

The Impact of Relative Economic Policy Uncertainty on China's FDI Inflows

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Abstract. This paper examines the influence of relative economic policy uncertainty (EPU) on China's foreign direct investment (FDI) inflows. By analyzing the EPU levels in China, home country, and the global context, the study employs a panel fixed-effect model using monthly panel data collected from seven countries spanning from January 2007 to October 2019. The findings are as follows: Firstly, economic policy uncertainty in home country promotes China's FDI inflows. The EPU in these countries increases political risks and negatively affects market expectations, causing domestic capital to seek opportunities in the global market and flow to other nations. Secondly, China's own economic policy uncertainty (CNEPU) has both positive and negative effects on FDI within the mainland. To investigate this, the study calculates the volatility of CNEPU relative to global economic policy uncertainty (GEPU) using the semi-variance method and examines its impact on FDI. When fluctuations in China's economic policy uncertainty are driven by policy changes beneficial to foreign investors, higher CNEPU volatility compared to GEPU stimulates China's FDI inflows. Conversely, when fluctuations arise from policy changes detrimental to foreign investors, lower CNEPU volatility relative to GEPU still encourages China's FDI inflows. Lastly, global economic policy uncertainty (GEPU) positively influences China's foreign direct investment. During times of global economic ambiguity, China becomes a safe haven for international capital, positioning itself as a relatively attractive investment choice for foreign investors.

Keywords: China EPU; Home country EPU; Global EPU; Semi-variance; Good volatility and bad volatility.

1. Introduction

Since the beginning of the policy 40 years ago, China has undergone a transition from a closed economy to an open economy [1]. This transformation has led to a rapid expansion in the scale and amount of Foreign Direct Investment (FDI) flowing into the country. In 1993, China became the second-largest recipient of foreign investment after the United States, and in 2002, it surpassed the United States to become the largest recipient of FDI. According to data from the National Bureau of Statistics of China, FDI has been increasing year by year from 1999 to 2018. In 2018, China's FDI amount was more than 2.7 times that of 2001 when it joined the WTO. By 2019, China's FDI amount had reached \$138.135 billion, representing a year-on-year increase of approximately 2.37%. The trend of FDI inflows reflects China's gradual shift towards openness. With the deepening of reform and opening-up, FDI has played an increasingly important role in China's economic development [2]. The significant increase in FDI has played a crucial role in China's economic construction and industrial development, highlighting the importance of FDI in China's development. However, the changing times have made it clear that China must continue to reform and innovate in order to maintain its advantage. The rise of emerging countries, the increase in labor costs in China, and the growing hostility of some Western countries towards China are just a few factors that have prompted China to embark on the path of industrial transformation and structural adjustment. Therefore, a deeper exploration of the factors influencing China's FDI is of great importance for improving the structure and quality of foreign capital inflows in the future [3].

The essence of FDI inflows lies in the profit-seeking nature of foreign capital [4]. For multinational corporations, the investment environment of the host country is a key factor affecting return on investment. China is currently undergoing a critical period of economic and industrial transformation, and the volatility of economic policies can have an impact on the risk-return profile of investments. The existing research on the relationship between EPU and FDI can be divided into several categories [5-8]. The first category focuses on the relationship between the EPU of the host country and its FDI. Hsieh et al. (2019) demonstrate a strong causal link between the level of economy policy uncertainty and U.S. outward FDI flow. Outward FDI is found to peak three quarters after a shock in the domestic EPU Index, and to decrease two quarters after a shock in the host country's EPU Index [9].

The second category examines the relationship between the EPU of the home country and the FDI in the host country. This research investigates how the EPU in the home country influences the decision-making process of multinational corporations when considering investment in the host country. For example, Choi et al. (2021) conducted a study using OECD bilateral FDI panel data from 16 host countries between 1985 and 2013 to investigate the effect of domestic policy uncertainty on FDI inflows [10].

The third category explores the impact of EPU in other countries or regions on the FDI in the host country. Ogbonna et al. (2022) use the system GMM modeling framework and a panel of 46 African economies over the period 2010–2019. This research examines that global uncertainty has a significant dampening effect on FDI inflow to Africa [11]. Trung (2019) focus on studying the impact of economic policy uncertainty in the United States on the global economy after the 2008 global financial crisis [12]. Colombo (2013) examines that US uncertainty shock on the European aggregates is shown to be quantitatively larger than the one exerted by an Euro area-specific uncertainty shock [13].

In summary, these previous studies provide valuable insights into the relationship between EPU and FDI. However, there is still a need for further research to understand the specific dynamics between EPU and FDI in China. Analyzing the Economic Policy Uncertainty (EPU) index in China over the past decade reveals significant increases and fluctuations in certain important event periods. Figure 1 shows the volatility of the CNEPU and GEPU indices from January 2007 to October 2019. By adjusting the mean values of these two indices to 100, it is easier to compare the differences. The first period when CNEPU was higher than GEPU was in 2008-2009 when China hosted the Olympic Games and was affected by the global financial crisis. The second period was from 2009 to 2011 when the Chinese government implemented the "Four Trillion Yuan Plan." The third period was around 2014 when China initiated comprehensive deepening reforms. The fourth period when CNEPU significantly surpassed GEPU was after 2017 when former US President Trump took office and there was a significant adjustment in US policies towards China. It is evident that prior to 2017, the volatility of CNEPU did not exceed 200 (adjusted), but after 2017, CNEPU quickly surpassed 200, and the gap with GEPU continued to widen.

