Modern Management Science & Engineering
ISSN ISSN 2052-2576
Vol. 8, No. 2, 2026
www.scholink.org/ojs/index.php/mmse

Original Paper

Research on the Influence of Firm Economic Policy Uncertainty Perception on the Level of Firm Risk Taking

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Received: December 29, 2025 Accepted: February 22, 2026 Online Published: March 5, 2026

doi:10.22158/mmse.v8n2p11 URL: http://dx.doi.org/10.22158/mmse.v8n2p11

Abstract

Risk-taking level is a key factor determining corporate performance and growth rate. Moderate risk-taking contributes to the maximization of corporate value and high-quality economic development. However, corporate risk decisions are highly reliant on the anticipation of the macroeconomic environment. Current research often assumes that firms have a consistent perception of external uncertainties and employs national-level indicators to measure economic policy uncertainty. This paper innovatively approaches from the perspective of firm-level perception of economic policy uncertainty, taking into account perception heterogeneity, and delves into its impact on corporate risk-taking levels. It aims to enrich theoretical and empirical research in the field that combines macro and micro perspectives, providing decision-making references for government and corporate departments. Subsequently, hypotheses are proposed, and using China's Shanghai and Shenzhen A-share listed companies as the research subjects, this paper empirically examines the impact of the perception of economic policy uncertainty on corporate risk-taking levels and explores the mediating role of corporate investment. Based on the above conclusions, this paper puts forward policy recommendations from the perspectives of government policy formulation and implementation, the disclosure of firms' perception of economic policy uncertainty, investment decisions, and internal governance. This study enriches research in the field that integrates macro and micro perspectives, offering insights for the country to formulate long-term and stable economic policies and providing valuable references for firms to understand uncertainty and maintain appropriate risk-taking levels.

Keywords

Economic policy uncertainty perception, Corporate risk taking, Corporate investment, Internal control, financing constraints

1. Introduction

The report to the 20th National Congress of the Party explicitly states that high-quality development is the paramount task in building a modern socialist country in all respects. General Secretary has emphasized that the implementation of the innovation-driven development strategy must firmly grasp innovation as the "primary driving force." Within this strategic framework, enterprises, as the most dynamic innovators, have their innovation capabilities, operational vitality, and market competitiveness become key factors driving high-quality development. This requires enterprises to maintain an appropriate willingness to take risks, actively allocate resources efficiently, and strategically invest in high-risk innovation projects of strategic significance. Currently, China is at a critical juncture of economic transformation, and the establishment of a scientific and reasonable risk-taking mechanism is essential for both micro-level corporate value creation and macro-level high-quality economic development. This important discourse profoundly reveals the intrinsic connection between risk-taking and innovative development, providing clear guidance for the transformation and upgrading of enterprises in the new era.

Existing research on corporate risk-taking levels raises several issues worthy of in-depth consideration: Firstly, the current literature primarily focuses on micro-level analysis, emphasizing internal factors such as managerial personal characteristics and corporate governance structures, while seldom systematically examining the impact of macroeconomic policy uncertainty—an external environmental factor—on corporate risk-taking. More critically, there exists theoretical divergence in existing research regarding the relationship between policy uncertainty and corporate risk-taking. The "opportunity expectation" hypothesis and the "risk aversion" hypothesis have reached diametrically opposed conclusions, and the underlying mechanisms between them have not been adequately explained. This research gap provides significant academic space for delving into the intrinsic influencing mechanisms of economic policy uncertainty on corporate risk-taking. Secondly, previous literature has predominantly employed the Economic Policy Uncertainty (EPU) index developed by Baker for measurement. However, this indicator has a significant limitation: it assumes that all firms perceive economic policy changes uniformly. In reality, different firms often exhibit varying attitudes and sometimes even diametrically opposed responses toward the same economic policies.

Nie Huihua pioneered the innovative concept of "firm uncertainty perception" and constructed the "Firm-level Economic Policy Uncertainty Perception Index (FEPU)" based on textual analysis of corporate annual reports. This index maintains inherent consistency with the macro-level EPU index in terms of construction logic and trend characteristics, but more accurately reflects the heterogeneous perceptions of policy uncertainty among different firms in China. He Chao further validated the effectiveness of this concept and measurement method in his research. Subsequently, Fang Mingyue explicitly defined this concept as "economic policy uncertainty perception," describing it as the subjective cognitive degree of uncertainty that firms perceive at the micro level in response to macroeconomic policy changes. This conceptual framework and its measurement method have

gradually gained widespread recognition in academia and have been continuously applied and developed in subsequent research.

This study is grounded in the theoretical framework of "economic policy uncertainty perception" proposed by Nie Huihua and Fang Mingyue. It constructs a theoretical logic chain of "environment-cognition-behavior" to systematically investigate how the perception of economic policy uncertainty among listed companies in China influences their risk-taking levels. The study innovatively selects corporate investment behavior as a mediating pathway to uncover the internal mechanisms through which economic policy uncertainty perception affects risk-taking. Meanwhile, taking into account the heterogeneous characteristics of firms, this study introduces internal control quality as a moderating variable to explore the differentiated manifestations of corporate risk-taking behavior under varying governance levels. This multidimensional research design not only expands the existing theoretical framework but also helps to bridge the gap in current research on the micro-level transmission mechanisms of economic policy uncertainty.

