

# Government Intervention, Media Attention and Fintech Risk

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## Abstract

This paper uses the method of Text Mining and the GARCH-VaR model to construct Fintech risk index, exploring the relationship between government intervention, media attention and Fintech risks empirically. The result has shown that, first, appropriate government intervention will inhibit Fintech risks; second, media attention can curb Fintech risks to some extent; and third, media attention can change the impact of government intervention on Fintech risks, and as media attention increases, the inhibitory effect of government intervention on Fintech risks will be enhanced. It can be seen from the results that the role of the media is unable to be ignored, whether in the Fintech market or in the process of Fintech risk prevention. Clarifying the market positioning and influence mechanism of the media is of great theoretical and practical significance for correctly handling the relationship among government intervention, media attention and Fintech risks.

## Keywords

Government Intervention, Media Attention, Fintech Risk, Agenda-Setting

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## 1. Introduction

Nowadays, China has become a global leader in the field of Fintech. Chinese companies account for more than 70% of the total global valuation in the Fintech market, meanwhile, China is also in the world's leading position in aspects of e-payment, e-commerce, cloud services, communication technology, etc. (Zhang & Chen, 2019). After the outbreak of the COVID-19 epidemic, a large number of financial service demand has migrated from offline to online, Fintech helps maintain the orderly progress of "zero-touch" financial services via its unique technological advantages, and Fintech institutions issue loans to help small and micro enterprises get over the difficulties. Therefore, Fintech is not only of great

significance to the development of the financial industry, but also the general direction of competition and development of the financial industry in various countries in the future, as well as playing the role of “a stabilizer” in disasters. However, both finance and technology are industries with higher risks, the integration of the two will form a superposition of risks (Li, 2015), and preventing Fintech risks is an important part of maintaining the stability of the whole financial system and even the social environment. To this end, for the healthy development of Fintech market, the government must properly handle the relationship between “stable development” and “risk prevention”, avoiding both the agglomeration of only focusing on innovative development and ignoring risks, and overemphasizing risks and “stopping eating for fear of choking”. On the one hand, Fintech needs to be given enough space for free development, on the other hand, it is necessary to cover up potential financial risks through government intervention, and solidly play the role of Fintech in recovering and promoting the real economy (Sun, 2021).

Access to and dissemination of information is a core factor of financial market activity (Merton, 1987), therefore, how media attention and news reports affect the dissemination of information in financial markets is an important entry point of studying the financial market development (Gao et al., 2020). As an emerging financial market, Fintech has a strong news value, compared with other financial sectors, Fintech and its risk challenges are more likely to trigger concentrated media coverage, and the media is prone to take Fintech as a key reporting object (Milian et al., 2019). In the Fintech market, although there is a possibility of Fintech achieving spontaneous and effective information allocation under market conditions, problems of serious information asymmetry may still occur, and it is crucial to play the risk early warning role of information tools (Yang, 2015). Thus it can be seen that, the risk prevention of Fintech relies not only simply on the guidance of government policies, the media as an information tool, also plays a very key role in the process of Fintech risk prevention, which is an important factor affecting the Fintech risks.

The relationship between the government and the media constantly evolves with political, economic, and social development to a certain level, as well as the development of human society and the progress of civilization (Zheng, 2009). Before the reform and opening up, due to China’s relatively centralized political and economic system, the media had a very strong dependence on politics. It was strictly controlled by the government, making it a strong “mouthpiece” for the propaganda of government policies, and the relationship between politics and the media is the superior to management and the subordinate of the management. Later, with the deepening of reform and opening up, the government functions changed from administrative management to public services, the emerging media forces represented by the Internet, Weibo, WeChat, etc. developed fiercely, and the relationship between the government and the media has shifted from the simple control to the mutual influence and dependence (Li, 2014). At

present, academics generally agree that, as public watchdogs, the media can monitor and influence government. On the one hand, the media is an intermediary of information, and media attention is able to alleviate the information asymmetry between government departments and other stakeholders, especially the government and the public (Core et al., 2008; Zhang & Lyu, 2015). On the other hand, the media have an agenda-setting function that can resonate with government policymakers through constant commentary and reporting (Zhang et al., 2016). In the Fintech sector that grows rapidly, can the government intervention significantly inhibit the Fintech risks? Can the media reports reflect the development status and prospects of Fintech in a fast and accurate manner, and assist the government in preventing Fintech risks? These problems will not only involve the well-being of the public, but also affect the healthy development of China's Fintech market. In light of this, this paper will carry out the discussion on the impact of government intervention on Fintech risks and the moderating role of media attention in it.

