

Economic Policy Uncertainty, Financing Model and Financial Fragility

Ping Zhang

Accounting Department, Anhui University of Technology, Ma'anshan, CO 243000, China

Abstract: Based on the study of different financing models, this paper discusses that different financing models in China's capital market have different regulatory effects on the relationship between economic policy uncertainty and financial vulnerability. The study found that economic policy uncertainty has a significant role in promoting corporate financial vulnerability, while bank loans and credit claims have a significant mitigation effect on the relationship between economic policy uncertainty and financial vulnerability, while the mitigation effect of bond claims is not obvious. This paper verifies the impact of different financing modes on economic policy uncertainty and financial vulnerability in China's capital market, and puts forward policy suggestions for improving corporate financing channels and expanding financing scale.

Keywords: Economic policy uncertainty, Financing mode, Financial vulnerability.

1. Introduction

With the rise of the anti-globalization trend and the outbreak of the new coronavirus epidemic, China's economic development has been greatly impacted, which has also brought severe challenges to the operation and finance of enterprises. The problem of corporate debt default has become one of the hot spots of economic development and has received extensive attention from the whole society. According to Wind statistics, as of December 2020, there were a total of 27 new principal defaults this year, and a total of 164 bonds were materially defaulted. The cumulative amount of bond defaults exceeded 160 billion yuan. Among them, the default balance of state-owned enterprises increased from 12.93 billion in 2019 to 51.897 billion this year, an increase of three times. The debt default event with a large amount of money not only aggravates the unease of creditors, but also constantly causes domestic and foreign scholars to discuss the financial vulnerability of enterprises under the current economic and social high leverage in China. For example, Wang Guogang (2017) [1] believed that through the adjustment of debt structure, the leverage ratio should be reduced to the threshold of effective risk prevention, so as to avoid the concentration of financial risks caused by too high leverage ratio. Ma Yongqiang and Zhang Zhiyuan (2021)[2] found that although deleveraging has increased the level of financial assets held by real enterprises, it has increased the possibility of operating risks. Therefore, while promoting deleveraging, it is also necessary to monitor and prevent possible financialization risks and inhibit the trend of real enterprises from moving from real to virtual. On the one hand, the financial vulnerability of enterprises will lead to an increase in the possibility of financial distress of enterprises. On the other hand, due to the uncertainty of investors' future financial situation, and the imperfect investor protection mechanism in China, investors are in a risk aversion psychology, which will correspondingly reduce investment in enterprises, aggravate financing constraints on enterprises (Li et al., 2021) [3], and hinder the sustainable operation of enterprises. Therefore, financial vulnerability is a problem that enterprises cannot ignore. The operation and development of enterprises is based on the economic society,

which is bound to be affected and constrained by the macroeconomic environment. During the same period, the economic policy uncertainty index rose rapidly, reaching 970.83 in October 2019, a record high. In this context, it is of great theoretical and practical significance to deeply analyze the relationship between economic policy uncertainty and corporate financial vulnerability.

As one of the important ways of enterprise financing, debt financing is the core variable that affects the financial risk and liquidity risk of enterprises, which has a direct impact on the profitability and value of enterprises (Jiang Teng et al., 2018) [4]. The sources of debt of enterprises are mainly divided into bank loans, commercial credit and corporate bonds. Different financing modes will lead to different effects: on the one hand, different financing modes make the channels of obtaining funds diverse, reduce the information asymmetry between enterprises and capital suppliers, and enterprises can get better financial support; on the other hand, in the process of obtaining financial support, enterprises encourage capital suppliers to strengthen their participation and supervision in the operation of enterprises, effectively improve the investment and financing decisions of enterprises, improve the efficiency of enterprise decision-making, and alleviate the financing difficulties of enterprises. Under the influence of different financing modes, how will the change of financing mode affect the relationship between economic policy uncertainty and corporate financial vulnerability? Further, what are the differences in this impact in terms of industry and financing constraints? The discussion of these issues is conducive to understanding the relationship between the financing model and economic policy uncertainty in China's capital market and the financial vulnerability of enterprises, and providing policy recommendations for enterprises' financing decisions.

