Enterprise Uncertainty Perception and Tax Avoidance

Haoyu Zhang

School of Public Finance and Taxation, Zhongnan University of Economics and Law, Wuhan, China.

jnhyz2002@163.com

Abstract. Selecting the annual data of Chinese listed companies from 2011 to 2021, this paper aims to explore how the corporate perception of economic uncertainty influences tax avoidance and further analyzes the impact of tax uncertainty perception on tax avoidance under different property rights, audit levels, and financial constraints. The results prove that the uncertainty perception can promote tax avoidance, especially for non-state-owned enterprises with poor audit quality and large financial constraints. Thus, this paper suggests that the government should pay attention to the stability of policies, strengthen tax supervision, and introduce supporting policies, so as to help enterprises maintain stability in the uncertain environment.

Key words: Economic Policy Uncertainty; Tax Avoidance Behavior; Tax Policy.

1. Introduction

Given that rational enterprises will make decisions according to the expected costs and benefits in the future when facing economic turmoil, the economic environment is an important factor that affects enterprises' expectations of costs and benefits. The more turbulent the economic environment enterprises encounter, the more frequently policy changes, and the higher the uncertainty enterprises face.

Economic uncertainty is reflected in economic policy uncertainty to a great extent, which means that economic subjects cannot predict whether, when, and how the government will change the current economic policies (Gulen & Ion, 2012). In recent years, due to the COVID-19 pandemic outbreak, international conflicts, and trade frictions, hardships and accidents abound in the international economy where the economic uncertainty faced by enterprises is intensifying. Economic uncertainty has increasingly become the main issue highly discussed by scholars.

There are many discussions on the measurement of economic uncertainty in the existing literature. The first is to use exogenous events, such as taking the election year as a sign of higher economic uncertainty (Durnev, 2011) or using changes in local officials to measure uncertainty (Chen et al., 2016). Some scholars even chose to measure uncertainty by changes in energy prices (Stein, 2013). The second is to apply text analysis to construct an economic policy uncertainty index (EPU). Baker et al. (2013) extracted uncertain keywords from newspapers and periodicals before taking word frequency to quantify uncertainty. Based on Baker's approach, Brogaard and Detzel (2015) integrated the economic uncertainty policies of 21 countries to build an economic uncertainty index from a global perspective. Tillman (2016) analyzed the annual uncertainty based on the number of news in the social platform Twitter. Domestic scholars also learned from this method for analysis. Huang Xinfei (2020) counted the frequency of uncertain words in Chinese daily newspapers and constructed China's overall economic uncertainty index. Zhao Meng (2020) built the EPU index by using the keyword frequency of fiscal and monetary policy in newspapers and periodicals.

Since economic policy uncertainty is one of the vital factors affecting the financial activities of enterprises, economic uncertainty will shape the cash holdings of enterprises. Wang Hongjian et al. (2014) found that economic uncertainty would increase the cash flow of enterprises and concluded that companies in areas with lower marketization would be more apparently affected in their further research. As for the impact on investment, based on the real option theory, Hartman (1972) and Abel (2001) believed that economic uncertainty would increase enterprise investment. Xu Yekun et al. (2013), Gulen, and Ion (2016) as well as Xia Tongshui et al. (2020) who hold opposite views found that economic uncertainty would hinder the investment of enterprises. In addition, Wolfgang et al.

(2018) believed that economic uncertainty would distort investment costs from the perspective of financial friction, which may promote or hinder investment in enterprises. Economic uncertainty also has an impact on other micro-behaviors of enterprises. Pantzalis et al. (2000) held that economic uncertainty would increase the volatility of the stock market by comparing the stock returns during the election period. Bhattacharya et al. (2017) believed that policy uncertainty would impede scientific and technological innovation premised on studying the corporate data in 43 countries. Economic uncertainty can also reduce the M&A behavior of enterprises (Bhagwat et al. 2018) and increase the corporate preference for risk (Liu, 2017).

Major existing studies hold that there are three influencing mechanisms of uncertainty. Firstly, preventive motivation. When the economic environment fluctuates, enterprises will cut expenditures and add savings for a rainy day to retain more cash flow (Weiss, 1976). Secondly, the real option theory. Given that the real option theory regards the enterprises' investment as a special option, due to the irreversible nature of investment decisions, enterprises need to compare the current investment cost with the future income when making decisions. When the economic uncertainty increases, the opportunities brought by the uncertainty will improve the value of options, thus raising the marginal investment cost of enterprises and finally restraining their current investment. The research of Tan Xiaofen et al. (2017) indicates that the real option theory plays a leading role in explaining economic policy uncertainty. Thirdly, increasing the risk premium. Economic uncertainty raises the corporate operating risk, thus improving the corporate cost of equity, and then inhibiting its investment expenditure.

Tax avoidance is a crucial behavior of enterprise internal fund management, which is mainly affected by external constraints and corporate governance. Richardson et al. (2015) and Zhao Meng (2020) believed that high financial constraints would raise the tax avoidance motivation of enterprises. Chen Dong et al. (2016) found that tax avoidance by state-owned enterprises showed a counter-cyclical effect. Chen Deqiu et al. (2016) used the change data of municipal party committee secretaries in prefecture cities to prove that the stronger the policy uncertainty, the more companies tend to keep cash and increase the tax avoidance motivation of listed companies. According to Adhikari et al. (2006) who studied multinational companies, government-enterprise connection can promote tax avoidance. From the aspect of corporate governance, the characteristics of executives will affect corporate tax avoidance (Dyreng et al., 2010). Li Xiaoling et al. (2016) proposed that executives' power significantly improved the tax avoidance intensity of companies by studying manufacturing companies. Internal incentives also influence tax avoidance, and high salary incentives can reduce the tax avoidance tendency of enterprises (Desai et al., 2006). Zheng Luhang (2021) proved that enterprises are more inclined to evade taxes with higher internal incentives. Constructing an internal connection index based on the similar characteristics of board members, Li Cheng (2016) found that the higher the internal linkage, the more aggressive the tax avoidance.

As for the construction of the EPU index in the existing literature, the quantitative index of economic uncertainty is mainly measured by the whole country, with only one observation value at the same point in time. Within a country, different enterprises have various perceptions of economic uncertainty. Even in the same country, their policies will be different among regions. The national EPU index fails to distinguish the differences among individual enterprises facing uncertainties. As for the impact of economic uncertainty, the impact of economic uncertainty on corporate behavior so far is more focused on the impact of foreign investment with less emphasis on the impact of internal capital management. At present, although the research on the influencing factors of tax evasion is abundant, it is rarely unfolded from the perspective of economic uncertainty perception with relatively insufficient related research, which provides research room for this paper.

