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The Impact of Different Financing Methods on Enterprise Performance: Evidence from Chinese High-tech Companies

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Abstract: In the era of the new knowledge economy, high-tech industries are increasingly becoming an effective way and important means to promote a country's economic growth and sustainable social development. However, due to the high investment and high-risk operating characteristics of high-tech companies, they will face significant difficulties in the financing process, which can easily lead to the rupture of the capital chain and affect the normal operation of the enterprise. Financing structure has always been a key aspect of modern enterprise management. A reasonable financing structure can reduce financing costs, improve corporate governance structure, and promote the improvement of corporate performance. This article collects data from 2773 Chinese high-tech listed companies from 2017 to 2021 to study the impact of different financing methods on enterprise performance. The research results indicate that endogenous financing can promote the improvement of enterprise performance, while debt financing and equity financing have a negative impact on enterprise performance. Therefore, high-tech companies should improve their endogenous financing ability by improving their profit retention rate through scientific management. At the same time, the government should strengthen macroeconomic regulation, allocate market funds reasonably, and strengthen supervision of high-tech companies.

Keywords: financing methods, enterprise performance, high-tech Firms

1. Introduction

High-tech companies are an important carrier for promoting high-quality economic growth. With the continuous reform of technology, traditional production factors and economic growth methods have undergone fundamental changes. High tech enterprises play a huge role in creating job opportunities, developing emerging industries, and enhancing international competitiveness [1]. Especially for developing countries, the key to the success of industrial structure upgrading and economic development path transformation lies in the development of high-tech companies [2]. China must gradually transition from a development model driven by investment and exports to a "Schumpeter" development model driven by innovation [3], and actively integrate into the new development pattern. The New Schumpeter economic growth theory believes that if a region's technological innovation level can be rapidly developed and applied, its economic growth convergence rate will accelerate and tend towards developed regions [4]. As a technology intensive innovation entity, high-tech

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companies play an important role in promoting industrial technology upgrading and serving the high-quality development of the economy and society.

China has introduced a series of special policies and subsidy funds to support the development of high-tech companies. According to data from China's National Bureau of Statistics (NBS) [www.stats.gov.cn], the number of high-tech companies continues to grow, especially during the 13th Five Year Plan period, with a growth rate of over 25%. From the perspective of regional distribution, high-tech companies are mainly concentrated in the eastern coastal areas of China. Due to the advantages of geographical location, they can better attract more funds and technology, and are also more conducive to technological innovation. In terms of business performance, the operating revenue of high-tech companies increased from 12.95 trillion yuan in 2010 to 45.10 trillion yuan in 2019, with steady growth in major business indicators. The overall development of high-tech companies is showing a good situation. In recent years, China's high-tech companies have shown a trend of joint progress in quality and quantity, providing impetus for the upgrading of China's industrial structure and high-quality economic development.

However, there is still a certain gap compared to high-tech companies in developed countries, especially in terms of technology patents, production efficiency, profitability, etc. More than 30,000 national scientific and technological achievements are released in China every year, but only 20% of these achievements can be truly transformed into specific technological products, thereby bringing profits to enterprises [5]. At present, some important components and high-end technologies cannot be independently developed by China and need to be imported from abroad, lacking the ability to innovate independently. Therefore, China has a relatively small competitive advantage in the international market [6]. High-tech companies need to continuously invest sufficient funds in technology research and development in the early stages to develop their own technological strength. However, scientific research activities are a high cost, high-risk, and long cycle investment process [7]. Scientific research achievements are unstable and require market transformation to achieve economic benefits [8]. Therefore, it is difficult for high-tech companies to obtain sufficient investment funds. Especially for small and medium-sized enterprises in the start-up stage, they hold relatively little capital and have low access to bank loans, so these enterprises face financing difficulties. This dilemma is the main obstacle for Chinese high-tech companies to enhance their innovation capabilities and enhance their competitive advantages. Especially under the constraints of the "dual carbon" policy, it has become more difficult for high-tech companies to obtain profits by expanding their scale, and they can only quickly transform and use technology to improve the quality of economic growth [6]. Therefore, alleviating the financial tension of high-tech companies and optimizing their capital structure are of great significance for the development of high-tech companies.