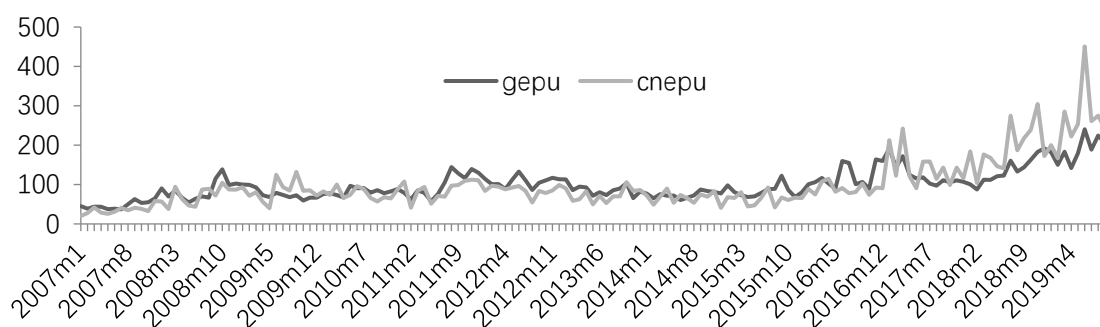


Fig. 1 Comparison of GEPU and CNEPU

From the perspective of FDI, it can be observed that the confidence index of China's FDI broke the record of the past decade and dropped out of the top two positions after the deterioration of US-China relations in 2017, indicating a decline in international capital's enthusiasm for investing in China. The ranking of China's FDI confidence index reflects the level of interest international capital has in investing in China. The results in Table 1 reveal that 2017 was a key turning point in global attitudes towards China. Since 2017, China's position in the eyes of global capital has been declining. Combining this with reality, the China-US trade friction has indeed worsened China's investment environment and significantly increased economic uncertainty. This paper speculates that 2017 may be a critical turning point for the influence of EPU on China's FDI. Therefore, in the empirical section, the full sample is divided into two periods: 2007-2017 and 2017-2019, to analyze the impact of economic policy uncertainty on FDI in China.

Table 1. Kearney FDI Confidence index

Year	Global Rank	FDI Confidence index	$cnepu_t$	FDI (USD)
2005	1	2.197	39.31975	6380500
2006	/	/	43.85883333	6987600
2007	1	2.21	38.22008333	7833900
2008	/	/	79.21983333	9525300
2009	/	/	92.56433333	9180400
2010	1	1.93	84.05983333	10882100
2011	/	/	95.25208333	11769800
2012	1	1.87	94.20675	11329400
2013	2	2.02	80.49133333	11872100
2014	2	1.95	72.34866667	11970500
2015	2	2	69.79333333	12626700
2016	2	1.82	97.97883333	12600100
2017	3	1.83	156.5665	13103500
2018	5	1.76	210.4943333	13496600
2019	7	1.72	274.751	13813500

When international investors choose a country for investment, they often compare it to their home country or the global average level and consider factors such as the host country's costs, technology, and investment environment. Therefore, when the host country has advantages in certain areas compared to the home country or the global average, capital flows across borders to seek higher returns. Previous studies have mainly focused on the economic policy uncertainties of either the host country or the home country in relation to FDI, with few considering the uncertainties of both countries as well as the global economy. In order to fill this research gap, this paper comprehensively investigates the influences of economic policy uncertainties in China, the home country, and globally on China's FDI, based on relative economic policy uncertainties. Most existing research regards EPU as a negative factor, and this paper explains the promoting effect of EPU on foreign direct investment from the perspectives of the home country and the global economy, which is consistent with the majority of previous studies. However, this paper also finds that China's EPU from 2007 to 2019 does not completely exhibit a negative impact on FDI. After eliminating the effect of global EPU, the fluctuation of China's EPU still robustly provides the aforementioned results. To further explain the controversial conclusion that China's EPU promotes FDI, this paper conducts an extended analysis of the differential impact of China's EPU fluctuations relative to global EPU on FDI by calculating semi-variance. The results show that upward fluctuations in China's EPU from 2007 to 2017 and downward fluctuations in China's EPU from 2017 to 2019 have both had a promoting effect on FDI in China, indicating that China's EPU being higher than global EPU was favorable during 2007-2017, while China's EPU being lower than global EPU was favorable during 2017-2019. This reveals that EPU is not necessarily a negative factor and that the direction of uncertain fluctuations' impact on macroeconomic factors should be judged based on specific policy content within a given time period.

This paper breaks away from the inherent bias towards EPU in previous literature and innovatively combines the contents of China's EPU during different periods, providing a dialectical analysis of its impact on China's FDI.

