
Corporate Inventory Adjustment and the Effectiveness of Fiscal Policy in China

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Abstract. For many years, China has been very much conservative in fiscal expansion. In this paper, we analyze the impact of economic policy uncertainty on the adjustment of corporate inventory holdings, as well as its intrinsic mechanism and economic consequences. The empirical results show that the increase in policy uncertainty has a significant and negative effect on the level of corporate inventories, and non-SOEs are affected more than SOEs. In addition, we find that the larger the financial constraints or the better the external governance, the greater the inhibitory effect of policy uncertainty on inventory investment. In summary, policy uncertainty may lead to an increase in corporate cash holdings and a reduction in inventories through the deterioration of the financing environment and the increase of business risk. The main issues are examined with a view to providing policy recommendations that would allow to maintain robust growth in a sustainable manner.

Keywords: Corporate Investment, Corporate Leverage, Risk-management, Market Competition, Economic Growth.

1. Introduction

As a means of government participation in the economy, economic policies play an important role in maintaining market stability and promoting economic growth. Since the 2008 financial crisis, the Chinese government has issued a series of fiscal policies, monetary policies and industrial policies to stimulate economic growth, which has aimed to prompt speedy recovery of the economy while avoiding overheating. However, frequent economic policy adjustment may also have negative impacts on the production and operation of firms. Some studies argue that the existence of uncertainty is an important reason for firms to reduce investment and hiring, leading to slow recovery from a recession (Bloom *et al.*, 2007). Economic policy uncertainty (hereafter referred to as ‘policy uncertainty’) increases future cash flow volatility, drives up financing costs, magnifies the difficulty to anticipate business conditions, and reduces business investment (Gao *et al.*, 2017). When firms are faced with greater external uncertainty, they need to maintain financial flexibility to cope with adverse shocks (Graham & Harvey, 2001).

Inventories, as a type of short-term investment expenditure, play a crucial role in both the macroeconomic operation and the production of firms. On the macro level, although inventory investment only accounted for a small portion of aggregate output, its impact on overall economic fluctuations is considerable (Blinder & Maccini, 1991). On the micro level, inventories could smooth production and alleviate the contradiction between production and sales (Caglayan *et al.*, 2012). First, by holding inventories firms could cushion economic shocks, smooth production, and deal with uncertainty of sales. Second, inventories render firms to avoid stock-out to prevent the loss of profit. Third, firms can also use price fluctuations to buy and sell inventories to arbitrage and reduce production costs. However, the introduction of new policies might change the external environment of firms and generate greater uncertainty to business operations, which likely include firm-level inventory decisions.

Existing research on firm inventories focuses mainly on its economic functions, such as holding inventories to smooth production and to cushion external shocks (Caglayan *et al.*, 2012). To the best of our knowledge, we are among the first to provide comprehensive evidence for the impact of policy uncertainty on corporate inventory holdings. As China is undergoing a critical stage of economic restructuring, government intervention in the market is frequent and firms are facing greater uncertainty in their business environment than firms in developed countries. Therefore, China’s institutional background provides a good opportunity to examine the impact of economic policy changes on corporate inventory decisions.

In the emerging literature on the impact of policy uncertainty on firm behaviours, scholars have conducted research from perspectives such as capital expenditure (Wang *et al.*, 2014; Gulen & Ion, 2016), merger and acquisition (Bonaime *et al.*, 2018) and cash holdings (Phan *et al.*, 2019). Different from these studies, we examine the impact of policy uncertainty on corporate inventory holdings. In contrast to long-term investment in fixed assets, firms hold inventories as short-term investment, accounting for a relatively smaller fraction of total assets and a higher turnover rate (Carpenter *et al.*, 1998). Hence, inventory fluctuations are arguably better reflections of the immediate impacts of economic policy changes. The inventory adjustment is not only important for the production and operation of a company, but also responds to macroeconomic fluctuation. Therefore, we attempt to use firm-level data to disentangle the relationships between policy uncertainty and inventory decisions.

Specifically, we argue that policy uncertainty could affect the inventory holdings of firms in two ways. First, the increase of policy uncertainty would worsen the external financing environment (Zhang *et al.*, 2015). Heightened policy uncertainty would increase the magnitude of information asymmetry in financial markets (Nagar *et al.*, 2019). Banks would raise loan thresholds and reduce loan

originations to avoid risks (Bordo *et al.*, 2016). Faced with tighter financial constraints, companies might choose to reduce their investment in inventory to mitigate the burden of working capital. Second, rising policy uncertainty likely means higher volatility of future cash flows and greater bankruptcy risks to firms (Gao *et al.*, 2017). In order to avoid future financial distress due to liquidity shortages, rational managers would choose to hold more cash (Bloom *et al.*, 2007), likely at the expense of inventory investment. Therefore, policy uncertainty could directly affect the inventory decisions through tougher financing environment and indirectly affect inventories through firms' desire to increase precautionary cash holdings.

The empirical results show that policy uncertainty has a significant negative effect on the inventory holdings of firms. A one-standard-deviation increase in EPU from its mean value would reduce corporate inventory holdings by 7%. Compared with state-owned enterprises (SOEs), the inventory holdings of nonstate-owned enterprises (non-SOEs) are affected more by policy uncertainty. When the degree of policy uncertainty heightens, reducing inventory investment helps to improve operating and market performance, but this effect only exists in non-SOEs. The test of the mechanism shows that the increase in policy uncertainty strengthens firms' incentive to hold more precautionary cash, which leads to a reduction in inventory investment. Furthermore, the inhibitory effect of policy uncertainty on inventory holdings is more prominent among firms with greater financial constraints or better external governance. Altogether, these findings illustrate that firms tend to reallocate inventory to precautionary cash to cope with potential adverse shocks of policy changes.

Our study contributes to three strands of literature. First, we contribute to the literature on the influences of uncertainty on firm behavior. Bonaime *et al.* (2018) find that political and regulatory uncertainty is strongly negatively associated with merger and acquisition activity at the macro and firm levels. Using the economic policy uncertainty index, the prior literature documents a strong negative relationship between firm-level capital investment and the aggregate level of policy uncertainty (Wang *et al.*, 2014; Gulen & Ion, 2016). Phan *et al.* (2019) find that policy uncertainty is positively related to firm cash holdings due to firms' precautionary motives. Our study contributes to the literature by showing that policy uncertainty results in lower corporate inventory holdings, which are relatively short-term compared with capital investment.

Second, we contribute to the corporate inventory holdings literature. The prior literature explains the level of corporate inventory holdings based on firms' financial constraints (Kashyap *et al.*, 1994; Carpenter *et al.*, 1998; Guariglia & Mateut, 2006) and sales uncertainty (Caglayan *et al.*, 2012). Caglayan *et al.* (2012) find that higher sales uncertainty leads to larger stocks of inventories. We extend these studies by highlighting the aggregate uncertainty associated with economic policy as an important determinant of corporate inventory holdings. We contribute to this strand of literature by showing that firms reallocate between inventories and cash to cope with the uncertainty associated with economic policy changes.

Third, our paper is related to recent studies on the effects of political uncertainty on Asia-Pacific listed companies. Recent evidence shows that political turnover in China leads firms to significantly reduce corporate investment (An *et al.*, 2016) and cash holding (Xu *et al.*, 2016). Luo *et al.* (2017) find that high levels of political uncertainty in China could decrease the number of initial public offerings (IPOs) and the post-IPO performance. Smales (2016) examines the relationship between political uncertainty and financial market uncertainty in Australia and finds that increasing political uncertainty around the election induces higher market uncertainty. Using the economic policy uncertainty index in China, Wang *et al.* (2014) document a significant and negative relationship between policy uncertainty and corporate investment. Chen *et al.* (2017) find that economic policy uncertainty negatively predicts future stock returns at various horizons in China. Jin *et al.* (2019) show that economic policy uncertainty would increase stock price crash risk through two mechanisms: managers' concealment of bad news and investors' heterogeneous beliefs. Compared with evidence of a negative premium from the US, Li (2017) finds that in Chinese equity markets, stocks with higher EPU betas earn higher average returns, and the EPU factor-mimicking portfolio earns significant abnormal returns. We complement the literature and find that policy uncertainty leads firms to significantly reduce inventory holdings and the effect is more prominent for non-SOEs.

The remainder of this paper is organized as follows. Sections 2 and 3 review the related literature and develop research hypotheses. Section 4 details the sample construction and variable definitions. Sections 5 and 6 present the main empirical results and robustness checks. Section 6 further explores the mechanisms. Section 7 concludes the study.

2. Theoretical and Analytical Framework

Early literature suggests that the main motivation for enterprises to hold inventories is to smooth production (Holt *et al.*, 1960), and enterprises use inventory investment as a buffer to reduce the drastic fluctuations in production. However, from the macroeconomic perspective, the fluctuations in production are more dramatic than the fluctuations in demand. Therefore, Blinder (1986), Christiano and Eichenbaum (1989) modify the production smoothing model by introducing the factor of inventory investment costs into the inventory investment deterministic model, which concludes that inventory costs are negatively correlated with the inventory investment under the condition of constant sales. Kahn (1987) believes that the purpose of enterprises to invest in inventories is to avoid losses caused by selling out, which proves that the motivation to keep inventories for preventing stock-out is rational. In addition, the impact of financial shocks mainly represented by interest rates on inventory investment is also of crucial importance. Kashyap *et al.* (1994) study the impact of monetary policy on inventory investment based on the fact that enterprises are dependent on bank loans, and the test results show that the real interest rate has a significant impact on inventory investment. Hall (1999) also indicates that the real interest rate is the major factor that leads to changes in inventory investment.

