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Trade policy uncertainty and corporate financialization: strategic implications for non-financial firms in China

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ABSTRACT

This study investigates the impact of trade policy uncertainty (TPU) on the financialization of non-financial firms in China. Corporate financialization is the process in which corporations prioritize financial assets and generate profits primarily via financial investments rather than product markets. Using 27,339 firm-year observations of China A-share listed companies from unbalanced panel data spanning from 2011-Q1 to 2020-Q4, we utilized the fixed effect model (FEM), instrumental variables – two-stage least squares (IV-2SLS), and generalized method of moments (GMM) approaches. The findings reveal a positive relationship between TPU and corporate financialization. Financing constraints and risk-taking play moderating roles in shaping this relationship. Notably, as TPU rises, companies tend to avoid increasing investment in derivatives. Instead, they expand their precautionary savings by retaining larger amounts of cash. This analysis emphasizes the significance of legislators in ensuring policy stability and fostering a secure business environment. Furthermore, the robustness of these results was sustained when alternative key variables and methodologies were applied.

IMPACT STATEMENT

This study investigates the impact of trade policy uncertainty (TPU) on corporate financialization and explores the moderating roles of financing constraints and risk-taking in this relationship among nonfinancial enterprises listed in China from Q1 2011 to Q4 2020. This research employs the fixed effects model (FEM), instrumental variables two-stage least squares (IV-2SLS), and generalised method of moments (GMM) methods. The results indicate a positive relationship between TPU and company financialization. These findings illustrate the necessity for policymakers to maintain policy stability and create a secure business climate. The study has substantial implications for company decision-makers and regulators, highlighting the importance of strategic financial planning, particularly in the context of economic uncertainty.

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1. Introduction

Trade policy uncertainty (TPU) refers to the lack of predictability surrounding government decisions, regulations, and actions regarding international trade, which significantly affects investment and economic stability (Gulen & Ion, 2016; Al-Thaqeb & Algharabali, 2019; Handley & Limão, 2022). Recent geopolitical and economic events, such as Brexit, the US-China trade rivalry, the pandemic, the Russia-Ukraine conflict, have elevated TPU, with lasting implications for global trade and investments (Caldara et al., 2020). Since 2016, TPU has been a significant source of economic policy uncertainty (Baker et al., 2019; Handley & Limão, 2022), resulting a significant and long-lasting impact on micro and macroeconomics (Caldara et al., 2020; Handley & Limão, 2022). Notably, during the first Trump administration, retaliatory tariffs, trade tensions, and trade protectionism triggered the TPU to hit a new high in 2019, with the

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TPU index increasing by 26% compared with the previous level (Baker et al., 2019). In November 2024, Trump again returned to the presidency; his campaign paid substantial attention to trade policy, one proposal suggests that a possible 60% tariff would be imposed on all Chinese imported goods, and around 10% to 20% on other trading partners (Abad et al., 2024), indicating potentially substantial trade tensions and another wave of TPU.

China, as a major player in global trade, is particularly vulnerable to TPU due to its economic integration and reliance on world markets. China's accession to the WTO has not only bolstered its trade linkages but also heightened global sensitivity to its trade policy shifts (Bown & Crowley, 2010). While the existing studies have investigated the macroeconomic effects of TPU such as economic growth (Steinberg, 2019), exports and imports (Kasahara & Lapham, 2013; Imbruno, 2019; Caldara et al., 2020), capital resources allocation (Rodrigue et al., 2024), and global value chain (Constantinescu et al., 2020; Huang et al., 2023) – research on its firm-level impacts, particularly on financialization behaviours, remains limited. Financialization, defined as increasing reliance of nonfinancial firms on financial markets and assets to generate profits (Orhangazi, 2008; Li et al., 2019; Gao & Li, 2024), represents a critical yet underexplored dimension of firms' responses to TPU.

This study aims to investigate the impact of TPU on financialization among China's A-share listed non-financial firms. In an environment of heightened TPU, firms may prioritize financialization as a risk mitigation strategy to hedge against policy-related uncertainties, safeguard shareholder value, and maintain operational flexibility (Guay & Kothari, 2003; Demir, 2009b; Davis, 2018a). For instance, Bloom (2007) argued that firms often prefer liquid and reversible assets during uncertain periods, while others may delay fixed capital investments as they await clarity (Lee & Jeon, 2022). Furthermore, TPU can amplify financing constraints, compelling firms to reallocate resources toward financial assets to mitigate rising capital costs (Pástor & Veronesi, 2013).

We focus on China's listed firms for several reasons. Firstly, according to the World Bank Indicators, the market capitalization ratio of these firms accounted for nearly 64% of China's GDP in 2022¹, and total revenue accounted for 56.5% of GDP in 2024.² These statistics indicate that A-share listed firms contribute significantly to economic growth. Secondly, according to the Shanghai Stock Exchange report, the overseas revenue of listed firms accounted for 13.4% of GDP in 2024², signalling their integration into global trade markets and susceptibility to TPU. Thirdly, the second Trump presidency possibly imposed retaliatory tariffs on China's goods, highlighting the potentially increasing TPU and the impact on listed firms' assets reallocation. Therefore, it is necessary to know how these firms adjust their investment strategies and respond to the uncertainties.

Existing literature inadequately addresses the link between TPU and financialization, particularly in emerging markets like China, despite the growing importance of financial activities among nonfinancial firms. While studies on TPU often focus on aggregate economic policy uncertainty in developed markets (see e.g. Handley & Limão, 2015; Ebeke & Siminitz, 2018), the specific effects of TPU on firms' financial strategies in developing markets remain underexplored. Furthermore, conflicting findings in the literature (for instance, Si et al., 2024 concluded a positive impact of TPU on financialization and Li et al., 2023 reported a negative relationship between the two) highlight the need for further investigation into underlying mechanisms such as financing constraints and risk-taking behaviours.

The current research adds to the literature in three ways. First, it isolates TPU from broader policy uncertainty to examine its specific effects on financialization among nonfinancial firms, addressing a significant gap in existing research. Second, it shifts the focus from developed economies to emerging economies i.e. China, offering insights into the financialization behaviours of firms in one of the world's largest emerging markets. Third, it explores the moderating roles of financing constraints and risk-taking mechanisms, providing a nuanced understanding of how TPU forms corporate financial behavior. These findings hold significant implications for policymakers seeking to reduce the adverse impacts of TPU on economic stability and for corporate leaders navigating an increasingly uncertain trade environment.

The remaining of the paper consists of section two presenting the literature review and hypotheses. Section three describes the research methodology. The findings from the data analysis are reported in section four. Section five holds the discussion on the findings and section six concludes the paper with limitations and future research recommendations.

2. Literature review and development of hypotheses

2.1. Corporate financialization

Due to its complex effects on economic growth and business behaviour, corporate financialization, a major trend since the 1970s, requires serious investigation (Krippner, 2005; Davis, 2018b). Krippner's Krippner (2005) seminal work describes financialization as economic growth driven by financial channels rather than commodities production and exchange. Although widely recognized, the notion is vague and requires further investigation to appreciate its consequences (Orhangazi, 2008; Davis, 2018b; Su & Lu, 2023). Policy implications emerge as financialization often redirects resources away from core industrial sectors to speculative financial activities, raising concerns about sustainable growth trajectories and socioeconomic inequalities (Epstein, 2015; Tori & Onaran, 2020).

Firms are prioritizing short-term financial performance over long-term growth and innovation due to shareholder value pressure. The disparity in returns between financial and fixed assets, compounded by macroeconomic instability, causes nonfinancial enterprises to financialize in Argentina, Mexico, and Turkey (Demir, 2009a). This phenomenon raises urgent questions about regulatory gaps in corporate governance and the design of incentive structures that prioritize immediate shareholder returns over broader economic stability.