Under the above theoretical and research background, this paper attempts to study the impact of financing mode on economic policy uncertainty and corporate financial vulnerability. This paper mainly divides the financing modes into three categories: bank loans, credit financing and bond financing, and makes an empirical analysis based on the sample of China's Shanghai and Shenzhen A-share listed companies from 2010 to 2021. The possible research

contributions of this paper are as follows: First, there is little literature on the relationship between economic policy uncertainty and corporate financial vulnerability. This paper studies the relationship between the two and enriches the existing research literature. Secondly, the economic policy uncertainty, financing mode and corporate financial vulnerability are included in the same framework for systematic analysis, which is different from the separate analysis of the relationship between the two and supplements the relevant theoretical analysis. Third, it highlights the importance of debt financing and provides decision-making reference for optimizing resource allocation, deepening financial system reform and enhancing enterprise competitiveness.

2. Literature Review and Research Hypothesis

2.1. Economic Policy Uncertainty and Corporate Financial Vulnerability

Since the financial crisis, governments have introduced a series of economic policies in order to stabilize economic growth, which has correspondingly increased the uncertainty of economic policies. Economic policy uncertainty is an important external factor affecting corporate financial policies (Gulen H et al., 2016) [5]. Fluctuations in economic policies are bound to increase the uncertainty of financial policies, and due to China 's imperfect investor protection system and other reasons, the actual impact of economic policy uncertainty on micro-enterprises will be further amplified (Jiang Teng et al., 2018) [4]. For enterprises, economic policy uncertainty is both a risk and an opportunity. When enterprises make decisions to avoid risks or seize opportunities, they must comprehensively weigh the capital investment and output benefits of enterprises. On the one hand, when enterprises face economic policy uncertainty, management is more difficult to judge the future business form, thus affecting the expectation of the future economy. In order to avoid risks, management will reduce investment willingness to cope with future market risks, legal risks, etc. (Rao Pingui et al., 2017) [6]; on the other hand, when the enterprise faces greater uncertainty, the uncertainty of the future cash flow of the enterprise will also increase accordingly, which will increase the possibility of future cash flow shortage, thus increasing the potential bankruptcy risk of the enterprise (Han Liyan et al., 2011) [7], and the enterprise is driven by preventive motivation. In order to avoid the situation of insufficient liquidity funds, enterprises will tend to increase the level of cash holdings (Wang Hongjian et al., 2014) [8]. Therefore, economic policy uncertainty has various effects on the operation and decision-making of enterprises.

Corporate financial vulnerability refers to the serious loss and serious shortage of working capital caused by poor management or macroeconomic impact in the operation process of profit-making organizations, which aggravate the potential risk of bankruptcy of profit-making organizations (Xiang Guyue et al., 2020; Gong Jiafeng et al., 2021) [9, 10]. Some scholars found that the financial vulnerability of an enterprise is not a simple linear relationship to the financial situation of the enterprise, and the leverage ratio has a significant correlation to the financial vulnerability of the enterprise, and has a non-linear relationship with the financial robustness of the enterprise, that is, when the financial leverage ratio of an enterprise exceeds a certain threshold, it

will cause financial difficulties to the manufacturing enterprise, and the increased debt burden will increase the potential risk of enterprise bankruptcy (Novita et al., 2018; Masdupi et al., 2018) [11, 12]. When economic policy uncertainty rise, enterprises for the future economic trends will be difficult to judge, also means that the future business conditions, profitability uncertainty will rise sharply, and it is difficult to forecast economic policy and implement measures, enterprise external financing activities will be the impact of economic policy uncertainty, enterprises will be more likely to financial difficulties (Sun Lincong, 2021) [13]. In addition, when the economic policy uncertainty rises, it will aggravate the information asymmetry and the information dispersion of the external capital market, further increase the external financing cost, and also increase the enterprise financing constraints (Deng Xidong et al., 2015) [14], which may bring negative impact to the business activities of enterprises, thus aggravating the financial vulnerability of enterprises. In conclusion, we propose the first hypothesis of this article, that:

H1: Economic policy uncertainty will aggravate the financial vulnerability of enterprises.

