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Catching the Political Leader's Signal: Economic Policy Uncertainty and Firm Investment in China¹

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Abstract

This study uses a text dataset of the Chinese President's speeches and reports from November 2012 to December 2021 to construct an original economic policy uncertainty (EPU) index: President Xi Jinping's EPU (XiEPU). XiEPU moderately correlates with a previous study's representative EPU, showing notably different peaks. Our index spiked in April 2016 and January 2017, possibly reflecting the turmoil in the Chinese stock market. Using firm-level panel data from 2012 to 2019, we find that a higher value of XiEPU is associated with a lower investment rate at the quarterly level. Moreover, there are noteworthy heterogeneous effects among firms and periods. Specifically, we find a stronger effect of XiEPU on manufacturing sectors, a weaker effect on state-owned enterprises, and a stronger effect in the second term of Xi Jinping's presidential tenure after November 2017.

Keywords: Economic Policy Uncertainty, firm investment, policy maker, Xi Jinping, China

JEL classification: D80, E66, G18, P16

Abbreviations—BBD: Baker–Bloom–Davis; CCP: the Chinese Communist Party; EPU: Economic policy uncertainty; HL: Huang–Luk; SOE: State-owned enterprise; XiEPU: Xi Jinping's EPU.

1. Introduction

Recently, there have been significant concerns about policy uncertainty in China and the rest of the world. Many studies have measured economic policy uncertainty (EPU) and assessed its impact on economic activity. For example, Baker et al. (2016) developed an EPU index (hereafter referred to as BBD) using a dictionary method that counted keyword-searched newspaper articles in the United States and 12 other countries. They showed that the EPU negatively affects firm investment, employment, and other macroeconomic variables, such as gross domestic product (GDP), industrial production, and unemployment rates. Many recent studies have confirmed EPU's generally adverse effects on various economic activities (Altig et al., 2020),² which are consistent with theoretical predictions (Bernanke, 1983; Bloom, 2009).

China has been the second largest economy in the world since 2010; the BBD for China measures EPU using a Hong Kong-based English newspaper, the *South China Morning Post*, as its data source. This baseline has allowed progress in developing BBD-like indices using different data sources and keywords (Davis et al., 2019; Huang and Luk, 2020). Several studies have used newspaper articles to measure EPU, empirically suggesting its adverse effects on China's economy (Wang et al., 2014; Chen et al., 2018; Huang and Luk, 2000); however, other studies have found insignificant or positive effects (Aroui and Roubaud, 2016; He et al., 2020).

When considering the impacts of EPU, more emphasis should be placed on statements from decision-makers rather than newspapers in general. Several studies investigated former US President Donald Trump, finding that his tweets impacted global stock markets and specific company valuations (Bianchi et al., 2019; Burggraf et al., 2020; Brans and Scholtens, 2020). In China, Xi Jinping has become the most important decision-maker this decade (Economy 2018; Shambaugh, 2021); he has served as the General Secretary of the Chinese Communist Party (CCP) since November 15, 2012, and the President of the People's Republic of China since March 14, 2013. China's political leaders have long held strong authority in economic governance, which has become more pronounced under the Xi Jinping administration. It is widely accepted among China observers that Xi Jinping has played a decisive role in the policymaking process, with some referring to him as "the Chairman of everything" (The Economist, 2016; Hernández, 2017; Allison, 2017). On October 23, 2022, the CCP held the First Plenary Session of the 20th Central Committee,

² See Kang et al. (2014) for an early work using the EPU of BBD as an explanatory variable of firm-level investment decision. See Al-Thaqeb and Algharabali (2019) for a more general literature review.

marking the start of the Xi Jinping administration's third term.

This study seeks to understand how the tone of President Xi's statements has changed during his tenure and how those statements and tone changes have impacted the Chinese economy. Unlike President Trump, President Xi Jinping does not use social networking services like Twitter or Weibo. Instead, the Chinese state media extensively and intensively reports his statements, political meeting notes, diplomatic visit reports, and other activity reports daily.

This study uses a text dataset of the Chinese president's speeches and reports from November 2012 to December 2021 to construct an original EPU for Xi Jinping (XiEPU). XiEPU moderately correlates with the BBDEPU (China's EPU measured by BBD) while showing notably different peaks, spiking in April 2016 and January 2017—possibly reflecting macroeconomic uncertainty, including a sharp decline in the stock market index—and late 2020 due to a deepening global risk of COVID-19. We argue that XiEPU is a proxy index of President Xi and his administration's perceptions of economic uncertainty and a signal for related uncertainties, containing important information regarding mid-long-term risks and policy directions facing Chinese firms in particular. In this sense, the XiEPU is conceptually different from existing EPUs, i.e., indicators of EPU commonly circulated in the major media regardless of author or source. A part of our data source, the state-run *People's Daily*, contains its own institutional bias concerning which speeches it publishes; however, most Chinese firms take Xi's speeches as direct messages to Chinese society and the economy, irrespective of any political motivations or biases involved in the editing process.

This paper examines XiEPU's impact on the real economy. After validating the XiEPU, we estimate the firm-level investment decision function by using data from 2012 to 2019 and find that a higher value of XiEPU is associated with a lower investment rate at the quarterly level. Considering the magnitude of this uncertainty effect, a 100% increase in XiEPU is associated with a 24.5% decrease in investment rates. The results are qualitatively robust in alternative specifications and support previous theoretical and empirical research. Furthermore, significant heterogeneous effects of XiEPU exist among Chinese firms by sector, ownership, and period. Specifically, we find a stronger effect of XiEPU on manufacturing sectors, a weaker effect on state-owned enterprises, and a stronger effect in the second term of Xi Jinping's presidential tenure after November 2017. In short, Chinese firms indeed respond to signals from decision-makers.

This research contributes to two strands of the extant literature. First, we extend and refine the literature on the EPU, focusing on political leaders' remarks on the economy while adopting conventional measurement and estimation methods. Although extant EPU studies use newspaper

articles, politicians' speech data provide a compelling alternative for examination. Second, the literature on the Chinese political economy has drawn significant attention concerning its effect on various economic outcomes of political factors, such as political connection at the firm-level (Li et al., 2008; Wu et al., 2012), administrative reforms (Ang, 2016), factional conflict, or patron-client networks within the party (Shih, 2007; Jiang and Zhang, 2020). Thus far, few studies have attempted to systematically analyze how an individual leader's (changing) policy preference and rhetoric impact the real economy. This analytic void looms as the decision-making process has been centralized to an unprecedented level under President Xi Jinping's leadership. Our study quantitatively demonstrates how the Chinese president's words influence the economy, filling the research gap mentioned above.

The remainder of this paper is organized as follows. Section 2 reviews previous EPU studies, while Section 3 describes measuring XiEPU and the validation test method. Section 4 presents the impact of XiEPU on the capital investment of Chinese listed firms, and Section 5 concludes.

2. Related literature

2.1. EPU studies

BBD applies a dictionary-based method to measure EPU. According to Baker et al. (2016), it specifically constructs monthly EPU series based on

“a monthly count of articles that contain the following trio of terms: ‘uncertainty’ or ‘uncertain;’ ‘economic’ or ‘economy;’ and one of the following policy terms: ‘Congress,’ ‘deficit,’ ‘Federal Reserve,’ ‘legislation,’ ‘regulation,’ or ‘White House’ (including variants like ‘uncertainties,’ ‘regulatory,’ or ‘the Fed.’)” (p.1599).

Each month, the number of corresponding articles is divided by the total number of monthly articles, and the EPU index is scaled to a mean of 100 for the examined period. Empirical studies using EPUs have shown that firms generally act more conservatively with higher EPUs (Al-Thaqeb and Algharabali, 2019). For example, US firms reduced investments by 32% during the global financial crisis; the effects are remarkably more substantial depending on government procurements and sectors with high irreversible investments (Gulen and Ion, 2016).

These results are consistent with theoretical expectations. When planning an investment, firms must weigh the cost of postponing their investment against the value of new information gained by

waiting; hence, increased uncertainty incentivizes firms to delay investment (Bernanke, 1983). Another explanation states that heightened uncertainty changes employment (e.g., new hires, retentions, and firings) and investment thresholds (e.g., new investment, status quo measures, and reduced investment), resulting in temporary declines in both; notably, these items recover sharply when such uncertainty is resolved (Bloom 2009). Additionally, financial and information institutions, including central banks, have been widely using EPUs; the BBD's website lists 28 country indices as of January 2023.³

2.2. EPU for China

EPU research is ongoing in China; in addition to BBD calculations, Davis et al. (2019) and Huang and Luk (2020) each measured EPU using Chinese newspapers and unique keyword searches (see Table 1); Figure 1 shows the existing China EPUs.

BBD indicates that the EPU peaked several times since the founding of the People's Republic of China in 1949, especially during the political turmoil in the 1950s and the Cultural Revolution in the 1960s when some values exceeded 400. The EPU remained relatively stable in the early 2000s, surging to around 200 before and after the 2008 global financial crisis. Figure 1 shows that in the 2010s, China's EPUs have risen notably since 2018, primarily reflecting the intensification of US–China trade frictions and the impact of COVID-19 in 2020.

Table 1. Dictionary keywords from previous studies

Paper	Data	Period	Method	(a) Economic keywords	(b) Policy keywords	(c) Uncertainty keywords	(d) Additional keywords

³ See “Economic Policy Uncertainty” [<https://www.policyuncertainty.com/>]. Accessed January, 2023.

Baker et al (2016, 2022)	<i>South China Morning Post</i>	1995- (monthly updated)	Dictionary (three categories plus China keyword)	economic or economy	{ {policy or spending or budget or political or "interest rates" or reform} and {government or Beijing authorities} or tax or regulation or regulatory or central bank" or "People's Bank of China" or PBOC or deficit or WTO	uncertainty or uncertain	China, Chinese
Davis et al (2019)	<i>People's Daily and Guangming Daily</i>	October 1979-1978, 1979-1999, 2000-December 2018	Dictionary (three categories, modified policy keywords)	经济, 商业	财政, 货币, 证监会, 银监会, 财政部, 人民银行, 国家发改委, 开放, 改革, 商务部, 法律, 法规, 税收, 国债, 政府债务, 央行, 外经贸部, 关税, 政府赤字	不确定, 不明确, 不明朗, 未明, 难料, 难以预计, 难以估计, 难以预测, 难以预料, 未知	N.A.