1.2 Research Significance

Existing theoretical research on corporate risk-taking primarily focuses on internal firm attributes, including fundamental firm characteristics, managerial traits, and corporate governance structures, while relatively neglecting the impact of external macroeconomic environments, particularly changes in economic policies. This study innovatively adopts a firm-subjective cognitive perspective and systematically explores the complete mechanism through which changes in the external policy environment are transmitted to risk-taking behavior via the mediating variable of "economic policy uncertainty perception." This research approach not only enriches the theoretical connotations of corporate risk-taking but also establishes a theoretical bridge connecting macroeconomic policy environments with micro-level firm behavior.

Economic policy uncertainty exerts a significant influence on corporate operational decisions. Firms need to adopt a rational approach in response to changes in the external environment, actively seizing development opportunities while mitigating risks. When firms perceive a high level of economic policy uncertainty, this perception directly impacts management's investment decisions by altering the degree of financing constraints faced by the firm, which in turn affects the firm's willingness to take risks and its project selection strategies. Delving into the underlying mechanisms between economic policy uncertainty and corporate risk-taking not only helps firms more accurately assess the impacts of policy environment changes but also provides a theoretical basis for management to make decisions in complex operational environments, thereby enhancing the firm's strategic responsiveness and sustainable development capabilities in a dynamic market landscape.

2. Literature Review

Economic policy adjustments are closely intertwined with fluctuations in the economic cycle. Existing research indicates that economic policy uncertainty has emerged as a significant impediment to global

economic recovery (Bachmann et al., 2010). Multiple classic studies have confirmed that economic policy uncertainty exerts a notable negative impact on macroeconomic performance: Research by Mumtaz and Surico (2018) all highlight that uncertainty surrounding regulatory policies, monetary policies, and fiscal policies intensifies fluctuations in macroeconomic variables. Taking Japan as an example, Arbatli (2022) constructed an EPU index tailored to Japan's national context and found that this index surged significantly during national elections and the COVID-19 pandemic. They further validated, using a VAR model, the negative predictive effect of rising EPU on Japan's macroeconomy.

Lumpkin and Dess (1996) were among the first to define it as a crucial indicator for assessing a firm's development potential, characterized by the firm's willingness to incur high costs in pursuit of high returns. Wright(1996) approached it from an outcome perspective, suggesting that a firm's level of risk-taking is reflected in the unpredictability of its future income streams, which stems from the firm's selection of projects with uncertain returns. In recent years, scholars have generally interpreted corporate risk-taking as the proactive selection of projects with positive net present values but higher risks (Haider, 2018). This definition places greater emphasis on the strategic decision-making nature of firms in balancing risks and returns.

Existing research on the impact of economic policy uncertainty on bank risk-taking has primarily reached the following consensus: Most studies indicate a positive correlation between the two (Ng, 2020), although differences exist in the types of risk-taking. Gu and Yu (2019) found that economic policy uncertainty inhibits proactive risk-taking by banks while exacerbating passive risk-taking. From the perspective of business structure, Pan (2020) pointed out that when policy uncertainty rises, banks tend to lower loan approval standards and increase on-balance-sheet lending, leading to an elevation in the level of risk-taking in on-balance-sheet operations. More importantly, research by Gu Haifeng and Zhu (2022) revealed the mechanism through which economic policy uncertainty amplifies systemic risk by enhancing bank risk-taking. Collectively, these findings demonstrate that the impact of economic policy uncertainty on bank risk-taking exhibits multidimensional and transmissive characteristics.

3. Research Design

To encompass as many uncertainty events as possible, this study selects the period from 2008 to 2023, spanning between the global financial crisis and the policy relaxation following the COVID-19 pandemic, as the foundational examination interval. The initial sample consists of A-share listed companies on the Shanghai and Shenzhen Stock Exchanges. Given that corporate risk-taking is calculated using a rolling three-year data approach (t-1, t, t+1), the final dataset covers the years 2008 to 2022.

Enterprise risk-taking depends on its assessment of expected returns and potential risks from risky projects. When economic policy uncertainty rises, firms adjust risk preferences and investment

decisions, directly affecting overall risk-taking levels. This reflects strategic responses under uncertainty.

3.1 Research Hypotheses

3.1.1 The Direct Impact of Enterprise Uncertainty Perception on Enterprise Risk-taking

Based on real options theory (Myers, 1977), firms view high-risk projects as combinations of real options. Delay options, akin to financial call options, encourage firms to wait for more information before committing to irreversible investments. This shifts resources to short-term, flexible, but potentially riskier projects. To maintain flexibility, firms may adopt higher-risk strategies like diversifying into policy-sensitive industries or engaging in risk arbitrage.

Under risk compensation theory, higher policy uncertainty increases systemic risk and capital costs, forcing firms to pursue higher-return projects to meet investor return thresholds. This creates a dual mechanism: firms chase high-risk projects to sustain profits , and only high-risk, high-return projects can overcome elevated capital costs. Thus, policy uncertainty elevates overall risk-taking by compelling firms to compensate for systemic risk premiums.