Hay & Louri (1994) argue that in the standard inventory adjustment model, desired inventory investment is a function of expected sales, interest rate and other factors. Obviously, the real interest rate, products' shortage costs and selling prices are all important factors affecting inventory investment. So, we will research effects of these factors on inventory investment in China, when three factors considered in one model together. Furthermore, this paper will focus on how these three factors affect the asymmetric adjustment behavior of inventory investment.

First of all, the change in the interest rates has an important impact on inventory investment behavior by affecting enterprises' financing cost and capital acquisition ability. Akhtar (1983) focuses on the analysis of the impact of inventory holding costs represented by short-term interest rates on inventory adjustment, and finds that the rise in short-term interest rates significantly inhibits the aggregate inventory investment in the United States. Kashyap et al. (1994) study the inventory data of the U.S. manufacturing industry and find that in the 1981–1982 economic recession, enterprises without access to the public bond market are subject to strong liquidity constraints and their inventory investment are declined. Hall (1999) finds in his research that the real interest rate is an important factor leading to changes in inventory investment. Guariglia and Mateut (2006) argue that whether enterprises have enough funds significantly affects their inventory investment behavior, and one of the important sources of enterprise funds is external financing, which is affected by interest rate fluctuations, indicating the importance of interest rate to inventory investment. Cava (2013) finds that in the economic recession of 2008, short-term credit restrictions have negative effects on inventory investment in Australia, and the decrease of short-term credit availability significantly hinders the increase of inventory investment.

Sangalli (2013) uses the GMM method to study the relationship between inventory investment and financial constraints in the Italian manufacturing industry. The research results show that inventory investment responds negatively to an increased financial burden. Especially in the economic recession, financial constraints become more obvious because of more restricted capital liquidity. In fact, the financial constraints of enterprises generally come from external financing, which is dependent on the levels of interest rate. In other words, the increase in interest rates increases the financial burden and thus reduces inventory investment. Maccini et al. (2015) verify that interest rate change has a significant impact on inventory investment by using the inventory behavior model that considers permanent sales impact, and he finds that 75% of inventory peak changes are due to opportunity cost changes caused by interest rate fluctuations. Chen (2016) explores the relationship between inventory and risk-free interest rates from the perspective of consumption smoothing, and finds that the adjustments of inventory can capture the changes in interest rates, and there is a relationship between inventories and interest rate.

The literature above shows that interest rate fluctuation is crucial to the analysis and understand the adjustment behaviors of inventory investment. However, the interest rate not only has a negative impact on inventory investment, but also the rise and fall of interest rates have asymmetric impacts on the adjustment magnitude of inventory investment. Stiglitz and Greenwald (1993) point out that, when faced with asymmetric information and financing constraints, enterprises' inventory adjustment behaviors are asymmetric too. And Milne and Robertson (1996) are also supporters of this view. They find that the negative impact of corporate cash flow on assets is greater than the positive effect. As liquid assets, inventories shall also have such features. Further studies by Gatti and Gallegati (1996) show that small firms play an important role in asymmetric changes in inventory investment due to stricter financing constraints. The research by Aghion et al. (2009) also shows that, due to different financing constraints in varying financing environments, enterprises would react asymmetrically to changes in financing environment, and the deterioration of financing environment has a greater impact on enterprises than the improvement of financing environment. Based on the above analysis, we will study whether the change in real interest rate has an asymmetric impact on inventory investment in China too. If there is an asymmetric effect, then the reasonable and asymmetric monetary policies to stabilize inventory investment should be implemented by the authorities.

In addition, the shortage costs of products are also the important factor affecting the inventory investment of enterprises. Shortage costs are the losses suffered by companies when the market is active and the customers' needs cannot be fully met in time. And its essence is an opportunity cost or a risk premium. When the level of economic activities increases, the shortage costs faced by enterprises will also increase too, and the losses and costs caused by products' shortage will also be greater. At this point, enterprises are more willing to increase inventory investment during the period of economic prosperity to some extent. Wang and Wen (2009) embed the production and cost smoothing mechanism into a DSGE model. And the empirical results show that, in the face of special cost shock, companies have the motivation to maintain stable sales through centralized production, which increases the inventory held by enterprises. Lubik and Teo (2012) study the new Keynesian Philip curve, and they prove that the marginal cost will eventually be converted into the total costs of inventory when enterprises use the principle of marginal cost minimization to make inter-temporal decisions. Obviously, there is a relationship between marginal cost and inventory investment, and marginal cost includes the shortage costs, which means that the shortage costs are also correlated with inventory investment. Maccini et al. (2015) also mentions that in order to avoid the shortage losses or costs, enterprises have the intention to increase production to raise inventory investment, which indicates that there is a positive correlation between the shortage costs and inventory investment.

Although the existing literature has verified that the shortage costs and inventory investment are changing in the same direction, the asymmetric effects of the increase and decrease of shortage costs on inventory investment have not been studied, so this paper will conduct a supplementary study on this. When the level of economic activity increases, the losses caused by the shortage of goods will be greater, and enterprises are willing to increase the inventory level significantly to avoid it. However, in the face of declining economic vitality, rational enterprises will keep a cautious attitude and reduce inventory investment slightly to prevent losses caused by the increase of inventory costs as the economy may recover in the future soon.

According to the discussion on the motivation of holding inventory in the relevant literature, the selling prices of products should also be included in the factors affecting the adjustment of inventory investment. Relevant literature shows that the increase in the selling prices or demand of products will significantly stimulate enterprises to increase inventory investment, and the products selling prices and demand show a highly positive correlation. When Bryant (1978) studies the relationship between inventory investment behavior and market equilibrium by using the price model, he finds that output and prices have important impacts on actual inventory changes, and verifies the positive correlation between products prices and inventory investment. Sarantis (1979) analyzes the optimal investment, employment and inventory strategies of risk-averse enterprises in a dynamic model. He finds that when the uncertainty of output price, wage and inventory price increase, the inventory investment rate of risk-averse enterprises will be reduced. The inventory adjustment model of Akhtar (1983) shows that the expected increase in selling prices has a positive impact on inventory levels, and the enterprise's expectation of future product prices is mainly based on the current products' prices. Hong and Sterken (2002), based on the inventory adjustment equation, use the sales fluctuation to replace the demand uncertainty in the study of the impact of sales fluctuation on inventory investment, and find that the impact of sales fluctuation or demand uncertainty on inventory investment is positive. Tapiero (2008) believes that inventory investment is a premium generated to meet future contingent demand, and that inventory investment should be a function of the selling prices. By using the manufacturing data of European countries, Caglayan et al. (2012) find that under the premise of controlling the financial conditions of enterprises, sales uncertainty has a positive impact on inventory investment. Tamegawa (2014) builds a model including the wholesale prices of commodities and the final prices of commodities to study the relationship between inventory and demand uncertainty, and finds that when the selling prices rise in an economic boom, enterprises will increase inventory investment.

In the meantime, we also need to pay attention to the asymmetric impacts of the products' selling prices or demand on inventory investment adjustment. Krane (1994) finds that products demand change has asymmetric impacts on inventory investment, and the increase in inventory investment caused by unexpected increases in demand is greater than the decrease in inventory investment caused by unexpected decreases in demand. On the contrary, Holly and Turner (2001) find that the inventories present the characteristics of asymmetric adjustment at different stages by using British data. Inventory adjustment is rapid when sales are weak, and slow when sales are strong. It can be seen that the impact of changes in product demand on inventory investment is also asymmetric, but there is no consistent conclusion about the magnitude of the impact of increases and decreases in products' prices on inventory investment. Therefore, it is necessary to explore the asymmetric impact of the products' selling prices on China's aggregate inventory investment.

In conclusion, inventory investment has a significant impact on economic fluctuations, while the real interest rate, products' shortage costs and selling prices are all main important factors affecting inventory investment, and more importantly, their influences may be asymmetric. In the past four decades, China's economy has made important achievements, but there is little literature on the general rule of inventory changes in China, and even less relevant literature on the asymmetric impact of inventory investment. Therefore, it is necessary to study the asymmetric impacts of the real interest rate, products' shortage costs and selling prices on China's inventory investment, so as to provide constructive policy suggestions for mitigating China's macroeconomic fluctuations.

3. Hypothesis Development

The increase in policy uncertainty would change the external business environment of firms (An *et al.*, 2016) and thus affect inventory investment. Specifically, we argue that the rise in policy uncertainty might affect corporate inventory holdings in two ways.

First, the increase in policy uncertainty would worsen the external financing condition and raise the financing costs of firms (Wang *et al.*, 2014; Phan *et al.*, 2019). In terms of channels of external financing in China, as the corporate bond market is underdeveloped and the process of seasoned equity offering is complicated and time-consuming due to strict regulations, companies usually use bank borrowing to satisfy their external financing needs (Cull & Xu, 2005). The increase in policy uncertainty would exacerbate the degree of information asymmetry in financial markets (Wang *et al.*, 2014). Consequently, banks would tighten lending standards to manage default risks. Considering that a higher inventory level increases the burden on working capital, it is a rational choice for firms to decrease inventory holdings when financial constraints become more binding. In other words, the increase in policy uncertainty would lead to greater financial constraints, thereby decreasing corporate inventory holdings.

Second, the increase in policy uncertainty would also introduce risk to future production and business activities (Gao *et al.*, 2017), increase the desire to hold more precautionary cash, and in turn reduce the budget for inventory stocking. When the degree of uncertainty rises, rational managers tend to choose to hold more cash in order to avoid future financial distress due to liquidity shortages (Bloom *et al.*, 2007). As inventories and cash are the two most important short-term assets in firms' routine activities, firms tend to reduce inventory investment when increasing cash holdings.