Maximizing profits is the goal of enterprise production and operation, and it is also a necessary condition for the survival and development of enterprises. This study focuses on the current situation of Chinese high-tech companies and explores the impact of different financing methods on the performance of high-tech companies, in order to find the optimal capital structure. This study can provide empirical support for capital structure theory and corporate performance evaluation theory from high-tech companies to a certain extent, and also help solve the problem of financing difficulties for high-tech companies in developing countries, promote the progress of science and technology in various countries, and promote the development of economic globalization. Therefore, it has theoretical and practical significance.

2. Literature Review and Hypotheses

When studying the impact of financing methods on enterprise performance, financing methods are usually divided into endogenous financing and exogenous financing. Among them, external

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financing refers to funds obtained from external sources, mainly including equity financing and debt financing [9]. Due to the nature and development stage of the enterprise, different financing structures have different impacts on the performance of the enterprise. In order to explore the impact of financing methods for high-tech companies on corporate performance, this study analyzed and summarized previous literature and theories, and proposed the following three hypotheses:

2.1. Endogenous Financing and Enterprise Performance

American scholars Meyers and Majluf proposed the "pecking order financing theory" in 1984. The practice in developed countries has shown that enterprises tend to prioritize endogenous financing when financing [10]. Firstly, endogenous financing has the characteristics of low cost and low risk [11]. Endogenous financing is the process by which a company converts the accumulated funds from its own operating activities into investment. It mainly consists of retained earnings and depreciation. The company does not need to pay dividends or interest, and will not reduce its cash flow. Dewaelheyns and Van Hulle's empirical study found that equity financing disperses corporate control, while debt financing increases corporate financial risk [12]. Endogenous financing has originality and autonomy in the capital formation of enterprises [13], and is an indispensable and important financing component for the survival and development of enterprises. It is beneficial for improving enterprise performance and reducing business risks. Secondly, endogenous financing helps high-tech companies carry out R&D activities and improve their performance. Sasidharan, Lukose, and Komera examined the impact of external financing constraints on R&D expenditures of Indian manufacturing enterprises from 1991 to 2011. Using a dynamic R&D investment model, it was found that there is a significant positive correlation between a company's R&D expenditure and internal cash flow [14]. KhanMK, KaleemA, and ZulfigarS empirically tested the relationship between the different financing sources used by enterprises and their R&D intensity in the context of rapid economic growth in China [15]. Research has found that internally generated cash flows have a positive impact on the research and development of Chinese enterprises, while bond issuance has a negative impact. Due to the high intangible asset ratio and high investment risk of high-tech companies, they are constrained when raising funds in external capital markets, which can easily limit the research and development of core technologies and the improvement of enterprise performance. Endogenous financing has no fixed repayment period, which can reduce the operational and management pressure of enterprises. Based on the above analysis, the following hypotheses are proposed:

H1: The endogenous financing rate of high-tech listed companies is positively correlated with corporate performance.

2.2. Debt Financing and Enterprise Performance

Debt financing has certain limitations on the development of high-tech companies. Debt financing generally has a short term and can only be used to make up for the insufficient demand for working capital [16], which is not suitable for the development of new projects, especially those with long investment recovery benefits and slow returns. Research and development is a long and unstable process, and high-tech companies cannot guarantee the stability of cash flow without realizing the achievements of knowledge and technology. Debt financing requires companies to repay their principal and interest on time, otherwise there will be agency costs and bankruptcy risks, and they will bear higher financial expenses [17-18]. Firstly, from the perspective of creditors, high-tech companies have the characteristic of high intangible asset ratios, and investing in high-tech companies is a high-risk activity. Therefore, creditors will have higher requirements for risk return,