2.2. Economic Policy Uncertainty, Financing Model and Corporate Financial Vulnerability

Enterprises obtain external financing mainly through bank loans, equity financing, bond financing and commercial credit. Financing these four aspects. China is a ' bank-centered ' financial system, and bank loans are the most important and common financing channels in China (Gatev E et al., 2006) [15]. First of all, bank financial institutions can obtain effective information of enterprises through the capital market, understand the basic situation of enterprises, and effectively avoid the problem of information asymmetry among market participants (Luigi Benfratello et al., 2008) [16], thereby reducing the financing cost of enterprises. In order to strengthen the control of enterprises and avoid the dilution of equity, managers choose to rely more on debt financing rather than equity financing. Therefore, bank loans play an important role in alleviating financing needs and protecting business operations. Secondly, credit claims have gradually become an important financing channel for market participants (Wenfeng Wu et al., 2012) [17]. As an informal financing method, commercial credit has the function of financing substitution, that is, when enterprises cannot obtain loan funds from banks, enterprises can obtain loan funds from suppliers through commercial credit to alleviate their financing constraints (Raymond Fisman et al., 2003) [18]. As creditors of enterprises, suppliers provide financial support to enterprises through commercial credit financing, indicating that enterprises rely on good reputation and competitive advantage. Establish a good supply and marketing relationship with suppliers, mutual benefit and win-win; Finally, due to the late development of China 's capital market, equity financing and bond financing are still not the main financing channels for enterprises. Equity financing and bond financing may cause management concerns about equity dilution. Therefore, compared with bank loans, equity financing and bond financing account for a relatively small proportion of the financing market (Chen Mingli et al., 2018) [19].

2.2.1. Economic policy uncertainty, bank loans and corporate financial vulnerability

From the relevant theoretical literature, banks, as the main participants in economic activities and financial intermediaries, will be affected by macroeconomic policy uncertainty (Bruno et al., 2015) [20]. In China's current context, bank loans are the main financing channel. Economic policy uncertainty mainly affects the external financing of enterprises through bank credit, while China's credit market as a seller's market, bank loan resources are limited. Therefore, when the uncertainty of economic policy rises, in order to cope with external business risks and maintain production and operation, enterprises are willing to bear higher financing costs and strengthen their willingness to borrow. With the expansion of the scale of enterprises, enterprises are more likely to receive support from the government, and have an incentive to borrow more from banks to resist the risk of economic downturn (Chen Yinmo et al., 2020) [21]. Since the financial crisis in 2008, in order to stabilize economic growth, China's economic policies have tended to be loose. At this time, in order to maintain financial security, commercial banks will relax the conditions for loan approval, increase the scale of loans, and increase the level of risk-taking (Pan Pan et al., 2020) [22]. The external financing environment faced by enterprises also tends to be loose, and the possibility of enterprises obtaining loans from banks increases. Entrepreneurs with adventurous spirit look for new profit points in an uncertain environment and use resource integration to make profits (Knight, 1921) [23]. Therefore, enterprises are motivated to carry out debt financing. On the one hand, enterprises with financial support can guarantee their project capital needs and seize new opportunities in an uncertain environment. On the other hand, enterprises get funds to avoid the risk of economic downturn, alleviate the impact of economic policy uncertainty on enterprises, and avoid the financial difficulties of enterprises to a certain extent. Based on the above analysis, the second hypothesis of this paper is put forward:

H2a: Bank loans play a positive moderating role between economic policy uncertainty and corporate financial vulnerability, that is, bank loans alleviate the impact of economic policy uncertainty on corporate financial vulnerability.

2.2.2. Economic policy uncertainty, credit claims and corporate financial vulnerability

From the perspective of the governance effect of credit claims, under the effective market mechanism, after long-term economic cooperation, the market participants enhance mutual understanding, effectively reduce information asymmetry, generate credit claims, and encourage enterprises to improve management efficiency, thereby reducing the agency problems of suppliers and enterprises, and better play the role of supervision of enterprises (Wenfeng Wu et al., 2012; Wang Yanchao et al., 2008) [17] [24]. As one of the financing channels, commercial credit is also affected by the external environment. For the suppliers of commercial credit, in the face of higher economic policy uncertainty, the appropriate commercial credit financing of enterprises is the supplier's supply decision based on information advantage. It is the evaluation and endorsement of the financial status and operating results of the enterprise, which can transmit more obvious positive signals to the outside world, enhance investors' confidence in the operation of the enterprise, and increase the market value (Mariassunta Giannetti et al., 2011;

