

## Research Article

# Economic Policy Uncertainty, Investor Sentiment, and Stock Price Synchronisation: Evidence from China

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This paper explores the general decision mechanism of stock price synchronicity through in-depth research on the two main viewpoints of information efficiency view and irrational behaviour view. On this basis, we explore the effect of China's economic policy uncertainty gradually on the synchronisation of stock prices and provide a reasonable explanation for it. Based on the China Economic Policy Uncertainty Index developed by Baker et al., this paper takes China's A-share listed firms from 2010 to 2019 as the primary sample and tests the effect of China's economic policy uncertainty on the synchronicity of stock prices by constructing a comprehensive mediation effect test procedure. The fundamental effect and its internal mechanism of action have been supplemented and verified from investor sentiment. Strengthening the research on economic policy uncertainty and stock price synchronisation may deeply explore the internal mechanism of the listed firms' stock price changes, help in improving the information production function and information transmission function of the securities market, help in improving the resource allocation capacity of the entire capital market, and then promote the long-term healthy development of China's capital market. The main findings of this paper are as follows: (1) in China's stock market, which is driven by noise, the increase of economic policy uncertainty will significantly reduce the synchronisation of stock prices; (2) increased uncertainty about China's economic policy will fuel the investor sentiment and reduce stock price synchronicity, with investor sentiment playing an intermediary role.

## 1. Introduction

With an unpredictable macroeconomic environment, the economic policy is fraught with uncertainty, while the stock market's movement can reflect the investor sentiment and the economic performance of real businesses in real time. Thus, the microeconomic effect of uncertain economic policies may be studied through the lens of the stock market. The capital market's principal role is to maximise resource allocation through the stock signal mechanism. Stock prices can optimise resource allocation by steering resources through an extremely efficient capital market. The capacity of a stock price which represents a company's operational circumstances accurately may influence the degree to which the resource allocation is led by the stock price, which is also an essential indicator of a country's capital market's operating efficiency and maturity. While the stock price in a

mature capital market may properly represent a firm's qualities, the stock price in an emerging capital market is further affected by market forces and cannot accurately reflect a firm's features. Due to the aforementioned issues, stock price synchronisation has been a popular topic in the field of stock market research in recent years, thus garnering considerable interest from academic and practical sectors.

Stock price synchronisation refers to the degree to which the stock prices of firms increase or decrease in lockstep over time, that is, the phenomenon of "simultaneous rise and fall." Due to the synchronicity of stock prices, investors cannot incorporate a large amount of corporate personality information into the value evaluation of listed firms when utilising the capital asset pricing model (CAPM) to conduct investment decision analyses, resulting in the low investment value of such firms. To some extent, this destroys the specific functions of stock prices in incorporating value

evaluation (such as screening and evaluation), which hinders the information transmission mechanism of firms and reduces the effectiveness of stock prices in resource allocation. Excessive stock price synchronisation will reduce the efficiency of asset pricing and economical operation, interfere with the operation of security market screening mechanism, affect the economic growth, and bring negative economic consequences [1–4].

Further interpretation of the connotation of stock price synchronisation needs to focus on the formation mechanism of stock price synchronisation, which is separated approximately into two schools: first, the view of information efficiency (also known as information interpretation), represented by Morck et al. [1], believes that the stock price synchronicity reflects the degree to which the personal or private information of a firm is included in the stock price and measures the degree of information efficiency. Lower stock price synchronisation meant a richer idiosyncratic information content, thus reflecting a higher efficiency. Secondly, the view of irrational behaviour (also known as noise explanation), represented by West [5], believes that a firm's fundamentals cannot explain the abnormal fluctuations of stock prices. Stock prices are significantly affected by irrational factors, while the synchronicity of stock prices measures the number of irrational factors, such as market noise and investor sentiment. Low stock price synchronicity results from abnormal volatility caused by investors' irrational behaviour and thus reflects high noise bias. On the premise of an efficient market, the stock price can fully reflect all relevant information, any change of stock price is caused by information flow, noise is only a random disturbance term with an average of zero, in which the synchronisation of stock price reflects information efficiency. However, when the market is not efficient, the stock price is greatly affected by the market noise, and the stock price is mainly driven by noise, wherein the synchronicity of the stock price reflects the noise deviation. In reality, market efficiency is often a problem of degree and period, in which stock price synchronicity is the information and noise. Jin and Myers [6] argued that stock price synchronicity may differ in various countries, the reason is that each country's stock market is at different stages of development, the stock market in the emerging world is not mature enough, often caused by information asymmetry herding effect and speculation, and medium and small investors in such an environment cannot be efficient to collect information and make rational decisions. Most of the investment is based on the overall situation of the market and industry, wherein the price synchronisation is high. Therefore, the variables of stock price synchronisation have gained academic interest to avoid the harmful effect of simultaneous increase and fall of stock prices. For the influence of policy system on stock price synchronisation, existing studies have obtained a large number of theoretical and empirical results, but mainly from the protection level of property rights, the legal system, accounting system, and other aspects of the study, not involving economic policies, especially economic policy uncertainty [7–11].