Huang and Luk (2020)	<i>Beijing Youth Daily, Guangzhou Daily, Jiefang Daily, People's Daily Overseas Edition, Shanghai Morning Post, Southern Metropolis Daily, The Beijing News, Today Evening Post, Wen Hui Daily, and Yangcheng Evening News</i>	January 2000-October 2018	Dictionary (three categories, modified key words)	经济, 金融	政策, 制度, 体制, 战略, 措施, 规章, 规例, 条例, 政治, 执政, 政府, 政委, 国务院, 人大, 人民代表大会, 中央, 国家主席, 总书记, 国家领导人, 总理, 改革, 整改, 整治, 规管, 监管, 财政, 税, 人民银行, 央行, 赤字, 利率	不确定, 不明确, 波动, 震荡, 动荡, 不稳, 未明, 不明朗, 不清晰, 未清晰, 难料, 难以预料, 难以预测, 难以预计, 难以估计, 无法预料, 无法预测, 无法预计, 无法估计, 不可预料, 不可预测, 不可预计, 不可估计	N.A.
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Source: Authors' compilation

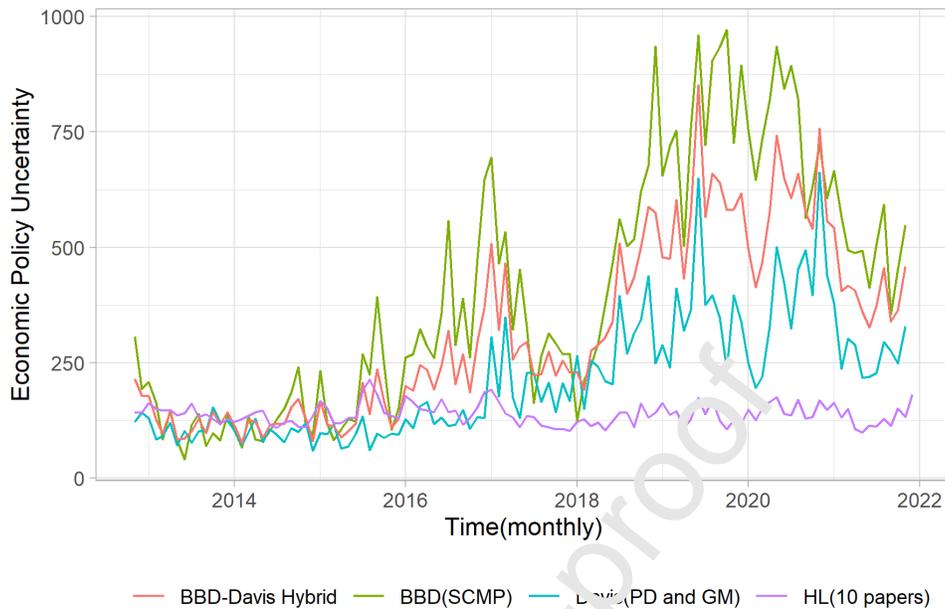


Figure 1. Chinese Monthly EPUs from previous studies (November 2012–December 2021)

Note: BBD (SCMP) refers to the EPU constructed by BBD based on *South China Morning Post*. Davis (PD and GM) refers to the EPU from Davis et al. (2019), based on *People's Daily* and *Guangmin Ribao*. BBD-Davis Hybrid is an averaged EPU based on BBD (SCMP) and Davis (PD and GM), and HL (10 papers) refers to the baseline EPU developed by Huang and Luk (2020).

Source: “Economic Policy Uncertainty” [<https://www.policyuncertainty.com/index.html>] for BBD, Davis, and Hybrid methods. “Economic Policy Uncertainty in China” by Dr. Sheung Kan Luk [<https://economicpolicyuncertaintyinchina.weebly.com/>] for HL, accessed February 7, 2022.

Empirical studies have described the impact of China’s EPU on macroeconomic and firm behaviors, generally indicating that a higher EPU negatively impacts certain economic variables; He et al. (2020) is an exception (Table 2). By combining the BBD index and stock market data, Chen et al. (2018) found that an EPU increase of one standard deviation is associated with a 1.2% decrease in expected monthly returns. Huang and Luk (2020) performed a structural vector autoregression using macroeconomic variables, finding that an EPU increase of one standard deviation immediately reduced equity by approximately 3%. He et al. (2020) focused on the impact of EPU on innovation activities using listed company data to estimate the firm-level knowledge

production function. They found that firms increased their patent applications during higher EPU periods, suggesting they attempted to differentiate under economic pressure.⁴ Concerning the heterogeneous effects of EPU, Liu et al. (2021) found that political connection mitigates the negative effect. Additionally, Liu and Zhang (2020) adopted a quasi-experimental approach focused on sudden governmental policy changes, finding that increasing EPU leads to negative investment effects, whereas state-owned enterprises (SOEs) are unaffected.

Table 2. Previous research on the impact of EPUs in China

Paper	Time coverage	EPU	Dependent variable(s)	Results
Wang et al. (2014)	2003Q1 - 2012Q1 (quarterly)	BBD	Firm investment	Negative effect
Aroui and Roubaud (2016)	January 2003 - January 2014 (monthly)	BBD	Stock market return, stock market volatility	No significant effect
Wang et al. (2017)	2002 - 2012 (yearly)	Turnover of Mayor or Party Secretary	R&D investment	Negative effect, especially for politically connected companies
Chen et al. (2018)	January 1996 - December 2013 (monthly)	BBD	Stock market return	Negative effect
Huang and Luk (2020)	January 2000 - October 2018 (monthly)	HL	Equity price, output, and unemployment rate	Negative effects on outcome variables
He et al. (2020)	2000 - 2017 (yearly)	HL	Patent application	Positive effect
Liu and Zhang (2020)	2013Q1-2017Q3 (quarterly)	Quasi-experimental design	Firm investment	Negative effect for private firms, no significant effect for SOEs

⁴ Bloom (2007) partially explained this mechanism, revealing mixed results concerning the effect of uncertainty on research and development expenditures.

Liu et al. (2021)	2004Q1-2017Q4	BBD	Firm investment	Political connectins mitigate the risk of uncertainty
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Source: Authors' compilation

2.3. Statements of political leaders and their impact on economies

Scholars have scrutinized the impact of political leaders' statements on economic activities, particularly how words from US presidents affect national and global economies. For example, drawing on monthly time-series measures constructed from US presidential remarks, Wood (2007, Ch.6) explored whether and to what extent "presidential rhetoric" shapes consumer behaviors in the US and macroeconomic performance. Dybowski and Adammer (2018) investigated when and how the US president communicates tax policies to the public, finding that optimistic policy statements stimulate consumption, investment, and output. Furthermore, Burggraf et al. (2020) analyzed more than 3,200 tweets related to the US–China trade frictions based on President Trump's tweets. They found a negative impact on Standard-and-Poor's 500 index returns and a positive impact on the Chicago Board Options Exchange's Volatility Index. Bianchi et al. (2019) focused on President Trump's tweets criticizing the Federal Reserve. They examined whether they influenced central bank-related variables, determining that these tweets had negative and statistically significant effects on the Fed Funds futures index, with the magnitude growing from horizon to horizon.

For China, the political leaders' statements have historically provided a critical source of information about the general economic outlook and potential policy change (Coase and Wang, 2012; Lampton, 2014; Shanbaugh, 2021). This trend appears to have strengthened since Xi Jinping became the General Secretary of the CCP and consolidated power in the party and the state (The Economist, 2016). As of 2017, he chaired eight central policy coordinating bodies, known as Leading Small Groups, including the one on Comprehensively Deepening Reform, which reportedly became a "shadow State Council," issuing significant policies relating to economic affairs (Shirk, 2018, pp. 23–4). Xi's increased role in economic policymaking has drawn significant attention because the Premier of the State Council has traditionally been the practical decision-maker for economic policy in China (Economy, 2018; Naughton, 2016).

Furthermore, it is essential to note that Xi Jinping's control over the policy process appears to have increased at the beginning of his second term as the paramount leader. At the Sixth Plenary Session of the 18th Central Committee of the CCP in October 2016, Xi became the "core" of the

Party leadership. Following this, at the October 2017 Party Congress, Xi introduced his personal philosophy into the party constitution (only Mao had done so while still in power), cemented his control over the selection of new Politburo Standing Committee members, and unveiled a new leadership lineup that conspicuously lacked a clear successor. The abolition of term limits in March 2018 was only the latest, albeit most glaring, in a series of steps to enhance his power (Fewsmith, 2021). Given President Xi's consolidation and expansion of power over the entire party-state organization, it can be assumed that China's political and economic actors pay more attention to Xi's speeches than any other government officials in China. Nevertheless, we have very little evidence to validate the system-wide effects of Xi's power consolidation, and it remains unclear how Xi has changed the collective behavior patterns of concerned actors. This study attempts to quantify Xi's impact on the real economy by focusing on presidential remarks regarding the economy and its impacts on firm-level behaviors in the context of EPU.

3. Measuring XiEPU

3.1. Text data

We obtained text data from the *Database of Xi Jinping's Important Speech Series (Xi Jinping Xilie Zhongyao Jianghua Shujuku, 习近平系列重要讲话数据库)*,⁵ a web-based source of Xi Jinping-related speeches and reports. The articles began on November 15, 2012, the day Xi Jinping took office as the General Secretary of the CCP. The material is mainly from the Chinese state media, including the *People's Daily* (domestic and international editions), the *Xinhua News Agency*, local newspapers, and several state or CCP publications, such as *Qiushi*. The articles include speeches, activity reports, field visits, press conferences, meetings, telegrams (e.g., ceremonial), and others. Although the data include Xi Jinping's statements and activities, they also contain important notes and reports from CCP and central government meetings.

The initial dataset contained 11,718 articles from November 15, 2012, to December 31, 2021, including 17,054,592 Chinese characters and an average of 1,455 characters per article. Our original dataset predominantly comprised state media: 6,339 articles from *People's Daily*, 5,100 articles from *Xinhua News Agency*, and 279 articles from other sources, including *Qiushi* and local newspapers. We dropped duplicated articles, typically those published by both *People's Daily* and

⁵ The database URL: <http://jhsjk.people.cn/>

the *Xinhua News Agency*, and excessively long or short articles (>30,000 and <200 characters, respectively). Figure 2 describes the dataset in our analysis; the total number of articles is 7,416, and the total number of characters is 13,227,569, with an average of 1,783 characters per article.⁶

Using the chosen data has advantages and disadvantages. As all articles are publicly available and are published mainly by major state-run news agencies, the dataset is not fundamentally different from the national and local newspaper articles used by Davis et al. (2019) and Huang and Luk (2020). Nevertheless, this study's dataset contains many specific statements made by the highest policymaker; compared with existing newspaper articles, this dataset contains a high concentration of outreach by the supreme decision-maker. Conversely, there are several limitations. First, the number of articles is relatively small compared with global or national newspaper datasets, which typically exceed 100 thousand. Second, our dataset is sourced directly from state media; thus, it may suffer from media bias issues (Yuan, 2016; Piotroski et al., 2017; Qin et al., 2018). Indeed, our dataset is based on information published by state media, as represented by the *People's Daily* and *Xinhua News Agency*. Therefore, the text inevitably includes preferential messages about the Chinese government, the CCP, and economic perceptions, including a certain amount of propaganda; however, we believe this issue does not detract from the value of our empirical analysis.