Based on the above, we propose Hypothesis H1:

H1: Perceived economic policy uncertainty is positively correlated with corporate risk-taking levels; higher perceived uncertainty leads to greater risk-taking.

3.1.2 The Intermediary Effect of Corporate Investment

Economic policies, as key government measures, often generate significant uncertainty during their formulation and implementation, which can trigger chain reactions in corporate financial behavior (Zhang, 2015). When firms perceive changes in economic policy uncertainty, their behavior—particularly investment decisions—adjusts accordingly, influencing profitability and ultimately altering risk-taking levels.

According to real options theory, high-risk investments involve substantial sunk costs and irreversibility, leading managers to treat them as timed options. Rising policy uncertainty increases ambiguity about future growth prospects, enhancing the value of delaying investments. Rational managers thus adopt a "wait-and-see" strategy, postponing high-risk projects to reduce current risk exposure. Firms also defer major irreversible investments in uncertain environments, shifting resources to short-term, flexible, yet riskier alternatives.

Abel and Blanchard noted that policy uncertainty's risk premium might incentivize firms to invest for future excess returns, while Bloom (2007) observed that some firms exploit uncertainty to gain market advantages, particularly in tech-driven or policy-sensitive industries. Hu (2023) found that digital transformation mitigates uncertainty's investment-suppressing effects by boosting demand and lowering financing costs, suggesting uncertainty can drive expansion under specific conditions.

Under risk compensation theory, policy uncertainty, while signaling risk, may stimulate investment in certain contexts. Uncertain policies often create high-return opportunities that compensate for risk, encouraging dynamic portfolio adjustments or accelerating market shifts toward emerging sectors. Thus,

uncertainty can indirectly promote investment by raising expected returns, optimizing resource allocation, or fostering innovation.

Hypothesis H2: Elevated perceived economic policy uncertainty encourages corporate investment, thereby increasing risk-taking levels.

3.2 Research Methods

Given that China's capital market is not yet fully mature and contains speculative elements, using stock market return volatility as a measure has limitations. The survival probability used to gauge a firm's viability is overly simplistic. A firm's risk-taking level should comprehensively reflect the outcomes of various risky investment decisions, and a single financial indicator cannot fully capture this. The volatility of a company's future earnings is currently the most widely applied and highly recognized method for measuring corporate risk-taking levels. This is because if a company opts for a more aggressive investment strategy in its decision-making, it will bear greater risks, leading to significant fluctuations in its profitability. Therefore, this study draws on the approach of Yu (2013a) and uses the volatility of corporate earnings to measure risk-taking levels, with a positive correlation between the magnitude of volatility and the level of risk-taking. The calculation process involves first subtracting the industry mean ROA from the firm's year-end return on assets (ROA) to obtain adjusted corporate earnings (ADJ_ROA). Subsequently, the range (RISK) of these adjusted corporate earnings is calculated on a rolling basis over a three-year observation period. The specific calculations are shown in Equations 4.1, 4.2, and 4.3.

$$RISK_{it} = Max(ADJ\_ROA_{i,t}) - Min(ADJ\_ROA_{i,t}) \quad \text{.....(3.1)}$$

$$ADJ\_ROA_{i,t} = \frac{EBIT_{i,t}}{ASSET_{i,t}} - \frac{1}{X}\sum_{k=1}^{X}\frac{EBIT_{k,t}}{ASSET_{k,t}} \quad \text{.....(3.2)}$$

$$ROA_{i,t} = \frac{EBIT_{i,t}}{ASSET_{i,t}} \quad \text{.....(3.3)}$$

In the above equations, $ROA_{i,t}$ represents the corporate earnings indicator, calculated as the ratio of the earnings before interest and taxes (EBIT) of firm i in year t to its total assets (ASSET) at the end of that year. X denotes the total number of companies in a certain industry, while k represents the k-th listed company within that industry. $ADJ\_ROA_{i,t}$ is the $ROA_{i,t}$ adjusted for annual and industry mean values, and RISKi,t serves as the dependent variable.

Proposed by Nie (2020), the Firm-level Economic Policy Uncertainty Perception Index (FEPU) is constructed using textual data from annual reports of listed companies. This index not only retains the textual analysis advantages of the traditional EPU index but also overcomes its macro-level limitations: on one hand, it captures changes in the overall policy environment (Fang, 2023); on the other hand, it reflects differences in individual firm perceptions while avoiding multicollinearity issues with time

fixed effects. Given these methodological advantages, this study adopts the FEPU index as the measurement indicator for the core explanatory variable.