To explore the impact of economic uncertainty perception on tax avoidance, this paper uses the data of Chinese A-share listed companies from 2011 to 2021 to empirically test how economic uncertainty perception influences tax avoidance. Benchmark regression analysis proves that the uncertainty perception of enterprises significantly increases their tax avoidance behavior. In the robustness test, this paper uses various methods such as replacing key explanatory and explained

variables, adding control variables, eliminating extreme values, and using lagging data as tool variables to reduce the influence of endogeneity on the regression results, which manifests that the main regression results are still valid. In further analysis, this paper reveals the impact of uncertainty perception on tax avoidance under different property rights, audit quality, and financial constraints. It is found that uncertainty perception can promote tax avoidance of non-state-owned enterprises with low audit quality and intense financial constraints.

Therefore, the innovations of this paper are as follows. Firstly, it enriches the research on how uncertainty shapes enterprise behaviors. Nowadays, studies on economic uncertainty mainly focus on its impact on the external investment of enterprises (Xu Yekun et al., 2013; Gulen & Ion 2016), Edwards et al. (2015) proved that economic policy uncertainty aggravated the external financial friction of enterprises, thus intensifying their tax avoidance. Similarly, Zhao Meng (2020) used the quarterly data analysis of listed companies in China to conclude that tax evasion will aggravate corporate tax avoidance when economic uncertainty is strong. However, the above-mentioned research mainly analyzes the impact of uncertainty on enterprises' behavior from a macro perspective, taking the country as a unit, while few studies are premised on micro-individuals of enterprises. This paper constructs the uncertainty perception variables of individual enterprises, which can highlight the differences between various enterprises. Secondly, this paper expands the research on the influencing factors of enterprise tax avoidance. The current research is mainly from corporate executives (Desai et al., 2006; Zheng, 2021; Li, 2016) and financial constraints (Zhao, 2020; Richardson, 2015), etc., but few studies consider the impact of economic uncertainty perception on tax avoidance. Hence, this paper investigates the impact on corporate tax avoidance from the perspective of uncertainty perception and makes a heterogeneity analysis of the nature of property rights and financial constraints, which enriches the existing research.

The structure of this paper is as follows. As for the "theoretical analysis and research hypotheses", this paper will analyze the influence mechanism of uncertainty on tax avoidance and eliminate research hypotheses. As for the "research design", the construction of an empirical model for sample selection is mainly introduced. As for the "empirical results and analysis", it mainly carries out basic regression, robustness test, and further analysis. Finally, the conclusion is summarized and some policy suggestions are put forward.

2. Theoretical Analysis and Research Hypotheses

As a significant financial management behavior in the business activities of enterprises, tax avoidance is common. On the one hand, corporate tax avoidance can save the cash of enterprises and enable them to better invest and finance (Wang et al., 2016) to promote the operation and shareholder value of enterprises. On the other hand, unreasonable tax avoidance of enterprises will also face inspection and fines by tax authorities, which will increase their business risks. When the uncertainty of the economic environment increases, the uncertainty of cash income that enterprises can get in the future will also rise, which will affect the decision-making and tax evasion behavior of enterprises.

In the production and operation activities of enterprises, the existing research shows that enterprises have different perceptions of economic uncertainty with various effects. Economic uncertainty can bring two effects to companies: the loss avoidance effect and the opportunity expectation effect (Cao, Dong, etc., 2019).

From the aspect of loss avoidance, enterprises will not only be more cautious when they perceive economic uncertainty, but also deal with the risks brought by external economic policy uncertainty by reducing their internal risks. On the one hand, according to the financial constraint theory, the increase in economic uncertainty will raise the probability of investment failure, aggravate the financial constraint, add the financing cost (Bradley et al., 2016), and then inhibit the investment of enterprises. The eligible investment income between resident enterprises is one of the tax-free incomes stipulated in the current enterprise income tax law. When the investment of enterprises is restrained, it will undermine the opportunities for enterprises to cut taxes through investment, thus

decreasing the tax avoidance degree of enterprises. On the other hand, when economic uncertainty increases, external information fluctuates rapidly, and enterprises will be confused about the current business status, thus increasing their decision-making cost and reducing their tax avoidance degree.

From the aspect of opportunity expectation, as for the cost-benefit, economic uncertainty will cause changes in business income and costs, which will make the forecast of future cash flow more unstable (Baum, 2004). According to Keynes' preventive motivation theory, when enterprises perceive economic uncertainty, they will keep more current assets because they want to prevent accidents, and tax evasion can reduce the cash outflow of enterprises. As for the political connection, the unstable situation makes it easier for enterprises to be "rent-seeking" by new government officials. To decrease the probability of being concerned by them, enterprises will reduce information transparency and implement downward earnings management (Chen et al., 2016), apart from raising tax differences, thus increasing the degree of tax avoidance (Atwood et al., 2012). As for financing, economic instability can improve financial constraints and limit the financial means of enterprises, while tax avoidance can be used as a good alternative means to reduce cash outflow (Law & Kelvin, 2015). Besides, enterprises will adopt more aggressive tax avoidance means when facing higher financial constraints (Chen & Fang, 2018).

To sum up, this paper puts forward the following competitive hypotheses:

H1a: When enterprises face economic uncertainty, they will reduce their tax avoidance behavior.

H1b: When enterprises face economic uncertainty, they will increase their tax avoidance behavior.

3. Research Design

3.1 Sample Selection and Data Sources

To study the correlation between enterprises' perception of economic environment uncertainty and tax avoidance, this paper selects A-share listed companies in China from 2011 to 2021 as samples. The index data of enterprises' uncertainty perception are from the China Research Data Service Platform (CNRDS) and the financial data related to enterprises originate from the CSMAR database.

Besides, the original data are processed as follows to make the regression data sample more accurate. (1) Eliminate all ST and *ST enterprises. Due to their continuous losses, enterprises are facing great difficulties in operation with poor financial situation and difficulty in precise calculation, which is of little significance to the research. (2) Exclude listed companies after 2017. Because such enterprises have been listed for less than five years, their stock prices fluctuate greatly with few observation samples. (3) Eliminate all financial sectors. Because the financial reporting structure and requirements of the financial industry are unique, it is difficult to form a unified standard for comparison. (4) Winsorize all the continuous financial variables of enterprises in 1% and 99% quantiles to reduce the influence of extreme values on the samples.

After processing according to the above steps, a total of 22,229 observations are finally formed, which will be processed with Stata 17.0.

3.2 Model Setting and Variable Definition

3.2.1. Tax Avoidance Degree of Enterprises (BTD/DDBTD)

The explained variable of this paper is the degree of enterprises' tax avoidance. In the existing research, there are many methods to measure tax evasion, with the two most common methods used in this paper.