Given our research question, three dimensions of media bias issues arise when using Chinese news articles. First, we must determine if media bias exists in China depending on the attribution of newspapers. Previous studies have revealed that bias is greater in media with strong party or state control. Piotroski et al. (2017) used Chinese domestic newspaper data from 2000 to 2010 to assess sentiment (positive, neutral, or negative) for each sentence. They calculated the article-level sentiment and conducted a regression analysis, showing that sentiment is more favorable for media articles controlled by the central government or the central CCP (Piotroski et al., 2017, p.191). Qin et al. (2018) used data from 117 newspapers in China from 1999 to 2010 and examined the bias of each media outlet based on the frequency of the coverage of nine themes.⁷ The results indicate that

⁶ One point worth noting is that the number of articles related to Xi Jinping has declined slightly over the years. A potential reason is the Eight-point Regulation of the Centre, first announced on 4 December 2012, which indicated the need for compressing the number of news reports, word count, and length related to the CCP Central Politburo.

⁷ Nine themes are Xinhua cites, Epoch Times stories, corruption, disasters, accidents, sports, entertainment, and crime. See Qin et al (2018).

newspapers are divided into those that focus on political propaganda and those that are more commercial.⁸

Second, and of particular importance to our research, is whether media bias causes a critical issue in measuring the EPU. Huang and Luk (2020) made important assessments using data from 114 local Chinese newspapers and examined how the data sources affect the EPU construction. They first categorized the newspapers following Qin et al. (2018), dichotomizing the data into newspapers with a significant bias and those with a small bias. They then calculated the correlation coefficient concerning the EPUs created between each group and their benchmark EPUs (constructed by 10 local newspapers). The results showed a high homogeneity, with a correlation coefficient of 0.93 between the benchmark index and the group with high bias and 0.94 between the benchmark index and the group with low bias. Thus, they suggest that media censorship does not cause a significant issue in constructing the EPU index (Huang and Luk 2020, p.16–17)⁹.

The third question is whether the indicators produced by Chinese media reports impact the real economy. Again, media bias, as identified by Piotroski et al. (2017) and Qin et al. (2018), means the gaps in media tone (positive or negative) or content overlap with state media; however, they do not examine the impact of tone on corporate behavior in other industries in general.¹⁰ Davis et al. (2019) and Huang and Luk (2020) examined the relationship with the real economy from an EPU perspective. The textual data used by Davis et al. (2019) and Huang and Luk (2020) also contained a certain amount of bias—to varying degrees—provided they were domestic Chinese newspapers. However, as the two studies show, EPUs generated from Chinese newspaper articles also impact the real economy in China. Another question arises concerning which kind of EPU created from textual data would be ideal.¹¹ In the following sections, our study compares the effects of the previously

⁸ Han (2016) reported similar results. In addition, Roberts et al. (2016) use the Structural Topic Model to analyze coverage of China in major Western and Japanese media outlets and the Xinhua News Agency. Their results indicated that Xinhua reports less frequently and has different keywords on specific topics (like Falungong).

⁹ A direct comparison between the high- and low-bias groups also showed a correlation coefficient of 0.94, as shown by Huang and Luk (2020, p. 6). They also examined whether the strength of the state and party control affected the EPUs created; however, the correlation coefficients between the benchmark indicators were above 0.81 for different groups.

¹⁰ Piotroski et al. (2017) analyzed the impact of firm-level profit on the tone of media firms, and Qin et al. (2018) analyzed how market competition among media firms affects the tone of media firms. However, the impact of news reports on a wide range of other companies was not examined.

¹¹ One idea is that an index created from newspapers with a smaller media bias would contain more

developed BBD and Huang and Luk's (2020) indices with those of the XiEPU. Furthermore, we investigate the heterogeneous effects of firm characteristics; SOEs and firms with political connections may obtain early and highly accurate signals from the regime center, resulting in different XiEPU effects.

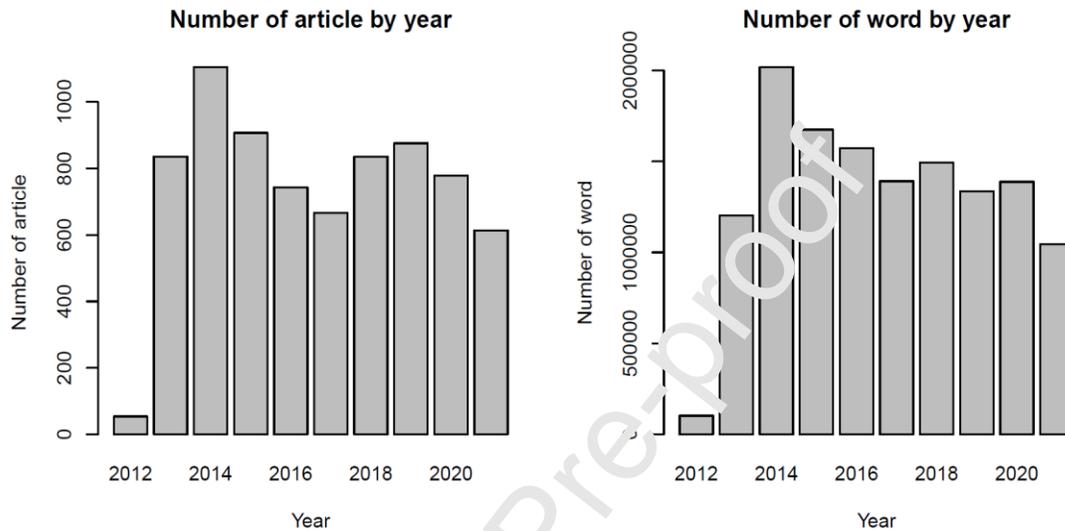


Figure 2. Descriptive statistics of text data

Source: Authors' calculations

3.2. XiEPU construction

We construct XiEPU, an original EPU index based on *the Database of Xi Jinping's Important Speech Series*, using existing representative Chinese dictionary keywords and the “economy” and uncertainty” categories from Davis et al. (2019) and Huang and Luk (2020). Table 1 lists the keywords, and we omitted the “policy” category as all articles related to Xi Jinping are inevitably policy related. We then constructed an index following the BBD paper; the monthly number of corresponding articles is divided by the total number of articles per month and scaled to one standard deviation and a mean of 100) (Baker et al., 2016, pp. 1598–1599). For example, following Huang and Luk (2020), an article entitled “Xi Jinping accepts interview with the Wall Street Journal

meaningful information in the market and provide a better signal to firms; however, this issue requires empirical examination since the information from the party center may contain stronger signals about policy shifts and perceptions of new uncertainties.

(*Xi Jinping Jiashou Huaerjie Ribao Caifang*)” from September 22, 2015, contained both “economic” and “uncertainty” keywords. Such articles signal the increasing probability of policy change because the policymaker publicly mentions and recognizes the existence of economic uncertainties. The Appendix provides some additional example articles.

Figure 3 presents the constructed XiEPUs using data from 2012 to 2021. XiEPU-BBD includes results based on the keywords of Davis et al. (2019) based on the method of Huang and Luk (2020). Additionally, we calculated a XiEPU-Hybrid that used keywords from both BBD and Huang–Luk (HL), which shows several spikes. The first occurred in April 2016, reaching 314, coinciding with macroeconomic and financial uncertainties in China during 2015–2016. One possible reason for this spike is high asset outflows; foreign exchange reserves at the end of January 2016 stood at 3.2 trillion US dollars (USD), a decline of more than 500 billion USD from the beginning of 2015. Furthermore, stock prices fell sharply during the same period, with the Shanghai stock market index dropping in January 2016. The higher XiEPU in April 2016 may be a reaction to these macroeconomic uncertainties. Following this peak, the next spike appeared in January 2017, reaching 340. During this period, the macroeconomic policy emphasized exterminating the housing bubble over stimulating the economy. Around the October 2016 National Day holiday, many local governments, including Shenzhen and Shanghai, tightened restrictions on home purchases.

The higher values in the second half of 2020 can be interpreted as a reflection of the significant deterioration of the domestic and global economy caused by the COVID-19 pandemic. Notably, XiEPU did not react during intensified trade friction between the US and China beginning in 2018, likely due to Xi Jinping’s restraint in addressing geopolitical risk in his external communications. Regarding the COVID-19 pandemic in 2020, XiEPU rose in November 2020, reaching 379; it reached 386 in January 2021, the highest monthly value for the examined period. These expressions may be considered a late emergency response reaction, given that China enacted the most severe urban quarantine measures, especially in Wuhan, during the first quarter of 2020; however, these XiEPU peaks may reflect the highest policy maker publicly recognizing and publicly stating the deepening economic uncertainties. The question is the kind of impact these seminal peaks have. As financial data for listed firms are unavailable after 2020, our following regression analyses examine the impact of XiEPU on business investment until the end of 2019; we do not directly analyze the impact of the pandemic shock since January 2020.