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resulting in greater financial pressure on the enterprise [19-20]. Driven by commercial profits, debt financing has a negative impact on the innovation performance of enterprises, and the sustainable development of enterprises is affected [21]. Secondly, from the perspective of external investors, according to signal transmission theory, due to information asymmetry between internal managers and external investors, external investors will make judgments about the operating status of the enterprise based on its financing behavior [22]. When the proportion of debt financing is too high, it sends a signal to the outside world that the company's operating conditions are poor and financing is limited [23]. Investors will make negative evaluations of the company's development, thereby damaging the company's performance. Stulz believes that an increase in debt ratio may reduce corporate performance because as a company's debt increases, it makes it easier for insiders to gain control, which may inhibit behaviors such as takeover or power change, which can improve the company's operational performance [24]. Based on a study of 10 listed companies in the food industry in Pakistan from 2007 to 2011, Saeed and Badar found a significant negative correlation between short-term debt and company performance. As the company's leverage ratio increases, company performance tends to decline [25]. Based on the above analysis, the following hypotheses are proposed:

H2: The debt financing ratio of high-tech listed companies is negatively correlated with corporate performance.

2.3. Equity Financing and Enterprise Performance

Obtaining funds through equity financing is beneficial for improving corporate performance. Firstly, equity financing can provide relatively stable financial guarantees for enterprises, alleviate financing bottlenecks, and meet the funding needs of high-tech companies to increase R&D investment and expand production. The profitability of technology-based enterprises in the start-up stage is weak, and the role of endogenous financing is limited; Lack of assets or mature technology that can be mortgaged makes it difficult to obtain bank loans [14,17], resulting in constraints on equipment procurement, talent recruitment, and production scale expansion. Due to insufficient R&D investment and production scale, it is difficult for enterprises to fully leverage their technological innovation capabilities and economies of scale [7]. During this period, equity financing was generally dominated by institutional investors. After a comprehensive investigation of the industry, main products, and future growth capabilities of the enterprise, the amount invested was much higher than other financing methods [26]. For start-up technology enterprises, it is an important source of strong financial support. Secondly, equity financing can diversify business risks and reduce financing costs for enterprises [27]. Although high-tech companies have good growth prospects, there is great uncertainty in their returns, and equity financing does not need to consider repayment of principal and interest at maturity, greatly reducing financing costs [28]. In situations where indirect financing is highly dependent, business operators bear all operational risks and often hesitate to advance projects with higher risks, thus missing development opportunities. Equity financing spreads investment risks to more investors, which can stimulate the enthusiasm of operators to invest in emerging industries and gain a leading advantage in these industries [29]. Equity financing creates favorable conditions for enterprises to choose the optimal capital investment based on their development needs. Thirdly, equity financing reduces financing costs and makes corporate governance more standardized, bringing a good reputation to the company. After external investors join, shareholders will inevitably strengthen their supervision of the enterprise for their own interests [30]. A standardized corporate governance structure helps to improve the scientific decision-making of enterprises, and the low cost of equity financing and relatively good commercial reputation of going public can help improve the profits of enterprises [31]. Based on the above analysis, the following hypotheses are proposed:

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H3: The equity financing ratio of high-tech listed companies is positively correlated with corporate performance.