The economic effects of financialization are significant and merit research. Financialization crowds out firm-level investment in real assets and R&D, lowering productivity development (Xu & Xuan, 2021). Saci (2021) notes that financialization in China reduces innovation investment since monies are moved from operations to financial markets. This mindset of maximizing shareholder value discourages long-term investment in favour of short-term advantages (Davis, 2018a). Tori and Onaran (2018, 2020) find a similar tendency in the UK and Europe, where financial assets and payments to financial markets decrease physical investment due to financial development. Thus, financialization presents a critical policy challenge: how to align corporate behaviour with national economic priorities to foster innovation and sustainable growth.

2.2. Trade policy uncertainty (TPU)

TPU is the unpredictability of government trade policy decisions, including trade agreements, tariffs, trade protectionism, quotas, international trading laws, and other rules or regulatory changes (Caldara et al., 2020; Sui et al., 2022). Rising TPU reflects broader governance issues, such as inconsistent regulatory frameworks and weak global trade enforcement mechanisms. Policymakers must address these systemic issues to minimize economic disruption (Al-Thaqeb & Algharabali, 2019; Handley & Limão, 2022). During 2018-19, the IMF published the world economic outlook normally highlights that the world economy is sluggish because of the rising trade barriers and tensions, however, recent reporting already emphasizes that the world economy should brace the TPU. Despite TPU's importance, the literature rarely analyses its diverse and multidimensional effects.

The microeconomic impact of TPU on enterprises' investment decisions reduces investment efficiency, productivity, and profitability (Akron et al., 2022). TPU may discourage long-term investments, lowering development potential and sustainable economic development (Handley et al., 2024; Shabbir et al., 2022). TPU may diminish stock returns, which shows investment (Amiti et al., 2020). TPU also enlarges the cash flow uncertainty and decreases the expected rate of return, therefore, decreasing investment, which aligns with the real option theory (Yin et al., 2024). This shows TPU's widespread impact on corporate strategies and market performance.

The macroeconomic effects of TPU include show economic development, reduced trade flows, lower employment, and higher financial market volatility (Leduc & Liu, 2016). Several studies show that TPU hurts collective investment and trade. Investment in Europe drops more in trade-open countries (Ebeke & Siminitz, 2018). TPU was connected to a 1% decline in US investment in 2008 by Caldara et al. (2020). Caldara et al. (2020), highlight the economic effects of TPU. For instance, inconsistent tariff policies during the US-China trade war increased sunk costs for businesses, underscoring the need for cohesive trade policy frameworks to reduce economic inefficiencies. It affects business innovation investment in the short and long term, especially in the medical industry because to tariff uncertainty decreases

(Shabbir et al., 2024). Conversely, lower trade barriers boost domestic innovation (Akcigit et al., 2018). High TPU can cause firms to delay long-term investments and avoid overseas markets, impacting investment structure (Handley & Limão, 2017). During the US-China trade war, increased TPU raised importer's sunk costs and disrupted supply networks, affecting global trade flows and corporate earnings (Amiti et al., 2019; Handley et al., 2020), slow down the trade growth (Constantinescu et al., 2020), eventually sluggish the GDP growth (Wang & Wu, 2023). Moreover, according to IMF research, heightened uncertainty could impede a firm's entry into new markets and produce new products, and for those trade openness countries, this uncertainty could impact more (Nana et al., 2024). According to a KPMG report, Trump's second presidency could result in a significant impact on global trade dynamics, the aggressive tariff would dampen China's economic activity (Abad et al., 2024).

TPU's exporting effects differ by area and firm size, according to empirical studies. The US-China trade war hurts worldwide exporting, especially for enterprises significantly exposed to Chinese markets (Benguria, 2023). Exporters can postpone expansion, lower profitability, and raise supply chain costs with higher TPU (Handley, 2014; Amiti et al., 2019). Strong trade agreements are essential for reducing TPU and boosting export growth, as shown by Handley and Limão (2015) on Portuguese firms. Yu et al. (2024) state that TPU slashed long-term investment, eventually negatively affecting China's long-term green economy growth.

TPU affects employment and financial markets beyond commerce. Leduc and Liu (2016) concluded that TPU increases unemployment, while Pierce and Schott (2016) found that China tariff cuts reduce US manufacturing employment. Amiti et al. (2020) and Bianconi et al. (2021) found that TPU increases volatility and lowers investor trust in financial markets. Thus, despite substantial research on TPU's effects, its impact on organizations' financial investment behaviour is unclear. This needs further study of how TPU affects a firm's financial plans and economic results.

2.3. Hypothesis development and theoretical framework

2.3.1. Trade policy uncertainty (TPU) and corporate financialization

Numerous studies have demonstrated that uncertainty about economic policy is related to corporate financialization (e.g. Si et al., 2024 and others). However, few studies have specifically investigated how TPU affects corporate financialization, evidencing a critical gap in the literature. This is particularly significant because uncoordinated policy measures exacerbate economic uncertainties and encourage firms to prioritize financial manoeuvres over productive investments, raising questions about national economic resilience. TPU could affect corporate financialization in various ways. When TPU increases, many companies respond by adopting cautious and risk-averse investment strategies (Yu et al., 2024). Financialization enables firms to engage in risk management strategies, such as hedging against currency fluctuations, exchange rates, and commodity prices. This proactive approach helps shield them from potential losses and uncertainties (Bartram, 2019; Jiang et al., 2021). Furthermore, during times of high economic uncertainty, firms often view low-risk financial assets like gold and silver as a means of stability (Chen et al., 2022).

Similarly, Li et al. (2023) found that heightened TPU causes energy firms in China to reduce their financial investments, particularly for firms with higher growth rates and revenues. However, TPU also prompts firms to increase R&D investments and maintain larger cash reserves to safeguard against financial risks (Gao & Li, 2024). Motivated by these findings, this study explores a broader context by investigating the impact of TPU on all A-share-listed non-financial Chinese firms. The risks linked to market uncertainties could be reduced by firms holding financial assets as a precautionary saving approach (Wang & Mao, 2022). According to real options theory, when uncertainty rises, firms may postpone long-term irreversible investments and instead wait for new information (Gulen & Ion, 2016). Compared to irreversible real asset investments, financial asset investments are more liquid (Huang et al., 2021). However, if firms overly delay investment decisions, they may lose competitive advantages in a highly dynamic operating environment (Vural-Yavaş, 2020). Financialization, such as holding cash-equivalent assets, enables firms to maintain flexibility and liquidity to adapt to unanticipated market changes (Demir & Ersan, 2017; Phan et al., 2019).

During periods of high TPU, firms may increase financial investment to maximize shareholder value. Studies suggest that TPU can negatively affect long-term investments (Amiti et al., 2020; Bianconi et al., 2021; Ang & Wang, 2023). When firms face declining share prices due to TPU, they may adjust their strategies to bolster stock prices and align with shareholder interests. Financialization offers firms tools such as stock repurchases, dividend distributions, and mergers and acquisitions to support stock value and enhance shareholder wealth (Davis, 2018a; Rabinovich & Reddy, 2024).

Agency theory provides additional insights into how TPU influences corporate behavior. Managers, motivated by self-interest or short-term profit incentives, may prioritize financial activities over core business development (Orhangazi, 2008; Xu & Xuan, 2021). Moreover, financialization provides firms with alternative channels for profit generation. When TPU rises and returns from traditional business activities decline, firms turn to financialization as a viable alternative (Li et al., 2023). Tang and Zhang (2019) noted that firms in uncertain environments often increase cash holdings and engage in financial activities such as stock buybacks, debt issuances, and acquisitions to protect against potential losses. Finally, Figure 1 illustrates a striking relationship during Trump's first administration, where a sharp rise in the TPU index coincided with an increase in the financialization level of non-financial firms. This visual evidence supports the proposition that TPU positively influences financialization. (Retained and emphasized the visual evidence as a strong empirical illustration.) Therefore, the following hypothesis is proposed:

H₁: TPU has a positive impact on corporate financialization.