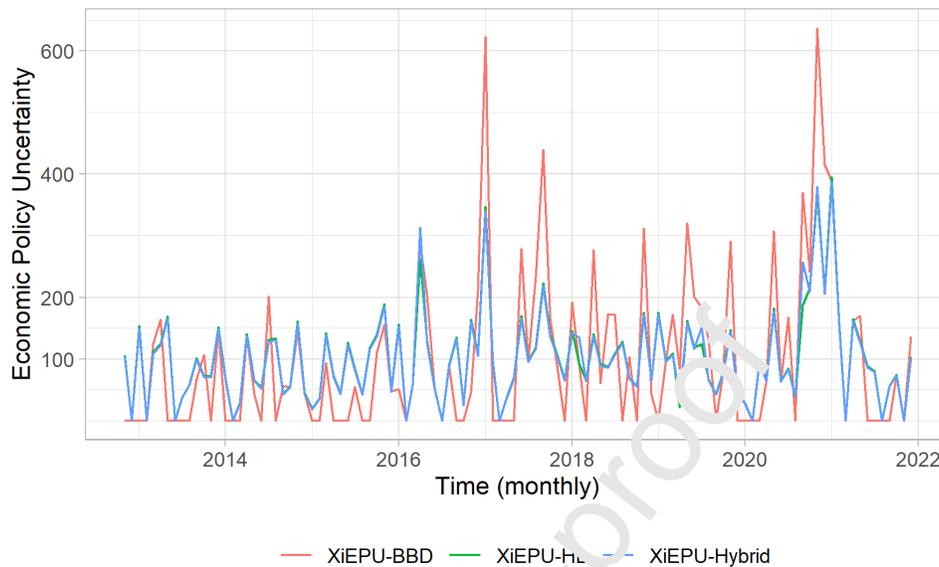
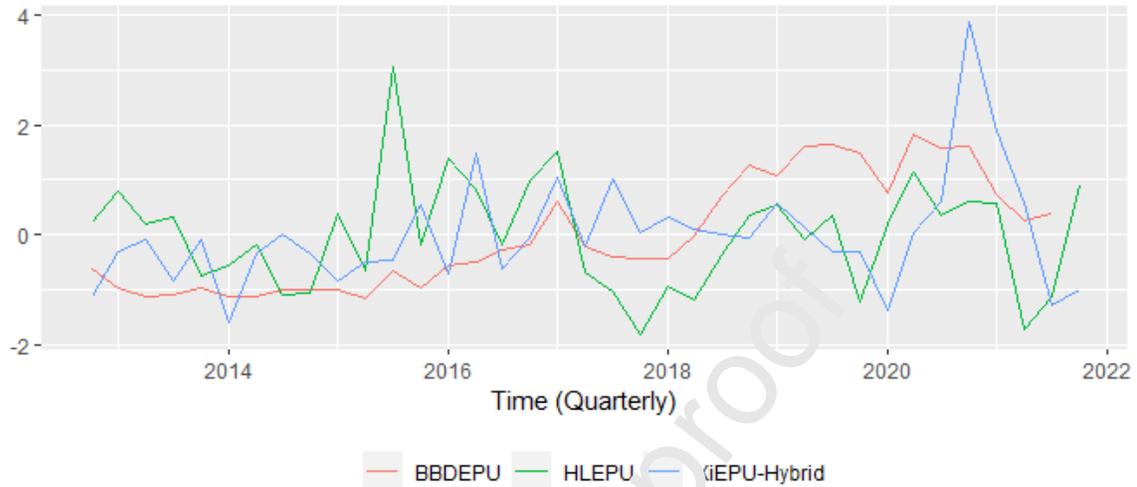
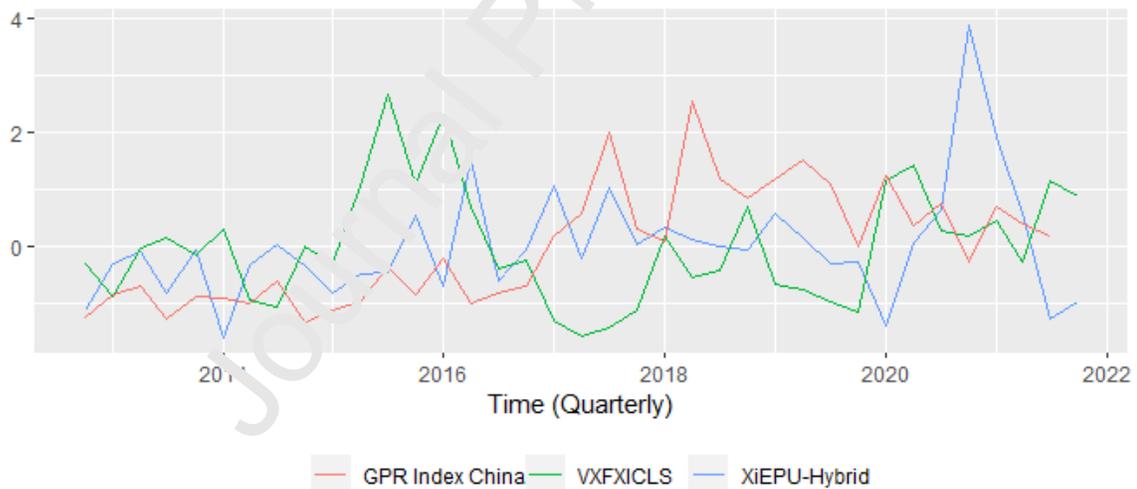


Figure 3. The three XiEPUs (November 2012–December 2021)

Source: Authors' calculations

Figures 4 (A and B) and 5 show the relationship between EPUs from previous studies and our constructed XiEPUs after aggregating each index at the quarterly level. The figures also present other related indices, including a stock market volatility index. BBDEPU and XiEPU coincide with several peaks, and their correlation coefficient is 0.37. Conversely, no clear relationship exists between Huang–Luk economic policy uncertainty (HLEPU) (Huang and Luk, 2020) and XiEPU indices, and their correlation coefficients are as low as 0.08. Figures 4 (B) and 5 also compare XiEPU, a volatility index for the Chinese market (VXFXICLS), and the geopolitical risk index (GPR index) developed by Caldara and Iacoviello (2022). The VXFXICLS represents the market's expectations for volatility in stock price over the subsequent 30 days. XiEPU and BBDEPU have lower or negative correlations with VXFXICLS, while HLEPU strongly correlates with VXFXICLS ($R = 0.49$). Figure 5 indicates that XiEPU has a weak correlation with GPR index. These relationships imply that HLEPU captures more short-term and financial uncertainty, whereas BBDEPU and XiEPU capture qualitatively different signals; however, we can confirm that XiEPU shows a moderate correlation with a representative China EPU, BBDEPU.

Panel (A) XiEPU compared to previous China EPUs**Panel (B) XiEPU compared to other indices****Figure 4. XiEPU and other indices (Quarterly, Q4 2012– Q4 2021)**

Note: BBDEPU is a hybrid index constructed by Baker et al. (2013)'s EPU which uses Hong Kong-based SCMP, and Davis et al. (2019)'s EPU, which uses mainland news sources. VVFXICLS is a volatility index for the Chinese stock market. The geopolitical risk index (GPR index China) is developed by Caldara and Iacoviello (2022) using Western newspapers. All indices are re-standardized. Source: "Economic Policy Uncertainty" [<https://www.policyuncertainty.com/>] (accessed June 10, 2022), the Chicago Board Options Exchange (2022), "Economic Policy Uncertainty in China" HP by Dr.

Sheung Kan Luk [<https://economicpolicyuncertaintyinchina.weebly.com/>] for HL (accessed February 7, 2022), Geopolitical Risk (GPR) Index webpage [<https://www.matteoiacoviello.com/gpr.htm>] (accessed January 10, 2023), and the authors' calculations

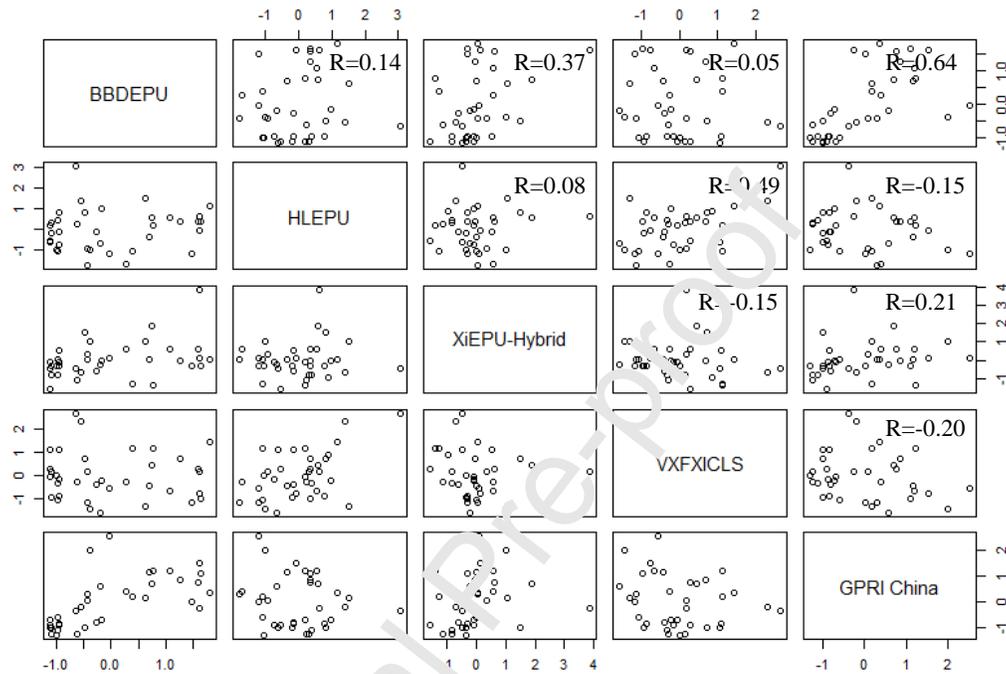


Figure 5. Correlation matrix of EUPUs and Volatility Index (Quarterly, Q4 2012–Q4 2021)

Note: All indices are re-standardized.

Source: Same as Figure 4

4. Policy uncertainty and firm investment

We use quarterly firm-level data on Chinese listed firms to investigate whether policy uncertainty captured by XiEPU affects economic outcomes (capital investment rate in this study). This section first develops four testable hypotheses and then presents data, specifications, and empirical results.

4.1. Testable hypotheses

The real options theory predicts that uncertainty may reduce current investment in irreversible capital through the “wait-and-see” mechanism (Bernanke, 1983; Bloom et al., 2007). When the cost of investment is irreversible, economic uncertainty reduces the investment because firms are incentivized to avoid taking action until the uncertainty is resolved. Using BBDEPU, Baker et al.

(2016) and Gulen and Ion (2016) documented a significant negative relationship between policy uncertainty and firm-level capital investment. Similarly, our central Hypothesis (H1) states that an increase in XiEPU negatively affects firm investment in China, which implies that Chinese listed firms obtain notable signals and perceive policy uncertainty from President Xi's speeches, thus postponing their investment.

(H1) XiEPU's estimated coefficient is negative, implying that policy uncertainty is associated with reduced investment.

Besides the baseline estimation, we test the heterogeneous effect of EPU on firm investments by sector, ownership, and period. We first consider sectoral heterogeneity. Using an original survey of Japanese firms, Morikawa (2016) shows that manufacturing and service firms perceive policy uncertainty differently and are affected by different policy uncertainties. Liu and Zhang (2020) used China's 2012 national input-output table, determining that asset reversibility is generally higher in tertiary sectors while manufacturing sectors tend to be lower. In other words, higher asset irreversibility exists in manufacturing sectors.^{1,2} Manufacturing firms generally tend to have higher investment rates than non-manufacturing firms, i.e. 1.28% and 0.95%, respectively, in the case of Chinese listed firms from 2012 to 2019. As an extension of the aforementioned theoretical predictions, we expect manufacturing firms to be more sensitive to uncertainties.

(H2) The estimated coefficient of the interaction term between XiEPU and the manufacturing dummy is negative, implying that the manufacturing sector is more sensitive to XiEPU than other sectors due to higher asset irreversibility.

