetry problems such as the principal-agent enterprises become more complex, external investors because unable to timely and accurate grasp the internal information of the enterprise, so they require higher yields, more stringent restrictions, to make up the required risks, eventually lead to company internal and external financing cost has a larger difference, also means that the enterprise faces the financing constraint degree is stronger [13]. Liu Xiaoguang and Li Ziyu (2021) believe that due to the financing constraints facing enterprises, the capital structure of enterprises has changed, and they cannot obtain sufficient capital supply from the outside in time, making it difficult to maintain the normal production and operation activities of enterprises. According to the prevention demand hypothesis, enterprises need to obtain funds from within, i. e., financial flexibility, to counter the adverse impact brought about by the changes in the external market environment [14].

Based on the above analysis, hypopotesis 1:

H1: Financial flexibility is significantly positively correlated with the digital transformation of enterprises, that is, the better the financial flexibility reserve, the more conducive to the digital transformation of enterprises.

3. Study design

3.1. Sample selection and data source

This paper takes a-share listed companies from 2009 to 2020 as research samples, and processes the original data as follows: (1) excluding the data of listed companies in the financial and insurance industries; (2) excluding ST and ST* listed companies; (3) shrinking 1% of all continuous variables in the sample. A total 1 of 10312 observations were processed.

3.2. Variable-definition

3.2.1. The interpreted variables

Qualitative evaluation methods are mostly used to measure the digital transformation capability (Chen Chunhua et al., 2019; Chen Jian, 2020). Some scholars have tried to use "whether the enterprise has carried out digital transformation in the year" as a virtual variable to measure (He Fan et al., 2019), but this measurement can not more directly and objectively reflect the strength of digital transformation. This paper refers to the text analysis of Wu Fei et al. (2021).

3.2.2. The explanatory variables

The evaluation index of the single index judgment method is single, and the analysis content is not comprehensive enough. Although the multi-index comprehensive method is comprehensive, but in the setting of the index weight, we have different views, so to some extent, the comparability is not strong. This paper draws on zeng Aimin (2011) to measure financial flexibility, that is, financial flexibility=cash flexibility+ debt flexibility, including: cash flexibility=cash ratio of an enterprise-cash ratio of the industry; liability flexibility =max (0, average debt ratio of the same industry-enterprise debt ratio).

3.2.3. Control Variables

Table 1: Variable declaration

Type	Variable	Symbol	Description and Definition
Explained Variable	Digital transformation	Digit	Digital transformation is measured by using the text analysis method
Explanatory Variable	Financial flexibility	FF	See above
Controlled Variable	Company Size	Size	Natural logarithm of the annual total assets
	Turnover of total capital	ATO	Operating income/average total assets
	The proportion of independent directors	Indep	Independent directors are divided by the number of directors
	Two jobs in one	Dual	The chairman and the general manager are the same person as 1, otherwise it is 0
	The largest shareholder holds the stake	Top1	Number of shares of the largest shareholder/total number of shares
	Property nature	SOE	1 for state-owned enterprises and 0 for non-state-owned enterprises
	Return on equity	ROE	Average balance of net profit/owner's equity
	Income growth rate	Growth	Operating income of this year/previous year-1
	Tobin Q value	TobinQ	Market value of tradable shares+non-tradable shares*net assets per share+book value of liabilities/total assets
	Institutional investors hold shares	INST	Total number of shares held by institutional investors/circulating share capital

This paper mainly selects enterprise size (Size), total assets turnover (ATO), two integration (Dual) as control variables.

The specific definitions of the various variables presented in this article are shown in Table 1.

3.3. Model Construction

In order to test hypothesis 1, the explanatory variable is financial flexibility, digital transformation as the explained variable, and control variables such as total asset turnover and integration of two jobs are added. Model (1) was constructed as follows.

$$\text{Digit}=\beta_0+\beta_1\text{FF}+\beta_2\text{Control}+\varepsilon \tag{1}$$

If the coefficient β_1 is significantly positive, then assumption 1 holds.