This indicator constructs word lists for "economic policy terms" and "uncertainty terms." The former includes 44 terms such as "policy," "monetary policy," "law," and "regulation," while the latter comprises 51 terms including "risk," "market risk," "uncertainty," and "volatility." These terms are screened within the "Management Discussion and Analysis" section of listed companies' annual reports. If a sentence simultaneously contains terms from both word lists, it is identified as a sentence (P) representing economic policy uncertainty. Assuming there are a total of N words in the "Management Discussion and Analysis" section, and the total number of uncertainty terms in sentence P is ns, the ratio of ns to N represents the degree of perceived economic policy uncertainty. The calculation formula is shown in (3.4), where $I_p(S)$ is an indicator function that equals 1 when S belongs to P and 0 otherwise.

$$FEPU_{i,t} = \sum_{S=1}^{S_{i,t}} n_S I_S(S) / N \quad \text{.....(3.4)}$$

3.3 Mediating Variable

In measuring corporate investment behavior, existing studies predominantly use the ratio of capital expenditures to total assets as a key metric (Li, 2022). Research on the relationship between economic policy uncertainty (EPU) and corporate investment generally focuses on real investment rather than financial asset investment (Li & Yang, 2015), primarily due to two theoretical considerations:

First, real options theory emphasizes the critical role of investment irreversibility. Long-term assets such as fixed assets, being difficult to liquidate and having long payback periods, are more sensitive to uncertainty (Zhang, 2023). Second, there is theoretical disagreement regarding EPU's impact on financial asset allocation, with studies reporting both promoting effects (Liu, 2020) and inhibiting effects (Peng, 2018).

Building on these methodological consensus and theoretical foundations, this paper adopts the measurement approach of Rao (2017), using the ratio of total cash paid for the acquisition of fixed assets, intangible assets, and other long-term assets to year-end total assets as a proxy for real investment.

3.4 Control Variables

This paper selects several factors that may influence corporate risk-taking levels as control variables, including financial leverage (LEV), short-term liquidity (CASHFLOW), board size (MBOARD), firm size (SIZE), profitability (ROA), firm growth (GROWTH), proportion of independent directors (INDER), and executive compensation (top3). The specific definitions and calculation methods for each variable are detailed in Table 4.1.

Table 4.1 Variable Naming and Measurement Methods

variable	code	name	measurement method
explained variable	RISK	Corporate risk-taking level	The rolling range of ROA adjusted by the annual industry average for the next three periods
explanatory variable	FEPU	Perception of economic policy uncertainty	Perceived index of economic policy uncertainty (multiplied by 100) obtained based on text analysis of corporate annual reports
mediating variable	INVEST	Corporate investment	The sum of cash paid for fixed assets, intangible assets, and other long-term assets / total assets
control variable	LEV	financial leverage	Total liabilities / Total assets
	CASHFLOW	short-term liquidity	Cash flow from operating activities / total assets
	BOARD	Board size	The natural logarithm of the number of board members
	SIZE	company size	Take the logarithm of the total income
	ROA	Corporate profitability	EBIT/total assets
	GROWTH	Corporate growth	Annual growth rate of operating income
	INDER	Proportion of independent directors	Number of independent directors / Total number of board members
	TOP3	executive compensation	Total compensation of the top three executives / total compensation

3.5 Mediating Effect

The relationship between firms' perceived economic policy uncertainty and their risk-taking levels constitutes the focal point of this study. Meanwhile, to explore the underlying mechanisms between these two variables, this paper selects corporate investment and financing constraints as mediating variables from the perspectives of investment and financing, respectively, to examine the mediating channels. Additionally, internal control is chosen as a moderating variable to test its moderating effects. First, to test Hypothesis H1, this paper constructs regression model (3.5):

$$RISK_{i,t} = c_0 + c_1 FEPU_{i,t} + c_k CONTROLS_{i,t} + YEAR_t + FIRM_i + \varepsilon_{i,t} \text{ …..……(3.5)}$$

In Model (3.5), the definitions of RISK and FEPU are provided in Table 3.1. If the regression coefficient c_1 is significantly negative, it indicates that perceived economic policy uncertainty suppresses corporate risk-taking levels. Conversely, if c_1 is significantly positive, it suggests a significant positive relationship between the two variables. $CONTROLS_{i,t}$ represents a set of control variables, with details outlined in Table 3.1. $YEAR_t$ denotes year fixed effects to account for macroeconomic environmental changes, while $FIRM_i$ captures firm-specific characteristics through individual fixed effects. $\varepsilon_{i,t}$ represents the residual term.

To test Hypothesis H2, this paper constructs a mediation effect test model following the approach of Wen Zhonglin and Ye Baojuan (2014)[24]. The "three-step" mediation analysis framework is employed, with the following models:

$Y = cX + e_1$ $M = \alpha X + e_2$ $Y = c'X + \beta M + e_3$

Here, Y represents corporate risk-taking, X is the explanatory variable (perceived economic policy uncertainty), and M is the mediating variable (corporate investment). If c_1 in Model (3.5) is significantly positive, the first step of the mediation test is satisfied. Subsequently, a new model (3.6) is constructed to examine the impact of perceived economic policy uncertainty on corporate investment.

$$INVEST_{i,t} = \alpha_0 + \alpha_1 FEPU_{i,t} + \alpha_k CONTROLS_{i,t} + YEAR_t + FIRM_i + \varepsilon_{i,t} \text{ ……(3.6)}$$

If the coefficient α_1 is statistically significant, the second step of the mediation test is passed. If α_1 is not significant, a Sobel test should be conducted. Subsequently, Model (3.7) is constructed to examine the mediating role of corporate investment in the relationship between perceived economic policy uncertainty and corporate risk-taking:

$$RISK_{i,t} = \beta_0 + c_1' FEPU_{i,t} + \beta_1 INVEST_{i,t} + \beta_k CONTROLS_{i,t} + YEAR_t + FIRM_i + \varepsilon_{i,t} \text{ ...(3.7)}$$

If β is statistically significant, while both α_1 and c' are also significant, and the product $\alpha_1\beta_1$ shares the same sign as c, this indicates a significant partial mediation effect. If α_1 and β_1 are both significant but c is not, it suggests that the explanatory variable's impact on the dependent variable is fully mediated through the mediator. If at most one of α_1 or β_1 is significant (i.e., $\alpha_1\beta_1 = 0$), a Sobel test should be conducted. A statistically significant Sobel test result indicates the presence of a significant mediation effect.