The second heterogeneity pertains to ownership. The extant literature on the Chinese economy has shown that SOFs have better access to financing (Huang et al., 2016) and tend to have a stronger influence on policy than private firms (Zhang, 2018). SOEs also have better access to policymaker discussions, including various CCP meetings. This political accessibility gives SOEs more advanced access to political signaling than private and foreign-invested firms. As mentioned, we built our XiEPU using publicly available information. If SOEs obtain early signals from the regime center through exclusive connections, they should be less sensitive to XiEPU than other firms (Liu et al., 2021). Nevertheless, another mechanism could cause SOEs to be more sensitive to XiEPU than other firms. According to Kutlina-Dimitrova (2018), SOEs account for about 85% of

^{1,2} Liu and Zhang (2020, p.6) present asset reversibility for 57 industries.

the government procurement market in China; therefore, they may respond more strongly when policymakers' economic uncertainty perceptions increase in severity. We test these competing hypotheses as follows:

(H3a) The estimated coefficient of the interaction term between XiEPU and SOEs dummy is positive, implying that XiEPU affects SOEs less due to political connections.

(H3b) The estimated coefficient of the interaction term between XiEPU and SOEs dummy is negative, implying that XiEPU affects SOEs more because of their high dependency on government procurement.

We use political connection variables (explained later) as a robustness check to test the former mechanism empirically.

Third, we consider the different effects by period. President Xi entered his second term after the fourth quarter of 2017, and, as discussed in Section 2, his authority is believed to have strengthened. To test this observation, we set H4 as follows:

(H4) The estimated coefficient of the interaction term between XiEPU and the second term dummy is negative, implying that XiEPU has a more substantial impact in President Xi's second term (Q4 2017–Q4 2019) than in his first term (Q4 2017–Q3 2017).

4.2. Data and specification

Our dataset includes comprehensive information about Chinese firms listed in the A-share segment of the Shanghai and Shenzhen stock exchanges. We obtain quarterly accounting data from the China Stock Market and Accounting Research Database from 2012 to 2019. Since 2003, China Securities Regulatory Commission has required all publicly listed firms to publish quarterly reports.¹³ We start our analysis with Q4 2012 because our XiEPU index starts from the same quarter. Our data includes listed firms in manufacturing and non-manufacturing sectors; we exclude the financial and real estate sectors because their investment behaviors differ significantly from other sectors.

The calculated XiEPU is used to estimate the impact on firm investment behaviors. As a baseline, we adopt a model used by Gulen and Ion (2016) as follows:

¹³ Previous studies also use quarterly financial statements, examining the impacts of economic policy uncertainty on firm investment in the US (Gulen and Ion, 2013) and China (Wang et al., 2014).

$$\frac{Inv_{i,t}}{TA_{i,t-1}} = \alpha_i + \beta_1 \log(EPU_{t-1}) + \beta_2 TQ_{i,t-1} + \beta_3 \frac{CF_{i,t}}{TA_{i,t-1}} + \beta_4 SG_{i,t} + \delta GR_t + QRT_t + \varepsilon_{it}, \quad (1)$$

where i indexes firms and t indexes calendar quarters. The dependent variable $\frac{Inv_{i,t}}{TA_{i,t-1}}$ is the firm-level capital investment rate, where $Inv_{i,t}$ is firm i 's capital investment during period t , normalized by total assets (TA) during the previous period $t-1$ (henceforth I/K). Capital investment is a firm's cash payments for acquiring and constructing fixed, intangible, and other long-term assets. We exclude interest on debts raised for the acquisition and construction of fixed assets and the rental for fixed assets under a finance lease. We controlled for several financial and macroeconomic factors, such as Tobin's Q (TQ), operating cash flow (CF), sales growth (SG), and GDP growth rate (GR). Specifically, TQ is measured as the market value of equity + the book value of assets – the book value of equity + deferred taxes / the book value of assets. CF is operating cash flow scaled by TA, while SG is calculated as the year-on-year growth in quarterly sales, controlling for investment opportunities. GR is the year-on-year real GDP growth rate. Additionally, α_i is the firm fixed effects, and QRT contains a set of quarterly dummy variables to control for capital investment seasonality. We cannot control for time fixed effects as they are collinear with the EPU index, our key variable. Following Gulen and Ion (2016), standard errors are clustered at the quarter and firm-level to correct for potential cross-sectional and serial correlation in the error term. Our results are robust to standard errors clustered at the year-quarter level (see Table A1 in the Appendix).

Our key variable, EPU_t , is the arithmetic average of the XiEPU (Hybrid) index over three months. According to Hypothesis 1, we expect a negative EPU coefficient, β_1 . For Hypotheses 2–4, XiEPU interaction terms are added to Equation (1) to test for heterogeneities. Specifically, we added three heterogeneity dummies (HET_i): a manufacturing firm dummy, an SOE dummy, and a Xi second term dummy. As a validation test, we also estimated Equation (1) using existing EPU to compare their effects with XiEPU; specifically, we used the BBDEPU and HLEPU.

As we adopt firm-level panel estimations, missing values and outliers may cause econometrical issues. First, we exclude the listed firms with abnormal financial conditions which received “Special Treatment” (ST shares) according to the stock listing rules. To be included in our estimation, a firm must not have missing observations in Equation (1) for at least two years (eight quarters). To reduce the impact of outliers, we drop the top and bottom 1% values of continuous variables in Equation (1), excluding EPU and GDP GR. After these cleaning procedures, we obtain 3,279 unique firms with 74,364 firm-quarter observations. Our sample period is Q4 2012–Q4 2019.

Table 3 shows the descriptive statistics for the firm-level data used in the investment estimation equation. In Panel A, the average capital investment ratio is 1.24%, and the standard deviation in the sample period is 1.41%. In our sample, 66% of observations are manufacturing firms, and 35% are SOE firms. We create two variables to measure firms' political connections. First, GOV is a dummy variable equal to one if any of the firm's board members have experience working as government officials. The second measure, CCP, is equal to one if any of the firm's board members are CCP members. The share of politically connected firms (observations) through GOV is about 14%, whereas that of CCP is 54%. Panel B tests for significant differences in investment ratio in the high and low XiEPU periods. Using the median value of the XiEPU index, we divide the high XiEPU period from the low XiEPU period; we then conduct a *t*-test for testing the mean and a Wilcoxon *z*-test for testing the median, finding significant differences in investment behavior in the high and low XiEPU periods. The negative sign indicates that the capital investment ratio is comparatively lower during the high uncertainty period (see Table A7 for correlation between main variables).

Table 3. Descriptive statistics of firm investment analysis

Panel A: Descriptive statistics						
Variable	Defination	Obs	Mean	Std. Dev.	Min	Max
XiEPU	EPU index, Xi Jinping	74,364	94.14	28.22	31.69	163.46
HLEPU	EPU index, HL method	74,364	137.27	17.91	105.16	194.91
BBDEPU	EPU index, B/D method, Hybrid	74,364	301.04	175.48	102.48	621.82
I/K	Capital investment/ lagged total assets (%)	73,667	1.24	1.41	0.00	8.53
Tobin	Tobin's Q	74,364	2.63	1.80	0.85	12.49
Cash flow	Cash flow/ lagged total assets (%)	74,364	1.64	5.63	-16.62	20.35
Sales growth	Year-on-year growth in quarterly sales (%)	59,748	13.34	34.37	-76.81	100.00
GDP growth	Year-on-year quarterly growth in real GDP (%)	74,364	6.35	2.81	-6.90	8.10
Manuf.	Manufacturing firm dummy	74,364	0.66	0.47	0	1
SOE	SOE dummy	73,938	0.35	0.48	0	1

Term2	Xi Jinping's second term dummy	74,364	0.41	0.49	0	1
GOV	GOV dummy equal to one if any of the board members of the firm has working experience as a government official	74,364	0.14	0.34	0	1
CCP	CCP dummy equal to one if any of the board members of the firm is Chinese Communist Party member	74,364	0.54	0.50	0	1

Panel B: I/K in high XiEPU period vs. low XiEPU period

Difference (high - low)	<i>t</i> -test (<i>p</i> value)	<i>z</i> -score (<i>p</i> value)
	-5.4724 (0.0000)	-5.591 (0.0000)

Source: Authors' calculations

4.3. Empirical results

Table 4 presents the baseline estimation results, where columns (1)–(3) provide estimations with only the EPU as explanatory variables, and columns (4)–(6) include additional control variables. All estimation equations controlled for firm and quarter fixed effects. Columns (4)–(6) indicate that the control variables, such as Tobin's Q, CF, SG rate, and GDP GR, generally show their expected signs and are statistically significant at the 1% level. These results are consistent with previous studies (Gulen and Ion, 2016).

The XiEPU coefficient is of interest to us and is negative and statistically significant at the 1% level, supporting Hypothesis 1. Taking column (4) as an example and controlling for other factors, the coefficient of -0.304 suggests that doubling the level of XiEPU is associated with a decrease of approximately 24.5% ($= -0.304 \times 1.24$) in firms' investment rate. This result is in line with standard theoretical predictions of investment-under-uncertainty models (Bernanke, 1983; Bloom et al., 2007) and the estimated policy uncertainty-investment relationship literature (Baker et al., 2016; Gulen and Ion, 2016). Our estimate is also quantitatively similar to that of Gulen and Ion (2016), showing that when policy uncertainty (BBD) doubles, investment in the next quarter declines by 0.168 standard deviations (equivalent to 24.1% of the average investment level in their sample). Notably, the estimated coefficients of HLEPU and BBDEPU report negative effects in columns (5)–(6).

Table 4. Baseline results of firm investment estimation

I/K	(1)	(2)	(3)	(4)	(5)	(6)
-----	-----	-----	-----	-----	-----	-----

L.logXiEPU	-0.292*** (0.0159)			-0.304*** (0.0179)		
L.logHLEPU		0.0499 (0.0346)			-0.152*** (0.0397)	
L.logBBDEPU			-0.270*** (0.00919)			-0.260*** (0.0116)
L.tobin				0.0381*** (0.00520)	0.0358*** (0.00522)	0.00248 (0.00532)
cashflow				0.00888*** (0.00136)	0.00918*** (0.00136)	0.0108*** (0.00136)
sales_growth				0.00104*** (0.000160)	0.000941*** (0.000160)	0.00108*** (0.000159)
gdp_growth				0.0297*** (0.00156)	0.0319*** (0.00162)	0.0103*** (0.00166)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	67443	67443	67443	55026	55026	55026
R-sq	0.386	0.382	0.392	0.396	0.392	0.400

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm level quarterly investment rate in all regressions.

Table 5 shows the results of hypothesis testing related to heterogeneity (H2–H4), which include the interaction term between the manufacturing firm dummy and XiEPU in columns (1)–(3). The results indicate that manufacturing firms are more affected by EPU in columns (1)–(2). Column (1) shows that when XiEPU doubles, manufacturing firms reduce their investment rate by roughly 24.7% ($[-0.292 - 0.01331 / 1.24]$), though the estimated coefficient of the interaction term in column (1) is not statistically significant. During our sample period, manufacturing firms generally have higher investment rates (1.32%) than non-manufacturing firms (1.08%); therefore, compared with the non-manufacturing sector, the irreversibility of investments likely causes XiEPU's impact in the manufacturing sector. No heterogeneity across sectors exists in the HLEPU when comparing existing EPUs related to China; however, the BBDEPU detected an effect approximate to that of the XiEPU, which supports Hypothesis 2.