4. Empirical results and analysis

4.1. Descriptive Statistics

The results of the descriptive statistics for each variable are shown in Table 2. Digital transformation (Digit) maximum of 3.689, the enterprise digital transformation consciousness is strong, actively promote enterprise digital transformation, but the minimum is 0, low degree of some enterprise digital transformation, enterprise emphasis of digital transformation degree has yet to improve, from table 2 can be seen that its maximum minimum difference is bigger, shows that enterprise digital transformation degree, uneven development. The average value is 1.711, indicating that the overall enterprise has a certain sense of innovation. The minimum value of financial flexibility (FF) is 0.119, which means that enterprises do not store financial flexibility, but also may cause the reverse development of enterprises. The average value of financial flexibility (FF) is 0.062, the median is 0.022, and the average is greater than the median, indicating that most enterprises are aware of the importance of flexible financial management and maintain a certain level of financial flexibility. There is a certain gap between the maximum value and the minimum value of financial flexibility, and the standard deviation is 0.162, indicating that enterprises attach different importance to financial flexible reserve. The maximum value of economic policy uncertainty (EPU) is 7.919 and the minimum value is 0.989, indicating that the uncertainty level of major economic policy uncertainty in China has fluctuated to a certain extent in recent years.

Table 2: Descriptive analysis

Variable	N	mean	p50	sd	min	max
Digit	10312	1.711	1.609	1.239	0	3.689
FF	10312	0.062	0.022	0.152	-0.119	0.347
RD	10312	0.040	0.035	0.034	0	0.107
SA	10312	1.326	1.328	0.054	1.240	1.407
EPU	10312	3.861	3.639	2.365	0.989	7.919
Size	10312	22.16	22.06	1.008	20.74	23.88
ATO	10312	0.623	0.558	0.300	0.245	1.193
Growth	10312	0.154	0.126	0.202	-0.132	0.528
Indep	10312	0.371	0.364	0.0420	0.333	0.429
Dual	10312	0.301	0	0.459	0	1
Top1	10312	0.330	0.311	0.124	0.163	0.541
SOE	10312	0.295	0	0.456	0	1
TobinQ	10312	1.993	1.726	0.833	1.092	3.667
INST	10312	0.383	0.395	0.215	0.063	0.701
ROE	10312	0.081	0.075	0.054	0.007	0.175

4.2. Regression Analysis

Table 3 shows the regression results of the principal regression. The coefficient of financial flexibility in column (1) is 0.205, and it is significant at the 5% level, indicating a significant positive correlation between the two, that is, financial flexibility contributes to digital transformation. In column (2), the coefficient is 0.231 and is highly significant at the 1% level. This shows that the financial flexible reserve of enterprises is significantly positively correlated with the degree of enterprise digital transformation, that is, with the increase of the financial flexible reserve of enterprises, the degree of digital transformation of enterprises is improved. The analysis results support hypothesis 1.

Table 3: Analysis of the regression results

Variable	(1)	(2)
	Digit	Digit
FF	0.205** (0.080)	0.231*** (0.085)
Size		0.133*** (0.016)
ATO		0.195*** (0.043)
Growth		0.353*** (0.063)
Indep		1.190*** (0.293)
Dual		0.110*** (0.028)
Top1		-0.759***

		(0.107)
SOE		-0.243*** (0.030)
TobinQ		0.206*** (0.018)
INST		-0.336*** (0.071)
ROE		-0.952*** (0.259)
_cons	1.699*** (0.013)	-1.787*** (0.388)
N	10312	10312
R-sq	0.001	0.047
adj. R-sq	0.001	0.046

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

5. Robustness Test

Table 4: The robustness test

Variable	(1)	Variable	(2)
	Digit		Digit
FF	0.192** (0.085)	FF1	0.159* (0.081)
Growth	0.674*** (0.063)	size	0.131*** (0.017)
INST	-0.336*** (0.071)	ato	0.191*** (0.043)
TobinQ	0.170*** (0.018)	growth	0.348*** (0.063)
ROE	-0.211 (0.259)	indep	1.191*** (0.293)
Size	0.008 (0.016)	Dual	0.110*** (0.028)
ATO	0.126*** (0.043)	Top1	-0.756*** (0.107)
Dual	0.091*** (0.028)	SOE	-0.242*** (0.030)
Top1	-0.199* (0.107)	tobinQ	0.207*** (0.018)
Indep	0.962*** (0.293)	inst	-0.336*** (0.071)
SOE	-0.157*** (0.030)	roe	-0.908*** (0.259)
_cons	0.871** (0.388)	_cons	-0.908*** (0.259)
N	10309	N	10309
R-sq	0.048	R-sq	0.047
adj. R-sq	0.046	adj. R-sq	0.046

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

To improve the robustness and effectiveness of the results analysis, robustness test: due to the enterprise digital transformation from the original input to output need some time, so the enterprise financial flexible reserves of digital transformation process has obvious economic impact, and that there is no connection between the two or only there is a very weak reverse causality, to continue to strengthen the validation of the test data results, the explanatory variable lag and control variable lag phase can to a certain extent effectively reduce endogenous causality and reverse causality.