The policy market phenomenon is quite apparent in China's stock market. Thus, what effect will the uncertainty

of economic policy have on the synchronicity of Chinese stock prices? Investor sentiment research focuses on both individual and institutional investor sentiment in relation to stock price synchronisation. When the investor group is evaluated, the relationship between investor emotion and stock price synchronisation is macroscopically significant. As a result, this article focuses primarily on the link among economic policy uncertainty, investor sentiment, and stock price synchronisation in China.

## 2. Literature Review and Hypothesis Development

*2.1. Relationship between Economic Policy Uncertainty and Stock Price Synchronisation.* Economic policy uncertainty (EPU) may arise from the government's failure to describe the direction and magnitude of economic policy expectations, policy implementation, and policy attitude changes. The principal symptom is that economists are unable to forecast with certainty whether, when, or how the government will alter present economic policies in the future [12, 13]. According to Williamson [14], human-limited rationality and future uncertainty are impossible to forecast completely. Precisely foreseeing the contents of policies prior to their implementation is difficult for listed firms. After the policies are implemented, there are several options for their intensity and effect, while economic subjects are frequently confronted with the uncertainty of economic policies throughout the real decision-making process [15]. Economic policy uncertainty will have a substantial effect on the capital market's stock price reaction and even on the capital market's overall stock price volatility. Pastor and Veronesi [16] discovered that when policy changes are announced, stock prices decrease, and the higher the uncertainty, the larger the decline in stock prices. As a result, increased economic policy uncertainty reduces the stock returns and increases the overall stock price volatility. Brogaard and Detzel [17] used text analysis to examine the influence of policy uncertainty on stock returns and volatility in 21 nations and discovered that economic policy uncertainty increased the individual stock volatility considerably. The volatility of individual stocks and market prices is an essential determinant of stock price synchronisation. Therefore, the uncertainty of China's economic policies may also affect stock price synchronisation. At the same time, compared with the volatility of individual stocks, the market volatility and the beta coefficient of individual stocks remain relatively stable, in which China's economic policy uncertainty is anticipated to diminish stock price synchronisation by raising each stock's relative volatility.

H1: The higher the level of economic policy uncertainty, the lower the synchronicity of stock prices would be.

*2.2. Economic Policy Uncertainty, Investor Sentiment, and Stock Price Synchronisation.* Investor sentiment is a perception held by investors about the future cash flow and investment risk of assets, although it cannot fully reflect the underlying facts [18]. Due to future uncertainty, investors

can only establish an expectation or belief about the quantity and risk of future cash flows provided by assets at the moment. This expectation or belief is related not only to the asset's fundamentals, but also to the investor's own education, investment experience and knowledge, social background, information, personality, and preference, all of which contribute to a "subjective and objective" comprehensive assessment of the asset's future worth. As a result, various individuals would have varying opinions regarding the same asset, which are referred to as "sentiments." Numerous studies have demonstrated that sentiment has an effect on investors' decision-making, particularly when the sentiment is highly social. Under the social interaction mechanism, people's behaviours tend to be consistent, resulting in repeated errors and market mispricing.