Based on the analysis above, we propose the first hypothesis:

Hypothesis 1: The increase in policy uncertainty significantly reduces the level of corporate inventory holdings.

The Chinese financial system is dominated by state-owned banks, and the credit constraints faced by non-SOEs are larger (Brandt & Li, 2003; Li *et al.*, 2008). As SOEs have more political resources and social responsibility to promote economic development and increase employment, the government tends to give SOEs more 'care' when formulating economic policies (Fan *et al.*, 2008). In comparison, SOEs are likely to have better access to bank loans, long-term credit and government bailouts (Khwaja & Mian, 2005;

Claessens *et al.*, 2008), so they face less external financial constraints. In addition, compared with non-SOEs, SOEs' operating decision chain is longer and decision-making efficiency is lower (Fan *et al.*, 2007). Thus, when policy uncertainty rises, there is no need for SOEs to reduce the level of inventory holdings because of their more abundant financial resources, and lengthier and hence less flexible decision-making process. Therefore, compared with non-SOEs, the impact of policy uncertainty on SOEs' inventory adjustment behavior is smaller. This line of logic leads to the second hypothesis:

Hypothesis 2: The negative effect of policy uncertainty on inventory holdings is more prominent among non-SOEs.

Firms' downward adjustment of inventories following heightening policy uncertainty could have an influence on operating performance and stock returns (Thomas & Zhang, 2002). As discussed above, the rise of policy uncertainty would tighten the external financial constraints faced by firms, which directly decreases the funds available for inventory investment. Meanwhile, in response to greater business risk brought by policy uncertainty, firms tend to reallocate resources away from inventories to cash. Rational managers' temporal reduction of inventory holdings is likely to improve operating performance and market performance. In addition, the previous analysis points out that state ownership weakens the negative correlation between policy uncertainty and inventory holdings. As a result, the operating performance of SOEs is also likely less sensitive to the change in policy uncertainty.

Hypothesis 3: Downward inventory adjustment mitigates the adverse impact of policy uncertainty on operating performance and stock returns.

Hypothesis 4: The beneficial effect of downward inventory adjustment on operating performance and stock returns is more pronounced for non-SOEs.

The previous analysis points out that the increase in policy uncertainty makes the future production and business activities face greater uncertainty, and this uncertainty often means that the firm's future cash flows are more volatile and unpredictable. Due to precautionary motives, firms increase the level of cash holdings, thereby inhibiting inventory holdings. The extent of precautionary motives in the period of rising policy uncertainty may be affected by the extent of financial constraints faced by firms. If firms have easier access to external financing to support firm development, they may not need much precautionary cash reserves. Even if the firm increases cash holdings when policy uncertainty heightens to prevent potential risks, it can be achieved by increasing external financing without reducing inventory levels. In contrast, firms with large financial constraints cannot guarantee access to funds through external financing when there is a shortage of funds in the future. Thus, when policy uncertainty rises, financially constrained firms will be more inclined to increase cash reserves in case of future fund shortage, thus reducing inventories more.

The conflict between corporate management and external investors can be a core problem of corporate governance. Heightened policy uncertainty increases the difficulty of external investors' supervision of the management and decreases the possibility of suspicion of opportunistic behavior. Managers may overinvest because of overconfidence (Malmendier & Tate, 2005) and private benefits of control (Scharfstein & Stein, 2000; Baldenius, 2003), ignoring the increased business risks brought about by economic policy changes. Thus, in companies with more severe agency problems, policy uncertainty has less inhibitory effect on inventory holdings. On the contrary, the good corporate governance mechanism can effectively restrict the opportunistic behavior of managers and reduce the agency costs (Dittmar & Mahrt-Smith, 2007). However, at present, the legal protection of investors and the corporate governance system in China are highly imperfect, lacking effective monitoring and penalties for self-interested behavior of management. Therefore, external governance mechanisms such as institutional ownership and product market competition can be effective ways to alleviate agency problems in China, as institutional investors are more motivated and have the professional ability to effectively supervise managers (Aggarwal *et al.*, 2015; Appel *et al.*, 2016), and product market competition exerts external pressure on managers to make more firm-beneficial decisions (Giroud & Mueller, 2011). Firms with higher institutional ownership or higher product market competition may urge the managers to increase precautionary cash reserves to better cope with potential risks, thus leading to greater reductions in inventory holdings. Based on the above analysis, we propose the following two hypotheses:

Hypothesis 5: Firms with tighter financial constraints experience greater inhibitory effect of policy uncertainty on corporate inventory holdings.

Hypothesis 6: Firms with better external governance experience greater inhibitory effect of policy uncertainty on corporate inventory holdings.

4. Data and Variables

As to the data source, the economic policy uncertainty index of China is from Baker *et al.* (2013), the ownership type is from the WIND database, and other financial data are obtained from the CSMAR database. We use the quarterly data of Chinese listed companies from 2007Q1 to 2017Q1 as the research sample. We conduct the following steps to refine the sample: (i) exclude financial companies; (ii) exclude observations with missing values on key variables; (iii) exclude observations with negative equity. To eliminate the contamination effect of extreme values, we winsorise all continuous variables at the 1 percent level. We end up with 76,876 firm-quarter observations. The variables used in the empirical analysis are defined in the following subsections.

4.1. Economic Policy Uncertainty

We use the China Monthly Economic Policy Uncertainty Index¹ jointly issued by Stanford University and the University of Chicago (Baker *et al.*, 2013) to measure the policy uncertainty faced by Chinese firms during the sample period. Compared to other variables used to measure uncertainty, the index covers policy uncertainty caused by both the central government and local governments, and has continuity and time variability (Wang *et al.*, 2014). Following Wang *et al.* (2014), we use the arithmetic mean method to calculate the average value of the policy uncertainty index for three months in each quarter. Then we obtain the quarterly economic policy uncertainty index. We use the natural logarithm of the index as the key explanatory variable in regressions.

4.2. Corporate Inventory Holdings

We use inventories scaled by total assets to measure the inventory holdings of a firm. For robustness, we also use the change in inventories from the previous period to the current period as a proxy for inventory investment.

4.3. Ownership Type

In terms of the ownership type, the listed companies are divided into SOEs and non-SOEs. If the ultimate controlling shareholder of a company is the government, it is a state-owned firm and the variable is assigned a value of 1, otherwise it takes a value of 0.

4.4. Operating and Market Performance

Following Loughran & Ritter (1997) and Anderson and Reeb (2003), we use return on equity (ROE) and return on assets (ROA) to measure operating performance. Following Thomas and Zhang (2002), we use stock returns to measure market performance.

4.5. Control Variables

Following Carpenter *et al.* (1998), Guariglia and Mateut (2006) and Caglayan *et al.* (2012), we include a battery of firm characteristics to account for the influence of firm-level characteristics on corporate inventory holdings. The control variables include the following: Age is the natural logarithm of number of years since the listing date of the firm; Size is the natural logarithm of book assets in RMB; LEV is total liabilities divided by total assets; and ROA is net income scaled by total assets. We also control for Tobin's Q (TQ), operating cash flow (OCF), the growth of sales (SG), the percentage of shares held by the controlling shareholder (First). The definitions and measurement of variables are shown in Table 1.

5. Empirical Results

5.1. Descriptive Statistics

Figure 1 shows China's policy uncertainty index during the sample period. To verify the effectiveness of China's policy uncertainty index, we also include the US policy uncertainty index for comparison. Figure 1 shows that the policy uncertainty indexes of China and the US are highly correlated, but China's has greater volatility than its US counterpart, indicating that China's economic policies are perceived to change more frequently and have higher uncertainty, intuitively consistent with China's reality. It is worth noting that Figure 1 shows that China's policy uncertainty has several peaks. Around the year 2011, China's policy uncertainty rose sharply, caused mainly by the lagged negative impacts of China's 'four trillion' economic stimulus plan².

At the end of 2012, China's policy uncertainty has also risen sharply due to the change of leadership of the Communist Party of China (CPC). The spike in policy uncertainty in the middle of 2015 was associated with Chinese stock market turbulence. In addition, the policy uncertainty index soared in 2016, partly due to the exposure of domestic financial risk following the decline of the economic growth rate, and partly due to China's concern with trade protectionism after Donald Trump became US president-elect. As a whole, the uncertainty of China's economic policies fluctuates considerably during the sample period, which provides enough variation for our empirical study.

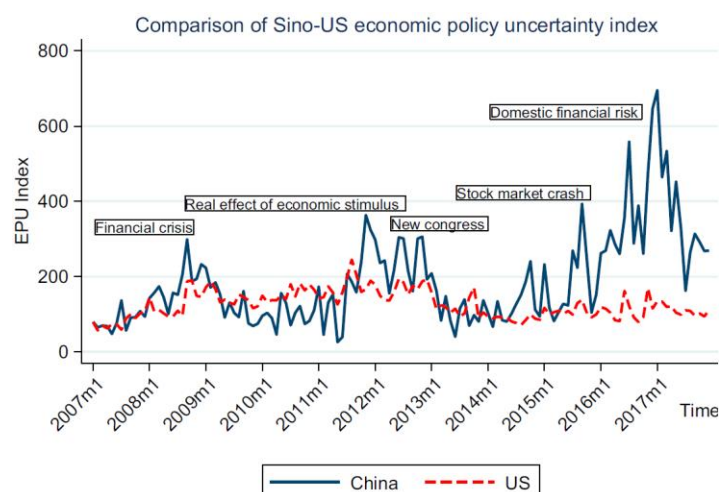
¹ To measure economic policy uncertainty for China, Baker *et al.* (2013) construct a scaled frequency count of articles about policy-related economic uncertainty in the South China Morning Post (SCMP), Hong Kong's leading English-language newspaper. The method follows their news-based indexes of economic policy uncertainty for the United States (Baker *et al.*, 2016).