The results of the robustness test are shown in Table 4, which are basically consistent with the previous results of this paper, indicating that the conclusion of this paper has good robustness and reliability.

6. Further Analysis

6.1. Mechanism Inspection

6.1.1. R&D Investment

The more abundant the financial flexible reserve of enterprises, the more it can prevent the adverse impact brought by environmental fluctuations (Huang Yonghua, 2014). Sufficient financial flexibility also ensures the amount of R&D investment, reasonably formulate and implement innovative investment decisions, seize the opportunities, and accelerate the process of digital transformation. The models (2) and (3) were established by referring to the mediation model test method of Wen Zhonglin et al. (2014).

$$RD = \beta_0 + \beta_1 FF + \beta_2 Contorals + \varepsilon \tag{2}$$

$$Digit = \beta_0 + \beta_1 FF + \beta_2 RD + \beta_3 Contorals + \varepsilon \tag{3}$$

If β_1 is significantly positive in model (2) and β_2 in model (3), this indicates that R&D investment mediate between financial flexibility and digital transformation.

In column (2) of Table 5, the coefficient of financial flexibility is 0.009 and is highly significant at the 1% level, indicating a positive relationship between the two. The higher the financial flexibility reserve, it means that you will have sufficient and stable funds for innovative R&D operations. Column (3) in Table 6 is the regression result of financial flexibility, R&D investment and digital transformation. The regression coefficient of financial flexibility failed the significance level test, but the regression coefficient of R&D investment was 11.801, indicating that financial flexibility mainly has an impact on the digital transformation of enterprises through R&D investment.

6.1.2. Financing Constraints

In order to fully verify the intermediary role of the financing constraint mechanism, the models (4) and (5) are established.

$$SA = \beta_0 + \beta_1 FF + \beta_2 Contorals + \varepsilon \tag{4}$$

$$Digit = \beta_0 + \beta_1 FF + \beta_2 SA + \beta_3 Contorals + \varepsilon \tag{5}$$

If β_1 is significantly positive in model (4) and β_2 in model (5) is significantly positive, it indicates that financing constraints mediate between financial flexibility and digital transformation.

In column (4) of Table 6, the financial flexibility coefficient is -0.016, which is significantly negatively correlated, that is, the high financial flexibility effectively reduces the difficulty of external financing, and reduces the intensity of financing constraints faced by enterprises. In column (5), the financial flexible regression coefficient is 0.155, and the regression coefficient of the financing constraint is 0.467, all of which have passed the significance level test, indicating that the financing constraint plays an intermediary role. Enterprises to improve the financial flexible reserve to ease the current degree of financing constraints, so as to promote the digital transformation of enterprises.

6.2. Cash flexibility and liability flexibility dimension test

Domestic scholars believe that financial flexibility is comprehensively reflected by cash flexibility and liability flexibility (Zeng Aimin, 2011; Liu Mingxu, 2013; Wu Xiaojing, 2016). In order to discuss the impact of cash flexibility and liability flexibility in financial flexibility on digital transformation respectively, it is added to the model (1) as an explanatory variable, and the results are analyzed. In column (1), the coefficient of cash flexibility is 0.519, which is greater than the coefficient of financial flexibility in the main regression, and is significant at the level of 1%. In column (2), the coefficient of debt flexibility does not pass the significance test, indicating that cash flexibility mainly plays a certain role in promoting the transformation of enterprise digital strategy.

Table 5: Inspection of cash flexibility and liability flexibility dimension

Variable	(1)	(2)
	Digit	Digit
Size	0.130*** (0.016)	0.124*** (0.017)
ATO	0.183*** (0.042)	0.183*** (0.043)

Growth	0.354*** (0.063)	0.340*** (0.063)
Indep	1.169*** (0.293)	1.192*** (0.293)
Dual	0.108*** (0.028)	0.111*** (0.028)
Top1	-0.769*** (0.106)	-0.737*** (0.106)
SOE	-0.245*** (0.030)	-0.241*** (0.030)
TobinQ	0.207*** (0.018)	0.208*** (0.018)
INST	-0.336*** (0.071)	-0.338*** (0.071)
ROE	-1.002*** (0.259)	-0.838*** (0.257)
Cash	0.519*** (0.128)	
Debt		0.040 (0.149)
_cons	-1.682*** (0.379)	-1.579*** (0.397)
N	10312	10312
R-sq	0.048	0.047
adj. R-sq	0.047	0.046