In terms of the innovation of this paper, at the theoretical level, given the background that most of the existing research focuses on the impact of Fintech risk, and the influencing factors of Fintech risk are insufficient, this paper enriches and expands the relevant theoretical research on the influencing factors of Fintech risk. At the empirical level, this paper uses the Text Mining method and the GARCH-VaR model to measure Fintech risks, and adopts Panel Threshold model and Moderation model to explore the relationship among government intervention, media attention and Fintech risks. At the policy level, this paper analyzes the prevention channels of Fintech risks from the tripartite perspective of government-media interaction, government-public interaction, and media-public interaction, provides an empirical basis for the effective supervision of Fintech risks, the response strategies adopted by government departments, and the design of specific Fintech regulatory reform measures and supporting policy systems.

Based on this, this paper sorts out the existing research on government intervention, media attention and digital financial risk, and elaborates it in four parts: First, it discusses how the government intervention and media attention affect digital financial risk respectively, and their common effects on digital financial risk, and on this basis, it refines the overall theoretical hypothesis; secondly, select the sample data and build empirical model; thirdly, through the empirical results, this paper analyzes the relationship between government intervention, media attention and digital financial risk. The last part is the conclusion and suggestions of this paper.

## 2. Theoretical Analysis and Hypothesis Formulation

Government intervention is necessary when there is a market failure (Keynes, 1936), in the Fintech market, where the arise of Fintech will lead to the market failures, government intervention is an important force in inhibiting Fintech

risks (Magnuson, 2017). The imperfection and immaturity of the Fintech market is the starting point of government intervention, due to the distortion of information transmission mechanism and the asymmetry of information, the Fintech risks are hidden, diverse and permeable, and the macro financial market cannot make a strong resistance to the impact of its risk spillover, thus “The Visible Hand” is needed to correct its externalities through moderate intervention. On the one hand, the prevalence and coercion of government intervention have a clear advantage in preventing Fintech risks. Through effective Fintech risk prevention measures, the government is able to reduce the probability of Fintech risks and enhance the effect of government intervention from a fundamental perspective. The prevention of Fintech risks requires a series of legal systems for guarantee, therefore, the establishment of related legal systems is one of the most effective means to prevent risks. Furthermore, the government is able to cover the analysis, aftermath and disposal after the outbreak of Fintech risks, clarifying the accountability mechanism and responsibility of relevant institutions after the outbreak. Moderate government intervention is able to improve the vigilance of all parties involved in the Fintech market, improve the efficiency of market resource allocation, and alleviate the externality of risks caused by situations such as the crowding out effect of Fintech on the traditional financial industry, the collapse of Fintech institutions, etc., making it conducive to the operation of the market. On the other hand, strong government intervention in financial innovation may “destroy” financial innovation (Sun, 2021), and excessive government intervention has an insignificant effect on risk inhibition and is not conducive to the stable supply of high-quality financial services (Zou & Ling, 2018). Therefore, in this paper, it is believed that government intervention and Fintech risk are not simply linear, and based on this, hypothesis 1.1 and hypothesis 1.2 are thus proposed.