2.3.2. Moderating effect-risk-taking by firms

Policy uncertainty has been widely recognized as a factor contributing to greater operational risks for firms (Pástor & Veronesi, 2012; Nguyen & Phan, 2017). Previous studies have viewed policy-related uncertainty as a systematic risk that firms cannot avoid (Wang et al., 2021; Zhang et al., 2021), leading to risk-averse attitudes (Panousi & Papanikolaou, 2012; Wang et al., 2021). However, Zhang et al. (2021) proposed that financialization encourages firms to adopt a higher level of risk-taking when confronted with heightened policy-related uncertainty, bridging the tension between risk aversion and financial strategies. Despite this, the moderating role of risk-taking in the relationship between TPU and financialization remains underexplored. During periods of high policy uncertainty, some firms are observed to take

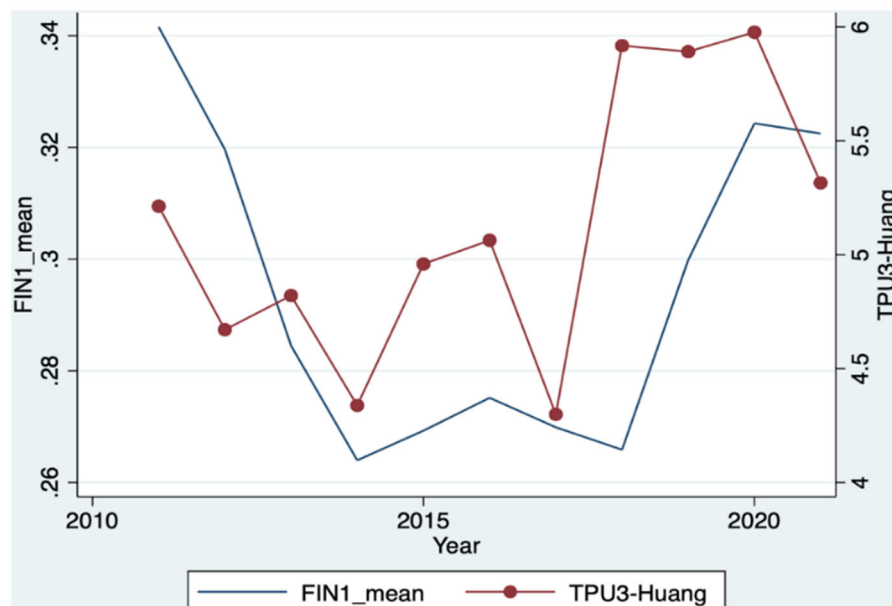


Figure 1. Trade policy uncertainty and corporate financialization.

Notes: TPU and non-financial corporates' financialization in China from 2011 to 2021. Please be advised that the TPU3-Huang is calculated as the weights assigned to individual months as follows: 1/6 for October, 1/3 for November, and 1/2 for December. Afterward, the study computed the logarithmic mean of the previous value of the trade rate policy uncertainty index developed by Huang and Luk (2020). It is important to emphasize that this index was specifically built for China. In the corporate realm, the concept of 'financialization' refers to the aggregate value of financial assets owned by publicly traded non-financial companies. The annual financial asset data for Chinese non-financial firms was obtained from the CSMAR database.

on riskier projects by allocating funds to irreversible investments, such as R&D, which offer long-term growth potential (Atanassov et al., 2015; Cao et al., 2022). This behaviour is especially pronounced in highly competitive industries where strategic growth options provide a competitive edge.

Furthermore, as Kim and Kung (2017) argued, at times when uncertainty is heightened, firms tend to find it difficult to make accurate forecasts of demand, revenues, and profitability. Consequently, the reversibility of assets becomes vital in their asset allocation strategies (Liu et al., 2021). Financial assets, high liquidity, and valuable flexibility (Arslan-Ayaydin et al., 2014; Mertzanis, 2019) display certain attributes that will generally induce a corporation to allocate resources to financial assets for the short term instead of physical assets for the long term that are not readily reversible (Tornell, 1990). By possessing financial assets, corporations can effectively mitigate policy-related risks. In contrast, some scholars argue that companies might hold riskier financial assets to generate an excess return (Zhang & Zheng, 2020). Overall, this study expands the understanding of risk-taking by examining how it moderates the relationship between TPU and financialization, addressing a critical gap in the existing literature. These arguments lead to the following hypothesis:

H₂: Risk-taking has a moderating effect on the relationship between TPU and corporate financialization.

2.3.3. Moderating effect-financing constraints

Financing constraints occur when firms face difficulties in accessing external funds or lack sufficient internal resources to support their investments. These constraints are critical in shaping firms' financial decisions, including their inclination toward financialization (Demonier et al., 2015; Feng et al., 2023). Previous research indicates that policy uncertainty exacerbates financing constraints by increasing the cost of external funding and creating barriers to capital access (Nguyen & Phan, 2017). Financial friction theory provides a theoretical lens to explain this phenomenon, suggesting that heightened uncertainty results in unstable cash flows, elevating default risk and the cost of debt financing (Lee et al., 2021). As policy uncertainty increases, firms experience higher cash flow volatility and profitability risks, which, in turn, lead to reduced credit ratings and heightened default risks (Liu et al., 2025). In response, banks tighten lending policies, reducing loan sizes, and restricting credit supply (Bradley et al., 2016; Danisman et al., 2020).

These financing constraints compel firms to reassess their investment strategies. With rising costs of capital and limited financing, companies are often forced to abandon long-term, irreversible investments in fixed assets (Chen et al., 2024). To maintain investment efficiency, firms may shift their resource allocation to more flexible and liquid financial investments (Wang et al., 2021). This aligns with the findings of Li (2019), who observed that firms with greater financing constraints tend to hold higher levels of cash during periods of heightened economic policy uncertainty. The detrimental effects of TPU on financing constraints are also magnified by global economic disruptions, including supply chain disturbances, increased production costs, and lower consumer incomes (Amiti et al., 2019; Caldara et al., 2020). These challenges further deepen financing constraints and increase firms' reliance on alternative investment strategies, such as financialization. By framing financing constraints as a moderator, this study extends prior research by examining how these constraints amplify the relationship between TPU and financialization, offering a novel perspective on the interplay between uncertainty, financial decisions, and firm behaviour.

H₃: Financing constraints have a moderating effect on the relationship between TPU and corporate financialization.

Based on the hypotheses developed as above, the theoretical framework, as shown in Figure 2, is formulated:

3. Research methodology

To explore the relationship between TPU and nonfinancial firms' financialization, this study deploys a firm-level panel regression model. The theoretical foundation is the 'precautionary saving theory' which

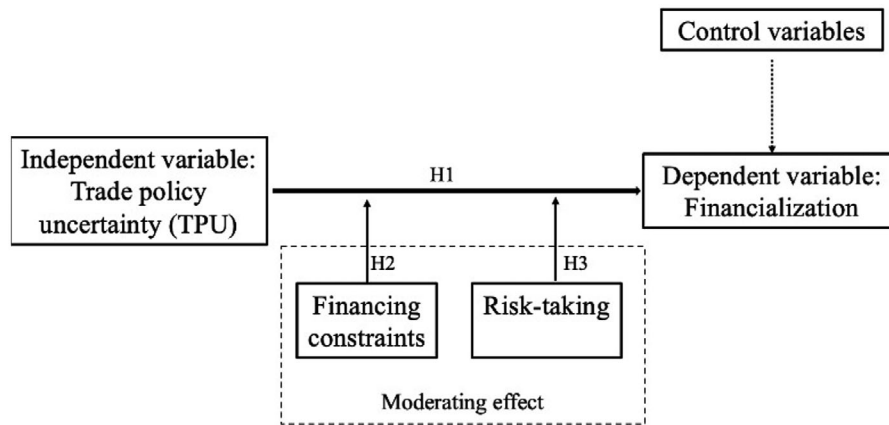


Figure 2. Theoretical framework.

suggests that firms are inclined to hold more liquidity assets against uncertainty. Whenever firms face high uncertainty, they may shift their investment strategy from fixed assets to financial. Furthermore, previous studies have shown that TPU could impact firms' investment (Farooq et al., 2022; Li et al., 2023), which further provides the empirical evidence for our model. Moreover, we employ the Breusch-Pagan Lagrange Multiplier (BPLM) test to decide between the Ordinary Least Squares (OLS) model or a Random Effects model (REM). Then we conduct the Hausman test to determine between REM and the fixed effect model (FEM). The result shows p-value is less than 0.05, therefore, panel FEM is suitable for our analysis. Moreover, this study also explores whether financing constraints and risk-taking moderate the relationship between TPU and financialization. This is aligned with the financial friction theory, when uncertainty rises, it raises the external cost of capital, therefore, increasing the financial friction. Eventually affects firms' investment, or firms turn to financial investment.