First, the book-tax difference (BTD) (Liu & Ye, 2013), with the formula as follows:

$$BTD = \frac{(\text{Total Pretax Accounting Profit} - \text{Taxable Income})}{\text{Ending Total Assets}}$$

where

$$\text{Taxable Income} = \frac{(\text{Income Tax} - \text{Deferred Income Tax})}{\text{Nominal Tax Rate}}$$

The second method is the accounting−tax difference after deducting the impact of accrued profits (DDBTD) (Desai & Dharmapala, 2006), which is estimated by the following model:

$$BTD = \alpha_0 + \alpha_1 TACC + \mu + \varepsilon$$

$$DDBTD = \mu + \varepsilon$$

where the total accrued profit:

$$TACC = \frac{(\text{Net Profit} - \text{Net Cash Flow From Operating Activities})}{\text{Total Assets For Previous Year}}$$

μ is the average residual error of the enterprise in the sample period; ε indicates the deviation between the annual residual and the company average residual. The larger the BTD and DDBTD, the greater the difference between accounting profit and taxable income, which means that the degree of tax avoidance of enterprises is higher.

3.2.2 Enterprises' Economic Uncertainty Perception (Uword)

The core explanatory variable of this paper is the degree of economic uncertainty perception (Uword). Based on the Management Discussion and Analysis (MD&A) keywords collected by CNRDS with the method referred to Nie Huihua et al. (2020), this paper screens out the uncertain words in MD&A keywords. Assuming that the number of all keywords is M, and the number of related words of economic uncertainty is N, then the number of keywords of uncertain words accounts for N/M. In this paper, the ratio of uncertain words to the total keywords of MD&A (i.e. N/M) is used to measure the economic uncertainty perception (Uword).

3.2.3 Control Variables

According to the existing literature research, the degree of enterprises' tax avoidance is also affected by other factors. Hence, this paper selects the control variables including the enterprise age (Age), profitability (ROA), asset-liability ratio (Lev), enterprises' scale (Size), board scale (Director), ownership concentration (Top1), cash capacity (Cash), and sustainability (Growth). Table 1 can be seen for the measurement of specific variables.

Table 1. Description of Variables

Variable	Variable Name	Variable Symbol	Variable Definition
Explained Variables	Book-tax difference	BTD	$BTD = \frac{(\text{Total Pretax Accounting Profit} - \text{Taxable Income})}{\text{Ending Total Assets}}$
	accounting−tax difference after deducting the impact of accrued profits	DDBTD	$BTD = \alpha_0 + \alpha_1 TACC + \mu + \varepsilon$ $DDBTD = \mu + \varepsilon$
Core Explanatory Variable	Perception of economic policy uncertainty	Uword	Ratio of uncertain words to MD&A keywords
Control Variables	Enterprise age	Age	Ln (current year−year of establishment +1)
	Profitability	ROA	Net profit/total assets of the enterprise
	Asset-liability ratio	Lev	Corporate liabilities/assets
	Enterprise scale	Size	Ln (Enterprise assets)
	Board scale	Director	Ln (number of board directors)
	Ownership concentration	Top1	Shareholding ratio of the corporate ending largest shareholder
	Cash capacity	Cash	Cash assets/total assets
	Sustainability	Growth	Growth amount of operating income /total operating income of last year
	Proportion of senior Executives' financial background	Finback	Number of senior executives with financial background /total number of supervisors
	Nature of property right	Soe	soe=1 for state-owned enterprises; soe=0 for non-state-owned enterprises
	Audit supervision	BIg4	Auditors from four major firms: Big4=1; Auditors are not big four firms: Big4=0
	Financial constraint	KZ	Kz index=(1 − Internal Financial Proportion) ∗ External Financial Proportion/Internal Financial Proportion

3.2.4 Model Establishment

This paper designs the following model to test the impact of the degree of economic uncertainty perception on tax avoidance: the core explanatory variable is the degree of economic uncertainty perception (Uword), the explained variable is the degree of tax avoidance (BTD/DDBTD), and others are control variables.

$$BTD_{it} = \beta_0 + \beta_1 Uword_{it} + \beta_2 Control_{it} + \tau_i + \delta_i + \varepsilon_{it}$$

$$DDBTD_{it} = \beta_0 + \beta_1 Uword_{it} + \beta_2 Control_{it} + \tau_i + \delta_i + \varepsilon_{it}$$

Where the subscript i represents the company and t the time. BTD_{it} and $DDBTD_{it}$ represent the book-tax difference of the first enterprise in the t period and the book-tax difference after deducting accrued profits, $Uword_{it}$ represents the economic policy uncertainty of the first enterprise in the t period. τ_i means the time-fixed effect, δ_i the industry-fixed effect, and ε_{it} the disturbance item.

4. Empirical Results and Analysis

4.1 Descriptive Statistical Analysis

With the descriptive statistics of the main variables in this paper shown in Table 2, the explained variables are BTD and DDBTD to measure the degree of enterprises' tax avoidance, and their average is 0.0001 and 0.0000 respectively, which indicates that there is little difference between taxable income and accounting profit from the perspective of average. From the perspective of the maximum and minimum, the minimum of BTD and DDBTD are -0.0726 and -0. 0762 respectively, and their maximum are 0.0889 and 0.0838 respectively, which proves that the tax compliance of enterprises is quite different. The explanatory variable Uword represents the degree of economic uncertainty perception of enterprises, in which the minimum is 0, the maximum is 0.0047, and the average is 0.0009. Thus, there is a significant difference in the perception degree of uncertainty of enterprises. As for the control variables including Age, ROA, Lev, Size, Direct, Top1, Cash, and Growth, great differences exist between their maximum and minimum of enterprise, which manifests that the enterprises' heterogeneity is strong.

Table 2. Descriptive Statistics

Variable	Sample Size	Mean Value	Standard Deviation	Minimum Value	Maximum Value
Uword	22,229	0.0009	0.0010	0.0000	0.0047
BTD	22,229	0.0001	0.0252	-0.0726	0.0889
DDBTD	22,229	0.0000	0.0256	-0.0762	0.0838
Age	22,229	2.8308	0.3622	1.6094	3.4657
ROA	22,229	0.0116	0.0142	-0.0162	0.0731
Lev	22,229	0.4084	0.2079	0.0420	0.8666
Size	22,229	22.3222	1.3237	19.9956	26.3592
Director	22,229	2.1341	0.1951	1.6094	2.7081
Top1	22,229	0.3491	0.1490	0.0857	0.7445
Cash	22,229	0.1871	0.1307	0.0197	0.6511
Growth	22,229	0.3848	0.9489	-0.6066	6.5200

4.2 Analysis of Benchmark Regression Result

To verify H1, that is, the relationship between enterprises' perception of economic policy uncertainty and enterprises' tax avoidance, this paper uses a fixed effect model for regression with the specific regression results shown in the table. No control variables are added in columns (1) and

(2), but control variables are added in columns (3) and (4). It can be seen from the regression results that the coefficients are significantly positive at the level of 1%, which accords with the H1a proposed previously. Hence, enterprises' perception of economic uncertainty can significantly affect and promote enterprises' tax avoidance.