Behavioural finance theory determined that the investors' cognition is limited, and they will show irrational characteristics such as overconfidence, loss avoidance, and psychological accounts, and often make irrational investment behaviours. This type of irrational behaviour plays an essential role in the economic system. According to the investor demand hypothesis, investors often think that a particular market event conveys a specific message; thus, they overreact under the influence of irrational factors such as preferences and sentiments. Scholars have also conducted many studies on the effect of investor sentiment on stock price synchronisation. West [5] believed that the irrational behaviour caused by investors' psychological deviation resulted in low stock price synchronisation. Barberis et al. [19] studied the influence of investor sentiment on stock price synchronisation using behavioural finance theory. They found that the irrational investors' particular preference for a firm would trigger irrational investment behaviour, thus affecting the stock price synchronisation of the firm. Barberis et al. [19]; Greenwood and Sosner [20]; Greenwood [21]; and Li [22] et al. also found that investor sentiment would affect the level of stock price synchronisation. Frijns et al. [23] decomposed stock returns into fundamental and nonfundamental components and found that nonfundamental components were strongly correlated with stock returns. Changes in stock returns were driven by investor sentiment, which would exacerbate the stock prices' volatility.

When investors tend to pursue policies, the uncertainty of economic policies will cause the volatility of investors' sentiment, which would lead to their inappropriate response to stock prices and aggravate the volatility of individual stocks. If EPU represents the continuous release of policy dividends, investors will form a consistent optimistic expectation. Economic policy uncertainty will increase the investors' risk appetite and make them overly optimistic about stock prices. Economic policy uncertainty can cause investors to overreact to stock prices by influencing their attitude to risk. At the same time, due to the investors' limited attention and overconfidence, economic policy uncertainty is likely to increase the cognitive bias of investors, leading to their overreaction to stock prices. Psychological accounts would hinder such inappropriate reactions, resulting in persistent systemic overvaluation or

undervaluation of asset prices. Skaife et al. [24] believed that in semi-strong or weak efficient markets, the noise would often drown corporate trait information and play a dominant role in stock prices, which meant that stock price fluctuations in emerging markets are mainly affected by market noise. Considering the actual situation, although China's capital market has achieved rapid development in recent years, its effectiveness and maturity are still insufficient, while various institutional facilities and related support services are imperfect, investor protection is insufficient, and supervision is relatively lagging behind. The investor group with retail investors as the main body cannot make professional judgments and act rationally. Phenomena such as "policy market," "theme stocks," and "outlet theory" indicate that a high speculative atmosphere in China was observed [25]. The "stock market crash" of 2015 to 2016 provides direct evidence. The aforementioned analysis shows that China's stock market prices were mainly driven by noise in the past for quite an extended period.

The uncertainty of China's economic policy will lead to investor sentiment changes and inappropriate reactions to stock prices, thus enhancing noise trading in the market. In addition to improving the level of noise trading by affecting the investors' risk attitude and cognitive bias, the information processing dilemma brought by economic policy uncertainty would damage the effectiveness of information arbitrage by limiting the investors' rational assessment of intrinsic enterprise value and lead to the increase of irrational noise trading level. When adverse selection caused by information asymmetry leads to "bad money (irrational investors) driving out good money (rational investors)" and forms a "lemon market" dominated by irrational investors, noisy transactions related to policy uncertainty would flood the whole market and aggravate abnormal fluctuations of individual stocks. Therefore, from the perspective of investor sentiment and the restriction of economic policy uncertainty on rational arbitrage, the rise of economic policy uncertainty would reduce stock price synchronisation by boosting investor sentiment.

H2: The level of economic policy uncertainty increases, investor sentiment increases, and stock price synchronicity decreases. Investor sentiment plays a mediating role in the relationship between economic policy uncertainty and stock price synchronisation.

### 3. Data, Variables, and Methodology

*3.1. Sample Selection and Data Sources.* This paper selects China's Shanghai and Shenzhen A-share listed firms as the research sample, while the sample period is from 2010 to 2019. This study's economic policy uncertainty data come from <http://www.policyuncertainty.com>, while other data come from the Wind and CSMAR databases. Steps to preprocess selected samples are as follows:

- (1) Delete the sample of enterprises whose industry is the financial industry.
- (2) Delete enterprise samples that are ST, \*ST.
- (3) Delete samples of companies with missing data.

- (4) To ensure the reliability of measuring stock price indicators, the sample of companies with annual trading weeks of less than 30 weeks will be deleted.