2. Methodology and Data

2.1. Methodology

2.1.1 Model specification

The research hypothesis of this paper posits that foreign direct investment (FDI) in China is affected by domestic, home country, and global economic policy uncertainty. To this end, this paper first develops the following regression analysis model:

$$\log(fdi)_{it} = \beta_0 + \beta_1 epu_{it} + \beta_2 cnepu_t + \sum \alpha_k X_{kit} + \gamma_i + \epsilon_{it} \quad (1)$$

Model (1) involves three types of numerical variables: the dependent variable, core explanatory variable, and control variables. The dependent variable is the logarithm of FDI in China from the seven countries mentioned, $\log(fdi)_{it}$. The explanatory variable is the economic policy uncertainty (EPU) of the home country (investor country), epu_{it} . $cnepu_t$ refers to the economic policy uncertainty of China (recipient country). epu_{it} and $cnepu_t$ use EPU indicators constructed by Baker et al. (2016) and others [14]. In order to make the EPU data of the seven countries comparable, this paper refers to the unified method adopted in constructing the Davis (2016) index to adjust the average economic policy uncertainty of these countries to 100 [15].

2.1.2 Unit root Test

Therefore, this paper uses unit root tests such as LLC and IPS to test the panel data and ADF unit root tests for some time-series data. According to the test results in Table 2, this paper conducted first-order difference processing on part of the control variables that were non-stationary. The results showed that these data became stationary after first-order difference processing. According to the unit root test results, the control variables referred to by X_{kit} are macro control variables such as the gross domestic product (GDP) of the home country and the investor country Δgdp_{it} and gdp_China_t , exchange rates $\Delta exchangerate_{it}$ and $\Delta exchangerate_China_t$, and the year-on-year growth rate of consumer price index CPI_{it} and ΔCPI_China_t . Due to the consideration of variable statistical caliber issues involving multiple countries, this paper mainly selects the three types of variables mentioned above as macro control variables, and the data source is the Wind database. Additionally, this paper uses a fixed-effect panel model for the year and country to avoid the interference of unobservable factors on the estimated results of the model.

Table 2. Unit root Test

VARIABLES	LLC	HT	Breitung	IPS	ADF	PPERRO N
epu_{it}	- 15.8740** *	0.4732** *	- 10.6938** *	- 14.6218** *		
	0.0000	0.0000	0.0000	0.0000		
$\log(fdi)_{it}$	- 26.7868** *	0.1206** *	- 15.8355** *	- 23.1150** *		
	0.0000	0.0000	0.0000	0.0000		
CPI_{it}	-1.7441***	0.8635** *	-6.0758***	-2.3282***		
	0.0406	0.0000	0.0000	0.0100		
$exchangerate_{it}$	-2.4038***	0.9604	0.8723	-1.0522		
	0.0081	0.7576	0.8085	0.1464		
gdp_{it}	2.0987	0.7622** *	-5.3429***	-2.2193***		
	0.9821	0.0000	0.0000	0.0132		
$\Delta exchangerate_{it}$	- 28.8426** *	0.2737** *	- 16.9165** *	- 25.2768** *		
	0.0000	0.0000	0.0000	0.0000		
Δgdp_{it}	-6.1896***	-0.0054 ***	- 16.8419** *	- 29.7881** *		
	0.0000	0.0000	0.0000	0.0000		
$cnepu_t$					-6.271***	-6.426***
					0.0000	0.0000
CPI_China_t					-2.071	-2.605
					0.5620	0.2776
$exchangerate_China_t$					-1.173	-1.760
					0.9160	0.7236
gdp_China_t					-4.973***	-4.891***
					0.0002	0.0003
ΔCPI_China_t					- 12.390** *	- 12.634***
					0.0000	0.0000
$\Delta exchangerate_China_t$					-8.488***	-8.440***
					0.0000	0.0000

2.1.3 Model Improvement

Next, this paper introduces two additional indicators of global economic policy uncertainty into the model and discusses their combined impact on foreign direct investment. The first indicator primarily considers the uncertainty of countries investing in China. A factor analysis is conducted on the epu_{it} of the seven countries mentioned, and the common factors are extracted as a proxy variable for $globalepu_{1t}$. The second indicator directly adopts the $globalepu_{2t}$ index constructed by Davis (2016), which combines the economic policy uncertainty indexes of 21 countries or regions and weights them according to each country's GDP average. In addition, due to the potential strong collinearity between $cnepu_i$, epu_{it} , and $globalepu_t$, this paper regresses $cnepu_i$ and epu_{it} separately on $globalepu_t$ and retains the residuals to remove the parts influenced by $globalepu_t$. After performing the aforementioned procedure, a fixed-effect model analysis is conducted. Robust

standard errors are used in all models to enhance the accuracy of the results. The specific model is as follows:

Residual preservation processing:

$$\begin{aligned} cnepu_i &= \beta_0 + \beta_1 globalepu_t + cnepu_{r_t} \\ epu_i &= \beta_0 + \beta_1 globalepu_t + epu_{r_t} \end{aligned} \quad (2)$$

Adjustments are made to Model (1):

$$\log(fdi)_{it} = \beta_0 + \beta_1 epu_{r_{it}} + \beta_2 cnepu_{r_t} + \beta_3 globalepu_t + \sum \alpha_k X_{kit} + \gamma_i + \epsilon_{it} \quad (3)$$