4. Empirical Analysis

4.1 Descriptive Statistics

Table 4.1 Descriptive Statistical Analysis of Main Variables

variable	sample size	average	standard deviation	minimum	maximum
FEPU	23611	0.085	0.089	0	0.499
RISK	23611	0.031	0.035	0	0.435
INVEST	23611	0.114	0.075	0.003	0.755
LEV	23611	0.435	0.198	0.027	0.979
CASHFLOW	23611	0.05	0.069	-0.289	0.349
BOARD	23611	2.15	0.197	1.609	2.773
ROA	23611	0.039	0.06	-0.714	0.332
GROWTH	23611	0.036	0.111	-0.1	1.759
INDEP	23611	0.374	0.054	0.25	0.6
TOP3	23611	0.48	0.155	0.141	0.885
SIZE	23611	22.418	1.348	19.023	27.468

4.2 VIF Test

Additionally, to further confirm the absence of severe multicollinearity among the variables included in this study, variance inflation factor (VIF) tests were conducted using Stata 17 software. The results are presented in Table 4.2, revealing that the maximum VIF value among the variables is 1.62, with an average of 1.32 both significantly below the threshold of 5. This further supports the suitability of the selected variables for multivariate linear regression analysis.

Table 4.2 VIF Test

variable	VIF	1/VIF
FEPU	1.07	0.959998
INVEST	1.05	0.931085
SIZE	1.62	0.617534
LEV	1.60	0.623914
BOARD	1.50	0.668254
ROA	1.45	0.690045
INDEP	1.41	0.709613
CASHFLOW	1.20	0.835330
TOP3	1.10	0.911412

variable	VIF	1/VIF
GROWTH	1.02	0.980135
Mean VIF	1.32	

4.3 Regression Analysis

The regression results examining the impact of firms' perceived economic policy uncertainty on corporate risk-taking levels are presented in Table 4.3. Column (1) shows the results without control variables, where the coefficient for FEPU is 0.022, significantly correlated with RISK at the 1% level, indicating that firms' perceived economic policy uncertainty positively influences their risk-taking capacity. Furthermore, considering that other financial and corporate governance factors may affect corporate risk-taking, regression analysis is repeated with control variables included, as shown in Column (2). The coefficient for FEPU decreases to 0.019 but remains significantly correlated with RISK at the 1% level, supporting Hypothesis H1—that an increase in firms' perceived economic policy uncertainty promotes corporate risk-taking. Combined with the theoretical analysis, it can be argued that when faced with heightened economic policy uncertainty and an unstable policy environment, firms tend to abandon long-term investments in favor of short-term ones. Under the "opportunity expectation" hypothesis, periods of economic and policy uncertainty often harbor substantial investment opportunities, prompting firms to seize these opportunities and thereby enhance their risk-taking.

Regarding control variables, several notable effects emerge. LEV is negatively correlated with corporate risk-taking at the 1% level, suggesting that firms with higher financial leverage adopt more conservative strategies, preferring low-risk projects to achieve higher returns, thereby exhibiting lower risk-taking levels. The coefficient for operating cash flow (CASHFLOW) is significantly positive, indicating that firms with stronger short-term liquidity are more inclined toward risk-taking, believing they can invest in high-risk, high-reward projects and are willing to bear higher risks. The coefficient for SIZE is negative, suggesting that smaller firms demonstrate more pronounced risk-taking tendencies. Additionally, firms with faster revenue growth (GROWTH) are typically more willing to assume greater risks. However, firms with stronger profitability (ROA) exhibit weaker intentions to enhance profits through high-risk investments, showing stronger risk-averse motivations.

Table 4.3 Benchmark Regression Table

	(1)	(2)
	RISK	RISK
FEPU	0.022***	0.019***
	(7.986)	(6.847)
ROA		-0.183***

		(-43.012)
LEV		-0.007***
		(-3.420)
SIZE		-0.004***
		(-11.047)
BOARD		0.005**
		(2.500)
CASHFLOW		0.044***
		(12.424)
GROWTH		0.004*
		(1.707)
INDEP		0.005
		(0.848)
TOP3		-0.016***
		(-5.881)
_cons	0.029***	0.113***
	(92.251)	(11.839)
YEAR	Yes	Yes
FIRM	Yes	Yes
N	23611	23611
R^2	0.003	0.094
F	63.772	247.994

***p<0.01 **p<0.05 *p<0.10.

4.4 Analysis of Impact Mechanism

Table 4.4 presents the results of the mediating role of corporate investment. In Column (1) of the baseline regression, the impact of firms' perceived economic policy uncertainty (FEPU) on corporate risk-taking (RISK) is observed. The baseline regression results already indicate that FEPU promotes corporate risk-taking, with each unit increase in FEPU leading to a 0.019-unit rise in RISK, thereby passing the first step of the mediation test. Column (2) displays the test results for the impact of FEPU on corporate investment (INVEST). The coefficient for FEPU is 0.146, showing a significant positive relationship at the 1% level, indicating that FEPU promotes corporate investment. Specifically, each unit increase in FEPU leads to a 0.146-unit increase in INVEST, passing the second step of the mediation test.