In terms of control variables, the regression results demonstrate that the older the enterprise, the higher the profit, the lower the debt ratio, the larger the scale, the less cash flow, and the higher the sustainability of the enterprise with the more tax avoidance carried out (Wu et al., 2009). Meanwhile, the smaller the board of directors of enterprises, the lower their ownership concentration (Top1), and the easier it is for enterprises to avoid taxes (Chen et al., 2015).

Table 3. Benchmark Regression Results

	(1) BTD	(2) BTD	(3) DDBTD	(4) DDBTD
Uword	0.8970***	0.9912***	0.9183***	0.8527***
	(4.8140)	(5.2912)	(5.0163)	(4.6176)
Age	0.0078***	0.0061***	0.0065***	0.0078***
	(14.8774)	(10.1877)	(12.0797)	(14.6796)
ROA	0.2361***	0.2823***	0.1837***	0.2177***
	(9.4526)	(11.5630)	(8.2131)	(10.1831)
Lev	-0.0178***	-0.0141***	-0.0176***	-0.0143***
	(-12.9488)	(-9.2308)	(-11.0107)	(-8.0901)
Size	0.0015***	0.0009***	0.0018***	0.0016***
	(7.4793)	(3.8724)	(7.7534)	(6.4854)
Director	-0.0035***	-0.0010	-0.0024**	-0.0019*
	(-3.1949)	(-0.9337)	(-2.2420)	(-1.7969)
Top1	-0.0070***	-0.0025*	-0.0044***	-0.0022
	(-5.0480)	(-1.8672)	(-3.2103)	(-1.5554)
Cash	-0.0053***	-0.0073***	-0.0064***	-0.0064***
	(-3.1041)	(-3.9315)	(-3.7834)	(-3.7016)
Growth	0.0000*	-0.0000	0.0000*	-0.0000
	(1.8015)	(-0.4425)	(1.7464)	(-0.1856)
Constant	-0.0405***	0.0036	-0.0456***	-0.0151**
	(-9.5988)	(0.5766)	(-9.4611)	(-2.2651)
Year fixing effect	No	Yes	No	Yes
Industry fixed effect	No	Yes	No	Yes
N	22,229	22,229	22,229	22,229
Adj_R2	0.0405	0.1097	0.0304	0.0931

Notes: ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

4.3 Robustness Test

In the previous analysis, it is found that enterprises' perception of economic policy uncertainty can significantly improve enterprises' tax avoidance, but some endogenous problems remain in the above regression analysis. Thus, this paper chooses three ways to test the robustness, including replacing variables, adding control variables, and eliminating years affected by the epidemic.

4.3.1 Replace the Measurement Method of Main Variables

(1) Replace the Explained Variable

To replace the measurement method of enterprise tax avoidance, this paper draws lessons from the research of Liu Xing and Ye Kangtao (2014), and uses the difference between nominal income tax rate and effective income tax rate to replace the tax avoidance degree of enterprises.

$$\text{RATE\_diff} = \text{Nominal Income Tax Rate} - \text{Effective Income Tax Rate}$$

Moreover, due to the lag of the effective tax rate of enterprises, based on the practice of Dyreng et al. (2008), the average value of effective tax rate in multiple periods is used to measure the tax avoidance of enterprises. This paper adopts the five-year average between nominal tax rate and effective tax rate (LRATE_diff) to measure the tax avoidance degree of enterprises. As shown in columns (1) and (2) of Table 4, the regression results of the model after replacing the explanatory variables with RATE_diff and LRATE_diff are significantly positive with 2.1240 and 1.8573 as the regression coefficients respectively, which are consistent with the benchmark regression results and verify the robustness of the benchmark regression.

(2) Replace Explanatory Variables

The core explanatory variable Uword in this paper is measured by the proportion of uncertain keywords in enterprise MD&A. To verify the robustness of benchmark regression, this paper selects Uwordn and Uwordnl to replace the core explanatory variable. Uwordn is the proportion of uncertain words in MD&A keywords after removing numbers, and Uwordn1 is the proportion of uncertain words in MD&A keywords after removing numbers and letters. According to columns (3) and (4) of Table 4, after replacing the core explanatory variables, the regression coefficients are 0.9642 and 0.9591 respectively with a significantly positive at the level of 1%, which is consistent with the benchmark regression results and verifies its robustness.

Table 4. Robustness Test: Changing Variables

	(1)	(2)	(3)	(4)
VARIABLES	RATE_diff	LRATE_diff	BTD	BTD
Uword	2.1240***	1.8573***		
	(2.7322)	(3.7152)		
Age	0.0111***	0.0048***	0.0061***	0.0061***
	(4.9268)	(3.4686)	(10.1906)	(10.1917)
ROA	0.9937***	0.6057***	0.2823***	0.2823***
	(18.9568)	(18.0667)	(11.5633)	(11.5628)
Lev	-0.0852***	-0.0804***	-0.0141***	-0.0141***
	(-14.8756)	(-21.6010)	(-9.2266)	(-9.2254)
Size	0.0058***	0.0070***	0.0009***	0.0009***
	(7.1389)	(13.5187)	(3.8609)	(3.8570)
Director	0.0030	-0.0003	-0.0010	-0.0010
	(0.7020)	(-0.1011)	(-0.9321)	(-0.9321)
Top1	0.0113**	0.0075**	-0.0025*	-0.0025*
	(2.1203)	(2.2041)	(-1.8645)	(-1.8636)
Cash	-0.0063	-0.0211***	-0.0073***	-0.0073***
	(-1.0577)	(-5.4321)	(-3.9325)	(-3.9326)
Growth	-0.0000***	-0.0000**	-0.0000	-0.0000
	(-4.7779)	(-2.5566)	(-0.4372)	(-0.4362)
Uwordn			0.9642***	
			(5.2886)	
Uwordnl				0.9591***
				(5.2799)
Constant	-0.0272	-0.0343**	0.0036	0.0036
	(-1.1256)	(-2.0178)	(0.5821)	(0.5853)
N	22,229	22,229	22,229	22,229
R2	0.0908	0.1321	0.1097	0.1097

Notes: ***, **, and * indicate significant at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

4.3.2 Control the Financial Background of Executives

Individual executives are an integral factor affecting tax avoidance, and the financial background of executives affects the financing decisions of enterprises. (Cao & Xiao, 2014). Existing research shows that when executives have a financial background, they can have a significant tax avoidance effect. Compared with enterprises without financial background, those with financial background are more inclined to choose tax avoidance (Pei, 2023), so the financial background of executives may have an impact on the conclusion of this paper. Therefore, this paper introduces a new control variable, executive background, for regression. According to the regression results in columns (1) and (2) of Table 5, the coefficient of enterprises' uncertainty perception is significantly positive, which eliminates the interference that executives' financial background may have on the regression results and verifies the robustness of the regression model.