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

6.3. Difference test of economic policy uncertainty

From the perspective of physical options theory, Hao Weiya et al. (2016) analyzed that economic policy uncertainty often leads to enterprises being increasingly inclined to postpone R & D decisions, which is not conducive to technological innovation activities. Economic policy uncertainty plays a negative role in regulating the relationship between financial flexibility and digital transformation, which will weaken the role of financial flexibility in promoting digital transformation.

To test the difference of economic policy uncertainty, build a model (6).

$$\text{Digit} = \beta_0 + \beta_1 \text{FF} + \beta_2 \text{EPU} + \beta_3 \text{EPU} * \text{FF} + \beta_4 \text{Contorals} + \varepsilon \quad (6)$$

If β_3 is significantly negative in model (6), it indicates that economic policy uncertainty plays a negative role between financial flexibility and digital transformation.

Table 6 column (6) of the regression analysis, the coefficient of financial flexibility is 0.401, the coefficient of economic policy uncertainty is 0.065, the two term coefficient is 0.041, all passed the significance level test, the economic policy uncertainty between financial flexibility and digital transformation plays the role of negative adjustment, namely economic policy uncertainty weakened the financial flexibility of positive effect on the digital transformation.

Table 6: Results of the mechanistic analysis

Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Digit	RD	Digit	Sa	Digit	Digit
FF	0.231*** (0.085)	0.009*** (0.002)	0.119 (0.082)	-0.016*** (0.004)	0.155* (0.084)	0.401*** (0.136)
Size	0.133*** (0.016)	-0.005*** (0.000)	0.193*** (0.016)	0.008*** (0.001)	0.018 (0.014)	0.121*** (0.016)
ATO	0.195*** (0.043)	-0.030*** (0.001)	0.545*** (0.043)			0.208*** (0.042)
Growth	0.352*** (0.063)	0.004** (0.002)	0.309*** (0.061)	-0.025*** (0.003)	0.400*** (0.061)	0.423*** (0.063)
Indep	1.190*** (0.293)	0.033*** (0.007)	0.804*** (0.281)	-0.098*** (0.017)	0.768* (0.392)	1.053*** (0.291)
Dual	0.110*** (0.028)	0.003*** (0.001)	0.074*** (0.026)	-0.006*** (0.001)	0.100*** (0.028)	0.101*** (0.027)
Top1	-0.759*** (0.107)	-0.020*** (0.003)	0.527*** (0.103)			-0.679*** (0.106)
SOE	-0.243*** (0.030)	-0.010*** (0.001)	-0.126*** (0.029)	0.013*** (0.001)	-0.301*** (0.030)	-0.207*** (0.030)
TobinQ	0.206*** (0.018)	0.007*** (0.000)	0.123*** (0.017)			0.236*** (0.018)

INST	-0.336*** (0.071)	-0.012*** (0.002)	-0.192*** (0.068)			-0.350*** (0.071)
ROE	-0.952*** (0.259)	0.008 (0.006)	-1.049*** (0.249)			-0.941*** (0.258)
RD			11.801*** (0.398)			
Board				-0.032*** (0.005)	-0.202* (0.117)	
SA					0.467** (0.232)	
EPU*FF						-0.041* (0.024)
EPU						0.065*** (0.005)
_cons	-1.787*** (0.388)	0.156*** (0.009)	-3.627*** (0.378)	1.255*** (0.018)	0.829 (0.518)	-1.830*** (0.386)
N	10312	10312	10312	10312	10312	10312
R-sq	0.047	0.282	0.122	0.067	0.026	0.061
adj. R-sq	0.046	0.281	0.121	0.067	0.025	0.059

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

7. Conclusions

In this paper, a-share listed companies from 2009 to 2020 are selected as samples to explore the relationship between financial flexibility and the digital transformation of enterprises, and explore their influence mechanism. The research results show that: first, financial flexible reserve is positively related to the degree of digital transformation of enterprises, that is, good financial flexible reserve is conducive to the improvement of the degree of digital transformation of enterprises. Second, r & d, financing constraints in financial flexible reserves and promote enterprise intermediary role between digital transformation, the increase of financial flexible reserves to further improve the enterprise future r & d investment, at the same time can significantly reduce the degree of financing constraints, and help to improve the enterprise digital transformation development degree. Third, cash flexibility and liability flexibility have different impacts on the digital transformation. Compared with debt flexibility, cash flexibility plays a more significant promoting effect on the digital transformation of enterprises. The increase of economic policy uncertainty can weaken the role of financial flexibility in promoting digital transformation to some extent.