Based on the analysis of the fluctuation of China's EPU and global EPU in Figure 1, as well as the changes in FDI confidence index in Table 1, this paper speculates that the fluctuations of different EPU variables have varying effects on FDI. Therefore, this paper decomposes $cnepu_{r_t}$ and epu_{r_t} into positive and negative components. For convenience, the positive values of the decomposed fluctuations are considered in the analysis. The specific formulas are as follows:

$$\begin{aligned} cnepu_{r_t}^+ &= \max\{cnepu_{r_t}, 0\} \\ cnepu_{r_t}^- &= -\min\{cnepu_{r_t}, 0\} \\ epu_{r_t}^+ &= \max\{epu_{r_t}, 0\} \\ epu_{r_t}^- &= -\min\{epu_{r_t}, 0\} \end{aligned} \quad (4)$$

2.2. Data

Based on the investment situation in certain regions in 2019, this paper collected data from seven countries or regions as research subjects, namely China Hong Kong, South Korea, Japan, Singapore, Germany, UK, and the US. These seven regions accounted for 83.8% of the actual investment amount in 2019, making them highly representative. Panel data from January 2007 to October 2019 were collected for these seven countries, based on the availability of control variables and independent variable data. Due to the impact of the COVID-19 pandemic, the Ministry of Commerce did not report the data on China's foreign investment for November and December 2019, so the data for 2019 only includes up to October. Additionally, for certain regions where there were missing data for specific months, the average value of FDI net inflows from the three months before and after that particular month was calculated. Therefore, the data was sourced from the Wind database.

Regarding economic policy uncertainty data, this paper selected the index constructed by Baker et al. (2016). It uses text retrieval and filtering methods to count articles each month that contain three terms related to economy (E), policy (P), and uncertainty (U), and then scales and standardizes the original statistical data. The vocabulary of the term library is adjusted according to the specific circumstances of each country or region. The number of newspapers used also varies across different countries: 10 newspapers for the US and China Hong Kong, 6 newspapers for South Korea, 2 newspapers for Germany, Japan, and the UK, and 1 newspaper for China. The selected newspaper for China is the South China Morning Post, which is distributed in the Hong Kong region. In particular, the economic policy uncertainty index for Singapore is a trade-weighted average of the EPU indexes of 21 countries or regions. Taiwan's economic policy uncertainty data was not included due to its limited direct foreign investment proportion in mainland China. As for the global economic policy uncertainty index, $globalepu_{1t}$ is extracted through factor analysis, and $globalepu_{2t}$ is adjusted to have a mean value of 100. The detailed information about the data is as follows:

Table 3. Summary statistics

variable	N	min	max	mean	sd
$cnepu_t$	1071	25.70	450.8	100.5	63.37
epu_{it}	1071	17.99	374.8	100.3	41.42
$cnepu_{r_t}$	1071	-116.3	293.4	0	54.48
epu_{r_t}	1071	-89.67	190.3	0	26.43
$cnepu_{r_t^2}$	1071	-95.79	161.8	0	35.72
$epu_{r_t^2}$	1071	-97.82	236.3	0	31.19
$cnepu_{r_t^+}$	1071	0	293.4	18.97	41.98
$cnepu_{r_t^-}$	1071	0	116.3	18.97	22.05
$cnepu_{r_t^{+2}}$	1071	0	161.8	12.83	23.54
$cnepu_{r_t^{-2}}$	1071	0	95.79	12.83	19.79
$epu_{r_t^+}$	1071	0	190.3	9.390	18.40
$epu_{r_t^-}$	1071	0	89.67	9.390	13.55
$epu_{r_t^{+2}}$	1071	0	236.3	10.85	22.09
$epu_{r_t^{-2}}$	1071	0	97.82	10.85	15.78
$globalepu_{2t}$	1071	37.05	240.3	100	38.88
$globalepu_{1t}$	1071	-3.820	7.260	0.0200	2.070
$\log(fdi)_{it}$	1071	-2.300	5.130	1.230	1.370
gdp_China_t	1071	17827	82680	44559	17992
Δgdp_{it}	1071	-21000	15642	201.8	2721
CPI_{it}	1071	-2.100	7.900	1.430	1.070
ΔCPI_China_t	1071	-0.0400	0.0400	0	0.0100
$\Delta exc\hangerate_{it}$	1071	-12.45	9.630	-0.0300	1.580
$\Delta exc\hangerate_China_t$	1071	-3.610	4.220	0.210	1.460

3. Empirical results

3.1. Relative EPU and FDI inflows

The results of Model (1) are presented in Table 3. The first three columns show the regression results without controlling variables, while the last three columns show the results with controlling variables included. Firstly, from the significance of the coefficients, it can be observed that both China's economic policy uncertainty and the home country's economic policy uncertainty have a significant positive effect on China's foreign direct investment (FDI). Secondly, by comparing the sizes of the coefficients in the last three columns, it can be seen that fluctuations in one party's economic policy uncertainty will weaken the influence of the other party, indicating that China's economic policy uncertainty and the home country's economic policy uncertainty will weaken each other's impact on FDI. Moreover, for China's FDI, China's economic policy uncertainty plays a significantly greater role than the home country's economic policy uncertainty. It is a consensus in most literature that economic policy uncertainty has an adverse impact on macroeconomic indicators such as investment and consumption. Therefore, economic policy uncertainty is generally considered unfavorable. The increase in the home country's economic policy uncertainty leads to higher risks in the local investment environment, and local enterprises tend to avoid domestic investment risks and seek new investment opportunities globally, thereby promoting outward foreign direct investment (Du et al., 2020). This study observes that the home country's economic policy promotes investment in China, which is consistent with the conventional logic mentioned above. However, this study also captures the fact that the increase in China's economic policy uncertainty does not follow the same logic. The increase in uncertainty in China actually promotes foreign investment in China.