Lu Zhengfei et al., 2011) [25, 26]; for the demand side of trade credit, when the uncertainty of economic policy is high, trade credit financing can alleviate the information asymmetry and agency problems caused by insufficient foreign financial investment and uncertain future operation of enterprises, significantly improve the capital efficiency of enterprises, better play the debt governance effect and cost reduction effect, and offset the decline of profit space caused by poor operation (Zhang Yuanyuan et al., 2020) [27], so that enterprises can make full use of capital operation and reduce the potential bankruptcy risk of enterprises. Based on the above analysis, the third hypothesis of this paper is put forward:

H2b: Credit claims play a positive regulatory role between economic policy uncertainty and corporate financial vulnerability, that is, credit claims ease the impact of economic policy uncertainty on corporate financial vulnerability.

2.2.3. Economic policy uncertainty, bond claims and corporate financial vulnerability

As an important part of China's capital market, the bond market has a certain sensitivity to the external economic environment. At present, the main form of bond financing is corporate debt, which is a main way for enterprises to obtain financing. The interest rate of corporate bond issuance will fluctuate with the degree of economic policy uncertainty, and the sensitivity is high. Compared with the interest rate of bank borrowing in the same period, the increase of economic policy uncertainty will increase the cost of corporate bond financing, and higher interest repayment will be needed to increase the financial pressure of enterprises, which will lead to the reduction of management's willingness to finance. Moreover, the increase of economic policy uncertainty will lead to the increase of future business risks and the aggravation of information asymmetry, which will have a negative impact on bond credit rating. In view of the investment risk, bond investors will reduce the willingness of bond investment (Gao Qun et al., 2022) [28]. Other scholars believe that strict information disclosure requirements are needed in the process of corporate bond financing. By forcing the disclosure of more perfect information within the enterprise, it can effectively reduce the information asymmetry of investors and give full play to the role of corporate governance (Cutillas Gomariz et al., 2014) [29]. However, due to the fact that the bond market in China's capital market is not developed enough, listed companies have limited funds through debt financing and cannot get more financial support. Therefore, the direct financing method of bond financing has not been able to play an effective role in regulating economic policy uncertainty and corporate financial vulnerability (Chen Mingli et al., 2018) [19]. Based on the above analysis, the fourth hypothesis of this paper is put forward:

H2c: The moderating effect of bond claims on economic policy uncertainty and corporate financial vulnerability is not obvious.

3. Research Design

3.1. Sample and Data Sources

This paper takes China's Shanghai and Shenzhen A-share listed companies from 2010 to 2021 as a sample, and processes the data: 1. Excluding financial and insurance listed companies; 2. Excluding ST and *ST companies; 3. Remove companies with missing and abnormal data in the CSMAR

database. Finally, this paper gets 12652 data. In order to reduce the impact of outliers, all variables are tailed at 1 % level.

3.2. Model Setting

In order to verify hypothesis 1, that is, the impact of economic policy uncertainty on corporate financial vulnerability, this paper constructs a multiple linear regression model (1):

$$Z_{i,t} = \beta_0 + \beta_1 EPU_{t-1} + \beta_2 creditdebt_{i,t} + \beta_3 EPU_{t-1} \times creditdebt_{i,t} + \beta_4 CONTROLS + \sum YEAR + \sum IND + \varepsilon_{i,t} \quad (2)$$

$$Z_{i,t} = \gamma_0 + \gamma_1 EPU_{t-1} + \gamma_2 bankdebt_{i,t} + \gamma_3 EPU_{t-1} \times bankdebt_{i,t} + \gamma_4 CONTROLS + \sum YEAR + \sum IND + \varepsilon_{i,t} \quad (3)$$

$$Z_{i,t} = \delta_0 + \delta_1 EPU_{t-1} + \delta_2 bonddebt_{i,t} + \delta_3 EPU_{t-1} \times bonddebt_{i,t} + \delta_4 CONTROLS + \sum YEAR + \sum IND + \varepsilon_{i,t} \quad (4)$$

Among them, the subscript *i* represents the enterprise, and *t* represents the year. The explanatory variable *Z* represents the financial vulnerability of the enterprise, EPU is the economic policy uncertainty index, IND is the industry dummy variable, CONTROLS is a set of control variables, $\varepsilon_{i,t}$ is a random error term.