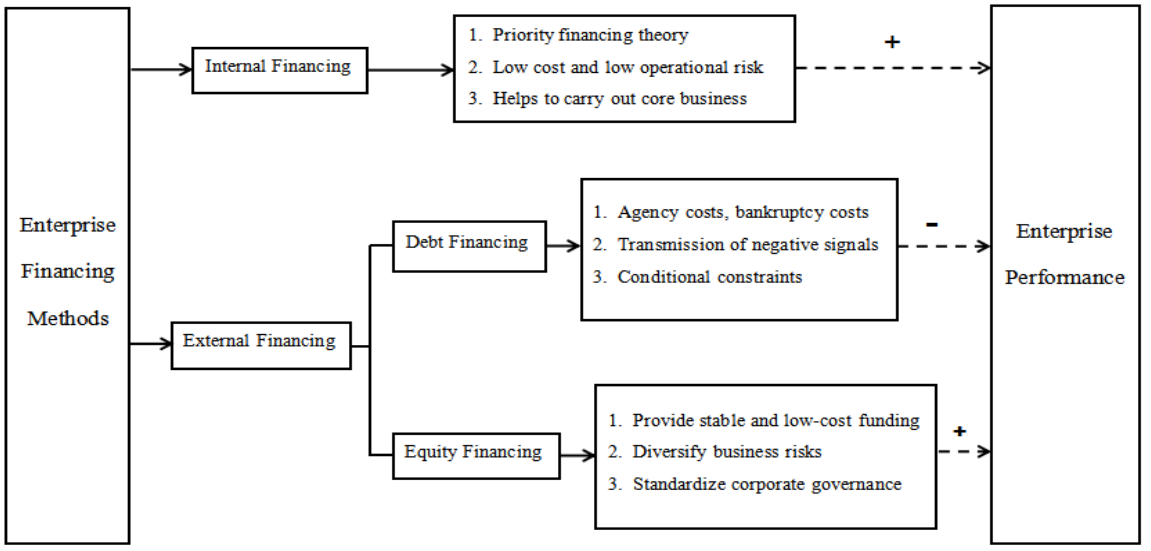

Figure 1: The impact of financing methods on corporate performance.

3. Methods and Data

3.1. Model Design

This article uses quantitative research methods in econometrics to analyze the relationship between financing methods and the performance of high-tech companies. Based on the assumptions proposed in this article, three relationship models are constructed:

(1) Endogenous financing and performance of high-tech listed companies

$$EVA_{it} = \alpha_0 + \alpha_1 IFA_{it} + \alpha_2 SIZE_{it} + \alpha_3 BPS_{it} + \varepsilon_{it}$$

(2) Debt Financing and Performance of High-tech listed companies

$$EVA_{it} = \alpha_0 + \alpha_1 DFA_{it} + \alpha_2 SIZE_{it} + \alpha_3 BPS_{it} + \varepsilon_{it}$$

(3) Equity financing and performance of high-tech listed enterprises

$$EVA_{it} = \alpha_0 + \alpha_1 EFA_{it} + \alpha_2 SIZE_{it} + \alpha_3 BPS_{it} + \varepsilon_{it}$$

Among them, α is the coefficient term, representing the influence coefficient of the explanatory variable or control variable on the dependent variable, i represents the i-th enterprise, t represents the year where the data is located, and ε_{it} represents the random interference term.

3.2. Data

3.2.1. Data Source

The research object of the text is Chinese high-tech companies, which are knowledge intensive and technology intensive economic entities. Pan, Zhang and Song et al. defined this type of enterprise as

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a high-tech enterprise that continuously conducts research and development, transforms technological achievements, forms core independent intellectual property rights, and conducts business activities based on this [32]. Based on the industry classification of the China Securities Regulatory Commission [www.csrc.gov.cn], high-tech companies are divided into three major sectors: pharmaceutical, biotechnology, and life sciences enterprises, information technology enterprises, and aerospace and defense enterprises. This article collected data from 2773 enterprises from 2017 to 2021, with a total of 11989 observation values. The data is sourced from CSMAR Database and Wind Database.

3.2.2. Variable Selection

The explanatory variable is one of the three important financing methods for Chinese high-tech listed enterprises. They are endogenous financing, bond financing, and equity financing. This article selects internal financing ratio (IFA), debt financing ratio (DFA), and equity financing ratio (EFA) as indicators to reflect financing methods.