Table 5 also examines ownership heterogeneities in columns (4)–(6), indicating that the interaction term between the SOE dummy and XiEPU in column 4 is positive and significant; thus, the impact of XiEPU is smaller for SOEs than non-SOEs. Our estimate suggests that doubling the level of XiEPU is associated with an average decline in quarterly investment rates of approximately

18.1% ($[-0.340 + 0.115] / 1.24$) for the SOEs and 27.4% for non-SOEs. This finding supports Hypothesis 3a.

Similarly, columns (7)–(9) in Table 5 present the results of the heterogeneous effect per period, indicating that the results are negative and significant for the interaction term of President Xi's second period and XiEPU, as assumed. A more substantial effect is reported later in the president's term, which supports Hypothesis 4.

Table 5. Heterogeneous effects by sector, ownership, and period

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm-level quarterly investment rate in all regressions. Columns (1)–(3) and (4)–(6) include manufacturing dummies and SOE dummies, respectively; however, we drop them because the firm fixed effects are controlled in all regressions.

I/K	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		HET = Manufacturin g dummy			HET = SOE dummy			HET = Term2 dummy	
L.logXiE PU	- 0.29 2*** (0.03 05)			- 0.34 0*** (0.02 22)			- 0.22 1*** (0.01 84)		
L.logXiE PU*HET	- 0.01 37 (0.03 66)			0.11 5*** (0.03 15)		- 0.165*** (0.0486) 0.0444		0.03 35** * (0.00 305)	
L.logHL EPU		-0.179*** (0.0594)						-0.456*** (0.0426)	
L.logHL EPU*HE T		0.048C (0.0113)						- 0.0560** * (0.00305)	
L.logBB DEPU				- 0.23 8*** (0.01 89)					- 0.24 0*** (0.01 34)
L.logBB DEPU*H ET				- 0.02 61 (0.02 17)					- 0.00 630* * (0.00 269)
L.tobin	0.03 80** *	0.0363***	0.00 523	0.03 63** *	0.0347** *	- 0.00 0820	0.01 60** *	0.000177	- 0.00 0415

	(0.00 496)	(0.00499)	(0.00 508)	(0.00 493)	(0.00496)	(0.00 509)	(0.00 564)	(0.00556)	(0.00 556)
cashflow	0.00 839* **	0.00870***	0.01 01** *	0.00 840* **	0.00876* **	0.01 03** *	0.00 937* **	0.0104** *	0.01 08** *
	(0.00 130)	(0.00130)	(0.00 130)	(0.00 130)	(0.00131)	(0.00 130)	(0.00 136)	(0.00136)	(0.00 136)
sales_gro wth	0.00 108* **	0.000985***	0.00 112* **	0.00 107* **	0.000978 ***	0.00 104* **	0.00 100* **	0.000900 ***	0.00 106* **
	(0.00 0155)	(0.000155)	(0.00 0155)	(0.00 0156)	(0.00015 6)	(0.00 0155)	(0.00 0160)	(0.000160)	(0.00 0160)
gdp_gro wth	0.02 92** *	0.0313***	0.00 986* **	0.02 96** *	0.0316** *	0.01 02** *	0.02 30** *	0.0217** *	0.00 981* **
	(0.00 151)	(0.00156)	(0.00 160)	(0.00 152)	(0.00157)	(0.00 160)	(0.00 159)	(0.00160)	(0.00 167)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	5502 6	55026	5502 6	5475 2	54752	5475 2	5502 6	55026	5502 6
R-sq	0.39 6	0.392	0.40 0	0.39 6	0.392	0.40 1	0.39 7	0.397	0.40 0

4.4. Placebo test

Table 6 considers the impact of XiEPU on sales as a placebo test. We regress quarterly firm-level SG rates on XiEPU. The real options literature highlights how uncertainty suppresses demand for input factors (capital investment) with adjustment costs; however, the short-run impact on output should be more negligible according to this class of theories (Baker et al., 2016). Consistent with this prediction, the estimated effect of XiEPU is positive but not statistically significant. In contrast, the control variables remain positive and significant. Our results suggest that an increase in XiEPU is associated with a significant decline in the investment rate; however, the association with SG is muted. This result is also broadly consistent with existing EPU indices.

Table 6. Placebo test: Sales growth rate

Sales growth rate	(1)	(2)	(3)	(4)	(5)	(6)
L.logXiEPU	0.0293 (0.0281)			0.0197 (0.0206)		
L.logHLEPU		0.101* (0.0555)			0.0193 (0.0594)	
L.logBBDEPU			0.00483 (0.0145)			0.0335* (0.0173)
L.tobin				0.0161** (0.00817)	0.0159* (0.00819)	0.0208** (0.00860)
cashflow				0.00754*** (0.00286)	0.00750*** (0.00286)	0.00732** (0.00286)
gdp_growth				0.00643** (0.00262)	0.00642** (0.00264)	0.00898*** (0.00282)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	39992	39992	39992	39992	39992	39992
R-sq	0.285	0.285	0.285	0.285	0.285	0.285

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm-level year-on-year quarterly sales growth rate in all regressions.

4.5. Discussion and robustness checks

4.5.1 Two-period lag effect of XiEPU

The effects of EPUs are not necessarily one-period lag effects (Gulen and Ion 2016); Table A2 in the Appendix shows the results containing the two-period lag effects. Column 4 shows a negative effect over two periods for XiEPU, while columns 5 and 6 show the results of the other EPUs. These results reveal only negative effects for the first-period lag of the other EPUs; thus, compared with the other EPUs, XiEPU has a longer-lasting effect on investment rates. Our sample period is relatively short (36 quarters),

so we do not consider more lags here; however, XiEPU affects investments at least four quarters into the future. The results are available upon request.

4.5.2 Contemporaneous effect of XiEPU

Our main results in Table 4 and additional results in Table A2 consider the dynamics in firm-level investment rate responses to our XiEPU measure. Following Baker et al. (2016), we add the changes of XiEPU ($\Delta\log\text{XiEPU}$) in Equation (1) and re-run the regressions to investigate the contemporaneous relationship between policy uncertainty and firm-level investment rates. Table A3 in the Appendix presents the results. $\Delta\log\text{XiEPU}$ has a significant negative coefficient of -0.241 (Column 4), which is quantitatively similar to $\Delta\log\text{BBDEPU}$ (-0.290). Importantly, our main lagged XiEPU results remain robust.

4.5.3 Political connections

These results are qualitatively similar to previous studies, suggesting that increased uncertainty decreases business investment. Moreover, the results on heterogeneity estimates indicated strong XiEPU effects on manufacturing and non-SOEs; additionally, the effects of XiEPU were stronger in the latter period of President Xi's term. Our estimation results show that SOEs tend to be less affected by XiEPU than private firms, as SOEs have more favorable access to information related to policymaking. In other words, political connections may mitigate the adverse effects of EPU on firms relying on government procurement.¹⁴ The EPU effects are qualitatively smaller for SOEs, which supports Liu et al. (2021). They found that politically connected firms mitigate the adverse effects of the EPU. Although the Chinese economy has become more market-oriented since the 1980s, the Party retains strong authority over economic matters; thus, we assumed that listed firms observe policymakers' statements as an essential source of strategic decisions. Using detailed information on listed firms' board members, we formally examine the effect of political connections on the uncertainty-investment relationship. Table A4 in the Appendix presents the estimation results. Column 1 shows that the coefficient of the interaction term between GOV and XiEPU is positive (not significant), and the coefficient of the interaction term between

¹⁴ Another possible interpretation is the influence of the real estate market: in the first half of the 2010s, non-SOEs were active participants in land sales auctions; in the second half of the decade, SOEs replaced non-SOEs as the leading investors. We exclude the real estate sector from our sample and all regressions. To check for its potential impact, we conducted an estimation in Table A6, controlling for quarterly average property price, but the results remained the same. While the impact of structural changes in the real estate market on the investment behavior of firms is undeniable, this factor does not qualitatively change the baseline results of our analysis.

CCP and XiEPU in column 4 is positive and statistically significant at the 1% level.¹⁵ Notably, the estimated coefficient of the CCP interaction is quantitatively similar to that of the SOE interaction in Table 5, which supports Hypothesis 3a. Our results suggest that policy uncertainty has less impact on politically connected firms. In other words, political connections, especially with CCP members, may help Chinese firms access reliable political and policy information, mitigating the impact of policy uncertainty.

4.5.4 Conventional EPU vs. XiEPU

This analysis is vital to the relationship between extant EPUs and the newly created XiEPU. Overall, XiEPU is as influential as (or in some cases stronger than) existing China-related EPUs. Appendix Table A5 compares using the same estimation equation, showing that XiEPUs negatively impact firms' investment rates after controlling the extant EPUs (HL and BBDEPU). The Appendix Table A5 also shows that the coefficient of $L.\log XiEPU$ drops from -0.302 (column 3), to -0.157 (column 4) after adding $L.\log BBDEPU$ which imply the importance of existing index. Nevertheless, the coefficients of $L.\log XiEPU$ remain significantly negative for four specifications in the table. Figure 4 shows that the XiEPU has several peaks that differ from the China-related EPUs. The results in Appendix Table A5 suggest that both existing EPU and XiEPU have substantial effects; although existing EPU indices reflect general economic policy uncertainty in China, the XiEPU also contains meaningful signals for Chinese firms.

Comparing the XiEPU with the indices developed by the previous studies, the BBDEPU and XiEPU have more impact on the real economy than HLEPU. The HL index created using 10 local newspapers—which should have a smaller media bias—has a relatively weaker effect on firms' investment decision functions. As previous studies on media bias have shown, state media are relatively more likely to contain news with a positive tone and related to prominent political figures; however, as an information signal of economic uncertainty, the state media may be a surprisingly important source of information. If major Chinese companies had information about the central government, especially Xi Jinping's perceptions regarding economic operations, they would consider it essential information. As Xi Jinping's decision-making authority over policy increases, information on Xi's perception of the economic situation can lead to the direction of future economic policy.

This result does not negate the results of previous studies on media analysis as well as studies on

¹⁵ The coefficient of GOV interaction is not statistically significant, possibly because (1) the anti-corruption campaign prohibits government officials (including current officials and those who have retired in the last three years) from working in private firms after 2013, and (2) our sample period starts from Q4 2012.

EPU. As for the media studies, our study focuses on the effect of the indices which qualitatively different from research questions in the media studies such as Piotroski et al. (2017) and Qin et al. (2018). Previous media bias studies have analyzed the tone of each media and examined media companies' behavior; however, this does not mean that state media do not impact the real economy. Our analysis added the analysis of the effect of state media, especially concerning the supreme leader's messages, to the uncertainty literature. Also, the extant EPUs have certain effects on firms' behavior, suggesting the importance of the existing indices.