3.3. Variable Definition

3.3.1. Explanatory variables

Economic policy uncertainty (EPU). This paper uses the economic policy uncertainty index constructed by Baker (2016) [30] and other scholars to measure, and has been proved by the research results of foreign literature that the index has become the main index to evaluate the degree of uncertainty of macroeconomic policy, and is widely used in the study of corporate behavior (Liu Hongzhong et al., 2021; Huang Haijie et al., 2022) [31, 32]. Since the economic policy uncertainty index is a monthly index, in order to match other annual variables, this paper takes the 12-month arithmetic mean to convert it into an annual index.

3.3.2. Explained variables

This paper chooses to use Z-score to measure the financial vulnerability of enterprises. Z-score is a famous Z-score model (Altman, 1968) [33] established by American professor Altman using 22 financial ratios through mathematical statistics screening. It was originally used to study and observe bankrupt and non-bankruptcy production enterprises in the United States, and to carry out systematic analysis, and then widely used in many countries. The specific calculation formula is as follows:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5 \quad (5)$$

Among them, X_1 = working capital / total assets, X_2 = retained earnings / total assets, X_3 = earnings before interest and tax / total assets, X_4 = equity market value / total liabilities, X_5 = operating income / total assets. The higher the ratio is, the better the operation of the enterprise is, the more reasonable the financial structure is, and the higher the enterprise value is. The Z score calculated by the formula is less than 1.8, indicating that the enterprise is in the bankruptcy zone; z score $1.8 \leq Z < 2.99$, the enterprise is in a safe area. The higher the score, the smaller the financial risk of the enterprise and the lower the financial vulnerability.

3.3.3. Regulating variables

This paper mainly refers to the research of scholars such as Chen Mingli (2018) [19]. In the financing model, bank loans (BANKDEBT), bond financing (BONDDEBT) and credit financing (CREDITDEBT) are selected respectively (short-term borrowing + long-term borrowing) / total assets, bonds

$$Z_{i,t} = \alpha_0 + \alpha_1 EPU_{t-1} + \alpha_2 CONTROLS + \sum YEAR + \sum IND + \varepsilon_{i,t} \quad (1)$$

In order to test Hypothesis 2, Hypothesis 3 and Hypothesis 4, that is, the moderating effect of different financing modes on economic policy uncertainty and corporate financial vulnerability, Model (2), Model (3) and Model (4) are constructed:

payable / total assets, (accounts payable + other accounts payable) / total assets.

3.3.4. Control variables

This article refers to the research of Li Fengyu et al. (2015) [34], Wang Hongjian et al. (2014) [8], Wu Chengsong et al. (2022) [35], in order to control the interference of other factors on variables as much as possible. This paper selects the following control variables: enterprise scale (SIZE), Tobin's Q value (TOBINQ), return on total assets (ROA), asset-liability ratio (LEV), short-term borrowing (SHORTLOAN), long-term borrowing (LONGLOAN), the proportion of the largest shareholder (TOP1), the proportion of institutional investors (INS), corporate cash flow (CASHFLOW), listing years (LISTAGE), growth ability (GROWTH), total asset turnover (ATO), the number of directors (BOARD), the nature of property rights (SOE), the proportion of independent directors (INDEP). In addition, there are two control variables, industry (IND) and year (YEAR).

4. Empirical Results

4.1. Descriptive Statistics

From the descriptive statistics of the main variables in Table 1, it can be seen that the minimum value of Z-score, which measures the financial vulnerability of enterprises, is 0.204, while the maximum value is 37.14, indicating that there are great differences in the financial vulnerability of listed enterprises. There are also huge differences in economic policy uncertainty (EPU), and economic policy uncertainty represents the degree of volatility of the macroeconomic environment. The difference in this indicator indicates the instability of the economic environment, that is, enterprises need to fully consider external factors such as economic policies. From the average and median values, bank loans are the main financing methods in China's capital market, followed by credit claims, and bond claims account for the smallest scale.