In Column (3) of Table 4.4, both FEPU and INVEST are included in the regression model. The results show that the coefficient for FEPU is 0.015, which, although lower than before, remains significant at

the 1% level. The coefficient for INVEST is 0.029, also significant at the 1% level. According to the "three-step" mediation test procedure, in Models (3.5), (3.6), and (3.7), the coefficients α_1, β_1, c_1, and c_1' all pass significance tests, and the product $\alpha_1\beta_1$ aligns in direction with the direct effect c_1'. This confirms the mediating role of corporate investment, suggesting that FEPU not only directly promotes corporate risk-taking but also indirectly enhances it by stimulating corporate investment. Specifically, a one-unit increase in FEPU leads to a 0.015-unit rise in RISK. Simultaneously, a one-unit increase in FEPU results in a 0.146-unit increase in INVEST, which, through its mediating effect on RISK, further elevates RISK by $0.146 \times 0.029 = 0.004234$ units.

The theoretical analysis presented earlier is corroborated: when firms face heightened economic policy uncertainty, managers often abandon long-term, irreversible investments in favor of more flexible, short-term investments to cope with the uncertain environment. Additionally, according to risk compensation theory, high uncertainty is accompanied by high potential returns. To seize opportunities or respond to government policies for support, managers adopt more aggressive strategies, increasing investment willingness and, consequently, risk-taking.

In summary, Hypothesis H2 is validated: an increase in firms' perceived economic policy uncertainty promotes corporate investment, which in turn enhances corporate risk-taking. Thus, corporate investment serves as a mediating variable in the relationship between FEPU and RISK.

Table 4.4 Test Results of the Mediating Effect of Corporate Investment

	(1)	(2)	(3)
	RISK	INVEST	RISK
FEPU	0.019***	0.146***	0.015***
	(6.847)	(23.273)	(5.238)
INVEST			0.029***
			(9.847)
ROA	-0.183***	0.123***	-0.187***
	(-43.012)	(12.663)	(-43.793)
LEV	-0.007***	0.044***	-0.009***
	(-3.420)	(9.024)	(-4.024)
SIZE	-0.004***	-0.003***	-0.004***
	(-11.047)	(-4.245)	(-10.782)
BOARD	0.005**	0.019***	0.005**
	(2.500)	(3.960)	(2.240)
CASHFLOW	0.044***	-0.020**	0.044***
	(12.424)	(-2.459)	(12.615)
GROWTH	0.004*	0.043***	0.002

	(1.707)	(9.015)	(1.105)
INDEP	0.005	-0.011	0.006
	(0.848)	(-0.751)	(0.900)
TOP3	-0.016***	0.071***	-0.018***
	(-5.881)	(11.259)	(-6.629)
_cons	0.113***	0.078***	0.111***
	(11.839)	(3.582)	(11.622)
YEAR	Yes	Yes	Yes
FIRM	Yes	Yes	Yes
N	23611	23611	23611
R^2	0.094	0.042	0.098
F	247.994	106.613	233.883

***p<0.01 **p<0.05 *p<0.10.

4.5 Robustness Test

4.5.1 Replace the Measurement Method of the Dependent Variable

Following the approach of Yu (2013b), this study measures corporate risk-taking (denoted as RISK2) by using the three-year rolling standard deviation of industry-adjusted return on total assets (ROA) to capture profitability volatility. The calculation method is as follows:

$$RISK_{i,t} = \sqrt{\frac{1}{T-1}\sum_{t=1}^{T}\left(ADJ\_ROA_{i,t} - \frac{1}{T}ADJ\_ROA_{i,t}\right)^2} \quad (T=3) \qquad \text{.....(5.1)}$$

Columns (1) and (2) of Table 4.5 present the regression results after replacing the measurement method for the dependent variable, with and without control variables, respectively. It can be observed that FEPU is positively correlated with RISK2 in both columns and passes the significance test, consistent with the earlier findings, thereby reaffirming the main hypothesis H1. Regarding the control variables, the directions and magnitudes of their effects are largely consistent with the regression results in Table 5.4, indicating the robustness of the previous research conclusions.