² The RMB¥ 4 trillion (US\$586 billion) stimulus package was announced by the State Council of China on 9 November 2008 as an attempt to minimize the impact of the global financial crisis on the world's second largest economy. Critics of China's stimulus package have blamed it for causing a surge in Chinese debt since 2009, particularly among local governments and state-owned enterprises.

Table 1: Variable definitions

Variable	Definition
Panel A: Firm-level variables	
<i>INVT</i>	The ratio of corporate inventory holdings to total assets
<i>SOE</i>	A dummy variable which equals 1 if the controlling shareholder is the government
<i>Age</i>	The natural logarithm of number of years since the listing date of the firm
<i>Size</i>	The natural logarithm of book assets in RMB
<i>Lev</i>	Total liabilities divided by total assets
<i>ROA</i>	Earnings before interest and tax divided by total assets
<i>TQ</i>	The sum of market value of equity and book liabilities divided by book assets
<i>OCF</i>	Operating cash flow scaled by total assets
<i>SG</i>	Sales growth
<i>First</i>	The percentage of shares held by the controlling shareholder of the firm
<i>Stockret</i>	Quarterly stock return
<i>Cash</i>	The ratio of cash balance to total assets
<i>PPE</i>	The ratio of fixed assets to total assets
<i>PPEdum</i>	A dummy variable indicating high or low tangibility, sorting by PPE in each year
<i>Depen</i>	Industry-level external finance dependence following Hsu et al. (2014)
<i>Dependum</i>	A dummy variable indicating high or low external finance dependence
<i>Insti</i>	The percentage of shares that are owned by institutional investors
<i>Instidum</i>	A dummy variable indicating high or low institutional ownership, sorting by Insti in each year
<i>HHI</i>	The Herfindahl index based on firm sales
<i>HHIdum</i>	A dummy variable indicating high or low competition, equal to 1 if HHI is below the median and equal to 0 if HHI is above the median
<i>Loan</i>	Long-term loans plus short-term loans scaled by total assets
Panel B: Country-level variables	
<i>EPU</i>	The natural logarithm of the quarterly economic policy uncertainty index in China, computed by taking the average of the three months' index value in each quarter
<i>EPU₂</i>	The natural logarithm of the quarterly economic policy uncertainty index in China, computed by taking the first month's index value in each quarter
<i>EPU_US</i>	The natural logarithm of the quarterly economic policy uncertainty index in the US, computed by taking the average of the three months' index value in each quarter
<i>Congress</i>	A dummy variable indicating before or after the 18th National Congress of the Communist Party of China (CPC). Since the 18th National Congress of the CPC was held in November 2012, we set it as 1 from 2012Q4 and beyond, otherwise it is 0.

Note: This table displays the definitions of all the variables used in empirical analysis. The monthly economic policy uncertainty index of China is constructed following Baker et al. (2013), the monthly economic policy uncertainty index of the US is constructed following Baker et al. (2016), and both are available at <http://www.policyuncertainty.com/>. The ownership type is from the WIND database, and other financial data are obtained from the CSMAR database.

**Figure 1:** Comparison of Sino-US Economic Policy Uncertainty Index.

Note: The monthly economic policy uncertainty index of China is constructed following Baker et al. (2013), the monthly economic policy uncertainty index of the US is constructed following Baker et al. (2016), and both are available at <http://www.policyuncertainty.com/>

Table 2 reports the descriptive statistics for the sample. Based on firm-level data, the mean value of inventory holdings is 0.123 with a standard deviation 0.136 during the sample period, which shows that the variation of inventory holdings is large. The statistics on firm size shows that our sample includes small firms with book assets of 1283.7 million RMB, or \$US183.39 million, at the 25 percentile, and large firms with 6,551.8 million RMB of book assets, or \$US935.97 million at the 75 percentile³. In our sample, the percentage of state-owned enterprises is 43.8%. For an average firm, the age from listing time is 7.2 years, the leverage ratio is 45.1%, the return on assets is 5.68%, the Tobin's Q is 2.46, the ratio of operating cash flow to assets is 1.1%, the sales growth rate is 3.7%, and the controlling shareholder's stake is 35.6%.

Table 2: Summary statistics

Variable	Obs.	Mean	Std.	Min	25%	Median	75%	Max
Panel A: Firm-level variables								
<i>INVT_t</i>	76,876	0.123	0.136	0.000	0.024	0.087	0.171	0.699
<i>SOE</i>	78,079	0.438	0.496	0.000	0.000	0.000	1.000	1.000
<i>Age_{t-1}</i>	78,079	1.976	0.869	0.000	1.386	2.197	2.708	3.135
<i>Size_{t-1}</i>	78,073	21.880	1.265	19.301	20.973	21.724	22.603	25.764
<i>Lev_{t-1}</i>	78,067	0.451	0.214	0.044	0.282	0.455	0.618	0.898
<i>ROA_{t-1}</i>	78,072	5.676	5.817	-14.268	2.766	5.182	8.333	25.451
<i>TQ_{t-1}</i>	75,368	2.461	2.288	0.212	0.995	1.770	3.062	13.165
<i>OCF_{t-1}</i>	78,070	0.011	0.041	-0.117	-0.010	0.010	0.031	0.147
<i>SG_{t-1}</i>	77,992	0.037	0.126	-0.308	-0.017	0.025	0.073	0.709
<i>First_{t-1}</i>	78,054	35.557	15.162	8.887	23.377	33.584	46.336	75.005
<i>ROA_{t+1}</i>	78,075	5.523	5.813	-15.044	2.676	5.048	8.178	24.670
<i>Stockret_t</i>	77,767	0.067	0.283	-0.451	-0.112	0.013	0.195	1.095
<i>Cash_{t-1}</i>	78,063	0.175	0.122	0.031	0.084	0.141	0.234	0.477
<i>PPE_{t-1}</i>	77,989	0.235	0.171	0.002	0.102	0.201	0.336	0.735
<i>PPEdum_{t-1}</i>	78,079	0.501	0.500	0.000	0.000	1.000	1.000	1.000
<i>Depen</i>	78,079	0.239	0.297	-1.212	0.123	0.138	0.352	0.839
<i>Dependum</i>	78,079	0.495	0.500	0.000	0.000	0.000	1.000	1.000
<i>Insti_{t-1}</i>	78,079	33.696	23.095	0.000	13.139	32.212	51.816	84.975
<i>Instidum_{t-1}</i>	78,079	0.500	0.500	0.000	0.000	0.000	1.000	1.000
<i>HHI_{t-1}</i>	78,079	0.299	0.127	0.205	0.237	0.277	0.302	0.843
<i>HHIdum_{t-1}</i>	78,079	0.415	0.493	0.000	0.000	0.000	1.000	1.000
<i>Loan_t</i>	78,043	0.169	0.147	0.000	0.033	0.146	0.269	0.586
<i>Cash_t</i>	78,060	0.172	0.117	0.031	0.083	0.139	0.229	0.462
Panel B: Country-level variables								
<i>EPU_{t-1}</i>	78,079	5.047	0.522	4.126	4.621	5.004	5.422	6.134
<i>EPU_{2t-1}</i>	78,079	5.093	0.537	3.845	4.644	5.049	5.501	6.325
<i>EPU_US_{t-1}</i>	78,079	4.824	0.288	3.953	4.619	4.822	4.975	5.460

Note: The sample period is from 2007Q1 to 2017Q1, based on the timeline of the dependent variable *INVT*. The non-balanced panel data include 76,877 observations obtained from 2,669 firms. Among them, 43.8% are state-owned enterprises, with a total of 33,776 observations from 924 firms, and 56.2% are private enterprises, with 43,101 observations from 1,745 firms.

5.2. Baseline Regression Results

To investigate the relationship between policy uncertainty and corporate inventory holdings, we set up the following baseline regression model:

$$INVT_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (1)$$

where $INVT_{i,t}$ is the corporate inventory holdings as reported by firm i at time t and $EPU_{i,t-1}$ is the policy uncertainty lagged one period, $Controls_{i,t-1}$ is the set of control variables. To control for the influence of firm-level characteristics that are potential predictors of corporate inventory holdings, we include a battery of control variables, namely, firm age, firm size, leverage, ROA, Tobin' Q, operating cash flow, sales growth, and controlling shareholder's stake. The definition and measurement of these variables are detailed in Section 3. λ_t indicates time fixed effects (FE), μ_i denotes firm fixed effect, and $\varepsilon_{i,t}$ is the error term. Unless otherwise specified, we use robust estimation and cluster the standard errors at the firm level in all regressions.

³ We use the average exchange rate between CNY and sUS during the sample period as a benchmark exchange rate (1 sUS = 7 CNY).

The main coefficient of interest is β_1 . If β_1 is significant and negative, then it is consistent with H1, suggesting that policy uncertainty has a significant inhibitory effect on corporate inventory level.

To examine whether the ownership type influences the relationship between policy uncertainty and corporate inventory holdings, we set up Model (2) as follows:

$$INVT_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \beta_2 EPU_{i,t-1} \times SOE_i + \beta_3 SOE_i + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (2)$$

In the equation above, SOE_i is a dummy variable indicating the ownership type. It takes a value of 1 if the firm is a state-owned enterprise, and 0 otherwise. If the coefficient on EPU is negative, that is, EPU has a negative effect on inventory holdings, then a positive coefficient on the interaction between EPU and the indicator SOE would mean that the negative effect of EPU is less pronounced for SOEs. A significant and positive β_2 would be consistent with H2, indicating that SOEs' inventory decisions are less affected by policy uncertainty.