Based on this paper puts forward the following enlightenment: first, enterprises should set up financial flexible consciousness, attaches great importance to the construction of financial flexible mechanism, improve financial flexibility for enterprises reserve appropriate cash reserves to cope with the unknown economic environment, and take the initiative to grasp the policy guidance, seize the macroeconomic policy uncertain environment contains the opportunity, improve research and development innovation ability, enhance technical competition strength, speed up the process of digital transformation. Second, while improving the awareness of financial flexibility, investors need to strengthen the supervision, control and incentive of the management, so as to promote the company managers to actively optimize and allocate the company's internal business resources, so as to effectively alleviate the entrustment or agency problems caused in the flexible utilization of enterprises. Third, the relevant government departments should pay close attention to the R & d and innovation activities of enterprises when formulating economic policies, and consider the enterprises in the economic transformation period and the deep water zone of reform. Especially, the nature of enterprises and industry characteristics should be fully considered in various industrial development policies. While providing tax incentives, government subsidies and other policies, we should pay attention to the consistency of policies, create a good environment for innovative enterprises, guide enterprises to constantly innovate, master key core technologies, and develop to high quality.

References

- [1] Ge Jiashu, Zhan Meisong. Enterprise financial report analysis must focus on a few financial information—liquidity, financial adaptability, expected net cash inflows, profitability and market risk [J]. Accounting Research, 2008(5):3-9 + 95.
- [2] Han Jiaping, Li Yang. Digital transformation of Chinese enterprises: Characteristic Analysis, Development Law and Research Framework [J]. Business Economics Research, 2022(6):133-135.

- [3] Zeng Aimin, Wei Zhihua. *Financing constraints, financial flexibility and enterprise investment-sensitivity of cash flow—theoretical analysis and empirical evidence from Chinese listed companies* [J]. *Financial and Economic Research*, 2013, 39(11):48-58.
- [4] Wen Zhonglin, Ye Baojuan. *Mediated mediation model testing method: competition or replacement?* [J]. *Psychological Journal*, 2014, 46(5):714-716.
- [5] Chen Jian, Huang Shuo, Liu Yunhui. *From enabling to enabling enterprise operations management in the—digital environment* [J]. *Manage World*, 202036(2):117-128.
- [6] He Fan, Liu Hongxia. *Evaluation of the performance improvement effect of the digital transformation of real enterprises from the perspective of digital economy*[J]. *Reform*, 2019(4): 137-148.
- [7] Liu Xiaoguang, Li Ziyu. *Research on the influence of financial flexibility and financing constraints on innovation investment*[J]. *Business Economy*, 2021, 10(10):70-73.
- [8] Wu Fei, Hu Huizhi, Lin Huiyan, etc. *Enterprise digital transformation and capital market performance—Empirical evidence from stock liquidity*[J]. *Manage World*, 2021, 37(7): 30-144 + 10.
- [9] Zhang Wenwen. *Financial flexibility, investment expenditure and enterprise performance of high-tech enterprises*[D]. Lanzhou:Lanzhou University (Master's dissertation), 2020.
- [10] Wang Min, Hou Xiaohong. *Economic uncertainty, government subsidies, and enterprise investment in technological innovation*[J]. *East China Economic Management*, 2015, 29(12):95-100.
- [11] Hao Weiya, Wei Wei, Wen Jun. *How does economic policy uncertainty affect business innovation? —The perspective of the theoretical action mechanism of physical options*[J]. *Economic Management*, 2016, 38(10):40-54.
- [12] Gamba A, Triantis A. *The value of financial flexibility*[J]. *Journal of Finance*, 2008, 63(5): 2263-2296.
- [13] Hadlock C J, Pierce J R. *New Evidence on Measuring Financial Constraints: Moving Beyond the KZ Index* [J]. *Review of Financial Studies*, 2010, 23(5): 1909-1940.
- [14] Myers S C, Majluf N S. *Corporate Financing and Investment Decisions When Firms Have Information That Investors Do not Have*[J]. *Journal of Financial and Economics*, 1984, 13(2):187-221.