**Hypothesis 1.1: Moderate government intervention is able to inhibit Fintech risks to some extent.**

**Hypothesis 1.2: Excessive government intervention is not conducive to inhibiting Fintech risks.**

Media as one of the effective external governance mechanisms, there are two mechanisms that are able to explain its direct impact on Fintech risks. 1) As the information intermediary, media attention is able to improve the information asymmetry of the Fintech market. Fintech institutions have a strong information advantage over regulators in the Fintech market, of which the information covers product pricing, innovation and risk control. Considering their own interests, the contrast of information becomes more obvious when the Fintech institutions are choosing to delay or refuse to disclose relevant information (Jian et al., 2012). Therefore, information loss, information distortion and even information fraud are widely existed in the Fintech sector, through the means of internet, they spread rapidly, causing more severe information asymmetry and triggering financial and social risks (Fan, 2014). The media plays a key role in ad-

addressing information asymmetry (Luo, 2012), it relieves the degree of information asymmetry in the Fintech market via related reports, and compared to the quality and quantity of information itself, the dissemination of information has a greater impact (Huang, 2021). 2) The media agenda-setting is able to shape investors' risk awareness in the Fintech market and correct the cognitive biases of investors. Both the psychological and sociological experiments have confirmed that cognitive biases are generally existed in human beings, either this or that kind, and it is difficult to interpret specific situations and facts objectively and fairly, resulting in the deviation of decision-making from rationality (Ye, 2015). Cognitive bias and irrational investor decision-making in the Fintech market are likely to cause Fintech risks. This paper uses the agenda-setting theory to explain how media attention is able to shape public awareness and correct cognitive biases of the Fintech investors. The early agenda-setting theory was primarily applicable to political science and communication studies, with the constant changing of the media environment, scholars applied it to different fields. The network agenda-setting theory argues that the news media not only tells the public "what to think" or "how to think", but also guides the public to connect different pieces of information to establish the cognitions and judgments about social reality (Guo, 2015). In the study of network agenda-setting, degree centrality is the main measure of the significance of a factor (Guo & McCombs, 2011) and the higher the value of degree centrality, the more closely the factor is connected to other factors across the network and the higher the position in the public cognitive system. However, the frequency with which each factor is reported by the media is not simply positively correlated with its position in the public cognitive system, and only when there is a broad and close relationship between a certain factor and other factors can this factor occupy an important position in the public cognitive system (Guo et al., 2015). Factors in the Fintech field include "big data", "cloud computing", "online loads", "digital currency", "Fintech risk", etc., among which "Fintech risk" has a wide and close relationship with other factors. When the media focuses on the Fintech sector, the degree of centrality of "Fintech risk" will increase, namely, in the public awareness network about the Fintech sector, the importance of Fintech risk will increase, and the vigilance in the face of Fintech innovation services will be strengthened. Therefore, media attention is able to shape the public's awareness of Fintech risks through network agenda-setting, enhancing the public's vigilance in the face of Fintech risks, and thus inhibiting the Fintech risks. Hypothesis 2 is proposed accordingly.

**Hypothesis 2: Media attention is able to inhibit Fintech risks to some extent.**

Public agenda, media agenda, and policy agenda are interconnected and transformative (Dearing & Rogers, 1993). The media agenda not only influences the public agenda and shapes public awareness, but it also has an impact on the formulation of government agenda. In the digital age, information platforms

have become a channel for the interaction between the media agenda and the policy agenda, changing the early government-to-media “top-down” communication pattern. The media’s growing capacity for issue-building and policy oversight has often placed many issues concerning public interest on the policy agenda (Guo et al., 2020). Today, most of the media has gradually transformed into “issue builders”, “issue lobbyists”, and “policy supervisors” in policymaking (Wang, 2004). In the field of Fintech, media attention will form public pressure on policy makers, which is conducive to attracting the attention of the government and putting Fintech-related issues on the government’s policy agenda as early as possible. It is no exaggeration to say that the media agenda is one of the important “trigger mechanisms” of forming the policy agenda (Gerston, 2001). The government intervenes in the market through policy implementation, while the policy agenda-setting is the government’s prioritization of various matters that will be resolved via public policy means, a precursor to the decision-making process (Zhang, 2013), i.e., the media agenda affects the government’s intervention in Fintech by guiding the policy agenda-setting in the field of Fintech. This paper believes that although government intervention is the core subject of preventing and resolving Fintech risks, there is insufficient support from the aspects of communication and interaction between Fintech participants and the timeliness of information dissemination, thereby making the government unable to cover every public in the public opinion of Fintech risk issues, and thus unable to achieve the effective communication. In particular, under the circumstances that the new media and we media development fiercely, the public has a more diversified demand for the expression of information, and the untimely response from the government to the public demands is easy to cause derivative risks. Therefore, the government’s use of the power of the media to convey the relevant information of Fintech risk issues and response policies to the public in a short period of time in an accurate and effective manner, is an important measure for the government to enhance the prevention and control of Fintech risks. Based on this, hypothesis 3 is proposed in this paper.