Many researchers have found negative effects of host country economic policy uncertainty on foreign direct investment based on global data or China's outward investment data. The explanation

is that the increase in host country's economic policy uncertainty will increase the political risk in that country, and capital will seek investment opportunities elsewhere to avoid risk, leading to a decrease in total foreign investment in that country. This is an intuitive understanding. However, when we focus on the relationship between China's economic policy uncertainty and China's outward foreign direct investment, we can find a significant positive relationship. This conclusion is perplexing. But if we think carefully, when universal theories cannot explain certain results, there must be special circumstances or reasons. In the past decade, China has been in a period of rapid development, with continuous reforms and an increase in the economic policy uncertainty index. For example, the economic stimulus policies enacted in 2014, including lowering loan interest rates and improving the regulatory environment for foreign investment in China, have also contributed to the increase in economic policy uncertainty. The Chinese government has been deepening institutional reforms and driving economic growth through domestic consumption and the service industry, which helps China's long-term economic development and creates new investment opportunities for foreign investors. Therefore, it is highly likely that during this time period, economic policy uncertainty did not purely act as an adverse investment indicator. It is possible that the favorable economic policy uncertainty outweighed the unfavorable uncertainty during the observed time period, ultimately resulting in a positive effect of China's Economic Policy Uncertainty (EPU) on FDI. Furthermore, this study is not the first to discover the positive impact of China's economic policy uncertainty on its foreign direct investment. Zhu et al. (2019) used a TVP-VAR model to study the time series data from January 1999 to December 2018 and found a positive impact of China's economic policy uncertainty on its foreign direct investment in the long run. Therefore, this study suggests that the promotion effect of China's economic policy uncertainty on its foreign investment may be determined by the unique national circumstances.

Table 4. China EPU, EPU and China FDI

VARIABLES	model 1	model 2	model 3	model 4	model 5	model 6
$cnepu_t$	0.00181** (0.000651)		0.00170** (0.000630)	0.00195*** (0.000546)		0.00181*** (0.000542)
epu_{it}		0.000794** (0.000299)	0.000495 (0.000353)		0.000954** (0.000316)	0.000611 (0.000418)
gdp_China_t				-1.18e-05** (4.62e-06)	-1.11e-05* (5.45e-06)	-1.21e-05** (5.05e-06)
Δgdp_{it}				-7.98e-06* (3.93e-06)	-7.74e-06* (3.81e-06)	-7.36e-06* (4.09e-06)
CPI_{it}				0.0304 (0.0325)	0.0267 (0.0331)	0.0282 (0.0326)
ΔCPI_China_t				2.341 (2.976)	2.163 (3.022)	2.542 (3.002)
$\Delta exchangerate_{it}$				-0.0261*** (0.00684)	-0.0255*** (0.00660)	-0.0260*** (0.00684)
$\Delta exchangerate_China_t$				-0.00814 (0.0112)	-0.0195 (0.0114)	-0.0105 (0.0119)
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Constant	-0.139 (0.106)	-0.0363 (0.0634)	-0.177 (0.108)	0.343 (0.240)	0.418 (0.236)	0.313 (0.236)
Observations	1,071	1,071	1,071	1,071	1,071	1,071
R-squared	0.851	0.850	0.851	0.854	0.853	0.855
Number of years	13	13	13	13	13	13

3.2. Relative EPU and FDI inflows Under the global EPU

The results of the first part of this study indicate that both China's economic policy uncertainty and the home country's economic policy uncertainty have a positive impact on foreign direct investment

(FDI). However, it is also possible that the economic policy uncertainty in both China and the home country is influenced by global economic policy uncertainty. Therefore, it is necessary to remove the influence of $globalepu_t$ from $cnepu_t$ and $eput$ in order to retain their local uniqueness and accurately assess the impact of China's economic policy uncertainty on FDI without the influence of global economic policy uncertainty. To achieve this, the residuals of regressing $eput$ and $cnepu_t$ on the $globalepu_t$ index separately are used. The remaining residuals represent the part that is free from the influence of global economic policy uncertainty. This approach also helps alleviate the issue of collinearity in the model. The results in Table 5 demonstrate the effects of applying the $globalepu_{1t}$ index. When global economic policy uncertainty and home country economic policy uncertainty increase, China's FDI is promoted. This suggests that when uncertainty increases in other countries, foreign capital tends to avoid risks in their own countries and seek opportunities in China as a potential emerging market. Furthermore, China's economic policy uncertainty still has a positive effect on FDI. To further validate the main findings in Table 5, the study re-evaluates the results using the $globalepu_{2t}$ index, and the robustness of the baseline results is confirmed, as shown in Table 6. Even after removing the influence of $globalepu_t$, $cnepu_t$ maintains its original results, indicating that China's economic policy uncertainty may not be entirely negative as previously assumed. If China's economic policy uncertainty has both negative and positive effects on China's FDI, it is highly likely that different results can be observed during different periods. The Confidence Index for Foreign Direct Investment by Kearney (Table 1) indicates that China's FDI confidence has consistently ranked first or second globally from 2005 to 2017. Only after President Trump took office (after 2017), China's FDI confidence index dropped to the range of 3rd to 8th place, but it still remained among the top 10, which is a small number for emerging markets. Based on this, the study suggests that 2017 is likely a key year when the direction of China's economic policy uncertainty on its FDI changed. To support this observation, the study undertakes a semi-variance decomposition of $cnepu_{r_t}$, which has already removed the influence of $globalepu_t$, and conducts a more detailed analysis in the next section.