3.1. Empirical models

Firstly, following Li et al. (2023), the baseline regression model below is used to measure the relationship between TPU and corporate financialization:

$$FIN_{i,t} = \alpha_0 + \alpha_1 TPU_{i,t} + \alpha_2 Controls_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where, FIN is the level of corporate financialization of a firm i in time t , TPU represents trade policy uncertainty, Controls _{i,t} represent the control variables, and $\varepsilon_{i,t}$ is the error term.

$$FIN_{i,t} = \beta_0 + \beta_1 TPU_{i,t} + \beta_2 risktaking_{i,t} + \beta_3 TPU \times risktaking_{i,t} + \beta_4 Controls_{i,t} + \varepsilon_{i,t} \quad (2)$$

Secondly, to investigate the moderating effect of risk-taking, the interaction term TPU * risk-taking was used and the following model was constructed to test H2 (Tao et al., 2021; Xu & Guo, 2023).

Where, FIN _{i,t} is the corporate financialization level of a firm i in a time t ; risktaking _{i,t} refers to the corporate risk-taking level of a firm i in a time t , which is represented by Equation (3). Following Li et al. (2023) the volatility of ROA was used to measure the risk-taking level of a firm. First, ADJ_ROA refers to the ratio of the industry-adjusted EBIT and ASSETS (see Equation 4). Performance volatility in three overlapping yearly periods ($t-1$ to $t+1$) was then measured.

$$risktaking_i = \sqrt{\frac{1}{N-1} \sum_{n=1}^N \left(ADJ_ROA_{i,n} - \frac{1}{N} \sum_{n=1}^N ADJ_ROA_{i,n} \right)^2} \quad |N = 3 \quad (3)$$

$$ADJ_ROA_{i,n} = \frac{EBITDA_{i,n}}{ASSETS_{i,n}} - \frac{1}{X_n} \sum_{k=1}^N \frac{EBITDA_{k,n}}{ASSETS_{k,n}} \quad (4)$$

Third, following Tao et al. (2021) and Zhao and Su (2022), model (5) (below) was used to research the moderating effect of financing constraints. The interaction term TPU*FC is used in this model.

$$FIN_{i,t} = \gamma_0 + \gamma_1 TPU_{i,t} + \gamma_2 FC_{i,t} + \gamma_3 TPU \times FC_{i,t} + \gamma_4 Controls_{i,t} + \varepsilon_{i,t} \quad (5)$$

The KZ index constructed by Kaplan and Zingales (1997) was employed as a measure of financing constraints. A higher KZ index value indicates greater financing constraints for the firm.

3.2. Data collection and study samples

The data of A-share firms listed on the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) from 2011-Q₁ to 2020-Q₄ was collected from the China Stock Market and Accounting Research Database (CSMAR). The TPU data was collected from <https://www.policyuncertainty.com/>. The main reason for the inclusion of only listed firms for analysis is data accessibility and consistency, private firms' financial disclosure has different requirements and normally does not need mandatory audits (Minnis & Shroff, 2017), which is easy to manipulate, eventually resulting the unreliable results. Moreover, financial and real estate firms were also excluded from the sample as they behave differently from those of non-financial firms (Van Loon & Aalbers, 2017). For instance, real estate firms generate most of their revenues from property sales and rent from tenants. Similarly, they use various financial instruments such as the securitization of mortgages or property-backed loans. These firms often use debt financing to acquire and develop properties, but their investments are often long-term and illiquid, which can make them more vulnerable to financial risks (Van Loon & Aalbers, 2017; Blakeley, 2021). Moreover, 'P.T. (Particular Transfer, companies that)' and 'S.T.' (Special Treatment) firms were excluded, as were firms lacking financial data. Based on the work of Gulen and Ion (2016), outlier influence was reduced by winsorizing every continuous variable at the 1% and 99% percentiles. The final sample consists of 27,339 firm-year observations. Appendix Table A-1 provide the details of the variable definitions.

3.3. Study variables and their definitions

3.3.1. Dependent variable – corporate financialization

Corporate financialization (FIN1), the dependent variable, is commonly assessed using various measures. Xu and Guo (2023) and Zhao and Su (2022) evaluated it from an asset allocation perspective, while Jin et al. (2022) focused on income, and Li and Shen (2023) emphasized cash flow generated by financial assets. This study adopts the asset allocation approach (financial assets as a proportion of total assets) and the income perspective (returns on financial assets), following Xu and Guo (2023) and Zhao and Su (2022).

3.3.2. Independent variable – trade policy uncertainty (TPU)

TPU is measured using the index developed by Huang and Luk (2020), based on ten mainland Chinese newspapers, offering a more precise reflection of TPU in China compared to Baker et al. (2016), which relied on a Hong Kong-based newspaper. This index quantifies TPU through the natural logarithm of monthly average values (TPUHuang). Following Gulen and Ion (2016) and Vural-Yavaş (2021), this study uses two TPU metrics: (1) TPU3Huang—the weighted average of the last three months TPU (October: 1/6, November: 1/3, December: 1/2); and (2) TPU12Huang—the natural logarithm of the TPU index for December. The level of TPU, rather than its first difference, is employed to better capture enduring trends.

3.3.3. Control variables

Following existing research (such as He et al., 2020; Li et al., 2023; Zhao & Su, 2022) firm-level control factors were included such as firm size (SIZE), net cash flow, profitability (ROA), leverage (LEV), and macro-level factors such as GDP growth. SIZE is measured as the natural logarithm of total assets, and assesses risk exposure, with smaller firms being more vulnerable to market risks (Pantzali et al., 2001; Nguyen et al., 2018). Net cash flow reflects a firm's liquidity and ability to manage uncertainty, as heightened uncertainty often leads to increased cash reserves (Almeida et al., 2004; Ren et al., 2023). ROA is measured as return on assets and is included since higher profitability fosters investment opportunities (Demir & Ersan, 2017; Akron et al., 2020). LEV represents total liabilities relative to total assets, while

revenue growth rate, reflecting investment opportunities, is controlled to account for its sensitivity to uncertainty (Gulen & Ion, 2016). The annual GDP growth rate is sourced from the World Bank's World Development Indicators, to account for economic conditions (Vo & Nguyen, 2023).

3.3.4. Moderating variables

Examining the role of risk-taking as a moderator revealed that in the association between corporate financialization and TPU, taking risks serves as a moderating variable. The levels of risk-taking among non-financial companies were assessed by employing the rolling standard deviation of annual EBIT - adjusted for industry - for three years.