The dependent variable is enterprise performance, and this article selects Economic Value Added (EVA) as a substitute variable for enterprise performance. As early as 1988, O'Farrell and Hitchens proposed the importance of focusing on the growth of enterprises. A performance evaluation system should be established for enterprises, and appropriate management and control measures should be taken to maintain their long-term development [33]. During the technological revolution, Taylor evaluated corporate performance from the perspective of productivity and adopted standardized methods to manage the company, thereby improving its labor productivity [34]. In the 20th century, with the development of market economy, financial factors gradually became the key factor affecting enterprise performance. One of the most prominent is the DuPont financial analysis system, which takes the net equity interest rate as the core indicator and conducts a comprehensive analysis of the company's debt paying ability, operating ability, and profitability [35]. Later, Alexander Wall supplemented this system from three aspects: capital turnover, short-term and long-term solvency, and profitability [36]. In the era of knowledge economy, simply using traditional financial indicators to evaluate enterprise performance can no longer truly reflect the situation of the enterprise. The American consulting company Stenster has proposed an EVA evaluation system by combining financial indicators with non-financial indicators [37]. EVA evaluates enterprises from four aspects: profitability, operational status, debt paying ability, and development ability. Not only can it reflect the profitability of the enterprise, but it can also make relatively scientific and fair judgments on the operation and management of the enterprise [38]. Compared with other models, EVA is more in line with the characteristics of high-tech companies. It can not only measure and measure the profitability of the enterprise, but also reflect its innovation ability [39]. From the numerical analysis of EVA, when EVA>0, it indicates that the enterprise has created new value for shareholders, and the performance of the enterprise is positive. On the contrary, when EVA<0, it indicates that the value of the enterprise is being destroyed, and the performance of the enterprise is negative.

Alculation method for EVA is as follows:

$$\text{EVA}=\text{Net Operating Profit After Tax (NOPAT)} - \text{Cost of Capital} \quad (1)$$

$$\text{NOPAT}=\text{EBIT} * (1-t) \quad (2)$$

EBIT represents Earnings Before Interest and Tax, which can be found through the CSMAR database. t represents the income tax rate of high-tech companies, with a tax rate of 25%.

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$$\text{Cost of Capital} = \text{WACC} * \text{Total Capital} \quad (3)$$

WACC stands for Weighted Average Cost of Capital, obtained by weighted average of debt capital cost and equity capital cost. The calculation formula is as follows (see Equation (4)):

$$WACC = [D/(D+E)] * R_d * (1-t) + [E/(D+E)] * R_e \quad (4)$$

D represents debt interest-bearing capital, E represents equity, D+E represents total capital, and R_d represents debt capital costs. This is obtained by calculating the average of the central bank's benchmark interest rate for one-year loans from 2017 to 2021 on a monthly basis. R_e represents cost of equity, which can be obtained through CAPM (Capital Pricing Model) and calculated according to equation (5):

$$R_e = R_f + \beta * \text{Risk Premium} \quad (5)$$

Among them, R_f is the risk-free return rate, which can be obtained from the Wind database to obtain the monthly average one-year central bank deposit benchmark interest rate for each year; β Obtain data from 2,773 samples for each year through the Wind database. This study draws on the research results of other scholars during the same period and proposes a risk premium of 6%, which roughly reflects the expected risk premium of Chinese investors [40-41].

The control variables include enterprise size and net assets per share. The expansion of enterprise scale can reduce unit costs, improve production efficiency, and gain a better negotiating position in procurement and sales [42]. Moreover, as the scale expands, enterprises usually have more funds and resources for R&D investment, thereby improving their market competitiveness and performance. The larger the net asset value per share, the higher the funds represented by each share of the company's stock, and the stronger its ability to generate profits and resist external factors [43]. Therefore, these two indicators were selected as control variables.

Table1: Variable Summary Table.