Table 1. Descriptive statistics of main variables

Variab les	Observ ations	Mean	Med ian	S.D.	Min	Max
Z-score	12652	4.530	2.70 6	5.735	0.20 4	37.14
EPU	12652	231.3	170. 6	185.5	98.8 9	791.9
creditde bt	12652	0.126	0.10 7	0.082 6	0.01 10	0.423
bankde bt	12652	0.160	0.14 1	0.136	0	0.550
bondde bt	12652	0.028 6	0	0.048 0	0	0.197

4.2. Multiple Regression Analysis

4.2.1. The impact of economic policy uncertainty on financial vulnerability

The multiple regression of panel data is shown in Table 2, column (1) results show that the EPU coefficient is -0.002 after taking into account the dummy variables of industry and year, which is significant at the 1 % level. It is preliminarily shown that there is a significant negative correlation between economic policy uncertainty and Z-score. The higher the value of the explained variable Z-score, the lower the financial vulnerability of the enterprise, that is, the increase of economic policy uncertainty will significantly aggravate the financial vulnerability of the enterprise. Column (2) adds variables at the enterprise level as control variables. The results of the second column show that the coefficient of EPU is -0.001, which is significant at the 1 % level, further indicating that economic policy uncertainty and corporate financial vulnerability show a negative relationship.

Table 2. Regression result

Variables	(1)	(2)
	Z-score	Z-score
EPU	-0.002*** (-9.50)	-0.001*** (-6.65)
Controls	YES	YES
Constant	4.542*** (10.42)	-6.551*** (-8.61)
Observations	12,652	12,652
R-squared	0.151	0.691
Ind	YES	YES
Year	YES	YES

Note: The t value is in parentheses, and ***, **, * are significant at 1 %, 5 %, and 10 %, respectively.

4.2.2. Economic policy uncertainty, financing model and corporate financial vulnerability

The data in Table 3 show that Column (1) is the regression result of credit debt. Among them, the coefficient of the cross term of credit debt and economic policy uncertainty is 0.025, which is significant at the 1 % level, that is, credit debt can alleviate the impact of economic policy uncertainty on corporate financial vulnerability. Column (2) is the regression result of the cross term of bank loan and economic policy uncertainty. The coefficient of the cross term is 0.011, which is significant at the level of 1 %. Column (3) is the regression result of the cross term of bond claims and economic policy uncertainty. The coefficient of the cross term is 0.002, but not significant. It can be seen that the hypothesis H2-H4 holds.

When enterprises face external shocks, the financing model of enterprises plays a very important role in regulating enterprises. When the uncertainty of economic policy increases, enterprises rely on different financing models,

through different financing channels, can more easily obtain external resources, quickly make relatively sound strategic decisions, and then help enterprises achieve long-term and stable development; integrate and improve the internal resources of the enterprise through its own professional skills to ensure the future development of the enterprise.

Table 3. The moderating effect of financing mode

Variables	(1)	(2)	(3)
	Z-score	Z-score	Z-score
EPU	-0.004*** (-13.34)	-0.003*** (-11.31)	-0.001*** (-5.65)
creditdebt	-10.505*** (-15.43)		
creditdebt×EPU	0.025*** (12.65)		
bankdebt		7.337*** (2.89)	
bankdebt×EPU		0.011*** (11.25)	
bonddebt			-1.399** (-1.98)
bonddebt×EPU			0.002 (0.80)
Controls	YES	YES	YES
Constant	-4.583*** (-5.97)	-6.342*** (-8.35)	-6.666*** (-8.68)
Observations	12,652	12,652	12,652
R-squared	0.696	0.693	0.691
Ind	YES	YES	YES
Year	YES	YES	YES

Note: The t value is in parentheses, and ***, **, * are significant at 1 %, 5 %, and 10 %, respectively.