In this paper, financing constraints and risk-taking are the moderators. First, the KZ index constructed by Kaplan and Zingales (1997) was used. This index classifies companies' financial constraints based on the annual report 10-K and estimates the impact of various company characteristics ($KZ = -1.001909 * \text{Cash_Flows}/K + 0.2826389 * \text{Tobin's } Q + 3.139193 * \text{Debt}/K - 39.3678 * \text{Dividends}/K - 1.314759 * \text{Cash Flows}/K$ (Where K is capital asset)).

4. Results and discussion

4.1. Descriptive statistics and correlation

Table 1 presents the descriptive statistics and correlation for the study variables. The financialization level (FIN) exhibits a mean value of 0.287 and a narrow standard deviation (SD) of 0.184, suggesting a relatively limited degree of fluctuation around the mean. The TPU3Huang dataset demonstrates a mean value of 5.221, with a slightly higher standard deviation of 0.589. The observed values range between 4.299 and 5.977, demonstrating that significant changes in TPU occurred from 2011 to 2021. Furthermore, as shown in the table, no significant level of correlation between 'TPU3Huang' and the remaining variables is indicated by the absolute values of the correlation coefficients. This suggests that 'TPU3Huang' (TPU) does not display substantial multicollinearity with the other variables.

4.2. Impacts of TPU on non-financial corporate financialization

Table 2 summarizes the estimation results from model (1). As shown in column (1), the regression results only contains the independent variable of TPU (TPU3Huang), with a statistically significant coefficient of 0.0122 at the 1% significance level. In column (2), a set of firm-level control variables is introduced, while in Column (3), both firm-level and macro-level control variables were added. After adding all the control variables, the coefficient of TPU3Huang was found to be 0.0189, significant at the 1% level. Therefore,

Table 1. Descriptive and correlation.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) FIN1	1.000						
(2) TPU3Huang	0.037***	1.000					
(3) size	-0.087***	0.059***	1.000				
(4) LEV	-0.307***	-0.007	0.471***	1.000			
(5) ROA	0.152***	-0.041***	0.035***	-0.361***	1.000		
(6) growthrate	0.030***	-0.021***	-0.066***	0.003	0.001	1.000	
(7) GDPgrowth	-0.010*	-0.525***	-0.064***	0.011*	0.037***	-0.009	1.000
Mean	0.287	5.221	22.20	0.418	0.0354	0.299	0.0678
Standard Dev	0.184	0.589	1.261	0.201	0.0664	0.714	0.0187
Minimum	0.034	4.299	19.91	0.055	-0.295	-0.710	0.0224
P25	0.149	4.821	21.31	0.258	0.0133	-0.029	0.0675
P50	0.242	5.213	22.03	0.411	0.0365	0.127	0.0695
P75	0.381	5.892	22.91	0.566	0.0666	0.387	0.0786
Maximum	0.911	5.977	26.14	0.894	0.1960	4.708	0.0955
N	27,339	27,339	27,339	27,339	27,339	27,339	27,339

Notes: This table shows the descriptive and correlation for the study variables. The statistics provided include the mean, standard deviation, minimum value (Min.), 25th percentile (P25), 50th percentile (P50), 75th percentile (P75), and maximum value (Max.). Corporate financialization level (FIN1) is the dependent variable, and TPU (TPU3Huang) is the independent variable. Also included are the firm-level control variables: firm size (size), corporate leverage ratio (LEV), return on assets (ROA), sales growth rate (growth rate), and the country-level control variable: the GDP growth rate (GDP growth). All these abbreviations carry the same meanings in the subsequent tables as well. ***, **, * implies statistical significance at the 1%, 5%, and 10% levels in this and all subsequent tables.

Table 2. Impacts of TPU on non-financial corporate financialization.

	(1) FIN1	(2) FIN1	(3) FIN1
TPU3HUANG	0.0122*** (7.24)	0.0190*** (12.30)	0.0189*** (12.31)
SIZE		−0.0076** (−2.28)	−0.0076** (−2.27)
LEV		−0.2436*** (−14.69)	−0.2436*** (−14.67)
ROA		0.0514*** (2.60)	0.0514*** (2.60)
GROWTHRATE		−0.0032** (−2.03)	−0.0032** (−2.04)
GDPGROWTH			−0.0026 (−0.08)
CONS	0.2228*** (25.22)	0.4580*** (6.47)	0.4587*** (6.39)
N	27339	27339	27339
R ²	0.0044	0.0668	0.0668

Notes: The numbers within parentheses represent the corresponding t-values in this and all subsequent tables. The table provides the initial results concerning the impact of TPU on the financialization of non-financial firms. The variable denoted as FIN1 represents the level of corporate financialization, while the variable TPU3Huang represents trade policy uncertainty.

hypothesis H_1 is supported, with TPU and corporate financialization exhibiting a positive relationship in that at times of heightened TPU, a greater willingness to retain additional financial assets is evident among non-financial firms. These results align with Si et al. (2024), that the high TPU level exacerbates corporate financialization level. According to precautionary saving theory, firms may hold more financial assets against uncertainty, as a risk management strategy and maintain liquidity.

From a policy perspective, these findings suggest that a stable business environment is necessary. High policy uncertainty level drive firms delay or shift the funds away from the productive business, eventually hindering sustainable growth (Zhou & Wen, 2022). Trade protectionism-induced policy uncertainty not only affects the domestic economy but also spills over to related trading partners, especially those trade openness parties. Thus, policymakers should be cautioned to implement countermeasures to avoid increasing trade policy uncertainty (Wang & Wu, 2023).

4.3. Moderating effect

4.3.1. Moderating effect-risk-taking

To test the H_2 , we examine whether risk-taking moderates the relationship between TPU and nonfinancial firms' financialization. Table 3 presents the regression results concerning the relationship between TPU (TPU3Huang) and corporate financialization, with the moderating effect being risk-taking. We apply two ways to measure firms' risk-taking level: risk-taking1 is the rolling standard deviation of industry-adjusted annual ROA for companies over a three-year period, then risk-taking2 for robustness check, which is the rolling standard deviation of industry-adjusted annual ROA for companies over five years.

The findings suggest that risk-taking behaviour can strengthen the positive relationship between TPU and non-financial firms' corporate financialization. This evidence is based on the interaction terms (TPU3Huang*risktaking1) in column (1) and TPU3Huang*risktaking2 in column (2), which have positive coefficients of 0.00994 and 0.1035, respectively, and both values are significant at a 5% level, respectively. When confronted with higher levels of uncertainty, companies with a greater ability to take risks tend to show more willingness to make financial investments. Thus, H_2 is supported. These results show risk-taking moderates the relationship between TPU and nonfinancial firms' financialization.

4.3.2. Moderating effect-financing constraints

To verify H_3 , we examine whether financing constraints serve a moderating role in the relationship between TPU and the financialization of nonfinancial firms. Table 4 displays the outcomes obtained using the empirical model established in Equation 5 to assess H_3 . This assesses how financing constraints act as a moderator regarding the effects on corporate financialization of trade policy uncertainty. These outcomes illustrate that TPU (TPU3Huang) and financialization (FIN1) are strong and statistically significantly correlated (at the 1% significance level), suggesting an association between higher levels of TPU and increased financialization levels among non-financial companies. The coefficient for the interaction term between trade policy uncertainty (TPU) and financing constraints (TPU3Huang*KZ) is −0.0043, and it is statistically significant at the 1% level. This suggests that financing constraints have a mitigating effect on the positive influence of uncertainty on financial investments. The implication is that even

Table 3. TPU, financialization, and risk-taking.