Table 3 shows the pairwise correlation between the variables in the baseline regression model. We can find that $INVT$ and EPU are negatively correlated (coefficient -0.168). In addition, $INVT$ is negatively correlated with firm size, ROA, Tobin's Q, operating cash flow, and positively correlated with firm age, leverage, sales growth and controlling shareholder's stake. All the correlation coefficients are below 0.5 in absolute value.

Table 3: Correlation of baseline regression variables

Variables	$INVT_t$	EPU_{t-1}	Age_{t-1}	$Size_{t-1}$	Lev_{t-1}	ROA_{t-1}	TQ_{t-1}	OCF_{t-1}	SG_{t-1}	$First_{t-1}$
$INVT_t$	1									
EPU_{t-1}	-0.168	1								
Age_{t-1}	0.005	0.006	1							
$Size_{t-1}$	-0.025	0.105	0.279	1						
Lev_{t-1}	0.211	-0.081	0.402	0.435	1					
ROA_{t-1}	-0.025	-0.030	-0.130	0.049	-0.249	1				
TQ_{t-1}	-0.142	0.043	-0.171	-0.463	-0.439	0.222	1			
OCF_{t-1}	-0.110	0.019	0.000	0.037	-0.044	0.149	0.029	1		
SG_{t-1}	0.032	-0.029	-0.045	0.039	0.033	0.148	0.057	0.052	1	
$First_{t-1}$	0.066	-0.036	-0.083	0.249	0.060	0.106	-0.114	0.039	0.019	1

Note: This table shows the pairwise correlation between the variables in the baseline regression model.

Table 4 shows the baseline regression results. In Column (1), we control for industry FE, year FE and quarter FE, without adding control variables. The coefficient on EPU is -0.168 , statistically significant at the 1 percent level. In Column (2), we add a list of control variables. The coefficient on EPU remains negative and significant at the 1 percent level and the magnitude is almost unchanged. To account for the influence of unobserved time-invariant factors, in Columns (3) and (4) we control for firm FE instead of industry FE. The significance level of the coefficient on EPU remains the same, and the magnitude of the coefficient is stable.

We use Column (4) to evaluate the economic significance. The coefficient on EPU is -0.017 , the coefficient magnitude implies that a one-standard-deviation increase in EPU from its mean value (an increase of 0.522) would reduce corporate inventory holdings by 0.89% ($= 0.522 \times 0.017$). Since the average corporate inventory holdings is 12.3%, this estimate implies that a one-standard-deviation increase in EPU from its mean value (an increase of 0.522) would reduce corporate inventory holdings by 7%. This result indicates that policy uncertainty has a both statistically and economically significant inhibitory effect on corporate inventory holdings, which supports H1.

We briefly look into the influence of control variables from Column (4). The coefficient of firm age is significant and positive, indicating that the longer the listing time, the higher the inventory holding level. The coefficient on firm size is significant and negative, indicating that larger firms tend to benefit from economies of scale on average and hence hold less inventory as a fraction of total assets. In addition, higher leveraged or more profitable firms hold more inventory, whereas firms with higher Tobin's Q or larger operating cash flow hold less.

Furthermore, we examine the effect of ownership type on the relationship between policy uncertainty and inventory holdings. The regression results are shown in Columns (5) and (6) of Table 4. We can see that the coefficient on the interaction between EPU and SOE is significant and positive in both columns, indicating that state ownership will weaken the negative impact of policy uncertainty on inventory holdings, consistent with H2. When policy uncertainty rises, with adequate financial resources (Khawaja & Mian, 2005; Claessens *et al.*, 2008), there is no need for SOEs to reduce the level of inventory holdings in order to increase the reserve of precautionary cash. In addition, SOEs' inventory adjustment behavior is likely inflexible because of the lengthy decision-making process (Fan *et al.*, 2007). Thus, compared to non-SOEs, SOEs should have a weaker negative correlation between policy uncertainty and inventory holdings, an implication confirmed by empirical results.

Table 4: Baseline regression results

Variables	Dependent variable: Inventory holdings ($INVT_t$)					
	(1)	(2)	(3)	(4)	(5)	(6)
EPU_{t-1}	-0.016*** (0.001)	-0.016*** (0.001)	-0.017*** (0.001)	-0.017*** (0.001)	-0.019*** (0.001)	-0.019*** (0.001)
$EPU_{t-1} * SOE$					0.005** (0.002)	0.006*** (0.002)
Age_{t-1}		-0.007*** (0.002)		0.038*** (0.003)		0.038*** (0.003)
$Size_{t-1}$		-0.012*** (0.002)		-0.022*** (0.003)		-0.022*** (0.003)
Lev_{t-1}		0.111*** (0.010)		0.074*** (0.011)		0.073*** (0.011)
ROA_{t-1}		0.001*** (0.000)		0.000*** (0.000)		0.000*** (0.000)
TQ_{t-1}		-0.004*** (0.001)		-0.003*** (0.001)		-0.003*** (0.001)
OCF_{t-1}		-0.240*** (0.015)		-0.143*** (0.011)		-0.143*** (0.011)
SG_{t-1}		0.000 (0.005)		0.006 (0.005)		0.006 (0.005)
$First_{t-1}$		0.001*** (0.000)		0.001*** (0.000)		0.001*** (0.000)
Constant	0.287*** (0.015)	0.476*** (0.038)	0.237*** (0.004)	0.613*** (0.065)	0.238*** (0.004)	0.608*** (0.065)
Firm FE	No	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	No	No
Observations	76,876	74,230	76,876	74,230	76,876	74,230
R^2	0.277	0.313	0.201	0.225	0.201	0.225
No. of firms	2,669	2,669	2,669	2,669	2,669	2,669

Note: This table reports the regression results of EPU on corporate inventory investment, and the effect of ownership type on the relationship between EPU and inventory holdings. The dependent variable is corporate inventory holdings. The key explanatory variable is EPU . We use the China Monthly Economic Policy Uncertainty Index jointly issued by Stanford University and the University of Chicago (Baker *et al.*, 2013) to measure economic policy uncertainty. Heteroscedasticity-robust standard errors clustered at firm level are reported in parentheses.

***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

5.3. Economic Consequences of Inventory Adjustment

To further explore the economic consequences of the reduction of the inventory holdings following heightening policy uncertainty, we set up the following two regression models (3) and (4)⁴:

$$ROA_{i,t+1} = \beta_0 + \beta_1 INVT_{i,t} + \beta_2 EPU_{i,t-1} + \beta_3 EPU_{i,t-1} \times INVT_{i,t} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (3)$$

$$Stockret_{i,t} = \beta_0 + \beta_1 INVT_{i,t} + \beta_2 EPU_{i,t-1} + \beta_3 EPU_{i,t-1} \times INVT_{i,t} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (4)$$

In Model (3), we use return on assets to measure operating performance. In Model (4), we use quarterly stock returns to measure market performance⁵. The main coefficient of interest is β_3 . If β_3 in Models (3) and (4) is significant and negative, then such results would be consistent with H3, suggesting that when policy uncertainty increases, firms' reduction of inventory holdings could improve their operating and market performances.

Further, we examine Models (3) and (4) in two subsamples – SOEs and non-SOEs. If β_3 is significantly larger in magnitude in non-SOEs, then such result would be consistent with H4, indicating that when policy uncertainty increases, the beneficial impact of downward inventory adjustment on operating and market performance is larger for non-SOEs.

⁴ In the regressions related to the economic consequences, the control variables include: the logarithm of the firm age, the logarithm of total assets, leverage, Tobin's Q, cash, and the controlling shareholder's stake.

⁵ Considering that the stock market responds quickly to firm information, we use the stock return at time t .

The regression results for Models (3) and (4) are listed in Table 5. From Columns (1) and (4), we can find that the interaction term of inventory holdings with policy uncertainty is significant and negative. Therefore, when the degree of uncertainty in economic policy increases, a firm’s inventory reduction has a positive impact on the firm’s operating performance and stock returns, consistent with H3.

Furthermore, we divide the full sample into SOEs and non-SOEs according to the type of ultimate controlling shareholder, and we rerun Models (3) and (4) in these two subsamples respectively. The results are also reported in Table 5. In the subsample of SOEs, the interactions of the inventory level and policy uncertainty are not significant. But in the subsample of non-SOEs, the interactions are significant and negative. These results indicate that the benefits through reducing the level of inventory holdings to deal with policy uncertainty are only pronounced for non-SOEs, supporting H4.