Variable type	Variable name	Variable abbreviation	Calculation formula
Explained variable	Economic Value Added	EVA	EVA=net operating profit after tax (NOPAT) - cost of capital
Explanatory variables	Internal Financing rate	IFA	IFA=(Undistributed profit + surplus reserve + depreciation)/total assets
	Debt Financing rate	DFA	DFA=(Short-term borrowings + financial liabilities held for trading + non-current liabilities due within one year + long-term borrowings + bonds payable + long-term payables)/total assets
	Equity Financing rate	EFA	EFA=(Share capital + capital surplus)/total assets
Control variables	Enterprise Size	SIZE	SIZE=Total Assets
	Book value Per Share	BPS	BPS(Directly from the wind database)

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4. Empirical Analysis

4.1. Descriptive Analysis

Due to differences in the development of high-tech companies in China, the fluctuation range of enterprise data is relatively large. This article conducts tail reduction processing on various variable data, which not only preserves the integrity of data information but also addresses the potential impact of outliers. Descriptive statistics are shown in Table 2:

Table2: Descriptive Statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
EVA	11989	0.0061	0.0573	-0.2541	0.2844
IFA	11989	0.1983	0.2341	-1.3817	0.5799
DFA	11989	0.1402	0.1370	0.0000	0.5774
EFA	11989	0.4172	0.2277	0.0756	1.6970
SIZE	11989	22.0178	1.1055	19.9967	25.3043
BPS	11989	5.5252	3.8882	0.0612	22.4061

According to the results of descriptive statistical analysis, equity financing is the most important financing method for high-tech listed enterprises, with an average equity financing ratio of 0.4172, accounting for about half of the capital structure of the enterprise. Secondly, there is endogenous financing. The average endogenous financing ratio of the sample enterprises is 0.1983, but its standard deviation is 0.2341, which is the highest among the three financing ratios. This indicates that the proportion of endogenous financing in the financing structure of the sample enterprises varies greatly, which may be affected by the size and profitability of the enterprises. Finally, the proportion of debt financing is the smallest among the three financing methods, and the fluctuation of data is also small, indicating that there is not much difference among sample enterprises, and the preference for debt financing is generally low.

4.2. Multicollinearity Test

In order to accurately determine the collinearity between variables, the VIF test is used to regress each explanatory or control variable with the other explanatory or control variables. If the goodness of fit obtained is higher than 0.9, that is, the VIF value will be higher than 10, indicating that other explanatory variables or control variables have a strong relationship with the explanatory variable, leading to the existence of collinearity problems. Next, the variance inflation factor test VIF test is used to verify:

Table3: VIF Test.

	model1		model2		model3	
Variable	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
IFA	1.0900	0.9137				
DFA			1.2900	0.7771		
EFA					1.2600	0.7931
BPS	1.1100	0.9024	1.1200	0.8960	1.0200	0.9842
SIZE	1.0100	0.9868	1.2300	0.8119	1.2700	0.7902
Mean VIF	1.0700		1.2100		1.1800	

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Table 3 shows that the VIF values of all variables are less than 10, indicating that the relationship between variables is weak and there is no high degree of multicollinearity that has a negative impact on the model results.

4.3. Regression Analysis

In order to analyze the impact of different financing methods on the performance of high-tech companies, this article conducts regression analysis on the sample enterprises. Due to the impact of years and industries on the decision-making and development of high-tech companies, this article will control the impact of these two factors to ensure the accuracy of the results.

Table 4: Regression Analysis.

	(1)	(2)	(3)
VARIABLES	EVA	EVA	EVA
IFA	0.0744***		
	(35.1163)		
DFA		-0.0978***	
		(-24.2917)	
EFA			-0.0452***
			(-18.6689)
SIZE	0.0092***	0.0141***	0.0050***
	(21.3376)	(28.9250)	(9.9327)
BPS	0.0022***	0.0025***	0.0033***
	(16.7587)	(18.8994)	(26.3022)
Constant	-0.2235***	-0.3049***	-0.1028***
	(-23.5942)	(-29.3112)	(-8.9644)
Observations	11,989	11,989	11,989
R-squared	0.1802	0.1383	0.1214
r2_a	0.1800	0.1380	0.1212
F	878.0619***	640.9842***	551.9303***