	(1) FIN1	(2) FIN1
TPU3Huang	0.0159*** (8.73)	0.0156*** (7.57)
TPU3Huang*risktaking1	0.0994** (2.30)	
risktaking1	-0.5235** (-2.25)	
TPU3Huang*risktaking2		0.1035** (2.15)
risktaking2		-0.6503** (-2.56)
size	-0.0071** (-2.10)	-0.0069** (-2.02)
LEV	-0.2375*** (-14.20)	-0.2406*** (-14.58)
ROA	0.0616*** (3.07)	0.0436** (2.23)
growthrate	-0.0033** (-2.17)	-0.0032** (-2.03)
GDPgrowth	0.0038 (0.12)	-0.0077 (-0.24)
cons	0.4584*** (6.40)	0.4605*** (6.45)
N	26747	26894
r2	0.0641	0.0663

Notes: This table reports the moderating effect of firms' risk-taking on the relationship between TPU and corporate financialization. TPU3Huang*risktaking1 and TPU3Huang*risktaking2 are the interaction terms. The dependent variable, denoted as FIN1, represents the level of corporate financialization, while the independent variable TPU3Huang represents trade policy uncertainty.

Table 4. TPU, financialization, and financing constraints.

	(1) FIN1
TPU3HUANG	0.0284*** (17.46)
TPU3HUANG*KZ	-0.0043*** (-6.22)
KZ	-0.0047 (-1.28)
SIZE	-0.0226*** (-6.87)
LEV	-0.0537*** (-3.23)
ROA	-0.1310*** (-6.89)
GROWTHRATE	-0.0049*** (-3.25)
GDPGROWTH	0.2869*** (9.50)
CONS	0.6736*** (9.62)
N	27339
R ²	0.1723

Notes: The table outlines the results concerning the moderating impact of financing constraints on the association between TPU and the financialization of non-financial firms. KZ is the KZ index developed by Kaplan and Zingales (1997), which represents the financing constraints level. TPU3Huang*KZ is the interaction item of trade policy uncertainty and financing constraints. The level of corporate financialization is denoted as FIN1 and is the dependent variable, whereas the TPU3Huang, as the independent variable, is used to represent trade policy uncertainty.

though TPU might increase, a firm's response to financialization is generally not passionate due to their investment-related behaviour being restricted by financing constraints. Thus, Hypothesis 3 is supported, so financing constraints appear to moderate how the effects of TPU on corporate financialization are shaped. Financing constraints can weaken the positive relationship between TPU and non-financial firms' corporate financialization.

TPU encourages firms to hold more financial assets to against uncertainty, however, the financing constraints limit firm' ability in pursuing the financial investment. From a policy perspective, the results suggest that broaden financing channels, decreasing firms financing constraints could limit excessive financialization.

4.4. Robustness analysis

To validate the reliability and validity of the previous findings, a series of rigorous examinations were conducted. These involved altering the measurements of the primary variables, employing alternative regression techniques, and addressing any endogeneity concerns. The objective of these robust tests was to strengthen the credibility and consistency of the fundamental findings.

4.4.1. Alternative measure (independent variable)

As part of the robustness analysis, TPU12Huang was adopted in the robustness test, which is measured as the logarithm of TPU in December and developed by Huang and Luk (2020). Moreover, the authors

incorporated the China TPUDavis3CN and TPUDavis12CN (Trade Policy Uncertainty) indexes developed by Davis et al. (2019). Following Gulen and Ion (2016), TPUDavis3CN is a logarithmic representation of the weighted average of the trade policy uncertainty (TPU) index over the last three months of the year. The weights allocated to each month are 1/6 for October, 1/3 for November, and 1/2 for December. The TPUDavis12CN index, which is measured as the logarithm of TPU in December, was derived from the EPU index developed by Davis et al. (2019).

Table 5 presents the results of the robustness check using alternative measures of the independent variables. Notably, TPU12Huang, TPU3DavisCN, and TPU12DavisCN show positive and statistically significant correlations with FIN1. The coefficients are 0.0183 in column 2, 0.0156 in column 4, and 0.0137 in column 6, all at the 1% significance level, respectively. These results suggest our main results remain robust. Table 5 clearly demonstrate there is a positive relationship between trade policy uncertainty and financialization.

4.4.2. Alternative measure (dependent variable-corporate financialization).

This study utilized four supplementary methodologies to thoroughly evaluate and validate company financialization, in addition to the basic measure of FIN1. FIN1 is based on the book value of financial assets to total assets. FIN2 builds upon FIN1 by including net long-term accounts receivable as part of the financial assets. Tang and Zhang (2019) posited the financialization measure FIN3, which assesses the degree of financialization through an examination of the disparity between overall asset value, the aggregate value of current assets, and the combination of the value of net accounts receivable, net long-term investment, and net inventories. The implementation of these robust metrics collectively contributes to the enhancement of the depth and rigor of this study, thus facilitating a thorough comprehension of corporate financialization.

From Table 6, the results derived from the alternative measures of financialization. The estimated coefficients for FIN2 and FIN3 stand at 0.0182 and 0.0045, respectively, demonstrating significant positive associations at the 1% level. These findings further reinforce the robustness of our previous conclusions. According to precautionary saving theory, when firms face high level trade policy uncertainty, they incline to hold more financial assets, cash to against the uncertainty.

4.4.3. Endogenous issues– (IV-2SLS (Instrumental variables-two-stage least squares))

To address concerns about endogenous issues, such as omitted variables, reverse causality (Gulen & Ion, 2016), and measurement error issues (Vural-Yavaş, 2021), various studies (such as Gulen & Ion, 2016; Li et al., 2023) informed the authors' use of the Instrumental Variables-Two-Stage Least Squares (IV-2SLS) estimation, which is often used to address endogeneity issues in regression analysis. In this case, EPU3US was used as an instrument variable. It represents the economic policy uncertainty of the US, constructed by Baker et al. (2016), which was suitable for the current research because the US EPU does not directly capture the dynamics of Chinese trade policy uncertainty, although US uncertainty still has a significant influence on other nations (Vural-Yavaş, 2021; Li et al., 2023). The results presented in Table 7 demonstrate a statistically significant and positive correlation between TPU3Huang and the instrumental

Table 5. Robustness check: alternative measure of dependent variables.

	(1) FIN1	(2) FIN1	(3) FIN1	(4) FIN1	(5) FIN1	(6) FIN1
TPU12Huang	0.013***	0.0183***				
TPU3DavisCN			0.008***	0.0156***		
TPU12DavisCN					0.008***	0.0137***
SIZE		−0.007**		−0.014***		−0.015***
LEV		−0.243***		−0.239***		−0.236***
ROA		0.06**		0.060***		0.059***
GROWTHRATE		−0.003**		−0.0025		−0.0028*
GDPgrowth		−0.143***		0.0420		0.0086
Cons	0.220***	0.468***	0.2419***	0.6027***	0.2465***	0.6407***
N	27339	27339	27339	27339	27339	27339
R ²	0.0039	0.0659	0.0049	0.0705	0.0060	0.0716

Notes: This table reports the robust results from the different measures of TPU on non-financial firms' financialization. TPU3DavisCN and TPU12DavisCN are the independent variables developed by Davis et al. (2019). FIN1 is our dependent variable.

Table 6. Robustness check: Alternative measure of independent variables.

	(1) FIN2	(2) FIN2	(3) FIN3	(4) FIN3
TPU3HUANG	0.0195*** (14.58)	0.0182*** (13.47)	0.0050*** (3.83)	0.0045*** (3.44)
SIZE	−0.0025 (−0.86)	−0.0030 (−1.03)	−0.0082*** (−2.79)	−0.0085*** (−2.84)
LEV	−0.2384*** (−16.42)	−0.2376*** (−16.35)	−0.2349*** (−16.13)	−0.2346*** (−16.07)
ROA	0.0709*** (4.16)	0.0726*** (4.26)	0.0903*** (4.89)	0.0910*** (4.92)
GROWTHRATE	−0.0025* (−1.77)	−0.0026* (−1.82)	−0.0029** (−2.11)	−0.0029** (−2.13)
GDPGROWTH		−0.0887*** (−3.03)		−0.0355 (−1.23)
CONS	0.3171*** (5.17)	0.3407*** (5.48)	0.5569*** (8.92)	0.5663*** (8.95)
N	27339	27339	27339	27339
R ²	0.0793	0.0795	0.0849	0.0849

Notes: FIN2 and FIN3 represent different measures of corporate financialization. Table 1 provides the details of the measurement. Different measures of dependent variables were applied to examine the impact of TPU on non-financial firms' financialization.

variable EPU3US. Significantly, the initial stage F-statistics surpass a value of 10, confirming the appropriateness of employing US economic policy uncertainty is a suitable instrument variable for our model. In this regression analysis, EPU (EPU3US) is an instrumental variable. Furthermore, the second analysis stage produced outcomes at suggest financialization and trade policy uncertainty are positively correlated, indicating a clear connection between corporate financialization and TPU.