5. Stability Test

Firstly, the geometric mean is used to construct the economic policy uncertainty index. Secondly, due to the outbreak of the new coronavirus epidemic in 2019, which seriously affected the real economy, in order to stabilize the data, the abnormal years were selected to be eliminated. The results are shown in columns 2 and 5 of Table 4. The EPU coefficient is significantly negative, and the cross term coefficient is positive and significant. Columns 3 and 6 show that the EPU coefficient is still significantly negative, while the cross term coefficient is still positive and significant. This shows that economic policy uncertainty aggravates financial vulnerability, and the financing model plays a positive regulatory role. That is, enterprises can choose different financing models to alleviate the financial vulnerability of enterprises, which is consistent with the above regression results, indicating that the conclusion is robust and reliable.

Table 4. Robustness test

Variables	Recalculating economic policy uncertainty			Eliminate abnormal years		
	(1)	(2)	(3)	(1)	(2)	(3)
	Z-score	Z-score	Z-score	Z-score	Z-score	Z-score
EPU	-0.004***	-0.003***	-0.001***	-0.004***	-0.003***	-0.001***
	(-13.26)	(-11.32)	(-5.76)	(-12.28)	(-10.72)	(-5.55)
creditdebt	-10.503***			-10.114***		
	(-15.50)			(-14.66)		
creditdebt×EPU	0.024***			0.023***		
	(12.68)			(11.15)		
bankdebt		7.398***			7.925***	
		(2.92)			(3.04)	
bankdebt×EPU		0.011***			0.011***	
		(11.49)			(10.27)	
bonddebt			-1.422**			-1.266*
			(-2.02)			(-1.76)
bonddebt×EPU			0.002			0.002
			(0.85)			(0.73)
Controls	YES	YES	YES	YES	YES	YES
Constant	-4.569***	-6.319***	-6.663***	-4.918***	-6.650***	-6.948***
	(-5.95)	(-8.32)	(-8.68)	(-6.20)	(-8.49)	(-8.77)
Observations	12,652	12,652	12,652	12,168	12,168	12,168
R-squared	0.696	0.693	0.691	0.696	0.692	0.691
Ind	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES

Note: The t value is in parentheses, and ***, **, * are significant at 1 %, 5 %, and 10 %, respectively.

6. Further Analysis

6.1. Industry Heterogeneity Analysis

Because enterprises in different industries may be affected by economic policy uncertainty differently, this paper divides the samples into two groups: manufacturing and non-manufacturing samples, and studies the impact of economic policy uncertainty on corporate financial vulnerability and the regulatory role of financing models.

In Table 5, column (1) -column (3) is the regression result of non-manufacturing industry, and column (4) -column (6) is the regression result of manufacturing industry. The results

show that economic policy uncertainty has a significant inhibitory effect on both non-manufacturing and manufacturing industries, and the regression results of different financing modes on their relationship in the ownership enterprises are basically the same, while bond financing has a significant negative correlation in the non-manufacturing group, that is, in the non-manufacturing industry, bond financing will aggravate the financial vulnerability of enterprises. This is due to the relatively low financial leverage of non-manufacturing enterprises relative to manufacturing industry, the low sensitivity to economic policy changes, resulting in a decline in credit rating, increased difficulty in bond financing, and increased financial risk of enterprises.

Table 5. Industry heterogeneity analysis

Variables	Non-manufacturing industry			Manufacturing industry		
	(1)	(2)	(3)	(4)	(5)	(6)
	Z-score	Z-score	Z-score	Z-score	Z-score	Z-score
EPU	-0.004***	-0.002***	-0.001**	-0.005***	-0.004***	-0.002***
	(-7.22)	(-3.90)	(-2.00)	(-8.96)	(-8.13)	(-4.38)
creditdebt	-8.119***			-10.507***		
	(-8.77)			(-9.64)		
creditdebt×EPU	0.022***			0.025***		
	(7.78)			(6.94)		
bankdebt		3.256			5.319	
		(0.89)			(1.06)	
bankdebt×EPU		0.006***			0.014***	
		(2.99)			(6.41)	
bonddebt			-5.413***			0.202
			(-3.16)			(0.12)
bonddebt×EPU			0.003			0.003
			(0.63)			(0.54)
Controls	YES	YES	YES	YES	YES	YES
Constant	-3.883***	-5.329***	-5.826***	-3.997***	-5.640***	-5.996***
	(-3.56)	(-4.92)	(-5.33)	(-3.55)	(-5.07)	(-5.30)
Observations	4,761	4,761	4,761	7,179	7,179	7,179
R-squared	0.708	0.704	0.705	0.697	0.695	0.693
Year	YES	YES	YES	YES	YES	YES

Note: The t value is in parentheses, and ***, **, * are significant at 1 %, 5 %, and 10 %, respectively.