Table 4.5 Regression Results after Replacing the Measurement Method of the Dependent Variable

	(1)	(2)
	RISK2	RISK2
FEPU	0.027***	0.021***
	(5.205)	(4.104)
ROA		-0.331***

		(-42.024)
LEV		-0.012***
		(-3.060)
SIZE		-0.007***
		(-11.368)
BOARD		0.010***
		(2.606)
CASHFLOW		0.080***
		(12.317)
GROWTH		0.007*
		(1.721)
INDEP		0.011
		(0.922)
TOP3		-0.032***
		(-6.182)
_cons	0.053***	0.213***
	(92.234)	(12.004)
YEAR	Yes	Yes
FIRM	Yes	Yes
N	23611	23611
R^2	0.001	0.089
F	27.094	235.407

***p<0.01 **p<0.05 *p<0.10.

4.6 Endogeneity Issue

Listed companies may intentionally exaggerate the economic policy uncertainty they face in the "Management Discussion and Analysis" section of their annual reports to justify increases or decreases in investment expenditures, as well as changes in their engagement with risky projects. Consequently, the regression results in this study may suffer from reverse causality issues. To address this concern, this paper draws on the research of Nie Huihua and re-estimates Model (3.5) using a one-period lag of the core explanatory variable.

Columns (1) and (2) of Table 4.6 present the regression results after incorporating the one-period lag of the core explanatory variable (L.FEPU), with and without control variables, respectively. The results show that the coefficient for L.FEPU remains significantly positive and passes the significance test at the 1% level. This finding further confirms the robustness of the study's core conclusions and indicates the absence of reverse causality issues.

Table 4.6 Regression Results of Explanatory Variables with a one-period Lag

	(1)	(2)
	RISK	RISK
L.FEPU	0.019***	0.014***
	(7.305)	(5.295)
ROA		-0.143***
		(-31.309)
LEV		0.001
		(0.548)
SIZE		-0.001***
		(-2.592)
BOARD		0.000
		(0.050)
CASHFLOW		0.039***
		(11.456)
GROWTH		0.003
		(1.571)
INDEP		-0.001
		(-0.179)
TOP3		-0.037***
		(-13.424)
_cons	0.026***	0.067***
	(89.368)	(7.053)
YEAR	Yes	Yes
FIRM	Yes	Yes
N	20115	20115
R^2	0.003	0.074
F	53.362	161.303

***p<0.01 **p<0.05 *p<0.10.

4.7 Analysis of Heterogeneity in Property Rights Nature

In China's economic context, notable differences exist between state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs) across multiple dimensions, including corporate culture formation, corporate governance structure establishment, and responsiveness to economic policy adjustments. These differences directly influence firms' decision-making logic and behavioral patterns. Specifically, variations in ownership nature profoundly shape firms' attitudes and choices when

confronting risks, leading to significant distinctions in micro-level operational behaviors such as risk-taking. Therefore, when exploring how firms' perceived economic policy uncertainty affects their risk-taking levels, it is both essential and critical to incorporate firms' ownership attributes into the research framework for meticulous examination and analysis.

According to the results in Table 4.7, in the sample of state-owned enterprises (SOEs), the explanatory variable FEPU is significantly positive at the 1% level, with a coefficient of 0.008, which is smaller than the benchmark regression in Table 4.2. In contrast, in the sample of non-state-owned enterprises (NSOEs), FEPU is also significantly positive at the 1% level, with a coefficient of 0.027, which is larger than the benchmark regression in Table 4.2. This indicates a significant difference in coefficients between the SOE and NSOE samples, suggesting that the promoting effect of firms' perceived economic policy uncertainty on their risk-taking levels is more pronounced in NSOEs.

The above results demonstrate that, compared to SOEs, firms' perceived economic policy uncertainty has a greater impact on the risk-taking levels of NSOEs. On one hand, in countries undergoing economic transition, governments often engage in frequent interventions. In China, SOEs shoulder important social responsibilities, such as maintaining economic stability, driving economic growth, and creating employment opportunities. To fulfill these responsibilities effectively, SOEs tend to wait for further clarification of government policy information when they perceive increased uncertainty in macroeconomic policies. Before policy directions become clear, SOEs are unlikely to take action. Consequently, they prefer stable investment plans and reject higher-risk investment options.

On the other hand, SOEs generally face severe internal control issues, leading to high agency costs. When external uncertainty is perceived by firms, information asymmetry worsens further. Under such circumstances, SOEs often prefer to formulate project investment plans based on national policies to avoid significant risks, thereby protecting their own interests. In stark contrast, NSOEs, represented by private enterprises, mostly operate in highly competitive industries. To gain a competitive edge and maintain leadership in fierce market competition, even when faced with high economic policy uncertainty, managers of NSOEs do not exhibit the same strong risk-aversion tendencies as SOEs. Instead, they tend to adopt high-risk strategies to enhance their market competitiveness.

Table 4.7 Heterogeneity Test results of Property Rights Nature

	(1)	(2)
	SOE	NSOE
	RISK	RISK
FEPU	0.008***	0.027***
	(3.044)	(6.011)
ROA	-0.035***	-0.215***
	(-5.530)	(-37.264)

LEV	-0.006**	-0.007**
	(-2.487)	(-2.078)
SIZE	-0.004***	-0.004***
	(-12.155)	(-7.856)
BOARD	-0.000	0.008**
	(-0.171)	(2.350)
CASHFLOW	0.014***	0.053***
	(3.848)	(9.445)
GROWTH	0.003	0.001
	(1.597)	(0.315)
INDEP	-0.004	0.021*
	(-0.756)	(1.910)
TOP3	0.009***	-0.026***
	(2.773)	(-5.854)
_cons	0.123***	0.126***
	(12.263)	(7.745)
YEAR	Yes	Yes
FIRM	Yes	Yes
N	10556	13055
R^2	0.000	0.129
F	0.514	193.540

***p<0.01 **p<0.05 *p<0.10.

5. Conclusion

5.1 Research Conclusion

Corporate risk-taking is a focal point of academic research, as it significantly influences corporate innovation vitality and long-term development. In recent years, the global economic landscape and domestic economic conditions have become increasingly complex and volatile, marked by frequent emergencies, escalating international trade conflicts, and macroeconomic regulatory policies introduced by governments. These factors have triggered market fluctuations and heightened uncertainty in firms' external environments. Additionally, differences in entrepreneurs' subjective perceptions lead to varying levels of perceived economic policy uncertainty across firms.