**Hypothesis 3: Media attention has a significant regulatory effect on government intervention to inhibit Fintech risks, and the higher the media attention, the stronger the inhibitory effect of government intervention on Fintech risks.**

### 3. Research Design

#### 1) Definition of Variables

a) Explained variable: Financial Technology Risk (FTR). Very few scholars attempt to measure or quantify the risk of financial technology. Zhao (2020) adopted the AHP Analytic Hierarchy Process method to calculate the weight of the index risk evaluation, and after the mapping and standardization of the index data, the Synthetical Index method was used to calculate the synthetical score of regional digital financial risk. From the perspective of complex networks

and on the basis of the TENET method, [Cao & Kong \(2021\)](#) constructed a risk correlation network based on Fintech and other traditional financial institutions. Furthermore, the risk contagion relationship between Fintech and traditional financial entities was analyzed by the Planar Maximally Filtered Graph (PMFG) filtering method. The current traceability of measurement on Fintech institutions is relatively short. Most of the Fintech quantitative reports have been released since 2015 and no institutions or research institutes have released Fintech risk-related data. This paper draws on the method of [Liu et al. \(2016\)](#) of constructing the Internet financial index, and on the basis of using the “Text Mining method” to construct the Fintech index, the volatility of the Fintech index is calculated through the GARCH-VaR model, and the risk is measured by this fluctuation.

First of all, the text collection of this paper adopts the key word search method, which divides Fintech into five dimensions: basic technology, fundraising, asset management, payment clearing and market channels, and a Fintech key word thesaurus is built on this basis, as shown in [Table 1](#). This paper uses the Python web crawler tool to obtain daily data on the word frequency of Fintech key words from 2013 to 2020 in the Baidu Index database, and converts it into monthly word frequency through aggregation. Based on the monthly word frequency of Fintech, and drawing on the method of constructing a Fintech index by [Shi & Yu. \(2020\)](#), the entropy weight method is used to synthesize a Fintech index.

Next, use the GARCH-VaR model to calculate the risk of the Fintech index. The GARCH model, proposed by Bollerslev in 1986, is able to solve the problem of heteroscedasticity caused by the “agglomeration of volatility” in financial data, meanwhile, it has a good predictive effect on the mean and volatility of financial data. The specific form is:

$$y_t = \beta_0 + \beta_1 A(L)x_t + \theta \quad (1)$$

$$\sigma_t^2 = \gamma_0 + \gamma_1 \mu_{t-1}^2 + \gamma_2 \sigma_{t-1}^2 \quad (2)$$

Equation (1) is the mean equation, where  $y_t$  represents the value of Fintech

**Table 1.** Fintech key words.

Dimension		Key words		
Basic technology	Blockchain	Artificial intelligence	Big data	Cloud computing
Fundraising	Crowdfunding	P2P	Online Lending	Microcredit
Asset management	Online banking	Online insurance	Quantitative investing	Network investment
Payment clearing	Mobile payments	Third-party payments	Digital currency	Alipay
Market channels	Ant Financial	Financial supermarket	E-commerce	Online banking

in the  $t$  period,  $x_t$  represents the vector of unknown parameters,  $A(L)$ ,  $B(L)$  is the lagging operator, and  $\theta$  is the residual. Equation (2) is the conditional variance equation, reflecting the fluctuation of the residual variance term in the mean equation, and the variance can be predicted according to the previous basic data,  $\sigma_t^2$  is the conditional variance of the Fintech index  $t$  period, and the ARCH term  $\mu_{t-1}^2$  is the lagging phase one square term of  $\mu_t$ , which can be used to represent the volatility information obtained from the previous period.