This paper treats extreme values with 1% upper and lower extreme values to eliminate extreme values' influence on multiple regression results. This article uses STATA16.0 for data processing and operation.

### 3.2. Variable Definitions

**3.2.1. Economic Policy Uncertainty (EPU).** The EPU composite index can measure economic policy uncertainty. This index is constructed and calculated by Baker et al. and is mainly used to reflect the economic and policy uncertainties of the world's major economies. The EPU composite index mainly comprises the news index, tax law expiration date index, and economic forecast difference index. The China EPU index is calculated by using the news index in the EPU composite index, taking The South China Morning Post as the analysis object, identifying the monthly articles on the uncertainty of China's economic policy, and dividing the identification results by the total number of articles published in that month to obtain the China EPU index of that month (<http://www.policyuncertainty.com>). Although China's EPU index is only a news index, Baker et al. [15] determined through verification that it has a strong correlation with the general index, wherein it is still representative.

**3.2.2. Investor Sentiment (CICSI).** The key of investor sentiment research lies in the measurement of sentiment. In the past, single indicators such as the discount of closed-end funds were mainly used to measure changes in investor sentiment (Lee, 1991; Swaminathan, 1996); [26]. However, these methods have problems of excessively single measurement index and impure measurement results. To address these issues, He et al. (2017) introduced variables which may indicate changes in investor mood in the local stock market by upgrading the Baker and Wurgler index's building process, that is, the discount on closed-end funds, trading volume, the number of initial public offerings and their first-day earnings, the consumer confidence index, and the number of newly established investor accounts. Simultaneously, they regulate the consumer price index, the industrial producer price index, industrial added value, macroeconomic climate index, and a variety of other macroeconomic factors. The Chinese Stock Market Investor Sentiment Composite Index (CICSI) is calculated annually.

**3.2.3. Stock Price Synchronisation (SYN).** Stock price synchronisation represents the correlation between the volatility of enterprise stock price and the average volatility of stock price in the securities market. Stock price synchronisation first appeared in finance, which is mainly used to analyse the explanatory power of market return index in capital asset pricing model (CAPM) to individual company return index. Morck, and Yeung and Yu [1] first proposed

this concept, who conceptualised the  $R^2$  studied by Roll [27]. On this basis, this paper constructs the annual index of stock price synchronisation and designs the following estimation model by using the daily return rate of stocks in a trading year and the corresponding market daily return rate:

$$r_{i,t,w} = \beta_0 + \beta_1 r_{m,t,w} + \varepsilon_{i,t,w},$$

$$SYN_{i,t} = \ln\left(\frac{R_{i,t}^2}{1 - R_{i,t}^2}\right). \quad (1)$$

**3.2.4. Control Variables.** To enhance the explanatory capacity of core explanatory factors and the model's stability, this article used previous literature to pick numerous control variables to participate in the model's parameter estimation. Specific factors include the size of the firm (Size), the asset-liability ratio (Lev), the return on assets (ROA), the years since listing (ListAge), if the chairman and general manager positions are merged (Dual), and the sales growth rate (Growth). Additionally, it has control over industry (Ind) and year (Year).

**3.2.5. Model Design.** Firstly, to explore the effect of China's economic policy uncertainty on stock price synchronisation, the hypothesis H1 is tested and the following model is constructed:

$$SYN_{i,t} = \alpha_0 + \alpha_1 EPU_t + \sum \alpha \text{Controls} + \lambda_t + \lambda_{\text{int}} + \varepsilon_{i,t}. \quad (2)$$

The subscripts  $i$ ,  $t$ , and  $\text{int}$  represent the individual, time, and industry of the listed firm, respectively.

To investigate the mediating influence of China's economic policy uncertainty on stock price synchronisation further, we tested hypothesis H2 and built the following models:

$$\begin{aligned} CICSI_{i,t} &= \beta_0 + \beta_1 EPU_t + \sum \beta \text{Controls} + \lambda_t + \lambda_{\text{int}} + \varepsilon_{i,t}, \\ SYN_{i,t} &= \gamma_0 + \gamma_1 EPU_t + \sum \gamma \text{Controls} + \lambda_t + \lambda_{\text{int}} + \varepsilon_{i,t}. \end{aligned} \quad (3)$$

## 4. Analysis

**4.1. Descriptive Statistics.** Table 1 reports the descriptive statistical results for the primary variables: the variable name, sample size, minimum, maximum, mean, median, and standard deviation from left to right.