4.4.4. Endogenous issues- (two step GMM estimation)

The capacity of GMM estimation methods (Arellano & Bond, 1991) to effectively address fixed effects and endogeneity concerns meant that this study could capture firms' specific but omitted factors (Abdul-Haque & Wang, 2008; Orhangazi, 2008). Due to the endogeneity issues, the traditional methods, such as the OLS estimations, random effects, or fixed effects model for panel regression, may lead to biased results (Chèze et al., 2020). While the GMM model could provide consistent and unbiased estimation results even if the panel data exist with heteroscedasticity or serial correlation issues, which are often present in the data (Wang et al., 2022; Hassan et al., 2024). The instrument should correlate with the explanatory variables, but not the error term (Matemilola et al., 2024). Therefore, following Gulen and Ion (2016) and Wu et al. (2020), the two-step GMM estimation was applied to address the endogeneity problem by using US monetary policy uncertainty (MPUHR3US), which is constructed by Husted et al. (2020), and oil price uncertainty (OVX). Table 9 provides the diagnostic test results to verify our instrumental variable is valid. The Hansen J statistic was used to test over-identifying restrictions, with the value of 0.0981, which is above the threshold of 0.05, suggesting that the instruments are exogenous. The Arellano-Bond test was used to test the serial correlation, AR (1) normally less than 0.05, this is accepted. AR (2) test with a p-value of 0.437, indicating there is no significant second-order correlation (Naser et al., 2024). The Kleibergen-Paap LM Statistic with a value of 6873.81, which means we reject the null hypothesis of under-identification, and our instrument variables are properly identified. If the Weak Identification Test (Kleibergen-Paap F-Statistic) is above the critical value, further confirm that our instrument variable is validated for our model. These results provide empirical support for the hypothesis that the instrument variables MPUHR3US and OVX are effective.

Table 8 shows the results of the two-step GMM estimation. In column (1), in the coefficient for MPUHR3US is 0.7446 at the first stage, suggesting that there is a strong correlation with the instruments. In the second stage, the coefficient for trade policy uncertainty (TPU3Huang) is 0.017, these results further confirm that the previous result is still significant and positive at a 1% level. Results from the two-step GMM verify our basic regression that trade policy uncertainty positively affects nonfinancial firms financialization.

4.5. Further discussion

Krippner (2005) defines financialization as corporations' increased engagement in financial market activities, including holding financial assets (Orhangazi, 2008; Davis, 2016), using derivatives (Nguyen et al., 2018; Chen et al., 2022), managing debt (Davis, 2018b), distributing dividends (Lazonick & O'Sullivan, 2000), and maintaining cash reserves (Demir & Ersan, 2017). Klinge et al. (2021) concluded these dimensions, emphasizing policy uncertainty's influence on financialization.

Table 7. Robustness check: using IV-2SLS Estimation to Mitigate the Endogeneity Problem.

	(1) TPU3Huang	(2) FIN1
EPU3US	1.0151*** (273.82)	
TPU3HUANG		0.0562*** (21.99)
SIZE	0.1773*** (39.40)	−0.0171*** (−8.28)
LEV	−0.1272*** (−4.74)	−0.2387*** (−23.67)
ROA	−0.7700*** (−15.24)	0.0844*** (5.09)
GROWTHRATE	−0.0187*** (−4.05)	−0.0017 (−1.15)
GDPGROWTH	−2.8916*** (−53.94)	0.4911*** (9.52)
CONS	−4.6348*** (−47.88)	
N	27,339	26,940
R ²	0.5207	0.0379

Notes: US economic policy uncertainty (EPU3US) was applied as the instrument variable. EPU3US is calculated as the natural logarithm of the weighted average of the last three months of the index (EPU3US). The weights assigned to individual months are as follows: 1/6 for October, 1/3 for November, and 1/2 for December. The trade rate policy uncertainty index was developed by Baker et al. (2016). The dependent variable FIN1 represents the financialization level; the independent variable TPU3Huang represents trade policy uncertainty.

Table 8. Robustness check: addressing the endogeneity issue.

	Two-step GMM estimation	
	First stage TPU3Huang	Second stage FIN1
TPU3Huang		0.0170*** (8.87)
MPUHR3US	0.7446*** (281.05)	
OVX	0.0122*** (91.66)	
Size	−0.0786*** (−17.85)	−0.0079*** (−3.96)
LEV	0.2171*** (8.92)	−0.2367*** (−23.55)
ROA	0.0505*** (1.12)	0.0452*** (2.76)
Growthrate	−0.0373 (−9.16)	−0.0027* (−1.68)
GDPgrowth	−12.7641*** (−109.42)	−0.0738* (−1.68)
Cons	3.6419*** (−109.42)	
Hansen J statistic (p-value)		0.0981
AR(1) Test p-value		0.0000
AR(2) Test p-value		0.437
Kleibergen-Paap LM Statistic		6873.81
Weak Identification Test (Kleibergen-Paap F)		15279.98
F	30900	156.7701
N	27,339	26,940
R ²	0.6670	0.0670

Notes: This table reports the results of the two-step GMM estimation, indicating the results of the impact of TPU on non-financial firms' financialization. MPUHR3US was calculated by assigning weights to individual months as follows: 1/6 for October, 1/3 for November, and 1/2 for December. OVX represents the Chicago Board options exchange (CBOE) Crude Oil ETF Volatility Index, it is the oil price uncertainty, and downloaded from Federal Reserve Economic Data website, developed by Baker et al. (2016).

Empirical analysis highlights TPU's impact on corporate behaviour. Derivatives usage decreases as firms avoid speculative risks, evidenced by a significant negative coefficient at the 1% level in Table 9, Column (1), confirming firms' reluctance to hold derivatives amid TPU (Huong Trang, 2018; Taylor et al., 2021). Conversely, TPU significantly increases cash holdings as firms adopt precautionary savings strategies to enhance financial flexibility and mitigate operational disruptions. This is supported by Table 9, Column (2), where the TPU-cash holding coefficient is 2.874, significant at the 1% level, aligning with precautionary saving theory (Duchin et al., 2010; Gulen & Ion, 2016; Acharya & Steffen, 2020). These results underscore firms' strategic adjustments to uncertainty, prioritizing liquidity over speculative activities.

4.6. Implications, limitations, and future research directions

4.6.1. Theoretical implications

The research adds to the understanding of corporate behaviour under policy uncertainty by aligning the findings with the precautionary saving theory and financial friction theory. Under high TPU, Chinese-listed non-financial firms tend to hold more financial assets instead of irreversible assets, aligning with the precautionary saving approach to mitigate risks. However, excessive financialization may lead to liquidity traps (Yin et al., 2024). These findings highlight the importance of adopting balanced financial

Table 9. The impacts of TPU on derivatives and cash holdings.