This study selects the firm-level economic policy uncertainty perception index constructed by Nie Huihua and employs a fixed-effects model to empirically examine the impact of perceived economic policy uncertainty on corporate risk-taking levels among A-share non-financial and non-insurance listed firms in Shanghai and Shenzhen. It explores the mediating roles of corporate investment and internal control, the moderating role of financing constraints, and considers the influence of factors

such as ownership nature. The following conclusions are drawn:

Economic policy uncertainty promotes corporate risk-taking: When firms perceive an increase in external uncertainty, they tend to increase short-term investments while reducing long-term investments, leading to heightened short-term risk-taking. This aligns with the "wait-and-see hypothesis" of real options theory. Principal-agent issues drive managers to adopt aggressive strategies for personal gain, while "opportunity expectations" also encourage firms to increase risk-taking.

Corporate investment plays a mediating role: Amid intensified policy fluctuations, firms reduce capital-intensive projects and allocate resources to short-term investments based on real options theory, while adopting aggressive investment strategies driven by risk compensation theory. These synergistic effects elevate corporate risk-taking levels. However, aggressive investment strategies conflict with internal control requirements, leading to internal control dysfunctions, weakened risk identification and prevention capabilities, and forcing firms to diversify investments to hedge risks, thereby further increasing risk-taking levels.

Impact varies by ownership nature: Economic policy uncertainty has a more pronounced impact on the risk-taking of non-state-owned enterprises (NSOEs). State-owned enterprises (SOEs), burdened with policy-oriented social responsibilities, adopt a "wait-and-see" strategy in the face of policy uncertainty and rely on policy guidance to mitigate risks. In contrast, NSOEs proactively adopt high-risk strategies to maintain market advantages.

5.2 Policy Recommendations

5.2.1 Recommendations at the National and Government Level

Build a policy environment safeguard system: Policy formulation should be based on thorough research, with reasonable pre-implementation predictions and scientific evaluations to ensure smooth transitions between old and new systems and policy continuity. Break down "departmental barriers" and eliminate "legislative fragmentation" to enhance policy coordination. Policy design should be forward-looking and long-term oriented, with unnecessary policy adjustments minimized to maintain stability.

Proactively reduce firms' perceived uncertainty and provide targeted support: Establish a regular mechanism to collect firm opinions and strengthen perception surveys to solidify policy foundations. Precisely identify firms highly sensitive to policy uncertainty and those with weak risk-taking capacities based on their heterogeneous characteristics. Develop differentiated support strategies tailored to different firms: stimulate initiative and creativity in SOEs, guide capital flows in private enterprises, and formulate policies for highly sensitive firms.

5.2.2 Recommendations at the Firm Level

Construct a dynamic early warning system and accurately disclose information: Develop a dynamic early warning system for environmental policy changes to track macroeconomic trends and assess economic conditions, thereby reducing potential losses. Adopt a rational approach to environmental changes, establish a professional management team to objectively analyze opportunities and challenges, and ensure truthful and accurate information disclosure.

Flexibly adjust investment and financing strategies: Closely monitor and interpret government policies to flexibly adjust investment and financing strategies. Avoid blindly pursuing high returns by engaging in high-risk projects or excessively cutting investment expenditures. Instead, seize investment opportunities based on firm-specific conditions and moderately increase risk-taking levels.

Optimize the internal control system: Improve internal control mechanisms and enhance internal control management by mobilizing all employees to identify, assess, and address risk points while strengthening supervision and checks and balances over management. Optimize board composition by reasonably determining the proportion of external directors and board size to improve decision-making quality. Low-growth firms should increase technological innovation and R&D investment to stimulate growth momentum.

Address financing constraints: Balance risk-taking and capital acquisition needs through strategies such as optimizing capital structure, strengthening information disclosure, diversifying financing channels, and improving internal governance efficiency. Dynamically adjust investment strategies based on firm-specific risk preferences to maintain stable operations and long-term value creation capabilities.

5.3 Research Limitations and Future Prospects

Through theoretical analysis and empirical investigation, this study validates the impact of firms' perceived macroeconomic policy uncertainty on their willingness and level of risk-taking, offering a novel perspective and evidence for research on macro-micro economic interactions while enriching both theoretical frameworks and practical guidance. However, limitations exist in terms of the breadth of sample selection, precision of variable control, and innovation in research methodologies, leaving room for improvement. Specifically, these limitations include the need to expand sample coverage, enhance the accuracy of variable control, and further innovate research methods.

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