Table 5. Global EPU₁, China EPU, EPU and China FDI

VARIABLES	model 1	model 2	model 3	model 4	model 5	model 6
$globalepu_{1t}$	-0.00321 (0.00784)	0.0160 (0.0120)	0.0162 (0.0120)	0.00568 (0.00825)	0.0239** (0.0109)	0.0241** (0.0110)
$cnepu_{r_t}$		0.00205** (0.000692)	0.00206** (0.000695)		0.00210*** (0.000644)	0.00210*** (0.000646)
$eput_{r_t}$			0.00158*** (0.000478)			0.00139** (0.000503)
Constant	0.0435 (0.0614)	0.0427 (0.0615)	0.0426 (0.0590)	0.491* (0.244)	0.525** (0.221)	0.534** (0.225)
Control Variables	NO	NO	NO	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	1,071	1,071	1,071	1,071	1,071	1,071
R-squared	0.851	0.850	0.851	0.854	0.853	0.855
Number of year	13	13	13	13	13	13

Table 6. Global EPU₂, China EPU, EPU and China FDI

VARIABLES	model 1	model 2	model 3	model 4	model 5	model 6
<i>globalepu_{2t}</i>	0.000116 (0.000710)	0.00145 (0.000924)	0.00115 (0.000872)	0.000923 (0.000585)	0.00207** (0.000723)	0.00179** (0.000700)
<i>cnepu_{r_t2}</i>		0.00251*** (0.000760)	0.00284*** (0.000798)		0.00235** (0.000815)	0.00261*** (0.000845)
<i>epu_{r_t2}</i>			0.00164*** (0.000495)			0.00137** (0.000520)
Constant	0.0318 (0.0953)	-0.102 (0.122)	-0.0724 (0.116)	0.434* (0.239)	0.288 (0.234)	0.292 (0.237)
Control Variables	NO	NO	NO	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	1,071	1,071	1,071	1,071	1,071	1,071
R-squared	0.849	0.852	0.853	0.853	0.855	0.855
Number of years	13	13	13	13	13	13

3.3. Good volatility and bad volatility

According to the Cornell Foreign Direct Investment (FDI) Confidence Index (Table 1), China's FDI confidence ranked consistently first or second globally between 2005 and 2017. However, since President Trump took office in 2017, China's FDI confidence index has declined to the range of 3rd to 8th place, but it still remains one of the few emerging markets in the top 10. This paper argues that the rise of China's FDI confidence after 2017 is mainly due to changes in Sino-US relations, which differ from previous uncertainties. Based on this, the paper suggests that there is a high possibility of changes in China's FDI after 2017. To support this viewpoint, the paper performs variance decomposition on the excluded variable $globalepu_t$ and further investigates it in the next section. Referring to Formula (4), the paper decomposes the fluctuations of China's economic policy uncertainty and home-country economic policy uncertainty relative to global economic policy uncertainty. $cnepu_{r_t}^+$ and $epu_{r_t}^+$ represent the fluctuations higher than the Global Economic Policy Uncertainty (GEPU), while $cnepu_{r_t}^-$ and $epu_{r_t}^-$ represent the fluctuations lower than GEPU. In this paper, favorable fluctuations that can promote China's FDI are defined, while unfavorable fluctuations that cannot promote or hinder China's FDI are defined separately. According to previous studies, higher values of $cnepu_{r_t}^+$ and $epu_{r_t}^+$ compared to GEPU indicate higher uncertainties in that region compared to the global average. Therefore, they should be less favorable for foreign direct investment in that region. Similarly, higher values of $cnepu_{r_t}^-$ and $epu_{r_t}^-$ (absolute) should be more favorable for foreign direct investment in the local region. The results from Table 7 reveal that, in the full sample, $cnepu_{r_t}^+$ rather than $cnepu_{r_t}^-$ has a significant promoting effect on China's FDI. This indicates that the portion where CNEPU is higher than GEPU played a major role in promoting China's FDI during the period of 2007-2019, thus representing favorable fluctuations. When conducting subsample regression analysis, it is found that during the period of 2007-2017, $cnepu_{r_t}^+$ continues to have a promoting effect, while during the period of 2017-2019, $cnepu_{r_t}^-$ demonstrates a positive and significant effect. This suggests that higher CNEPU compared to GEPU is more favorable during 2007-2017, while lower CNEPU compared to GEPU is more favorable during 2017-2019. This intuitive conclusion tells us that $cnepu_{r_t}^+$ during 2007-2017 represents positive and favorable fluctuations, while $cnepu_{r_t}^-$ during 2017-2019 represents positive and favorable fluctuations.