	(1) Derivatives	(2) Cash holding
TPU3Huang	−0.0011*** (−6.88)	2.8740*** (11.34)
Size	0.0000*** (6.41)	−0.0019 (−1.30)
LEV	0.0000 (1.07)	−0.1712*** (−18.03)
ROA	0.0000 (0.45)	0.2317*** (13.11)
Growthrate	−0.0000*** (−2.86)	0.0034* (1.87)
GDPgrowth	−0.0123*** (−6.99)	30.5860*** (11.36)
Cons	0.0069*** (6.58)	−17.5718*** (−11.08)
Industry effects	Yes	Yes
Year effects	Yes	Yes
N	27,339	27,339
R ²	0.0465	0.2199

Notes: This table reports the results of the additional analysis of how non-financial firms allocate funds to derivatives and cash with the increasing financialization level. Derivatives represent the proportion of derivatives to total assets; cash holding represents the cash and cash equivalents to total assets.

investment strategies, such as diversifying portfolios to manage uncertainty effectively. Unlike previous works, such as Gulen and Ion (2016), which rely on quarterly data, this study uses annual data, offering a broader perspective but possibly missing short-term fluctuations.

4.6.2. Practical implications

The Chinese government should adopt consistent and prudent trade policies to reduce policy-induced uncertainty and mitigate its adverse effects on corporate financialization. Similarly, emerging economies should leverage fintech to broaden financing channels, alleviate financing constraints, and control excessive financialization among nonfinancial firms. Hence, state-level policymakers must balance long-term sustainable growth with short-term financial stability, ensuring regulatory burdens do not disproportionately affect domestic corporations. Strengthening international trading systems and promoting trade integration can help reduce the impacts of TPU and enhance resilience.

Nonfinancial firms should optimize investment efficiency, mitigate excessive financialization, and adopt sustainable investment strategies. Diversifying investment portfolios and relocating factories or supply chains can improve resilience against heightened TPU. Firms should emphasize sustainable practices, such as aligning with ESG standards, to ensure long-term growth and stability.

4.6.3. Limitations and future research directions

The study relies on annual data, which may not capture short-term fluctuations in TPU and financialization; future studies might employ quarterly data to capture short-term dynamics of them. The focus is exclusively on publicly traded firms, neglecting the behaviors of small and medium-sized enterprises (SMEs) and unlisted firms; hence, future studies may expand their scope to these firms as well. The analysis primarily examines average effects without considering the heterogeneous impacts of TPU across different industries; future studies might explore the sectoral impact of TPU. The study does not incorporate various policy uncertainty indices, such as monetary, geopolitical, tax, or climate policy uncertainties. A broader exploration of the financial effects of TPU on fixed investments, innovation, and investment efficiency is needed. Additionally, identifying the optimal degree of financialization for non-financial firms could guide corporate and policy decision-making.

5. Conclusions

This study examines the impact of TPU on the financialization of non-financial firms. The results reveal that TPU positively affects the level of corporate financialization. Furthermore, the study finds that financing constraints strengthen this positive relationship, while risk-taking weakens it. The robustness of these results is confirmed using alternative measures of TPU, including TPU3Huang (Huang & Luk, 2020), TPU3Davis, and TPU12Davis (Davis et al., 2019), as well as three alternative measures of corporate financialization. The findings of this study suggest that TPU significantly influences firms' long-term financialization strategies through asset allocation and risk management behaviour. In times of high uncertainty, increased financialization aligns with precautionary saving motivations, helping firms retain liquidity and

manage operational risks induced by policy uncertainty. However, excessive financialization may crowd out fixed asset investments, hindering sustainable development. Firms may prioritize share purchases and dividend pay-outs over core business activities, which can have long-term negative consequences. Under high TPU, firms align with precautionary saving and financial friction theories by holding more financial assets to mitigate risks, though excessive financialization may hinder sustainable development.

Practically, consistent trade policies, fintech-driven financing solutions, and balanced financial strategies are crucial. Firms should diversify investments, enhance resilience, and adopt ESG-aligned practices to address TPU's challenges effectively. This study is limited by its reliance on annual data, focusing only on publicly traded companies, and not considering sectoral or industry-specific impacts of TPU. Future research could use quarterly data, explore the effects on SMEs and private firms, and investigate sectoral differences. Additionally, incorporating ESG factors, the impact of various policy uncertainties, and methods like quantile regression or difference-in-differences could provide deeper insights into TPU's effects on corporate financialization.

Notes

1. <https://data.worldbank.org/indicator>.
2. https://english.sse.com.cn/news/newsrelease/voice/c/c_20240926_10762456.shtml.

CRedit authorship contribution statement

Mingyao Wang: Conceptualization; Methodology; Formal analysis; Investigation; Software; Data curation; Writing – original draft; Writing – review & editing. **Normaziah Mohd Nor:** Conceptualization; Methodology; Project administration; Supervision; Validation; Visualization; Writing – review & editing. **Norhuda Bt Abdul Rahim:** Conceptualization; Methodology; Project administration; Supervision; Validation; Visualization; Writing – review & editing. **Faisal Khan:** Writing – review & editing. **Ziyu Zhou:** Writing – review & editing. All the authors agreed to be accountable for all aspects of the work.

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Data availability statement

The data for this study were sourced from the CSMAR and different websites. The data are available from the authors upon request.

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Appendix A

Table A1. Variable definitions.

Variables	Definition
Dependent variables	
FIN1 Corporate financialization	The book value of financial assets to total assets, where financial assets including hold-for-trading assets, derivative financial assets, net interest receivables, net dividend receivables, net other receivables, hold-to-maturity investments, available-for-sale financial assets, net long-term accounts receivables, investment properties, long-term equity investments.
FIN ₂	The book value of financial assets to total assets, where financial assets including cash and cash equivalents, trading financial assets, derivative financial assets, net interest receivable, net dividends receivable, available-for-sale financial assets, held-to-maturity investments, net long-term equity investments, other equity instrument investments, other non-current financial assets, net investment properties, net long-term accounts receivable.
FIN ₃	Financial assets are divided by the total assets. Financial assets equal to total current assets minus net accounts receivable minus net inventories plus net long-term investments.
Independent variables	
TPU3Huang Trade policy uncertainty	We initially obtain the monthly TPU data from Huang and Luk (2020), then apply the formula $TPU3Huang = \log_e \left[\frac{1}{6} \times TPU_{October} + \frac{1}{3} \times TPU_{November} + \frac{1}{2} \times TPU_{December} \right]$
TPU12Huang	The natural logarithm to the TPU data of December from Huang and Luk (2020)
TPU3Davis	We initially obtain the monthly TPU data from Davis, Liu, and Sheng (2019), then add up the values of the TPU index (monthly values) by using the following formula $TPU3Davis = \log_e \left[\frac{1}{6} \times TPU_{October} + \frac{1}{3} \times TPU_{November} + \frac{1}{2} \times TPU_{December} \right]$
TPU12Davis	The natural logarithm to the TPU data of December from Davis et al. (2019)
TPU3Baker	We initially obtained the monthly TPU data from Baker, Bloom, and Davis (2016), then apply the formula $TPU3Baker = \log_e \left[\frac{1}{6} \times TPU_{October} + \frac{1}{3} \times TPU_{November} + \frac{1}{2} \times TPU_{December} \right]$
Moderating variables	
Risktaking Risk-taking	The rolling standard deviation of industry-adjusted annual ROA for companies over a three-year period.
FC Financing constraints	KZ index, Kaplan and Zingales (1997) developed by using the formula $KZ = -1.001909 * \text{Cash Flows} / K + 0.2826389 * \text{Tobin's } Q + 3.139193 * \text{Debt} / K - 39.3678 * \text{Dividends} / K - 1.314759 * \text{Cash Flows} / K$
Firm-level control variables	
Size Corporate size	The natural logarithm of total assets
Cash flow Operating cash flow to total assets ratio	Net cash flow from operating to the total assets
ROA Return on assets	Net income to total assets
LEV Leverage ratio	Total liabilities to total assets
growthrate Growth rate	Growth rate of operating revenue
Macro-level control variables	
GDP GDP annual growth rate	Available at https://datatopics.worldbank.org/world-development-indicators/themes/economy.html