4.3.3 Control the Impact of Epidemic Years

Due to the outbreak of the COVID-19 pandemic in 2020, the financial situation of enterprises is largely affected. In this case, the economic uncertainty faced by enterprises has extreme value, so the data from 2020 and later years are excluded to verify whether the regression model is still valid. From the regression results in columns (3) and (4) of Table 5, it can be seen that the coefficient of enterprises' uncertainty perception is significantly positive, and the benchmark regression results are still valid after eliminating extreme values, which verifies the robustness of the regression model.

Table 5. Robustness Test: Eliminate Extreme Values

	(1)	(2)	(3)	(4)
VARIABLES	BTD	DDBTD	BTD	DDBTD
Uword	0.9799***	0.9245***	0.9233***	0.8552***
	(5.2350)	(5.0171)	(4.6182)	(4.3058)
Age	0.0061***	0.0045***	0.0059***	0.0045***
	(10.2041)	(7.4437)	(9.4770)	(7.1066)
ROA	0.2819***	0.2199***	0.2431***	0.1942***
	(11.5382)	(10.1946)	(9.3680)	(8.1527)
Lev	-0.0141***	-0.0125***	-0.0128***	-0.0103***
	(-9.2296)	(-6.8639)	(-7.6104)	(-4.9054)
Size	0.0008***	0.0009***	0.0007***	0.0007**
	(3.6825)	(3.6272)	(2.9105)	(2.3339)
Director	-0.0010	-0.0005	-0.0006	-0.0001
	(-0.9441)	(-0.4317)	(-0.4828)	(-0.0520)
Top1	-0.0023*	-0.0007	-0.0018	-0.0002
	(-1.7055)	(-0.5153)	(-1.2382)	(-0.1290)
Cash	-0.0076***	-0.0060***	-0.0071***	-0.0050***
	(-4.0689)	(-3.3770)	(-3.5796)	(-2.7091)
Growth	-0.0000	-0.0000	0.0000***	0.0000**
	(-0.5259)	(-0.4329)	(2.6656)	(2.4999)
finback	0.0087***	0.0046**		
	(3.7386)	(2.0264)		
Constant	0.0038	0.0015	0.0071	0.0054
	(0.6032)	(0.2270)	(1.0092)	(0.6963)
N	22,229	22,229	18,263	18,263
R2	0.1103	0.1028	0.0977	0.0909

Notes: ***, **, and * indicate significant at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

4.3.4 Endogenous Problem

In the regression of the empirical model, given that there are many influencing factors of corporate tax avoidance behavior, there may be endogenous problems such as missing variables. In this paper, the instrumental variable method is used for regression to verify the model's robustness and reduce endogenous problems.

In addition, the data of stage 1 lag is selected as the tool variable for the robustness test, with the results shown in columns (1) and (2) of Table 6. It is found that the benchmark regression results are still valid, which verifies the robustness of the regression model.

Table 6. Robustness Test: Endogenous Problems

	(1) stage1 (BTD)	(2) stage2 (BTD)
L.uword	0.5825***	
	(97.97)	
Uword		1.3485***
		(4.08)
Age	0.0001***	0.0058***
	(5.80)	(8.48)
ROA	-0.0003	0.3862***
	(-0.51)	(23.39)
Lev	0.0002***	-0.0164***
	(4.32)	(-11.59)
Size	-0.0000***	0.0013***
	(-4.51)	(6.21)
Director	0.0000	0.0003
	(1.30)	(0.27)
	0.0000	-0.0024*
	(0.97)	(-1.65)
	0.0000	-0.0073***
	(0.21)	(-4.04)
Growth	0.0000	0.0000*
	(-0.89)	(1.80)
Constant	-0.0001	0.0037
	(-0.41)	(0.54)
N	17,850	17,850
Adj R2	0.4021	0.1295
F	132.9191	

Notes: ***, **, and * indicate significant at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

4.3.5 Lagging Effect of Economic Policy Uncertainty

To study the persistence of tax evasion due to economic policy uncertainty, this paper makes a regression test on the explanatory variables lagging 3 stages. It can be seen from columns (1), (2), and (3) of Table 7 that the perception of lagging economic policy uncertainty L.uword, L2. uword and L3. uword are significantly positively correlated with tax evasion at the level of 1%. This manifests that the impact of enterprises' economic uncertainty perception on tax evasion is persistent and lasts for at least three stages.

Table 7. Robustness Test: Lagging Effect

	(1) btd	(2) btd	(3) btd
L.uword	0.7856***		
	(4.11)		
L2.uword		1.1321***	
		(5.45)	
L3.uword			1.3161***
			(5.65)
Age	0.0060***	0.0061***	0.0064***
	(9.06)	(7.95)	(7.00)
ROA	0.3858***	0.3875***	0.4388***
	(11.13)	(12.05)	(10.80)
Lev	-0.0161***	-0.0167***	-0.0144***
	(-9.63)	(-9.81)	(-6.46)
Size	0.0013***	0.0012***	0.0009***
	(5.52)	(5.16)	(3.07)
Director	0.0003	-0.0008	-0.0001
	(0.32)	(-0.63)	(-0.05)
	-0.0023	-0.0020	-0.0022
	(-1.62)	(-1.28)	(-1.25)
	-0.0073***	-0.0071***	-0.0050*
	(-3.62)	(-3.09)	(-1.80)
Growth	0.0000**	-0.0000***	0.0000
	(2.32)	(-3.68)	(0.94)
Constant	-0.0031	-0.0035	-0.0005
	(-0.42)	(-0.45)	(-0.06)
N	17,850	15,601	13,292
Adj R2	0.1347	0.1293	0.1375
F	0.1303	0.1242	0.1317

Notes: ***, **, and * indicate significant at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

4.4 Further Research

4.4.1 Heterogeneity of Enterprises' Property Rights

Existing research proves that different property rights have an impact on the tax avoidance of enterprises. Compared with non-state-owned enterprises, state-owned enterprises have a lower tax avoidance tendency (Xie, 2016). To study the influence of uncertainty perception on enterprises' tax evasion under different property rights, this paper divides enterprises into two groups: state-owned enterprises and non-state-owned enterprises, in which columns (1) and (2) are listed as the regression results of non-state-owned enterprises, while columns (3) and (4) are those of state-owned enterprises. According to regression results, the uncertainty perception for non-state-owned enterprises has a significant positive impact on tax evasion at the level of 1%, while there is no significant impact for state-owned enterprises.