6.2. Analysis of Financing Constraints

Based on the research methods of Whited and Wu (2006) [36], the WW index is constructed. The larger the index, the higher the degree of corporate financing constraints. This paper divides the sample into low financing constraints group and high financing constraints group, and analyzes the differences. In columns (3) and (6) of Table 6, compared with the high financing constraint group, in the low financing constraint group, bond financing is significantly negatively

correlated with the financial vulnerability of enterprises at the 1 % level, that is, bond financing will aggravate the financial vulnerability of enterprises. The issuance of corporate bonds will change with the change of economic environment. Although the degree of financing constraints is low, which enables enterprises to obtain sufficient funds, its sensitivity is high. The fluctuation of economic environment will lead to the increase of bond financing costs. The bond credit rating will have a negative interference, which will be more affected, increase the financial pressure of enterprises and increase the financial vulnerability of enterprises.

Table 6. Analysis of financing constraints

Variables	Low financing constraints			High financing constraints		
	(1)	(2)	(3)	(4)	(5)	(6)
	Z-score	Z-score	Z-score	Z-score	Z-score	Z-score
EPU	-0.002***	-0.002***	-0.001***	-0.005***	-0.004***	-0.002**
	(-7.52)	(-6.82)	(-3.73)	(-5.97)	(-4.62)	(-2.26)
creditdebt	-4.760***			-11.137***		
	(-8.42)			(-7.93)		
creditdebt×EPU	0.010***			0.033***		
	(6.53)			(5.86)		
bankdebt		6.143**			10.007**	
		(2.37)			(1.99)	
bankdebt×EPU		0.006***			0.016***	
		(5.54)			(4.53)	
bonddebt			-2.285***			-2.592
			(-2.69)			(-0.98)
bonddebt×EPU			0.002			0.012
			(0.77)			(1.19)
Controls	YES	YES	YES	YES	YES	YES
Constant	-2.803***	-3.503***	-3.511***	-11.281***	-13.291***	-14.026***
	(-3.99)	(-5.01)	(-4.99)	(-5.25)	(-6.23)	(-6.47)
Observations	5,970	5,970	5,970	5,970	5,970	5,970
R-squared	0.740	0.739	0.738	0.697	0.695	0.694
Ind	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES

Note: The t value is in parentheses, and * * *, * *, * are significant at 1 %, 5 %, and 10 %, respectively.

7. Conclusion and Enlightenment

This paper takes China's Shanghai and Shenzhen A-share listed companies from 2010 to 2021 as the research object, and on the basis of distinguishing different financing modes, discusses the impact of debt financing on alleviating economic policy uncertainty and corporate financial vulnerability in China's capital market. The study found that economic policy uncertainty has a positive effect on corporate financial vulnerability, that is, when economic policy uncertainty increases, it will aggravate the financial vulnerability of enterprises; different debt financing of enterprises makes enterprises have different effects in the face of external shocks. Bank loans and credit financing can alleviate the impact of economic policy uncertainty on corporate financial vulnerability, while the mitigation effect of bond financing is not obvious. Further, it is found that corporate bond financing will aggravate corporate financial vulnerability in non-manufacturing, large enterprises and low financing constraints.

From the research conclusions of this paper, the following policy recommendations are obtained: First, at the market level, strengthen the construction of China's capital market, consolidate the high-quality development of the capital market, broaden and improve the financing channels of enterprises, optimize the allocation of resources, increase the proportion of direct financing such as bonds and stocks, and promote financial reform. Strengthen the supervision of corporate information disclosure, reduce information asymmetry, reduce the risk of economic policy uncertainty, and alleviate corporate financial difficulties. Secondly, at the enterprise level, we should reasonably arrange the financing structure, moderately reduce leverage, improve the governance level of enterprises, focus on expanding financing sources, alleviate financing constraints, reduce comprehensive financing costs, and enhance the competitiveness of enterprises.

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