Table 5: The economic consequence of inventory adjustment

Variables	Panel A: ROA_{t+1}			Panel B: $Stocket_t$		
	(1)	(2)	(3)	(4)	(5)	(6)
$INVT_t$	3.478** (1.739)	0.120 (2.211)	6.519** (2.669)	0.041 (0.067)	-0.097 (0.090)	0.172* (0.100)
EPU_{t-1}	0.003 (0.066)	-0.265*** (0.083)	0.219** (0.101)	0.141*** (0.003)	0.121*** (0.004)	0.156*** (0.005)
$INVT_t * EPU_{t-1}$	-0.612* (0.342)	-0.096 (0.431)	-1.079** (0.528)	-0.023* (0.014)	0.001 (0.018)	-0.045** (0.020)
Age_{t-1}	-0.495*** (0.144)	-0.590** (0.260)	-0.667*** (0.185)	0.037*** (0.004)	0.007 (0.007)	0.032*** (0.005)
$Size_{t-1}$	1.222*** (0.131)	1.119*** (0.198)	1.311*** (0.172)	-0.101*** (0.004)	-0.105*** (0.006)	-0.107*** (0.005)
Lev_{t-1}	-3.306*** (0.525)	-3.882*** (0.785)	-2.916*** (0.692)	0.016 (0.012)	0.011 (0.019)	0.016 (0.016)
TQ_{t-1}	0.761*** (0.039)	0.903*** (0.075)	0.696*** (0.047)	-0.047*** (0.001)	-0.057*** (0.003)	-0.046*** (0.002)
OCF_{t-1}	7.434*** (0.591)	8.334*** (0.881)	6.365*** (0.796)	0.232*** (0.024)	0.285*** (0.038)	0.181*** (0.032)
$Cash_{t-1}$	3.553*** (0.512)	6.083*** (0.852)	2.135*** (0.643)	-0.036** (0.015)	0.025 (0.024)	-0.045** (0.019)
$First_{t-1}$	0.073*** (0.010)	0.072*** (0.015)	0.074*** (0.012)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Constant	-22.346*** (2.791)	-19.16*** (4.257)	-24.741*** (3.606)	2.260*** (0.077)	2.483*** (0.128)	2.303*** (0.104)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	74,257	32,958	41,299	74,242	32,947	41,295
R^2	0.111	0.137	0.099	0.218	0.238	0.209
No. of firms	2,669	924	1,745	2,669	924	1,745

Note: This table reports the regression results of the economic consequence of inventory adjustment when policy uncertainty heightens, and the different effect for firms with different ownership type. In Columns (1)–(3), the dependent variable is ROA. In Columns (4)–(6), the dependent variable is stock returns. The key explanatory variable is the interaction term between EPU and inventory holdings. Heteroscedasticity-robust standard errors clustered at firm level are in parentheses.

***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

5.4. Moderating Effects of Financial Constraints and External Governance

To examine H5 and H6, i.e., the differential effect of policy uncertainty on corporate inventory holdings between firms with different financial constraints or different levels of external governance, we set up the following two regression models (5) and (6):

$$INVT_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \beta_2 EPU_{i,t-1} \times FC_{i,t-1} + \beta_3 FC_{i,t-1} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \tag{5}$$

$$INVT_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \beta_2 EPU_{i,t-1} \times EG_{i,t-1} + \beta_3 EG_{i,t-1} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \tag{6}$$

$FC_{i,t-1}$ in Model (5) is the proxy of financial constraints, measured by tangibility and external finance dependence⁶. Higher tangibility

⁶ We generate industry-level external finance dependence (*Deppen*) following Hsu et al. (2014). We calculate each firm’s dependence on external finance as capital expenditures minus cash flow from operations divided by capital expenditures. Each industry’s dependence on external finance is calculated as the median of all firms’ dependence on external finance in the industry each year. We then compute *Deppen_j* as the time series median of industry *j*’s dependence on external finance during the

(Almeida & Campello, 2007) or lower external finance dependence (Hsu *et al.*, 2014) indicates smaller financial constraints faced by firms. If H5 holds, we expect a positive β_2 when financial constraints are measured by tangibility and a negative β_2 when financial constraints are measured by external finance dependence, which indicates that the negative impact of policy uncertainty on inventory holdings is stronger for firms with larger financial constraints. $EG_{i,t-1}$ in Model (6) is the proxy of external governance, measured by institutional ownership and product market competition. Higher institutional ownership (Appel *et al.*, 2016) or more intense product market competition (Giroud & Mueller, 2011) could reduce agency problems of firms. If H5 holds, we expect β_2 to be significant and positive, which indicates that the inhibitory effect of policy uncertainty on corporate inventory holdings is greater in magnitude among firms with better external governance.

Table 6 reports the results of the moderating effect of financial constraints. In the first two columns, we use asset tangibility as a proxy for financial constraints, and in the last two columns, we use external finance dependence to measure financial constraints. We find that *EPU* has a greater inhibitory effect on inventory holdings for firms with tighter financial constraints, supporting H5⁷.

Table 6: The moderating effect of financial constraints

Variables	Panel A: Tangibility		Panel B: External financial dependence	
	(1)	(2)	(3)	(4)
EPU_{t-1}	-0.032*** (0.001)	-0.030*** (0.002)	-0.006*** (0.001)	-0.006*** (0.001)
$EPU_{t-1} * PPEdum_{t-1}$	0.029*** (0.002)	0.027*** (0.002)		
$PPEdum_{t-1}$	-0.145*** (0.011)	-0.142*** (0.011)		
$EPU_{t-1} * Dependum$			-0.022*** (0.002)	-0.022*** (0.002)
Age_{t-1}		0.038*** (0.003)		0.038*** (0.003)
$Size_{t-1}$		-0.022*** (0.003)		-0.022*** (0.003)
Lev_{t-1}		0.075*** (0.010)		0.075*** (0.010)
ROA_{t-1}		0.000*** (0.000)		0.000*** (0.000)
TQ_{t-1}		-0.003*** (0.001)		-0.003*** (0.001)
OCF_{t-1}		-0.141*** (0.011)		-0.142*** (0.011)
SG_{t-1}		0.006 (0.005)		0.005 (0.005)
$First_{t-1}$		0.001*** (0.000)		0.001*** (0.000)
Constant	0.310*** (0.008)	0.670*** (0.065)	0.220*** (0.006)	0.607*** (0.065)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
Observations	76,876	74,230	76,876	74,230
R^2	0.207	0.231	0.205	0.228
No. of firms	2,669	2,669	2,669	2,669

Note: This table reports the regression results of the effect of financial constraints on the relationship between *EPU* and inventory holdings. We use tangibility (*PPEdum*) and external financial dependence (*Dependum*) to measure financial constraints. The dependent variable is corporate inventory holdings. The key explanatory variable is the interaction term of *EPU* and *PPEdum* (*Dependum*). Since *Dependum* is an industry-level characteristic and does not change over time, it is absorbed by the firm fixed effects. Heteroscedasticity-robust standard errors clustered at firm level are in parentheses. ***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

sample period. An industry with higher external finance dependence uses more external financing to fund its tangible and intangible investments, thus facing more financing constraints.

⁷ In unreported results, we use leverage to measure financial constraints, and obtain findings which also support H5.

Table 7 reports the results of the moderating effect of external governance. In the first two columns, we use institutional ownership as a proxy for external governance, and in the last two columns, we use product market competition as a measure of external governance. We find that *EPU* has a greater inhibitory effect on inventory holdings for firms with higher levels of external governance, supporting H6.

Table 7: The moderating effect of external governance

Variables	Panel A: Institutional ownership		Panel B: Product market competition	
	(1)	(2)	(3)	(4)
<i>EPU</i> _{<i>t</i>-1}	-0.014*** (0.001)	-0.015*** (0.001)	-0.013*** (0.001)	-0.013*** (0.001)
<i>EPU</i> _{<i>t</i>-1} * <i>Instidum</i> _{<i>t</i>-1}	-0.006*** (0.002)	-0.004** (0.002)		
<i>Instidum</i> _{<i>t</i>-1}	0.028*** (0.010)	0.019** (0.009)		
<i>EPU</i> _{<i>t</i>-1} * <i>HHIdum</i> _{<i>t</i>-1}			-0.014*** (0.002)	-0.014*** (0.002)
<i>HHIdum</i> _{<i>t</i>-1}			0.061*** (0.008)	0.060*** (0.008)
<i>Age</i> _{<i>t</i>-1}		0.037*** (0.003)		0.036*** (0.003)
<i>Size</i> _{<i>t</i>-1}		-0.022*** (0.003)		-0.022*** (0.003)
<i>Lev</i> _{<i>t</i>-1}		0.074*** (0.011)		0.075*** (0.011)
<i>ROA</i> _{<i>t</i>-1}		0.000*** (0.000)		0.001*** (0.000)
<i>TQ</i> _{<i>t</i>-1}		-0.003*** (0.001)		-0.003*** (0.001)
<i>OCF</i> _{<i>t</i>-1}		-0.143*** (0.011)		-0.149*** (0.011)
<i>SG</i> _{<i>t</i>-1}		0.006 (0.005)		0.006 (0.005)
<i>First</i> _{<i>t</i>-1}		0.001*** (0.000)		0.001*** (0.000)
Constant	0.223*** (0.006)	0.604*** (0.065)	0.222*** (0.005)	0.598*** (0.065)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
Observations	76,876	74,230	76,876	74,230
<i>R</i> ²	0.201	0.225	0.204	0.228
No. of firms	2,669	2,669	2,669	2,669

Note: This table reports the regression results of the effect of external governance on the relationship between *EPU* and inventory holdings. We use institutional ownership (*Instidum*) and product market competition (*HHIdum*) to measure the intensity of external governance. The dependent variable is corporate inventory holdings. The key explanatory variable is the interaction term of *EPU* and *Instidum* (*HHIdum*). Heteroscedasticity-robust standard errors clustered at firm level are in parentheses.

***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

6. Robustness Checks

6.1. Using Alternative *EPU* and Inventory Measures

First, we use the policy uncertainty index for the first month of each quarter as an alternative measure of the quarterly policy uncertainty index, which is shown in the first two columns of Table 8. The regression results and significance levels are consistent with the previous ones. Second, following Thomas and Zhang (2002), we use the inventory change between the last period and the current period as alternative dependent variables, and the regression results are shown in Columns (3) and (4) of Table 8. Regression results and significance levels remained broadly unchanged.