Compared with non-state-owned enterprises, state-owned enterprises have less aggressive tax avoidance and state-owned enterprises are in monopoly with relatively stable economic strength. Therefore, when perceiving uncertainty, state-owned enterprises will choose to act conservatively. As for non-state-owned enterprises, profit maximization is their main business objective, so they are more sensitive to the external environment turbulence, and their competitive pressure and cash flow fluctuations will impose more motivation to evade taxes.

Table 8. State-owned Enterprises and Non-state-owned Enterprises

	(1) BTD	(2) DDBTD	(3) BTD	(4) DDBTD
	SOE=0		SOE=1	
Uword	1.4871***	1.4523***	0.2248	0.1165
	(5.48)	(5.54)	(0.83)	(0.44)
Age	0.0059***	0.0043***	0.0040***	0.0015
	(7.66)	(5.54)	(3.97)	(1.50)
ROA	0.2825***	0.2205***	0.2579***	0.1746***
	(9.50)	(8.26)	(5.38)	(4.55)
Lev	-0.0125***	-0.0114***	-0.0201***	-0.0129***
	(-5.48)	(-6.06)	(-9.56)	(-6.85)
Size	0.0016***	0.0016***	-0.0001	-0.0001
	(4.25)	(5.04)	(-0.18)	(-0.43)
Director	-0.0020	-0.0008	-0.0018	-0.0018
	(-1.26)	(-0.49)	(-1.13)	(-1.18)
Top1	-0.0051***	-0.0009	0.0025	-0.0005
	(-2.72)	(-0.45)	(1.13)	(-0.25)
Cash	-0.0054**	-0.0037*	-0.0140***	-0.0084***
	(-2.22)	(-1.73)	(-4.33)	(-2.73)
Growth	0.0000***	0.0000**	-0.0000***	-0.0000***
	(2.69)	(2.52)	(-3.27)	(-2.83)
Constant	0.0044	0.0034	0.0264***	0.0279***
	(0.46)	(0.37)	(3.10)	(3.37)
N	13,138	13,138	8,345	8,345
Adj R2	0.1075	0.1036	0.1332	0.1271

Notes: ***, **, and * indicate significant at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

4.4.2 Heterogeneity of Audit Quality

Given that audit supervision is an important external monitoring, high-quality external audits can restrain the behavior of enterprises and make their operation more compliant. Tax information is vital to financial statements, which is also one of the critical audit items of external audit. Existing research indicates that enterprises with higher audit quality will reduce tax avoidance to better control risks (Jin & Lei, 2011).

Referring to the existing research, this paper considers whether to adopt the four major accounting firms as the standard to measure the audit quality of enterprises. When the auditors employed by the company come from the four major accounting firms, their audit quality is high; otherwise, their audit quality is high, with their dummy variables assigned to 1 and 0 respectively. The regression results show that when the auditors are from the four accounting firms, there is no significant correlation between the perception of economic policy uncertainty and tax avoidance. However, when the audit quality of enterprises is poor, the higher the perception of enterprises' uncertainty, the stronger the motivation for tax avoidance.

This paper argues that the possible reasons for this phenomenon are that the enterprises are less constrained with low-quality audit supervision; when the economic uncertainty is higher, the enterprises with lower audit quality are less constrained. Moreover, the low-quality audit makes it difficult to accurately consider the risks, so enterprises are more inclined to obtain the risk premium of tax avoidance in the uncertain period, so as to implement tax avoidance behavior.

Table 9. High-Quality Audit and Low-Quality Audit

	(1) BTD	(2) DDBTD	(3) BTD	(4) DDBTD
	Big4=0		Big4=1	
Uword	0.9899***	0.9103***	-0.5329	-0.4117
	(5.10)	(4.78)	(-0.75)	(-0.54)
Age	0.0063***	0.0047***	0.0055*	0.0037
	(10.12)	(7.55)	(2.10)	(1.38)
ROA	0.2777***	0.2133***	0.4041***	0.2917**
	(10.89)	(9.81)	(4.57)	(3.22)
Lev	-0.0136***	-0.0116***	-0.0181*	-0.0225**
	(-8.55)	(-6.02)	(-2.34)	(-2.95)
Size	0.0007**	0.0007*	0.0016*	0.0015*
	(2.68)	(2.25)	(2.37)	(2.11)
Director	-0.0012	-0.0005	0.0046	0.0080
	(-1.00)	(-0.41)	(1.14)	(1.95)
Top1	-0.0018	-0.0001	-0.0090	-0.0106
	(-1.30)	(-0.07)	(-1.53)	(-1.94)
Cash	-0.0071***	-0.0052**	-0.0116	-0.0203
	(-3.74)	(-2.88)	(-1.21)	(-1.92)
Growth	0.0000	0.0000	0.0001	0.0001
	(-0.57)	(-0.51)	(1.17)	(0.89)
Constant	0.0065	0.0059	-0.0646**	-0.0449*
	(0.98)	(0.79)	(-3.14)	(-2.15)
N	20,809	20,809	1,399	1,399
Adj R2	0.1031	0.0954	0.2466	0.2796

Notes: ***, **, and * indicate significant at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

4.4.3 Heterogeneity of Financial Constraints

One of the reasons why uncertainty perception affects tax evasion is that external economic uncertainty enhances the financial constraints of enterprises and reduces their cash flow, thus increasing the tax avoidance motivation of enterprises. According to the research of Zhao Meng et al. (2020), when the financial constraints are strengthened, the tendency of enterprises to evade taxes will be strengthened. To further explore whether the influence of enterprises with different financial constraints on tax evasion is heterogeneous, this paper is divided into two groups: strong financial constraints and weak financial constraints.

KZ index is key to measuring the financial constraints of enterprises. The larger KZ index means the higher financial constraints of listed companies. In this paper, the sample enterprises are regressed according to the average of the KZ index. When the KZ index of enterprises is greater than the average, it is considered that the enterprises are subject to a high degree of financial constraints, which is strong financial constraints; otherwise vice versa, weak financial constraints.

Columns (1) and (2) of the table are listed as weak financial constraints, while columns (3) and (4) are listed as strong financial constraints. Based on the regression results, as for strong financial constraints, the regression coefficients of BTD and DDBTD are positive and significant at the level of 1%, with regression coefficients of 1.2612 and 1.2444 respectively. As for the weak financial constraints, the regression coefficient is only significant at the level of 10%, with the regression coefficient obviously lower than that of strong financial constraints. It shows that when enterprises are under strong financial constraints, uncertainty perception can make enterprises tax avoidance, which verifies the previous analysis.