The median of stock price synchronicity SYN is -0.415, which is an absolute value higher than those of Morck et al. [1] and Eun et al. [28]. Most of the countries reported corroborating the high stock price synchronisation in China. The EPU averaged 3.290, while the standard deviation was 2.179, reflecting China's higher economic policy uncertainty. The reported results of other variables are consistent with the existing studies. They are typically within a tolerable range, indicating that the calculated values for the pertinent

TABLE 1: Result of descriptive statistics.

Variable	N	min	max	mean	p50	sd
SYN	24500	-9.322	10.56	-0.491	-0.415	0.962
EPU	24500	0.989	7.919	3.290	2.444	2.179
CICSI	24500	0.321	0.474	0.409	0.413	0.0421
Lev	24500	0.0278	0.925	0.431	0.423	0.209
Size	24500	19.50	26.37	22.15	21.98	1.280
ROA	24500	-0.452	0.226	0.0398	0.0381	0.0651
ListAge	24500	0	3.332	2.136	2.303	0.801
Dual	24500	0	1	0.264	0	0.441
Growth	24500	-0.632	4.806	0.190	0.114	0.463

TABLE 2: Result of correlation analysis.

	SYN	EPU	CICSI	Lev	Size	ROA	ListAge	Dual	Growth
SYN	1								
EPU	-0.053 <sup>a</sup>	1							
CICSI	0.064 <sup>a</sup>	0.598 <sup>a</sup>	1						
Lev	0.016 <sup>a</sup>	-0.020 <sup>a</sup>	-0.030 <sup>a</sup>	1					
Size	0.150 <sup>a</sup>	0.112 <sup>a</sup>	0.082 <sup>a</sup>	0.519 <sup>a</sup>	1				
ROA	0.028 <sup>a</sup>	-0.070 <sup>a</sup>	0.008	-0.383 <sup>a</sup>	-0.039 <sup>a</sup>	1			
ListAge	0.039 <sup>a</sup>	0.058 <sup>a</sup>	-0.006	0.415 <sup>a</sup>	0.406 <sup>a</sup>	-0.283 <sup>a</sup>	1		
Dual	-0.048 <sup>a</sup>	0.055 <sup>a</sup>	0.044 <sup>a</sup>	-0.156 <sup>a</sup>	-0.187 <sup>a</sup>	0.056 <sup>a</sup>	-0.247 <sup>a</sup>	1	
Growth	-0.050 <sup>a</sup>	-0.055 <sup>a</sup>	0.045 <sup>a</sup>	0.027 <sup>a</sup>	0.042 <sup>a</sup>	0.211 <sup>a</sup>	-0.044 <sup>a</sup>	0.020 <sup>a</sup>	1

Note:<sup>a</sup>  $p < 0.01$ .

variables in this study are correct and dependable, thus allowing for additional investigation.

**4.2. Correlation Analysis.** The correlation test results for the main variables are reported in Table 2. Firstly, a significant (at the 1% level) and negative correlation between the explanatory variable stock price synchronisation (SYN) and the explanatory variable economic policy uncertainty (EPU) was observed, which indicates that the uncertainty of China’s economic policy will have a negative effect on the stock price synchronisation, thus supporting H1. Secondly, there is a substantial connection between the interpreted variable and the mediating variable CICSI (at the 1% level), as well as a significant association between the explanatory variable (EPU) and the mediating variable CICSI (at the 1% level). This indicates a possible mode of mediation. Thirdly, there is a substantial link between EPU and all other variables (at the 1% level), indicating the wide effect of China’s economic policy uncertainty. Fourthly, all control variables are substantially associated with stock prices at the 1% level. Fifthly, the absolute value of the variable correlation coefficient is frequently less than 0.4.

**4.3. OLS Regression Analysis.** The step-by-step test method is used to verify whether the uncertainty of China’s economic policy is verified by investor sentiment affecting stock price synchronisation, which is as follows:

First, test whether the coefficient of EPU in the model (3–1) is significant. If it is insignificant, it indicates that the uncertainty surrounding China’s economic policies has had no effect on the synchronisation of stock prices, while the test is therefore concluded; if it is significant, the follow-up

TABLE 3: Result of OLS regression analysis 1.