Table 7. Good volatility, Bad volatility and China FDI

VARIABLES	Before 2017	After 2017	ALL	Before 2017	After 2017	ALL
$cnepu_{r_t}^+$	0.00488*** (0.000484)	0.00150 (0.000625)	0.00196*** (0.000635)	0.00492*** (0.000510)	0.00127 (0.000536)	0.00201** (0.000661)
$cnepu_{r_t}^-$	0.000693 (0.000743)	0.0190*** (0.000655)	0.00109 (0.000815)	0.000308 (0.000927)	0.0259** (0.00346)	0.000705 (0.00101)
$epu_{r_t}^+$	0.00104 (0.00129)	3.74e-05 (0.00170)	0.000368 (0.00127)	0.000700 (0.00122)	-0.000426 (0.00208)	0.000117 (0.00121)
$epu_{r_t}^-$	0.00340** (0.00130)	-0.000654 (0.000710)	0.00347** (0.00127)	0.00337** (0.00130)	-0.000291 (0.000745)	0.00339** (0.00125)
Constant	-0.0119 (0.0575)	0.165 (0.173)	0.0537 (0.0635)	0.438* (0.209)	1.096 (0.469)	0.510** (0.202)
Control Variables	NO	NO	NO	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	917	238	1,071	917	238	1,071
R-squared	0.866	0.838	0.853	0.868	0.842	0.855
Number of year	11	3	13	11	3	13

Table 8. Robustness test of good volatility, Bad volatility and China FDI

VARIABLES	Before 2017	After 2017	ALL	Before 2017	After 2017	ALL
$cnepu_{r_t}^{+2}$	0.00494*** (0.00129)	0.00106 (0.00121)	0.00285** (0.00108)	0.00526*** (0.00135)	0.000778 (0.00119)	0.00285** (0.00119)
$cnepu_{r_t}^{-2}$	0.00180** (0.000577)	0.00550 (0.00270)	0.00219*** (0.000632)	0.000986 (0.000925)	0.00531 (0.00260)	0.00138 (0.000922)
$epu_{r_t}^{+2}$	0.000999 (0.000968)	0.000712 (0.00148)	0.00111 (0.000766)	0.000773 (0.000879)	0.000310 (0.00208)	0.000898 (0.000696)
$epu_{r_t}^{-2}$	0.00482** (0.00171)	-0.00147 (0.000651)	0.00286* (0.00145)	0.00449** (0.00175)	-0.00153 (0.000655)	0.00258* (0.00144)
Constant	-0.0119 (0.0575)	0.165 (0.173)	0.0537 (0.0635)	0.438* (0.209)	1.096 (0.469)	0.510** (0.202)
Control Variables	NO	NO	NO	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	917	238	1,071	917	238	1,071
R-squared	0.866	0.838	0.853	0.868	0.842	0.855
Number of years	11	3	13	11	3	13

3.4. Robustness analyses

The coefficients and significance of $cnepu_t$ and epu_{it} in Tables 3 and 4 may be influenced by global economic policy uncertainty, which could introduce interference. Therefore, in this paper, $cnepu_t$ and epu_{it} in Tables 3 and 4 are replaced with residual values processed by $globalepu_{1t}$ or $globalepu_{2t}$. The results of retesting the results in Tables 3 and 4 using the alternative variable processing method are presented in Tables 9 and 10. The test results show that China's economic policy uncertainty and home-country economic policy uncertainty have a robust positive impact on FDI. Furthermore, this paper conducts a country-specific analysis of the previous findings. The results in Table 11 demonstrate that the previous findings can be robustly captured in Japan, the United Kingdom, and Hong Kong, while they are not significant in other countries or regions.

Table 9. Residual of China EPU₁, Residual of EPU₁and China FDI

VARIABLES	model 1	model 2	model 3	model 4	model 5	model 6
<i>cnepu_r_t</i>	0.00173*** (0.000537)		0.00174*** (0.000541)	0.00168*** (0.000509)		0.00169*** (0.000515)
<i>epu_r_t</i>		0.00162*** (0.000459)	0.00163*** (0.000458)		0.00154*** (0.000471)	0.00155*** (0.000469)
Constant	0.0414 (0.0610)	0.0414 (0.0583)	0.0414 (0.0583)	-2.509 (4.944)	-0.0142 (4.588)	-0.831 (4.810)
Control Variables	NO	NO	NO	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	1,078	1,078	1,078	1,078	1,078	1,078
R-squared	0.851	0.850	0.852	0.855	0.854	0.856
Number of year	13	13	13	13	13	13

Table 10. Residual of China EPU₂, Residual of EPU₂and China FDI

VARIABLES	model 1	model 2	model 3	model 4	model 5	model 6
<i>cnepu_r_t</i>	0.00209*** (0.000651)	0.00185** (0.000692)			0.00253*** (0.000703)	0.00226*** (0.000708)
<i>epu_r_t</i>			0.00117** (0.000417)	0.00115** (0.000420)	0.00178*** (0.000484)	0.00169*** (0.000445)
Constant	0.0414 (0.0610)	-2.475 (4.898)	0.0414 (0.0591)	-0.180 (4.582)	0.0414 (0.0581)	-0.445 (4.589)
Control Variables	NO	NO	NO	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	1,078	1,078	1,078	1,078	1,078	1,078
R-squared	0.851	0.855	0.850	0.854	0.852	0.856
Number of year	13	13	13	13	13	13