Table 10. Weak and Strong Financial Constraints

	(1) BTD	(2) DDBTD	(3) BTD	(4) DDBTD
	Weak financial constraints		Strong financial constraints	
Uword	0.5868**	0.5286*	1.2616***	1.2444***
	(1.98)	(1.87)	(5.43)	(5.21)
Age	0.0072***	0.0060***	0.0042***	0.0021**
	(7.97)	(6.75)	(5.42)	(2.57)
ROA	0.3695***	0.2771***	0.1915***	0.1502***
	(7.99)	(6.91)	(7.22)	(5.97)
Lev	-0.0139***	-0.0065***	-0.0073***	-0.0084***
	(-5.19)	(-2.69)	(-3.55)	(-2.84)
Size	0.0012***	0.0007**	0.0000	0.0004
	(3.45)	(2.19)	(-0.08)	(1.08)
Director	-0.0036*	-0.0041**	0.0007	0.0019
	(-1.90)	(-2.33)	(0.54)	(1.48)
Top1	-0.0023	-0.0002	-0.0038**	-0.0028
	(-1.06)	(-0.11)	(-2.29)	(-1.54)
Cash	-0.0135***	-0.0120***	-0.0041	-0.0051*
	(-5.41)	(-4.96)	(-1.30)	(-1.79)
Growth	0.0001**	0.0001*	0.0000	0.0000
	(2.12)	(1.65)	(-0.54)	(-0.14)
Constant	0.0036	0.0143	0.0165*	0.0062
	(0.38)	(1.54)	(1.96)	(0.67)
N	10,680.0000	10,680.0000	11,549.0000	11,549.0000
Adj R2	0.1274	0.1225	0.0812	0.0762

Notes: ***, **, and * indicate significant at the 1%, 5%, and 10% levels respectively. The t value in parentheses is clustered at the firm level.

5. Research Conclusions and Policy Suggestions

Using the annual data of listed companies in China from 2011 to 2021 as samples, this paper not only discusses the relationship between the perception of economic uncertainty and the degree of tax avoidance, but also examines how the perception of economic uncertainty affects tax avoidance under different property rights, audit quality, and financial constraints. The empirical results show that: (1) The perception of economic uncertainty has a significant impact on corporate tax avoidance behavior, and the stronger the perceived uncertainty, the higher the corporate tax avoidance motivation. (2) Compared with state-owned enterprises, non-state-owned enterprises are more likely to evade tax when they perceive uncertainty. (3) The lower the audit quality, the easier it is for enterprises to avoid tax when they perceive uncertainty. (4) The higher the degree of financial constraint, the more significant the influence of economic uncertainty on tax avoidance behavior.

At present, the international political situation is grim with safety and health incidents occurring frequently. To meet the challenges at home and abroad, the state constantly optimizes fiscal and taxation policies to support enterprises' development. Against this background, the conclusions have full practical significance with the following policy suggestions.

First, make long-term plans to stabilize economic policies. The results of this paper prove that economic uncertainty will increase tax avoidance of enterprises. In current practice, China's economic policies pay attention to short-term effects with many changes and poor sustainability. However, frequently changing policies will worsen the stability of enterprises and lower sustainability expectations, thus affecting enterprises' operational decisions. Hence, the government should make long-term plans, enhance the stability of policies, and make enterprises more predictable about the future economic situation. At the same time, the government should emphasize the coordination of old and new policies as well as the policy transition when formulating policies, so that enterprises can adapt to and survive the unstable economic environment more smoothly.

Secondly, strengthen tax supervision and improve the ability of tax collection and management. Improving the ability of tax collection and management is a significant means to reduce enterprises' tax avoidance. The government should improve tax supervision, innovate the way of tax supervision, and enable enterprises to decrease the tax burden through legal compliance. To strengthen tax supervision, we must first promote tax legislation and modern tax legal systems. Besides, it is necessary to enhance digital tax collection and management using big data such as "Internet Plus" and other technologies to strengthen the construction of its system. In addition, digital tax collection and management should be upgraded to strengthen the construction of smart taxation, popularize the tax platform, and connect individual departments to implement digital monitoring of tax sources. Finally, it is of considerable significance to highlight the ability of tax collection and management of authorities, and improve the awareness of tax collection and management and law enforcement ability of inspectors.

Thirdly, supporting policies should be introduced to enhance the ability of enterprises to cope with uncertainties. This paper analyzes the influence of economic uncertainty on tax avoidance under different financial constraints, which finds that enterprises tend to avoid tax under uncertain circumstances with large financial constraints, an important factor for enterprises to face uncertain risks. Therefore, the government should pay attention to the problem of enterprise financing and provide related support. First of all, the government improves the supervision of the credit market and provides green credit channels for enterprises to tackle uncertainty through external financing. Meanwhile, to increase the support for non-state-owned enterprises, especially small and micro enterprises, this study clearly proves that non-state-owned enterprises will choose to avoid taxes when facing uncertainty with a more significant impact. Therefore, the government should support them and use preferential policies to solve their "difficult and expensive financing" and guide them to carry out enterprise transformation and innovation.

References

[1] Wang, H. J., Li, Q. Y. & Xing, F. (2014). Economic policy uncertainty, cash holdings and market value. Journal of Financial Research, (09), 53-68.

[2] Xu, Y. K., Qian, X. H. & Li, W. A. (2013). Political uncertainty, political connection, and private enterprise investment—Evidence from the replacement of municipal party committee secretaries. Journal of Management World, (05), 116-130.

[3] Xia, T. S., Tang, Q. & Wang, Y. Y. (2020). Economic policy uncertainty, information disclosure quality, and corporate debt financing ability. Wuhan Finance, (12), 31-40.

[4] Tan, X. F. & Zhang, W. J. (2017). The transmission mechanism analysis of the impact of economic policy uncertainty on corporate investment. The Journal of World Economy, 40(12), 3-26.

[5] Chen, D., Kong, M. Q. & Wang, H. J. (2016). Give and take: Economic cycle and tax avoidance of state-owned enterprises. Journal of Management World, (05), 46-63.

[6] Chen, D. Q., Chen, Y. S. & Dong, Z. Y. (2016). Policy uncertainty, intensity of tax collection and management, and enterprise tax evasion. Journal of Management World, (05), 151-163.

[7] Li, C., Wu, Y. H. & Hu, W. J. (2016). Board interlocks, tax avoidance, and firm value. Accounting Research, (07), 50-57+97.