4.5.5 Additional controls

To address concerns regarding omitted variables, we conduct several robustness checks of our main empirical results, as shown in Table A6 in the Appendix. First, the XiEPU index may capture the effect of general economic uncertainty and volatility, not just the political leader's signals. To address this concern, we include additional controls on economic uncertainty and volatility in column (1). Specifically, following Bloom (2009) and Gulen and Ion (2016), we control for (i) uncertainty regarding future profitability, which is the within-quarter cross-sectional standard deviation of firm-level profit growth (quarter-on-quarter change in net profit divided by average sales) calculated from our firm-level data. We also control for (ii) uncertainty perceived by the equity market, which is the within-quarter cross-sectional standard deviation of firm-level stock returns,¹⁶ and (iii) a volatility index for the Chinese stock market (VXFXICLS).¹⁷ The results in column (1) show that a negative relationship between investments and XiEPU remains statistically significant. Notably, none of the proxies for aggregate economic uncertainty and volatility absorb the explanatory power of our XiEPU index.

Second, our XiEPU index may be related to political uncertainty. In the related literature, Li et al. (2021) show that political uncertainty (replacing the Municipal Party Committee secretary without changing a mayor) is negatively associated with the investment efficiency of listed firms in China. Caldara and Iacoviello (2022) find that higher geopolitical risk (GPR) foreshadows decreased investment. As XiEPU may reflect the political uncertainty instead of the economic uncertainty, it is important to conduct additional estimations by controlling variables related to political uncertainty. In column (2) of Table A6, we include control variables (i) local policy uncertainty dummy variable, which equals one if there is a change of party secretary of the city where the headquarters of the listed firms are located;

¹⁶ We obtained the firm-level stock return data from the Refinitiv Datastream (<https://www.refinitiv.com/en>, accessed on January 12th 2023).

¹⁷ We obtained the CBOE China ETF Volatility Index (VXFXICLS) from the Federal Reserve Bank of St. Louis (<https://fred.stlouisfed.org/series/VXFXICLS>, Accessed on January 11th, 2023).

otherwise, the variable is zero.¹⁸ (ii) The GPR index for China was constructed by Caldara and Iacoviello (2022).¹⁹ The results reported in column (2) show that our main results remain robust. After controlling local political uncertainty and geopolitical risk, XiEPU is still negatively associated with an investment with a larger estimated coefficient than local political uncertainty.

Third, concerns regarding the effects of XiEPU on investment may have been due to the overall negative outlook of the future and other determinants of the macroeconomic environment. In columns (3) and (4), we control for purchasing managers' index of manufacturing sectors, consumer confidence index, and average property price (RMB/sq meter).²⁰ The results show that a negative relationship between investments and XiEPU remains statistically significant; however, the estimated coefficients are smaller. The increase in property price significantly and negatively correlates with firm investment, but the effect of XiEPU is still not negligible.

Finally, we include all these additional control variables and re-run the regression in column (5). Compared to column (1), the coefficient of $L.\log.XiEPU$ in our full-model in column (5) drops from -0.297 to -0.105, indicating the importance of various economic conditions. According to column (5), doubling the level of XiEPU is associated with an average decline in quarterly investment rates of approximately 8.5% ($-0.105 / 1.24$). As this estimation controlled various other factors, the result would be the most conservative coefficient in our estimations; however, the effect is still sizable. Column (5) shows that the results of these tests strengthen the robustness of the XiEPU effect on investments. The findings also suggest that the XiEPU index contains information about policy and macroeconomic uncertainty not captured by economic and political uncertainties, an overall negative outlook for the future, and other determinants of the macroeconomic environment.

5. Conclusion

This paper constructs an EPU index using President Xi Jinping's text data (XiEPU) and analyzes the impact of policy uncertainty on firms' investment behaviors. The constructed XiEPU shows a reasonable correlation at the quarterly level with extant representative EPU for China (BBDEPU); conversely, a low correlation is found for the EPU calculated by a previous study (HLEPU). Some unique timing spikes in the XiEPU were observed in April 2016, January 2017, and late 2020. These spikes reflect

¹⁸ We manually collected the data on the changes of municipal party secretary at the city level from *Zhengwang* (<https://www.hotelaah.com/>, accessed on January 15th, 2023).

¹⁹ See Geopolitical Risk (GPR) Index webpage (<https://www.matteoiacoviello.com/gpr.htm>, accessed on January 9th, 2023).

²⁰ We do not include the PMI of non-manufacturing sectors as its correlation with the GDP growth rate is 0.96 (the correlation between the manufacturing sector's PMI and the GDP growth rate is 0.81). We obtained these indicators from the CEIC database (<https://www.ceicdata.com/en>, accessed on January 12th, 2023).

macroeconomic uncertainties, including the stock market decline and the global pandemic. Our analysis of firm-level data covering from 2012 to 2019 shows that the XiEPU is negatively associated with firms' investment behaviors, and the magnitude implies a 24.5% decrease in investment rates when the XiEPU doubles from the baseline estimation. Furthermore, heterogeneity estimates of the different impacts by industry sector, ownership, and sub-period show stronger effects for manufacturing, non-SOEs, and for later periods in Mr. Xi's presidency.

Compared to existing EPUs, our analysis reveals that the XiEPU exhibits both homogeneity and heterogeneity with existing EPUs. The homogeneity is evident because XiEPU uses a data source similar to existing studies, i.e., data from newspaper articles in China. In this respect, the XiEPU is an index that captures uncertainty broadly, as existing EPUs do; simultaneously the XiEPU contains additional information (as revealed in Table A5 and A6). We think XiEPU has a signaling effect as the top policymaker directly transmits information by acknowledging or mentioning issues. Our analysis suggests that the XiEPU contains information on Chinese firms' substantial medium- and long-term risks and policy directions.

Our empirical results have several implications for EPU and the Chinese political economy. First, we used general newspaper article analyses to test the EPU effects. Our textual data was obtained directly from the most important decision-maker to construct an index of uncertainty that better reflects the perceptions of CCP leadership. We show that it is possible to construct an index that can directly influence or reflect firms' behaviors and broader economic activities. Second, our empirical results provide direct and more nuanced evidence to the conventional belief regarding the connection between political leaders' remarks and economic outcomes. Our analysis shows that Chinese firms react to information directly sent from the President more than that from the local media; additionally, significant variation exists in the intensity of the reaction, especially ownership structures. Moreover, we demonstrate that the tone of a presidential speech affects firms' investment decisions more strongly in the later period of Xi's tenure. This result is particularly significant since it provides quantitative evidence to some recent claims regarding Xi's power consolidation and its system-wide consequences. The signals from the President, backed by his increasing personal authority over the system, ring true to the economy.

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Appendixes

Appendix Note: Examples of EPU articles based on Xi Jinping's words (underlined words are corresponding keywords)

Example 1. "Xi Jinping accepts interview with the Wall Street Journal" (Xinhua News Agency 2015)

Original Chinese text

在回答关于中国全面深化改革等问题的提问时，习近平指出，当前，中国经济体制改革的重要方向就是使市场在资源配置中起决定性作用和更好发挥政府作用。简言之，就是“看不见的手”和“看得见的手”都要用好。

股市涨跌有其自身的运行规律，一般情况下政府不干预。政府的职责是维护公开、公平、公正的市场秩序，保护投资者特别是中小投资者的合法权益，促进股市长期稳定发展，防止发生大面积恐慌。前段时间，中国股市出现了异常波动，这主要是由于前期上涨过高过快以及国际市场大幅波动等因素引起的。为避免发生系统性风险，中国政府采取了一些措施，遏制了股市的恐慌情绪，避免了一次系统性风险。

English translation

In response to a question about China's comprehensive deepening reform, Xi pointed out that the important direction of China's economic system reform is to make the market play a decisive role in the allocation of resources and to better play the role of the government. In short, both the "invisible hand" and "visible hand" should be used well.

The stock market has its own laws of operation; generally, the government does not intervene. The government's responsibility is to maintain an open, fair, and just market order, protect the legitimate rights and interests of investors, especially small and medium-sized investors, and promote the long-term stable development of the stock market to prevent widespread panic. Some time ago, the Chinese stock market experienced unusual volatility, mainly caused by factors such as too high and too fast a rise in the previous period and sharp fluctuations in international markets. The Chinese government took measures to curb panic in the stock market to avoid systemic risk.

Example 2. "Xi Jinping Attends Opening Ceremony of the Fifth Foreign Ministers' Meeting of the Conference on Interaction and Confidence-building Measures in Asia and Delivers Important Speech" (CPC News 2016)

Original Chinese text

习近平指出，今天的亚洲，和平稳定是大势所趋，发展繁荣是民心所向。亚洲经济领跑全球，区域合作和一体化进程方兴未艾，亚洲在全球发展全局中的战略地位不断上升。同时，亚洲局部动荡冲突等传统安全问题仍然存在，恐怖主义等非传统安全威胁日益突出，区域安全合作亟待加强。

English translation

Xi Jinping pointed out that in today's Asia, peace and stability are the general trends, and development and prosperity are the people's desires. Asia's economy is leading the world, regional cooperation and integration processes are flourishing, and Asia's strategic position in global development is rising. At the same time, traditional security issues such as local instability and conflict still exist in Asia, non-traditional security threats such as terrorism are becoming increasingly prominent, and regional security cooperation needs strengthening.

Example 3. “Xi Jinping’s keynote speech at the APEC Business Leaders’ Dialogue” (Xinhua News Agency 2020)

Original Chinese text

在全球共抗新冠肺炎疫情、探索世界经济复苏道路的重要时刻，很高兴通过视频方式同大家见面。

人类正处在一个特殊的历史时期。新冠肺炎疫情全球大流行，推动世界百年未有之大变局加速演进。世界经济深度衰退，全球产业链、供应链遭受冲击，治理赤字、信任赤字、发展赤字、和平赤字仍在扩大。单边主义、保护主义、霸凌行径上升，经济全球化遭遇逆流，加剧了世界经济中的风险和不确定性。

English translation

At this important moment when the world is fighting the new pneumonia epidemic together and exploring the path of world economic recovery, I am glad to meet with you by video.

Humanity is at a pivotal time in history. The global pandemic of Newcastle pneumonia has accelerated the evolution of a significant global change that has not been seen in a century. The world economy is in deep recession, the global industrial chain and supply chain have suffered shocks, and the governance deficit, trust deficit, development deficit, and peace deficit are still expanding. Unilateralism, protectionism, and bullying practices are on the rise, and economic globalization is experiencing headwinds, exacerbating the risks and uncertainties in the world economy.