***, * *, * respectively represent significant impacts at significance levels of 1%, 5%, and 10%.

Firstly, Table 4 shows that at a significance level of 1%, the coefficient of impact of IFA on EVA is 0.0744, indicating that an increase in IFA will cause an increase in corporate EVA. This result is consistent with other scholars' findings that there is a significant positive correlation between endogenous financing and corporate performance [12,14,44]. Harash et al. believe that endogenous financing mainly involves raising funds from within the company, with autonomy in fund allocation and usage terms, without incurring additional costs and financing risks, and without diluting the company's control, which has a significant positive impact on corporate performance [44]. Especially when government subsidy funds cannot be predicted and are not sustainable, the advantages of endogenous financing are more obvious [45]. The pecking order financing theory suggests that companies will only engage in external financing when endogenous financing cannot meet their needs [12]. Through the empirical results of this article, it can be seen that endogenous financing has a positive impact on corporate performance.

Secondly, as shown in Table 4, at a significance level of 1%, the coefficient of influence of DFA on EVA is -0.0978, indicating that an increase in DFA will cause a decrease in corporate EVA. This result is consistent with the research results of other scholars [17,20,46]. Through the analysis of Chinese high-tech companies by Jiang, Yoon, and Suh, it was found that most high-tech companies

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are still in the initial stage, with weak product monetization ability and low profitability, resulting in a single financing channel for enterprises and a serious dependence on bank indirect financing [47]. Due to the poor development stability of high-tech companies and the fixed repayment period of bank loans, enterprises are often unable to allocate funds to projects with longer payback periods such as research and development due to repayment pressure, which is not conducive to improving innovation performance of enterprises [20]. Bank borrowing lacks flexibility, and due to contractual controls, the scope of use of some funds raised through bank borrowing is constrained, which is not conducive to enterprises actively and quickly responding to changes in the market environment and making the best investment decisions [48]. In addition, the mismatch between the term of the loan and the invested project can easily lead to financial and bankruptcy risks, which can easily reduce the level of enterprise performance [18].

Thirdly, according to Table 3, at a significance level of 1%, the coefficient of influence of EFA on EVA is -0.0452, indicating that an increase in EFA will cause a decrease in corporate EVA. This result is different from the previous hypothesis, and there may be three reasons. Firstly, descriptive statistical analysis shows that Chinese high-tech companies have a serious preference for equity financing. Through exploring the "free riding" problem, Ning and Babich found that equity dispersion is the fundamental reason for the majority of small and medium-sized shareholders' lack of supervision and management awareness and motivation, which will have a negative impact on company performance [49]. As the theory of checks and balances suggests, only when equity is concentrated in the hands of a small number of major shareholders can it serve as an incentive for shareholders to supervise managers, thereby improving the overall performance level of the company [50]. Secondly, the signaling hypothesis states that the more shares a company's shareholders hold, the better investors' expectations of the company's value [51]. External investors do not understand the true situation of the enterprise and can only judge its development prospects through financing structure and financial data, blindly investing. Thirdly, China's stock market lacks a sound governance mechanism and insufficient supervision of listed companies [52]. After obtaining financing, enterprises erode investor funds and do not use them for product research and development, resulting in inability to improve corporate performance.

4.4. Robustness Test

Considering the impact of the epidemic situation of novel coronavirus infection on the empirical results, this paper removes the data in 2020 and 2021. If the conclusions are consistent with the above, it means that the model results are relatively stable. The robustness test is shown in Table 5:

Table 5: Robustness Test.

	(1)	(2)	(3)
VARIABLES	EVA	EVA	EVA
IFA	0.0911***		
	(32.0085)		
DFA		-0.0972***	
		(-19.0788)	
EFA			-0.0598***
			(-18.2122)
SIZE	0.0099***	0.0142***	0.0037***
	(18.3761)	(22.6199)	(5.9468)
BPS	0.0021***	0.0030***	0.0038***
	(10.7436)	(14.8059)	(19.2219)

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Table 5: (continued).