Table 10. Residual of China EPU₂, Residual of EPU₂and China FDI

VARIABLES	model 1	model 2	model 3	model 4	model 5	model 6
<i>cnepu_r_{t2}</i>	0.00209*** (0.000651)	0.00185** (0.000692)			0.00253*** (0.000703)	0.00226*** (0.000708)
<i>epu_r_{t2}</i>			0.00117** (0.000417)	0.00115** (0.000420)	0.00178*** (0.000484)	0.00169*** (0.000445)
Constant	0.0414 (0.0610)	-2.475 (4.898)	0.0414 (0.0591)	-0.180 (4.582)	0.0414 (0.0581)	-0.445 (4.589)
Control Variables	NO	NO	NO	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	1,078	1,078	1,078	1,078	1,078	1,078
R-squared	0.851	0.855	0.850	0.854	0.852	0.856
Number of year	13	13	13	13	13	13

Table 11. Residual of China EPU_2 , Residual of EPU_2 and China FDI of different country

VARIABLES	Germany	Japan	Korea	Singapore	UK	US	Hong kong
$globalepu_{1t}$	0.0240 (0.0580)	0.0356* (0.0198)	0.000359 (0.0302)	0.0232 (0.0202)	0.0559* (0.0303)	-0.00939 (0.0216)	0.0458*** (0.0134)
$cnepu_{rt}$	0.00184 (0.00181)	0.00278** (0.00110)	0.00156 (0.000961)	0.000900 (0.00131)	0.00520*** (0.000841)	- 0.000117 (0.00133)	0.00150** (0.000526)
epu_{rt}	0.00517 (0.00305)	-0.000939 (0.00201)	-0.00161 (0.00128)	0.00819 (0.00584)	0.00100 (0.00126)	0.00143 (0.00253)	-0.000914 (0.000555)
Constant	9.704 (68.42)	-5.218 (43.46)	-14.09 (53.03)	-34.26 (21.18)	347.7*** (111.8)	180.8** (62.83)	-8.519* (4.458)
Control Variables	NO	NO	NO	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES	YES
Observations	154	154	154	154	154	154	154
R-squared	0.084	0.120	0.038	0.103	0.152	0.089	0.174
Number of years	13	13	13	13	13	13	13

4. Summary

In order to answer the impact of economic policy uncertainty on foreign direct investment (FDI) in China by different stakeholders, this paper first studied the influence of economic policy uncertainty on FDI between host country China and home country. Secondly, considering that economic policy uncertainty in various countries may be affected by global economic policy uncertainty, this paper extracted fluctuations in China's, home country's economic policy uncertainty that are not influenced by global policy uncertainty, and then studied the impact of host country, home country and global economic policy uncertainty on China's FDI. The results of China's economic policy uncertainty on China's FDI are somewhat different from those of previous studies. After decomposing China's economic policy uncertainty and global policy uncertainty, this paper finds that the volatility of China's EPU above global EPU promoted the increase of China's FDI during 2007-2017 but the volatility of China's EPU below global EPU promoted the increase of China's FDI during 2017-2019. This discovery is important for explaining the impact of China's EPU on China's FDI. Finally, this paper tested the model results by changing the independent variables and conducting country-specific regressions.

The main findings of this paper are: First, home country economic policy uncertainty (EPU) promotes China's FDI. This reflects a general logic of capital seeking opportunities in the global market when political risk is raised locally due to an increase in EPU. Second, China's economic policy uncertainty (CNEPU) has an overall positive impact on China's FDI, and its impact shows a staged change. During 2007-2017, the favorable fluctuations of CNEPU above GEPU had a promoting effect on China's FDI. The paper believes that this is related to China's national conditions and that the increase in CNEPU during this period was due to policy changes that were more beneficial to foreign investors, which did not worsen China's investment environment but rather had a stronger appeal to foreign capital. During 2017-2019, the deterioration of US-China relations significantly increased the CNEPU index. At this time, favorable fluctuations of CNEPU below GEPU had a restraining effect on China's FDI, which is consistent with the conclusions of other studies. Third, global economic policy uncertainty (GEPU) is beneficial to China's FDI.

When the global economic situation is uncertain, China is a safe haven for global investment capital and a relatively better investment choice. This paper proposes the following suggestions for the above results: First, dialectically viewing economic policy uncertainty and analyzing the

economic policy content behind it in depth. This paper empirically demonstrates that the impact of CNEPU on China's FDI is both positive and negative during 2007-2017 and 2017-2019, respectively. Second, reducing or eliminating unnecessary and adverse uncertainties can retain favorable uncertainties. China should be aware of the importance of US-China relations and its practical impact on China's investment. China should consciously establish its own international position and improve its international image. Third, in most cases, uncertainty and investment have a negative relationship. By analyzing the relationship between GEPU, EPU and FDI, relatively lower uncertainty is more conducive to more foreign capital flowing into China. Today, many countries and regions around the world are still affected by the COVID-19 pandemic. China should adjust its foreign investment policy and prepare to attract international capital.

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