Table A1. Clustering at the year-quarter level

I/K	(1)	(2)	(3)	(4)	(5)	(6)
L.logXiEPU	-0.292*** (0.0789)			-0.304*** (0.0741)		
L.logHLEPU		0.0499 (0.200)			-0.152 (0.197)	
L.logBBDEPU			-0.270*** (0.0320)			-0.260*** (0.0380)
L.tobin				0.0381*** (0.0128)	0.0358** (0.0149)	0.00248 (0.0119)
cashflow				0.00888*** (0.00163)	0.00918*** (0.00172)	0.0108*** (0.00182)
sales_growth				0.00104*** (0.000184)	0.000941*** (0.000186)	0.00108*** (0.000152)
gdp_growth				0.0297*** (0.00712)	0.0319*** (0.00909)	0.0103* (0.00573)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	67443	67443	67443	55026	55026	55026
R-sq	0.386	0.382	0.391	0.396	0.392	0.400

Note: Standard errors are clustered at the year-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm level quarterly investment rate in all regressions.

Table A2. Additional estimates with two-quarterly lag effects

I/K	(1)	(2)	(3)	(4)	(5)	(6)
L.logXiEPU	-0.240***			-0.268***		

	(0.0172)			(0.0196)		
L2.logXiEPU	-0.229***			-0.231***		
	(0.0166)			(0.0183)		
L.logHLEPU	-0.00537			-0.225***		
	(0.0396)			(0.0465)		
L2.logHLEPU	-0.0501			0.00652		
	(0.0371)			(0.0432)		
L.logBBDEPU			-0.252***			-0.249***
			(0.0196)			(0.0225)
L2.logBBDEPU			-0.0148			-0.0144
			(0.0201)			(0.0237)
L.tobin				0.0392***	0.0456***	0.00896
				(0.00568)	(0.00588)	(0.00583)
cashflow				0.00962***	0.00972***	0.0113***
				(0.00110)	(0.00141)	(0.00140)
sales_growth				0.00108***	0.000903***	0.00104***
				(0.000108)	(0.000168)	(0.000167)
gdp_growth				0.0274***	0.0273***	0.00525***
				(0.00158)	(0.00169)	(0.00174)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	61705	61705	61705	50868	50868	50868
R-sq	0.400	0.395	0.407	0.406	0.402	0.410

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm-level quarterly investment rate in all regressions.

Table A3. Additional estimates with the changes of XiEPU

I/K	(1)	(2)	(3)	(4)	(5)	(6)
L.logXiEPU	-0.352***			-0.546***		
	(0.0223)			(0.0267)		
$\Delta\log\text{XiEPU}$	-0.0589***			-0.241***		
	(0.0131)			(0.0167)		
L.logHLEPU		0.00902			-0.224***	
		(0.0417)			(0.0469)	

$\Delta \log \text{HLEPU}$		-0.0672*			-0.122***	
		(0.0389)			(0.0447)	
L.logBBDEPU			-0.285***			-0.268***
			(0.00947)			(0.0117)
$\Delta \log \text{BBDEPU}$			-0.211***			-0.290***
			(0.0185)			(0.0209)
L.tobin				0.0358***	0.0378***	0.0103*
				(0.00517)	(0.00530)	(0.00535)
cashflow				0.00880***	0.00920***	0.0106***
				(0.00136)	(0.00136)	(0.00136)
sales_growth				0.00117***	0.000920***	0.00103***
				(0.000159)	(0.000160)	(0.000159)
gdp_growth				0.0416***	0.0316***	0.0145***
				(0.00192)	(0.00162)	(0.00170)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	67443	67443	67443	55026	55026	55026
R-sq	0.386	0.382	0.395	0.392	0.392	0.402

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm-level quarterly investment rate in all regressions.

Table A4. Political connections and the effects of XiEPU

I/K	(1)	(2)	(3)	(4)	(5)	(6)
		PC = Government working experience			PC = CCP member	
L.logXiEPU	0.308**			0.379**		
	*			*		
	(0.0193)			(0.0287)		
L.logXiEPU* PC	0.0262			0.131**		
	*			*		
	(0.0473)			(0.0358)		
L.logHLEPU		-0.148***			-0.106*	
		(0.0422)			(0.0601)	
L.logHLEPU		-0.0292			-0.0872	

		(0.105)			(0.0725)	
*PC						
L.logBBDEP			-			-
U			0.264**			0.364**
			*			*
			(0.0124)			(0.0177)
L.logBBDEP			0.0239			0.177**
U*PC						*
			(0.0304)			(0.0212)
L.tobin	0.0378*	0.0361***	0.00471	0.0374*	0.0358***	0.00061
	**			**		1
	(0.0049	(0.00498)	(0.0050	(0.0049	(0.00499)	(0.0050
	5)		8)	7)		7)
cashflow	0.00840	0.00872***	0.0102*	0.00841	0.00874***	0.0105*
	***		**	***		**
	(0.0013	(0.00130)	(0.0013	(0.0013	(0.00131)	(0.0013
	0)		0)	0)		0)
sales_growth	0.00108	0.000984***	0.00112	0.00107	0.000981***	0.00105
	***		***	***		***
	(0.0001	(0.000155)	(0.0001	(0.0001	(0.000155)	(0.0001
	55)		55)	55)		54)
gdp_growth	0.0292*	0.0313***	0.00984	0.0294*	0.0311***	0.00983
	**		***	**		***
	(0.0015	(0.00150)	(0.0016	(0.0015	(0.00156)	(0.0016
	1)		0)	1)		0)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	55026	55026	55026	55026	55026	55026
R-sq	0.396	0.392	0.4	0.396	0.392	0.401

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm-level quarterly investment rate in all regressions. GOV dummies and CCP dummies are included in columns (1)–(3) and (4)–(6), respectively.

Table A5. Conventional EPU vs. XiEPU

I/K	(1)	(2)	(3)	(4)
L.logXiEPU	-0.292***	-0.121***	-0.302***	-0.157***
	(0.0159)	(0.0164)	(0.0179)	(0.0187)

L.logHLEPU	0.0637*		-0.125***	
	(0.0347)		(0.0399)	
L.logBBDEPU		-0.247***		-0.222***
		(0.00948)		(0.0122)
L.tobin			0.0389***	0.00892*
			(0.00521)	(0.00539)
cashflow			0.00902***	0.0104***
			(0.00136)	(0.00136)
sales_growth			0.00103***	0.00110***
			(0.000160)	(0.000159)
gdp_growth			0.0307***	0.0128***
			(0.00161)	(0.00168)
Firm FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
N	67443	67443	55026	55026
R-sq	0.386	0.394	0.396	0.401

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm-level quarterly investment rate in all regressions.

Table A6. Additional controls

I/K	(1)	(2)	(3)	(4)	(5)
L.logXiEPU	-0.297***	-0.184***	-0.166***	-0.0945***	-0.105***
	(0.0177)	(0.0183)	(0.0184)	(0.0191)	(0.0198)
L.tobin	0.0220***	0.0198***	0.00726	0.00737	0.0176***
	(0.00548)	(0.00533)	(0.00550)	(0.00534)	(0.00575)
cashflow	0.00967***	0.00884***	0.0101***	0.0105***	0.0104***
	(0.00136)	(0.00136)	(0.00136)	(0.00136)	(0.00137)
sales_growth	0.000976***	0.00115***	0.000994***	0.00108***	0.00106***
	(0.000160)	(0.000160)	(0.000161)	(0.000159)	(0.000161)
gdp_growth	0.0133***	0.0206***	0.00792***	0.00910***	0.0169***

	(0.00202)	(0.00160)	(0.00291)	(0.00171)	(0.00344)
profit_growth_SD	-3.702***				-1.780***
	(0.340)				(0.449)
stock_return_SD	0.0103***				-0.00111
	(0.000979)				(0.00116)
VXFXICLS	-0.00206*				-0.00710***
	(0.00113)				(0.00141)
local_political_uncertainty		-0.0783***			-0.0498**
		(0.0195)			(0.0195)
GPR_china		-0.363***			0.0195
		(0.0247)			(0.0400)
PMI			0.0337***		-0.0572***
			(0.00737)		(0.0122)
CCI			-0.0137***		0.00196
			(0.000798)		(0.00157)
property_price				-1.203***	-1.379***
				(0.0600)	(0.129)
Firm FE	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes
N	55026	54804	55026	55026	54804
R-sq	0.398	0.398	0.400	0.403	0.403

Note: Standard errors are clustered at the firm-quarter level. The significance levels are * 0.10, ** 0.05, and *** 0.01. The dependent variable is the firm-level quarterly investment rate in all regressions.

Table A7. Correlation matrix of main variables

	I/K	XiE PU	HL EPU	BBD EPU	Tobi n	Cash flow	Sales growth	GDP growth	Man uf.	SOE	Ter m2	GO V	C C P
I/K	1												
XiEPU	0.0 278	1											
HLEPU	0.0 383	0.0 016	1										
BBDEPU	0.0 516	0.1 764	0.0 732	1									
Tobin	0.0 251	0.0 754	0.0 407	0.14 33	1								
Cash flow	0.1 749	0.0 085	0.0 871	0.05 48	0.0 105	1							
Sales growth	0.0 909	0.1 262	0.0 422	0.05 1	0.1 015	0.00 49	1						
GDP growth	0.0 592	0.3 565	0.0 435	0.35 42	0.0 73	0.06 54	0.173	1					
Manuf.	0.0 643	0.0 074	0.0 066	0.02 6	0.0 26	0.06 68	0.000 4	0.009 4	1				
SOE	0.0 865	0.0 3	0.0 55	0.09 96	0.2 007	0.01 32	0.093 1	0.033 7	0.1 871	1			
Term2	0.0 332	0.0 643	0.2 75	0.77 24	0.1 916	0.02 64	0.064 6	0.397 2	0.0 229	0.0 945	1		
GOV	0.0 236	0.0 142	0.0 113	0.05 38	0.0 915	0.01 82	0.034 9	0.019 3	0.0 692	0.2 492	0.0 518	1	
CCP	0.1 156	0.0 304	0.0 338	0.13 34	0.1 409	0.00 3	0.091 5	0.058 2	0.1 041	0.4 361	0.1 303	0.2 588	1

Highlights

This study uses a text dataset of the Chinese President's speeches and reports from November 2012 to December 2021 to construct an original economic policy uncertainty (EPU) index: President Xi Jinping's EPU (XiEPU).

XiEPU moderately correlates with a previous study's representative EPU, showing notably different peaks. Our index spiked in April 2016 and January 2017, possibly reflecting the turmoil in the Chinese stock market.

Using firm-level panel data from 2012 to 2019, we find that a higher value of XiEPU is associated with a lower investment rate at the quarterly level. Moreover, there are noteworthy heterogeneous effects among firms and periods. Specifically, we find a stronger effect of XiEPU on manufacturing sectors, a weaker effect on state-owned enterprises, and a stronger effect in the second term of Xi Jinping's presidential tenure after November 2017.