Constant	-0.2409***	-0.3086***	-0.0709***
	(-20.4215)	(-23.1041)	(-4.8978)
Observations	6,634	6,634	6,634
R-squared	0.2198	0.1461	0.1422
r2_a	0.2194	0.1457	0.1418
F	622.6176***	378.1774***	366.2195***

***, * *, * respectively represent significant impacts at significance levels of 1%, 5%, and 10%.

It can be seen that the impact coefficient of IFA is 0.0911, which is significant at the 1% significance level. The impact coefficients of DFA and EFA are -0.0972 and -0.0598, which are still significant at the 1% significance level. Therefore, the model results are robust and consistent with the previous text.

5. Conclusions and Recommendations

China is currently in a stage of transforming its development model, optimizing its economic structure, and transforming its growth momentum. High tech enterprises are the key to leading economic transformation and upgrading. They not only activate emerging industries, but also have a strong driving effect on traditional industries. Technological innovation is increasingly crucial for industry market share and national core competitiveness. As the main body of scientific and technological application, high-tech companies are crucial for the long-term development of the national economy. However, high-tech companies require a long research and development cycle or project products, high investment costs, and sustained funding to maintain operational management. Therefore, solving the financing difficulties of such enterprises and optimizing their capital structure is an urgent problem to be solved. This article conducts empirical research on 2773 high-tech listed companies in China, and the results are as follows:

Firstly, the empirical results indicate a positive correlation between endogenous financing ratios and corporate performance. Internal financing has the characteristics of low cost and low risk, which is more conducive to the research and innovation activities of high-tech companies. However, due to the low profitability of Chinese high-tech companies, the proportion of endogenous financing ratio in the financing structure is not high. High tech enterprises should reduce their operating costs and improve their profit retention rate through scientific management, thereby enhancing their internal financing capabilities.

Secondly, the empirical results indicate a negative correlation between debt financing and corporate performance. High tech enterprises need to prepare cumbersome application procedures for loans in banks, go through complex approval procedures, and have strict guarantee conditions. In addition, debt financing requires companies to regularly pay financial costs, which may disrupt the research and development activities of high-tech companies and trigger bankruptcy risks. Han and Gu found that digital inclusive finance can alleviate the debt financing difficulties of enterprises and promote innovation performance [53]. The digital inclusive finance model based on "blockchain+big data" technology effectively improves the feasibility of information acquisition and realizes the assetization of data. High tech enterprises can truly achieve unsecured loans and solve the problem of early funding shortage.

Thirdly, the empirical results indicate a negative correlation between equity financing and corporate performance. Nevertheless, equity financing remains the main source of funding for Chinese high-tech companies. There are two main reasons: on the one hand, equity financing can

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provide long-term stable and low-risk funds for enterprises, and compared to debt financing, transaction costs are lower. On the other hand, under the constraints of the China Securities Regulatory Commission, enterprises need to establish a sound system and governance structure for equity financing, which indirectly promotes the stable development of enterprises and reduces their operational risks. In order to stimulate the positive impact of equity financing on corporate performance, the government should strengthen macroeconomic regulation, allocate market funds reasonably, and strengthen supervision of high-tech companies.

This study has certain limitations. Using Chinese high-tech listed companies as a sample, this study investigates the impact of financing methods on corporate performance. However, some unlisted high-tech companies with good operating conditions and great development prospects were not collected in the sample. Therefore, we suggest that future research can broaden the scope of research and improve the integrity of data. Moreover, due to differences in economic environment and financial development levels, there may be differences in the relationship between these two variables in other developing countries. In the future, research can be conducted within the scope of the BRICS countries to promote scientific and technological development and economic cooperation between emerging market countries and developing countries from a global perspective.

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