	(1) SYN	(2) SYN
EPU	-0.0223*** (-7.90)	-0.0705*** (-18.19)
Lev		-0.453*** (-12.99)
Size		0.162*** (29.88)
ROA		0.201** (2.12)
ListAge		0.0356*** (4.49)
Dual		-0.0205 (-1.63)
Growth		-0.135*** (-11.27)
Ind	Yes	Yes
Year	Yes	Yes
_cons	-0.418*** (-37.55)	-3.527*** (-30.12)
N	24466	24466
R <sup>2</sup>	0.003	0.255

Note:  $t$  statistics in parentheses; \*\*  $p < 0.1$ , \*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

inspection procedure is conducted. Table 3 reports the corresponding regression results where column (1) is a direct regression result that does not consider the control variable, while column (2) is a regression result which considers all control variables. The coefficient of the explanatory variable (EPU) is negative and significant at the 1% level, indicating that China’s economic policy uncertainty will have a significant and adverse effect on stock price synchronisation,

TABLE 4: Result of OLS regression analysis 2.

	(1) CICSII	(2) SYN
EPU	0.0119*** (118.35)	-0.0556*** (-8.61)
CICSII		-4.382*** (-3.46)
Lev	-0.00343** (-2.48)	-0.453*** (-12.99)
Size	0.00134*** (6.26)	0.162*** (29.88)
ROA	0.0101*** (2.69)	0.201** (2.12)
ListAge	0.00128*** (4.07)	0.0356*** (4.49)
Dual	0.000365 (0.73)	-0.0205 (-1.63)
Growth	0.00694*** (14.58)	-0.135*** (-11.27)
Ind	Yes	Yes
Year	Yes	Yes
_cons	0.337*** (73.05)	-1.676*** (-3.08)
N	24466	24466
R <sup>2</sup>	0.385	0.255

Note: *t* statistics in parentheses; \*\*  $p < 0.1$ , \*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

TABLE 5: Result of robustness test 1.

	(1) adj_SYN	(2) adj_SYN
EPU	-0.0233*** (-7.63)	-0.0356*** (-11.63)
Lev		-0.442*** (-10.78)
Size		0.160*** (25.03)
ROA		0.120 (1.04)
ListAge		0.0196** (2.10)
Dual		-0.0300* (-1.95)
Growth		-0.133*** (-9.05)
Ind	Yes	Yes
Year	Yes	Yes
_cons	-0.534*** (-44.32)	-3.872*** (-30.00)
N	24027	24027
R <sup>2</sup>	0.002	0.037

Note: *t* statistics in parentheses; \*\*  $p < 0.1$ , \*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

supporting H1; that is, leaving other factors unchanged, the increase in uncertainty in the country's economic policy would generally reduce the synchronisation of stock prices.

Second, column (1) of the table below shows the CICSII's regression results to the EPU and other control variables. As

TABLE 6: Result of robustness test 2.

	(1) SYN	(2) SYN
EPU	-0.0122*** (-4.16)	-0.00928** (-2.26)
Lev		-0.291*** (-4.23)
Size		0.130*** (8.23)
ROA		-0.183 (-1.37)
ListAge		-0.169*** (-6.91)
Dual		-0.0148 (-0.65)
Growth		-0.0646*** (-4.51)
Ind	Yes	Yes
Year	Yes	Yes
_cons	-0.451*** (-40.10)	-2.838*** (-8.78)
N	24466	24466
R <sup>2</sup>	0.001	0.006

Note: *t* statistics in parentheses; \*\*  $p < 0.1$ , \*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

TABLE 7: Result of robustness test 3.

	(1) SYN	(2) SYN
EPU	-0.0223*** (-7.90)	-0.0364*** (-12.75)
Lev		-0.409*** (-10.71)
Size		0.143*** (21.54)
ROA		0.248** (2.27)
ListAge		0.00610 (0.61)
Dual		-0.0369** (-2.56)
Growth		-0.132*** (-9.64)
TobinQ		-0.0288*** (-5.88)
Top1		-0.136*** (-3.15)
Ind	Yes	Yes
Year	Yes	Yes
_cons	-0.418*** (-37.55)	-3.233*** (-23.52)
N	24466	23504
R <sup>2</sup>	0.003	0.041

Note: *t* statistics in parentheses; \*\*  $p < 0.1$ , \*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

shown in Table 4, the coefficient of the explanatory variable EPU is positive and significant at the 1% level, showing that China's economic policy uncertainty would considerably

enhance investor sentiment, which is consistent with earlier estimates.