Table 8: Robustness checks: using alternative variable measures

Variables	Panel A: Change EPU measurement ($EPU2_{t-1}$)		Panel B: Change INVT measurement ($\Delta INVT_t$)	
	(1)	(2)	(3)	(4)
EPU_{t-1}	-0.027*** (0.001)	-0.029*** (0.001)	-0.007*** (0.000)	-0.007*** (0.000)
$EPU_{t-1} * SOE$		0.006** (0.003)		0.001** (0.000)
Age_{t-1}	0.038*** (0.003)	0.038*** (0.003)	-0.002*** (0.000)	-0.002*** (0.000)
$Size_{t-1}$	-0.022*** (0.003)	-0.022*** (0.003)	0.001*** (0.000)	0.001*** (0.000)
Lev_{t-1}	0.073*** (0.011)	0.073*** (0.011)	-0.011*** (0.001)	-0.011*** (0.001)
ROA_{t-1}	0.000*** (0.000)	0.000*** (0.000)	-0.000* (0.000)	-0.000* (0.000)
TQ_{t-1}	-0.003*** (0.001)	-0.003*** (0.001)	-0.000*** (0.000)	-0.000*** (0.000)
OCF_{t-1}	-0.149*** (0.011)	-0.149*** (0.011)	0.022*** (0.003)	0.022*** (0.003)
SG_{t-1}	0.005 (0.005)	0.005 (0.005)	0.005*** (0.001)	0.005*** (0.001)
$First_{t-1}$	0.001*** (0.000)	0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)
Constant	0.657*** (0.065)	0.652*** (0.065)	0.009* (0.005)	0.008* (0.005)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
Observations	74,230	74,230	74,120	74,120
R^2	0.230	0.231	0.024	0.024
No. of firms	2,669	2,669	2,669	2,669

Note: This table reports the results of robustness checks when we use different measures of explanatory or dependent variables. In Columns (1) and (2), we use $EPU2$ to replace EPU in the baseline regression, where $EPU2$ is calculated by taking the first month's index value in each quarter. In Columns (3) and (4), we use inventory change to replace inventory holdings in the baseline regression. Heteroscedasticity-robust standard errors clustered at firm level are in parentheses.

***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

6.2. Controlling for More Fixed Effects

In the main regression, we have included firm FE, year FE and seasonal FE, thus controlling for the influences of firm-level time-invariant factors, nationwide macro factors and seasonal effects. Considering that there may still exist omitted variables (such as some industry- or province-level variables that change over time) which affect both EPU and corporate inventory holdings, we further add the interaction between industry and year FE and the interaction between province and year FE as a robustness test. By controlling for the influence of time-variant unobservable factors at the industry and province levels, these two interaction terms further alleviate the concern of omitted variable bias. Table 9 shows that the main results of this paper remain robust.

6.3. Using Instrumental Variable Method

There may be concern about the endogeneity issues, that is, the factors that drive the changes in policy uncertainty could also drive the changes in a firm's inventory policies. In the main regressions, we have used fixed effects model to control for all the time-invariant unobserved factors but still leave space for time-variant unobserved factors. In this subsection, we follow Wang et al. (2014) and use US economic policy uncertainty as an instrument variable for China's economic policy uncertainty and apply the instrumental variable method as an alternative estimation method to mitigate such concern. The economic policies of the US have unignorable spillover effects on emerging economies' macroeconomic fluctuations, and market sentiment and investor expectations can also be contagious between the US and other countries.

Table 9: Robustness checks: controlling for more fixed effects

Variables	Dependent variable: Corporate inventory holdings ($INVT_t$)			
	(1)	(2)	(3)	(4)
EPU_{t-1}	-0.018*** (0.001)	-0.018*** (0.001)	-0.019*** (0.001)	-0.019*** (0.001)
$EPU_{t-1} * SOE$			0.003* (0.002)	0.003* (0.002)
Age_{t-1}	0.022*** (0.003)	0.024*** (0.003)	0.023*** (0.003)	0.024*** (0.003)
$Size_{t-1}$	-0.017*** (0.003)	-0.018*** (0.003)	-0.017*** (0.003)	-0.018*** (0.003)
Lev_{t-1}	0.087*** (0.010)	0.087*** (0.010)	0.087*** (0.010)	0.086*** (0.010)
ROA_{t-1}	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
TQ_{t-1}	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)
OCF_{t-1}	-0.124*** (0.009)	-0.121*** (0.009)	-0.124*** (0.009)	-0.121*** (0.009)
SG_{t-1}	0.008* (0.004)	0.008** (0.004)	0.008* (0.004)	0.008** (0.004)
$First_{t-1}$	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Constant	0.520*** (0.071)	0.531*** (0.067)	0.517*** (0.071)	0.529*** (0.067)
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	No	No	No
Quarter FE	Yes	Yes	Yes	Yes
Year*Ind FE	Yes	Yes	Yes	Yes
Year*Province FE	No	Yes	No	Yes
Observations	74,230	74,230	74,230	74,230
R^2	0.334	0.342	0.334	0.342
No. of firms	2,669	2,669	2,669	2,669

Note: This table reports the robustness test after we further control for the interaction between industry and year fixed effects and the interaction between province and year fixed effects. Heteroscedasticity-robust standard errors clustered at firm level are in parentheses.

***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

The instrumental variable regression results are reported in Table 10. Column (1) is the first-stage regression, which regresses China's economic policy uncertainty (EPU) on the US's economic policy uncertainty (EPU_{US}). Column (2) is the second-stage regression after EPU is instrumented. From Column (1), we find that the economic policy uncertainty of China is positively affected by that of the US, statistically significant at 1 percent level. The Cragg–Donald Wald F -statistic is 26,181.21, much larger than the Stock-Yogo 15 percent threshold of 8.96, rejecting the null hypothesis that the instrumental variable is a weak one. From Column (2), we find that the coefficient on EPU remains statistically significant at the 1 percent level. The coefficients of other control variables are almost unchanged. Considering that export-oriented companies are likely to be affected by the US's EPU , we have conducted another robustness test. The results shown in Columns (3) and (4) of Table 10 suggest the conclusion remains robust.

6.4. Other Proxy on Policy Uncertainty

In this subsection, we exploit the 18th National Congress of the Communist Party of China (CPC) as an alternative proxy for policy uncertainty. The National Congress of the CPC is held every five years and selects China's new Politburo, the country's highest governing body. The 18th National Congress was held in November 2012 and selected Jinping Xi as the general secretary of the CPC central committee, along with six other members of the standing committee of the Politburo of the CPC central committee. With the turnover of the highest leadership team, China's economic policies might face a series of changes in the following years. We would expect economic policy uncertainty to increase after the Congress and to persist for some time. To mostly exclude the influence of other confounding events, we restrict the sample period to 2011–2013. The regression results are reported in Table 11.

Table 10: Robustness checks: using instrumental variable method

Variables	Full sample		Excluding export-oriented companies	
	First stage (1)	Second stage (2)	First stage (3)	Second stage (4)
Depend variables	EPU_{t-1}	$INVT_t$	EPU_{t-1}	$INVT_t$
EPU_{t-1}		-0.010*** (0.002)		-0.010*** (0.004)
EPU_US_{t-1}	0.795*** (0.005)		0.802*** (0.007)	
Age_{t-1}	0.013*** (0.004)	0.037*** (0.001)	0.014** (0.006)	0.045*** (0.002)
$Size_{t-1}$	0.001 (0.002)	-0.022*** (0.001)	-0.005 (0.003)	-0.016*** (0.002)
Lev_{t-1}	-0.032*** (0.009)	0.075*** (0.004)	-0.024* (0.014)	0.069*** (0.007)
ROA_{t-1}	0.000 (0.000)	0.000*** (0.000)	-0.000 (0.000)	0.001*** (0.000)
TQ_{t-1}	-0.016*** (0.001)	-0.003*** (0.000)	-0.014*** (0.001)	-0.003*** (0.000)
OCF_{t-1}	0.168*** (0.022)	-0.146*** (0.009)	0.170*** (0.031)	-0.182*** (0.014)
SG_{t-1}	-0.033*** (0.008)	0.007 (0.004)	-0.020** (0.010)	-0.000 (0.006)
$First_{t-1}$	-0.000 (0.000)	0.001*** (0.000)	-0.000 (0.000)	0.001*** (0.000)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
F statistic	29,873.66	-	15,100.13	-
Cragg-Donald Wald F-statistic	26,181.21	-	13,000	-
15% maximal IV size	8.96	-	8.96	-
Observations	74,230	74,230	33,996	33,996
No. of firms	2,669	2,669	1,444	1,444

Note: This table reports the results of robustness checks when we use the instrumental variable method. Column (1) is the first-stage regression, which regresses China's economic policy uncertainty (EPU) on the US's economic policy uncertainty (EPU_US). Column (2) is the second-stage regression after EPU is instrumented. Columns (3) and (4) report the 2SLS regression results of a sample that removes export-oriented firms. The regressions use the same method as the previous columns. Heteroscedasticity-robust standard errors clustered at firm level are in parentheses.

***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively. The first two columns use the full sample, and the last two columns exclude export-oriented firms. We define the firms which have overseas revenue as export-oriented firms.

Column (1) shows that the 18th National Congress increases economic policy uncertainty by 12%. In Column (2), we find that firms' inventory holdings decrease by 0.039 (which is large in magnitude, considering the mean of $INVT$ is 0.123). In Column (3), we find that the inventory holdings of $SOEs$ are less affected by the 18th National Congress. Although this setting is not perfect in identification, it provides a useful complement to the main results.

7. Discussion of Mechanisms

The theoretical analysis shows that economic policy uncertainty may lead to an increase in corporate cash holdings and a reduction in corporate inventories through the deterioration of the financing environment and the increase of business risk. Therefore, this section analyses these two possible channels in turn. We attempt to answer the following two questions: (i) Does policy uncertainty restrain the inventory investment of firms through the deterioration of the external financing environment? (ii) Does policy uncertainty increase the precautionary cash holding level of firms, resulting in reduction of inventory holdings?