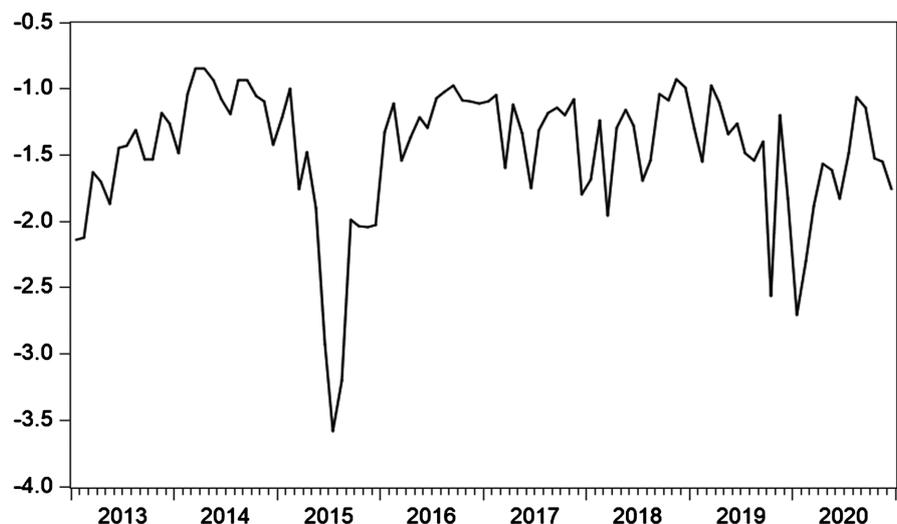
The results of the descriptive statistics of the Fintech index show that the Fintech index does not follow the normal distribution (skewness  $> 0$ ) and its time series characteristics are spikes and thick tails (kurtosis  $> 3$ ), which is suitable for modeling it with a GARCH model. Next, use the unit root test to test the stability of the Fintech index, and the results show that the ADF value of the Fintech index is less than the statistic at the 1%, 5%, and 10% levels, and the P value is less than 0.05, indicating that the time series is stable. Then, use the ARCH LM test, the test results show that the Fintech index sequence has a significant ARCH effect, indicating that the GARCH model can be constructed. After obtaining the predicted mean and conditional variance through the GARCH model, and then calculating VaR according to Equation (3), the Fintech risk index can be obtained.

$$VaR_t = \mu_t - Q(q)\sigma_t \quad (3)$$

In the equation,  $\mu_t$  is the mean of the one-step forward prediction of the GARCH model,  $\sigma_t$  is the conditional variance of the one-step forward prediction,  $Q(q)$  is the quantile at the  $q$  confidence level, and  $VaR_t$  is the Fintech risk at the  $t$ -moment.

In order to more intuitively observe the change of Fintech risk over time, this paper plots the sequence of Fintech risk fluctuations, as shown in **Figure 1**. The greater the absolute value of Fintech risk, the higher the level of Fintech risk.

As can be seen from the figure, Fintech risk peaked in 2015, was higher at the end of 2019, and fell back in 2020. 2013 is known as the first year of internet



**Figure 1.** Fintech risk sequence fluctuations.

finance, is a year of explosive growth of financial technology, its development heat in 2014 has not yet decayed, continue to trigger widespread discussion in all walks of life. In 2015, the historical turnover of P2P exceeded one trillion yuan, Internet finance was included in China's five-year plan, and the development speed of financial technology has not decreased, but its hidden risks have finally broken out. At the end of 2019, the outbreak of COVID-19 epidemic ferociously swept the world, seriously interfering with the normal operation of the economy. After most financial trading services can only operate online, the moral hazard caused by the asymmetry of information in the financial technology market has intensified, posing a certain threat to investor safety. In 2020, the use of Fintech services has become the norm for the public, relevant regulatory policies have been implemented in place, public vigilance has increased, and Fintech risks have weakened. In 2014 and 2016-2018, Fintech risks were low. In 2014, some of the chaos in the online loan industry was not detected by the regulatory authorities in advance, and successively collapsed, thereby triggering the resonance of the media and the public for such issues and supervision. Later on, relevant regulatory policies were released one after another, and the public opinion supervision mechanism played a full role, under the supervision of related laws and regulations and policies, the operation of the online loan platform was more open, transparent and standardized, effectively protecting the legitimate rights and interests of Fintech service demanders. The government departments have introduced strict Internet financial supervision measures. On the other hand, the risk prevention awareness of individuals and the companies has been further improved; from 2016 to 2018, the State Council proposed to encourage financial institutions to use emerging information technologies such as big data and cloud computing to innovate products and services, reduce the cost of financial services, and improve the coverage of financial services.