Column (2) is the regression result of the stock price synchronisation SYN to the explanatory variable EPU, the intermediary variable CICSII, and other control variables. The CICSII coefficient is negative and significant at the 1% level, indicating that increased investor sentiment significantly reduces stock price synchronisation. According to the general rules of the intermediary effect test, the intermediary effect of investor sentiment has been established. The uncertainty of China's economic policy would reduce the synchronisation of stock prices by encouraging investor sentiment, thereby providing direct support for the noise interpretation mechanism of China's economic policy uncertainty to reduce stock price synchronisation, thus supporting H2.

**4.4. Robustness Test.** This paper mainly tests the robustness of the primary conclusions by changing the weighing method of market and industry returns, which was previously weighed by circulating market capitalisation, and is now recalculated by equal weight and total market capitalisation; second, it is tested by a fixed-effect model; third, control variables are added for testing. Tables 5, 6, and 7 reported the results of each of the three robustness tests.

Thus, all three robustness tests have passed, and the previous conclusions are still valid.

## 5. Conclusions

Based on the current research results and theoretical analysis, this paper examined the Chinese A-share nonfinancial listed firms from 2010 to 2019 and the essential effect of national economic policy uncertainty on stock price synchronisation and its internal mechanism. Overall, the results are consistent with the theoretical analysis expectations, while the main conclusions are as follows: (1) in the Chinese stock market, which is more clearly driven by noise, the increase in economic policy uncertainty would significantly reduce the synchronisation of stock prices; (2) economic policy uncertainty in China can reduce stock price synchronisation overall by fuelling investor sentiment. Investor sentiment has mediated and equally supported noise interpretation.

On the basis of the foregoing results and pertinent findings, this study concludes as follows: (1) because the stock price is determined by private information and noise, and because the level of stock price synchronisation is affected by the expected influence of private information integration and noise trading, the market efficiency cannot be determined solely by the level of stock price synchronisation, and when more noise was observed in the market and it has a significant effect, stock price synchronisation is likely to be insufficient as a proxy for capital market efficiency. The issue is not so much with the nominal level of stock price synchronisation as it is with its creation method and mechanism of operation. (2) While the evidence supports the effect of uncertainty in China's economic policies

on stock price synchronisation, the information efficiency notion retains a unique explanatory capacity when other control variables are considered. Thus, while analysing the process of stock price synchronisation in various conditions, the notion of information efficiency and irrational behaviour may apply, and the organic combination of the two may be more favourable to providing a fair explanation for the real situation. (3) There is much noise in the Chinese stock market and a substantial effect, reflecting the low information quality environment and immature investor literacy in the Chinese capital market, in which a large room exists for improving the information environment of the capital market and improving the quality of investors. Firstly, because China's economic policy uncertainty affects investor sentiment, reducing policy uncertainty is a viable path to improve the market information environment and keep the capital market running smoothly. The government should strengthen communication with the market and reduce the interference of policy uncertainty on the market. Secondly, due to the long-term investor structure of the Chinese stock market dominated by retail investors, the atmosphere of following the trend is intense. The policy-chasing tendency is evident, resulting in excessive market noise. The regulatory authorities should cooperate with industry associations and relevant financial institutions to increase investor education, cultivate the concept of value investing, promote the construction of institutional investors, and promote the transformation of the market structure from retail to institutional.

The shortcoming of this paper is that it fails to subdivide economic policies, and it is difficult to distinguish which economic policies are more sensitive to investor sentiment. The following research can consider subdividing economic policies, further analyse the differences in investor sentiment caused by different economic policies, and then examine the impact on the synchronisation of stock prices [29, 30].

## Data Availability

This study's economic policy uncertainty data come from <http://www.policyuncertainty.com>, while other data come from the Wind and CSMAR databases.

## Conflicts of Interest

The author declares that there are no conflicts of interest.

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