Table 11: Robustness checks: other proxy on policy uncertainty

Variables	Dependent variable: EPU_{t-1}		Dependent variable: $INVT_t$	
	(1)	(2)	(3)	(4)
$Congress_{t-1}$	-0.120*** (0.000)	-0.039*** (0.002)	-0.044*** (0.003)	
$Congress_{t-1} * SOE$			0.011** (0.005)	
Age_{t-1}		0.071*** (0.005)	0.076*** (0.006)	
$Size_{t-1}$		-0.010** (0.005)	-0.010** (0.005)	
Lev_{t-1}		0.023 (0.017)	0.026 (0.017)	
ROA_{t-1}		-0.000 (0.000)	-0.000 (0.000)	
TQ_{t-1}		-0.004*** (0.001)	-0.004*** (0.001)	
OCF_{t-1}		-0.077*** (0.016)	-0.076*** (0.016)	
SG_{t-1}		-0.001 (0.011)	-0.001 (0.011)	
$First_{t-1}$		0.000 (0.000)	0.000 (0.000)	
Constant	4.999*** (0.004)	0.273** (0.112)	0.263** (0.112)	
Firm FE	-	Yes	Yes	
Year FE	Yes	Yes	Yes	
Quarter FE	Yes	Yes	Yes	
Observations	25,259	24,711	24,711	
R^2	0.519	0.143	0.144	
No. of firms	-	2,321	2,321	

Note: This table reports the results of robustness checks when we use the 18th National Congress of the CPC as an alternative proxy on policy uncertainty. The sample period is 2011–2013. The dependent variable of Column (1) is EPU . The dependent variable of Columns (2) and (3) is inventory holdings. $Congress$ is a dummy variable indicating before or after the 18th National Congress. Since the 18th National Congress was held in November 2012, we set $Congress$ as 1 from 2012Q4 and beyond, otherwise it is 0. Heteroscedasticity-robust standard errors clustered at firm level are in parentheses. ***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

7.1. Policy Uncertainty, Bank Credit and Inventory Adjustment

Following Bradshaw et al. (2006), we use the ratio of the cash received from borrowing to total assets to measure the bank credit that a firm obtains ($Loan$). At the same time, we construct the following two regression models:

$$Loan_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (7)$$

$$INVT_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \beta_2 EPU_{i,t-1} \times \Delta Loan_{i,t} + \beta_3 \Delta Loan_{i,t} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (8)$$

The purpose of Model (7) is to test whether the increase in policy uncertainty worsens corporate financing environment and reduces the bank credit obtained by firms⁸. A negative β_1 would indicate that an increase in policy uncertainty does lead to the reduction of bank credit obtained by firms and deteriorate the external financing environment.

Model (8) is used to test whether the increase in policy uncertainty affects the inventory adjustment of firms through reducing the credit resources obtained by them. In Model (8), $\Delta Loan$ is the change in bank credit a company obtains scaled by total assets. If β_2 is positive, it shows that the more credit is obtained by a firm, the less inhibition effect of policy uncertainty on its inventory holdings.

The estimation result of Model (7) is shown in Column (1) of Table 12. It can be seen that β_1 is negative and significant at the 1 percent level, indicating that the increase in policy uncertainty will reduce the bank credit resources obtained by firms and deteriorate the external financing environment. Whether the deterioration of the corporate financing environment affects the firm's inventory still needs further testing by Model (8). The estimation result of Model (8) is shown in Column (2) of Table 12. It can be seen that β_2 is not significant, suggesting that the change in bank credit cannot account for the negative relationship between policy uncertainty and inventory holdings. Therefore, we further examine the external risk channel in the Section 6.2.

⁸ The control variables of Models (7)–(10) are consistent with Model (1).

Table 12: Mechanism examination

Variables	Bank credit (<i>Loan_t</i>)	<i>INVT_t</i>	Cash holding (<i>Cash_t</i>)	<i>INVT_t</i>
	(1)	(2)	(3)	(4)
<i>EPU_{t-1}</i>	-0.007*** (0.001)	-0.017*** (0.001)	0.004*** (0.001)	-0.017*** (0.001)
<i>EPU_{t-1}*ΔLoan_t</i>		0.007 (0.020)		
<i>ΔLoan_t</i>		0.026 (0.101)		
<i>EPU_{t-1}*ΔCash_t</i>				-0.023** (0.011)
<i>ΔCash_t</i>				0.114** (0.058)
<i>Age_{t-1}</i>	0.008*** (0.002)	0.037*** (0.003)	-0.089*** (0.003)	0.037*** (0.003)
<i>Size_{t-1}</i>	0.015*** (0.003)	-0.022*** (0.003)	0.003 (0.002)	-0.022*** (0.003)
<i>Lev_{t-1}</i>	0.405*** (0.011)	0.077*** (0.011)	-0.128*** (0.009)	0.074*** (0.011)
<i>ROA_{t-1}</i>	-0.001*** (0.000)	0.000*** (0.000)	0.001*** (0.000)	0.000*** (0.000)
<i>TQ_{t-1}</i>	-0.002*** (0.001)	-0.003*** (0.001)	-0.001** (0.001)	-0.003*** (0.001)
<i>OCF_{t-1}</i>	-0.174*** (0.008)	-0.142*** (0.011)	0.087*** (0.008)	-0.142*** (0.013)
<i>SG_{t-1}</i>	-0.013*** (0.003)	0.006 (0.005)	-0.004 (0.003)	0.006 (0.005)
<i>First_{t-1}</i>	0.000 (0.000)	0.001*** (0.000)	-0.000 (0.000)	0.001*** (0.000)
Constant	-0.262*** (0.062)	0.613*** (0.065)	0.244*** (0.049)	0.613*** (0.065)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
Observations	75,319	74,220	75,320	74,215
<i>R</i> ²	0.338	0.225	0.208	0.225
No. of firms	2,669	2,669	2,669	2,669

Note: This table reports the regression results of the mechanism between economic policy uncertainty and inventory adjustment. We use the sum of long-term loans and short-term loans divided by total assets to measure bank credit. We use cash divided by total assets to measure cash holdings. Heteroscedasticity-robust standard errors clustered at firm level are in parentheses.

***, ** and * denote significance at the 1, 5 and 10 percent levels, respectively.

7.2. Policy Uncertainty, Operation Risk and Inventory Adjustment

The rise in policy uncertainty increases future cash flow volatility and amplifies the threat of bankruptcy firms face (Wang *et al.*, 2014). In order to avoid the possibility of future financial distress, as a precautionary measure, rational managers will choose to increase the level of cash holdings, while reducing inventory investment. To verify this hypothesis, we use the balance of cash scaled by total assets to measure cash holding level and set up the following two regression models:

$$Cash_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (9)$$

$$INVT_{i,t} = \beta_0 + \beta_1 EPU_{i,t-1} + \beta_2 EPU_{i,t-1} \times \Delta Cash_{i,t} + \beta_3 \Delta Cash_{i,t} + \gamma Controls_{i,t-1} + \lambda_t + \mu_i + \varepsilon_{i,t} \quad (10)$$

The purpose of Model (9) is to test whether the increase in policy uncertainty encourages firms to raise their cash holdings to avoid operational risks. A positive β_1 would indicate that an increase in policy uncertainty leads to more cash holdings.

Model (10) is to test whether the increase in policy uncertainty affects the inventory adjustment of firms by increasing the level of cash holdings, in which $\Delta Cash$ is the change in the level of cash holdings scaled by total assets. If β_2 is significant and negative, then it suggests that a larger increase in corporate cash holdings leads to a greater negative effect of policy uncertainty on corporate inventory holdings.

The regression results of Model (9) are presented in Column (3) of Table 12. β_1 is positive, indicating that the increase in policy uncertainty will promote the increase in cash holding, consistent with the conclusion of Wang et al. (2014). The regression results of Model (10) are presented in Column (4) of Table 12. We can see that β_2 is significant and negative, indicating that the larger increase in corporate cash holdings, the stronger the effect of policy uncertainty on inventories. This confirms that the rise in uncertainty in economic policy curbs inventory investment through prompting firms to hoard cash to hedge business risks.

8. Conclusions

Based on the quarterly financial data of listed companies in China from 2007 to 2017, this paper studies the impact of policy uncertainty on corporate inventory adjustment, as well as its intrinsic mechanism and economic consequences. The empirical results show that the increase in policy uncertainty has a significant and negative effect on the level of corporate inventory holdings, and non-SOEs are affected more than SOEs. At the same time, when policy uncertainty heightens, firms' reduction of the level of inventory holdings improves corporate operating and market performance, but this positive effect only exists for non-SOEs. Exploration of the mechanism behind this shows that this inhibitory effect is driven mainly by the increase in precautionary cash holdings to avoid risks, which indirectly leads to a reduction in corporate inventory. In addition, we find that the larger the financial constraints or the better the external governance, the greater the inhibitory effect of policy uncertainty on corporate inventory investment.

In summary, policy uncertainty has an important impact on the adjustment of corporate inventories, and this effect varies by ownership type. Therefore, when introducing new economic policies, authorities should consider the consistency of the policy, to avoid 'change overnight'. In addition, in the process of formulating economic policy, authorities should collect opinions widely and actively dispel market doubts and avoid large shocks to the operation of the economy. For firms, faced with economic policy changes, apart from strengthening the analysis of the economic environment and identifying the long-term development trend, they could adjust the proportion of inventory and cash holdings to actively guard against short-term risks.

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