b) Explanatory variable: Government intervention (GOV). The data on government intervention in this paper comes from the official website of the central government department of China and <https://www.pkulaw.com/>, and is obtained by hand collection and collation. These policy texts involve 11 departments and 4 directly subordinate agencies, including the State Council and its subordinate Ministries of Science and Technology, the Development and Reform Commission, the Ministry of Finance, The People's Bank Of China, the China Banking Regulatory Commission, and the Insurance Regulatory Commission. This paper searches government policy documents at all levels using the key words in **Table 1**, and obtains a total of 263 policies from 2011 to 2020, using the number of policies as an index of government intervention.

c) Moderator variable: Media attention (Media). The data on media attention in this paper comes from CNKI's "CCND", which is collected and collated by hand. The text collection of this paper uses the key word search method, which searches the news content of newspapers and periodicals by key words in **Table 1**, and summarizes them according to the total number of media coverage of each key word of Fintech. In order to reduce the possibility of data omission, the

search is carried out using “title query” and “topic query” respectively, thus the overall situation of Fintech media attention is obtained. To avoid duplicates between two or more key words appearing in the same title or topic, this paper finds and rejects duplicates by excel. A total of 33,762 media coverage is generated from 2011 to 2020, with the number of media coverage as a measure of media attention.

d) Control variables. Tian & Sun (2021) divided the influencing factors of internet financial risk into three categories: security risk influencing factors, network trust risk influencing factors and legal risk influencing factors. Deng (2016) believes that the influencing factors of Internet financial risk are the content of network information technology and the strength of legal supervision. Dong (2016) believes that the influencing factors of Internet financial risk are monetary policy, market supervision and social credit system. Some scholars discussed the influencing factors of digital financial market segmentation risk. For example, they believe that the influencing factors of P2P network lending risk are product alienation, the establishment time of problem platform, the type of problem platform and the exposure time of lending risk. Zhu (2017) believes that the influencing factors of Internet financial risk are legal supervision and network information technology.

This paper combines the results of the study, the control variables include the development level of financial technology (DFT), the development level of basic technology (DBT), and the application level of basic technology (ABT). Limited to the availability of data, this paper uses the number of E-payments to represent the development level of Fintech, the number of software and information technology service company units to represent the development level of basic science and technology, and the number of broadband access users to represent the application level of basic technology. To keep the data consistent with the time frequency, Eviews is used to convert low-frequency data into monthly data using the quadratic matching averaging method (see Table 2).

**Table 2.** Definitions and sources of related variables.

Type of variable	Name of variable	Symbol	Interpretation of variable	Sources of data
Explained variables	Financial technology risks	FTR	Fintech index volatility levels	Baidu Index Database
Explanatory variables	Government intervention	GOV	Number of government policies	Official website of the central government department; <a href="https://www.pkulaw.com/">https://www.pkulaw.com/</a>
Moderator variables	Media attention	Media	Number of media coverage	CCND
	The development level of Fintech	DFT	The number of e-payments	The People’s Bank Of China
Control variables	The development level of basic sciences and technology	DBT	Number of company units in the software and information technology services industry	National Bureau of Statistics
	The application level of of basic science and technology	ABT	Number of broadband access users	National Bureau of Statistics

## 2) Model Setting

To analyze the impact of government intervention on Fintech risks, a baseline regression model is constructed:

$$FTR_t = aGOV_t + bX_t + c \quad (4)$$

In the model,  $FTR$  indicates Fintech risk,  $GOV$  indicates government intervention,  $X$  represents control variables,  $t$  represents month, and  $a$ ,  $b$ , and  $c$  are constants.