[8] Jin, X. & Lei, G. Y. (2011). Audit supervision, property of ultimate controller and tax aggressiveness. Auditing Research, (05), 98-106.

[9] Fang, M. Y., Nie, H. H., Ruan, R. et al. (2023). Enterprises' digital transformation and perception of economic policy uncertainty. Journal of Financial Research, (02), 21-39.

[10] Nie, H. H., Ruan, R. & Shen, J. (2020). Firm perception of uncertainty, investment decisions and financial asset allocation. The Journal of World Economy, 43(06), 77-98. DOI:10.19985/j.cnki.cassjwe.2020.06.005.

[11] Chen, D. Q., Jin, Y. L. & Dong, Z. Y. (2016). Policy uncertainty, political connection and firm's innovation efficiency. Nankai Business Review, 19(04), 27-35.

[12] Cao, Y., Dong, H. L., Cu, W. H. et al. (2019). Economic policy uncertainty and avoidance of corporate tax evasion. Securities Market Herald, (04), 22-32.

[13] Zhao, M. & Ye, L. (2020). Economic policy uncertainty, financial constraints and firm tax avoidance. Journal of Central University of Finance & Economics, (02), 67-78. DOI:10.19681/j.cnki.jcufe.2020.02.006.

[14] Chen, Z. H. & Fang, H. X. (2018). Financial constraints, internal control and corporate tax avoidance. Journal of Management Science, 31(03), 125-139.

[15] Peng, Y. C., Han, X. & Li, J. J. (2018). Economic policy uncertainty and corporate financialization. China Industrial Economics, (01), 137-155.

[16] Zhang, C. Y. (2022). Research on the impact of tax reduction policy on enterprise innovation quality. Wuhan: Doctoral Dissertation of Zhongnan University of Economics and Laws.

[17] Xu, G. W., Sun, Z. & Liu, X. (2020). The influences of economic policy uncertainty on the preference of enterprise investment structure: Evidence from China's EPU index. Management Review, 32(01), 246-261.

[18] Liu, J. M., Zhang, L. L. & Yang, X. X. (2019). Government subsidy, management power and state-owned executives' excess remuneration. Accounting Research, (08), 64-70.

[19] Pei, Y. Y. (2023). Research on the influence of senior executives' securities finance background on corporate tax avoidance behavior. Marketing Management Review, (02), 143-145.

[20] Zhu, M. L., Yu, X. L. & Cheng, Y. (2015). A study on the determinants of enterprise annuity strategy—Focusing on the tax incentives of listed companies. Insurance Studies, (01), 8-21.

[21] Xie, J., Tang, G. P. & Xiang, Y. R. (2016). Management ability, nature of property right, and corporate tax avoidance. Journal of Jiangxi University of Finance and Economics, (02), 43-59.

[22] Chong, R. (2022). Research on the tax policy uncertainty and corporate tax compliance. Beijing: Master's Dissertation of Central University of Finance & Economics.

[23] Chen, J. & Xu, Y. D. (2015). Internal control and corporate tax avoidance. Auditing Research, (03), 100-207.

[24] Liu, Z. Y., Wang, C. F., Peng, T. et al. (2017). Economic policy uncertainty and corporate risk taking: Opportunities seeking or loss aversion? Nankai Business Review, 20(06), 15-27.

[25] Sun, Y. & Zhang, S. Q. (2020). Influencing factors and economic consequences of corporate tax evasion. Communication of Finance and Accounting, (18), 12-16.

[26] Li, X. L., Fang, S. Y. & Zhang, L. (2016). CEO power, customer concentration and intensity of corporate tax avoidance. Modern Finance and Economics—Journal of Tianjin University of Finance and Economics, 36(09), 100-113. DOI:10.19559/j.cnk i.12-1387.2016.09.009.

[27] Zheng, L. H. (2010). Political connection of independent directors and firm performance. Contemporary Economy & Management, 32(11), 20-25. DOI:10.13253/ j.cnki.ddjjgl.2010.11.012.

[28] Li, C., Wu, Y. H. & Hu, W. J. (2016). Board interlocks, tax avoidance, and firm value. Accounting Research, (07), 50-57+97.

[29] Xie, J., Tang, G. P. & Xiang, Y. R. (2016). Management ability, nature of property right, and corporate tax avoidance. Journal of Jiangxi University of Finance and Economics, (02), 43-59.

[30] Gulen, H. & Ion, M. (2015). Policy uncertainty and corporate investment. Review of Financial Studies, 29(3), 523-564 .

[31] Stein, L. C. D. & Stone, E. (2013). The effect of uncertainty on investment, hiring, and R&D: Causal evidence from equity options. Ssrn Electronic Journal. DOI:10.2139/ssrn.1649108.

[32] Durnev, A. (2010). The real effects of political uncertainty: Elections and investment sensitivity to stock prices. SSRN Electronic Journal.

[33] Detzel, Andrew, Brogaard, et al. (2015). The asset-pricing implications of government economic policy uncertainty. Management Science Journal of the Institute of Management Sciences.

[34] Pantzalis, C., Stangeland, D. A. & Turtle, H. J. (2000). Political elections and the resolution of uncertainty: The international evidence. Journal of Banking & Finance, 24(10), 1575-1604.

[35] Baker, S. R., Bloom, N. & Davis, S. J. (2011). Measuring economic policy uncertainty. SSRN Electronic Journal.

[36] Hartman, R., Lizzeri, A. & Shell, K. (1972). The effects of price and cost uncertainty on investment.

[37] Abel, A. B. (2001). Optimal investment under uncertainty. Princeton University Press.

[38] Wolfgang, D., Sadok, E. G., Omrane, G, et al. (2018). Policy uncertainty, investment, and the cost of capital. Journal of Financial Stability, 39, 28-45.

[39] Tillmann, P. (2019). Uncertainty about federal reserve policy and its transmission to emerging economies: Evidence from Twitter.

[40] Pantzalis, C., Stangeland, D. A. & Turtle, H. J. (2000). Political elections and the resolution of uncertainty: The international evidence. Journal of Banking & Finance, 24(10), 1575-1604.

[41] Bhattacharya, U., Hsu, P., Tian, X. et al. (2017). What affects innovation more: Policy or policy uncertainty?. Journal of Financial and Quantitative Analysis, 52(5).

[42] Bhgwat, V., Dam, R. & Harford, J. (2016). The real effects of uncertainty on merger activity. The Review of Financial Studies, 29(11).

[43] Richardson, G., Lanis, R. & Taylor, G. L. (2015). Financial distress, outside directors and corporate tax aggressiveness spanning the global financial crisis: An empirical analysis. Journal of Banking & Finance, 52, 112-129.