In order to analyze the nonlinear relationship between government intervention and Fintech risks, this paper uses the Time Series Panel Threshold model, and establishes a single panel threshold model based on the benchmark model:

$$FTR_t = \begin{cases} a_1GOV_t + b_1X_t + c, & m_t \leq \theta \\ a_2GOV_t + b_2X_t + c, & m_t > \theta \end{cases} \quad (5)$$

wherein  $\theta$  represents the threshold value and  $m_t$  represents the threshold variable. In this paper, government intervention is taken as the threshold variable, when the actual value of government intervention exceeds the threshold value, the coefficient of government intervention is significantly different from the coefficient when it is less than the threshold value, thus to divide the model into two stages accordingly.

To analyze the direct impact of media attention on Fintech risk, a regression equation is constructed:

$$FTR_t = \beta Media_t + \mu X_t + c \quad (6)$$

To analyze the mediatorial role played by media attention in the process of government intervention affecting Fintech risks, a regression equation is constructed:

$$FTR_t = \alpha_1 GOV + \beta_1 Media_t + \mu_1 X_t + \gamma_1 \quad (7)$$

$$FTR_t = \alpha_1 GOV + \beta_2 Media_t + \epsilon (GOV_t \times Media_t) + \mu_2 X_t + \gamma_2 \quad (8)$$

Wherein,  $FTR$  indicates Fintech risk,  $Media$  indicates media attention,  $X$  indicates control variables,  $GOV \times Media$  indicates the interaction between government intervention and media attention,  $t$  indicates month, and  $a$ ,  $b$ ,  $c$  are constants. Equation (6) is a benchmark regression of the impact of media attention on Fintech risks. Equation (7) adds media attention on the basis of Equation (4), Equation (8) test the regulatory role of media attention by introducing interaction items of government intervention and media attention, and judge whether the regulatory role of media attention in the impact of government intervention on Fintech risks is established and what the impact is based on the size, positive or negative of the interaction term coefficient  $\epsilon$  and its significance.

## 4. Empirical Analysis

### 1) Correlation Test

**Table 3** shows the results of the Pearson correlation test between variables. Based on the result, the relationship between government intervention (GOV),

**Table 3.** Correlation tests for major variables.

Variables	VaR	Media	GOV	DFT	DBT	ABT
FTR	1.000 (0.000***)					
Media	-0.280 (0.006***)	1.000 (0.000***)				
GOV	-0.373 (0.000***)	0.460 (0.000***)	1.000 (0.000***)			
DFT	-0.045 (0.663)	0.239 (0.019**)	0.162 (0.114)	1.000 (0.000***)		
DBT	-0.002 (0.985)	0.370 (0.000***)	0.388 (0.000***)	0.730 (0.000***)	1.000 (0.000***)	
ABT	0.017 (0.869)	0.083 (0.422)	0.043 (0.678)	0.944 (0.000***)	0.573 (0.000***)	1.000 (0.000***)

media attention (Media), financial technology risk (FTR) and other control variables can be seen, thus to judge whether there is a multicollinear relationship between the variables.

As can be seen from **Table 3**, media attention and financial technology risk (FTR) are significantly negatively correlated at the level of 0.01, and media attention (Media) is significantly positively correlated with government intervention (GOV) at the level of 0.01, indicating that media attention and government intervention mutually supervise each other, which is consistent with the previous analysis. Moreover, the development level of Fintech (DFT) was positively correlated with media attention at the level of 0.05; the development level of basic technology (DBT) was significantly positively correlated with media attention (Media), government intervention (GOV) and development level of Fintech (DFT) at the level of 0.01; and the application level of basic technology application (ABT) was significantly positively correlated with the development level of Fintech (DFT) and the development level of basic technology (DBT) at the level of 0.01. In general, the correlation among the control variables and the explanatory variables and the explained variables is not significant.

## 2) Descriptive statistics

**Table 4** shows the descriptive statistical results of the main variables. The average financial technology risk (FTR) is  $-1.467$ , the minimum value is  $-3.583$ , i.e., the maximum loss is  $3.583$ , the maximum value is  $-0.845$ , and namely the minimum loss is  $0.845$ , which shows that the degree of risk of each Fintech during the sample period varies greatly. The average government intervention (GOV) is  $2.74$ , with a policy minimum of  $0$  and a maximum of  $12$ . Media attention (Media) means  $317.250$ , with a low of  $80$  and a maximum of  $527$ , indicating a certain fluctuation in media attention to the Fintech sector during the sample period. The maximum value of the application level of basic technology (ABT) is  $48355$ , the minimum value is  $17737$ , and the median  $30012.39$  is closer to the

maximum, indicating that the application level of basic technology is generally higher. The maximum value of the development level of Fintech (DFT) is 233.022, and the minimum value is 17.871, which shows that there are large differences in the development level of financial technology. The maximum value of the development level of basic science and technology (DBT) is 42764, the minimum value is 28327, and the median 38237.5 is closer to the maximum, indicating that the development level of basic science and technology is generally higher.

### 3) Panel threshold effects of government intervention on Fintech risks

Regression to Equation (5) yields a threshold value for the impact of government intervention on Fintech risks, as shown in **Table 5**. The results show that the impact of government intervention on Fintech risk is not a simple linear relationship, and threshold value 6 divides the effect of government intervention on Fintech risk into 2 stages. When the number of government intervention is less than 6, the regression coefficient of government intervention is  $-0.0285$ , at this time, government intervention has a restraining effect on Fintech risks, but the effect is not significant; when the number of government intervention is greater than 6, the regression coefficient of government intervention is  $-0.2149$ , the absolute value increases, and the effect is significant, which shows that government

**Table 4.** Descriptive statistics of the main variables

Variable	Mean	Median	Maximum	Minimum	Standard deviation
VaR	-1.467	-1.325	-0.845	-3.583	0.498
GOV	2.740	2.000	12.000	0.000	2.433
Media	317.250	315.500	527.000	80.000	91.338
ABT	30861.510	30012.390	48355.000	17737.000	10550.530
DFT	113.572	123.451	223.022	17.871	62.936
DBT	37083.330	38237.500	42764.000	28327.000	3358.255

**Table 5.** Panel threshold effects of government intervention on Fintech risks.

Threshold variable	Variable	Coefficient	Standard error	Z value	P value
GOV $\leq$ 6	GOV	-0.0285	0.0257	-1.110	0.268
	DBT	0.0001	0.0000	2.760	0.006
	DFT	-0.0027	0.0010	-2.850	0.004
	ABT	-0.0001	0.0000	-2.160	0.030
	Constant	-2.9592	0.6029	-4.910	0.000
GOV $>$ 6	GOV	-0.2149	0.0887	-2.420	0.015
	DBT	0.0007	0.0002	2.910	0.004
	DFT	0.0085	0.0030	2.860	0.004
	ABT	0.0000	0.0000	2.700	0.007
	Constant	-28.4417	9.5251	-2.990	0.003

intervention is inversely proportional to Fintech risk, thus hypothesis 1.1 is true while hypothesis 1.2 is not true.

This result shows that the government in China is able to fully investigate and judge the current situation of the Fintech market and investors, and appropriately intervene in the risk of Fintech to correct market failures. By combining the theoretical evolution of the relationship between the government and the market, Lang (2018) put forward the principles and boundaries of government intervention in the economy. She believed that the principles of government intervention were market priorities, public interest and necessity. Referring to Lang's research, this paper divides the boundaries of government intervention into 2 parts, one emphasizing the market and the law, and the other emphasizing the public interest. Taking the online loan industry in the Fintech market as an example, some of the chaos in the online loan industry has not been detected by the regulatory authorities in advance, and has successively collapsed, which has triggered the resonance of the media and the public for such issues and supervision. Subsequently, relevant regulatory policies and laws and regulations have been released one after another, and the public opinion supervision mechanism has played a full role, under the supervision of relevant laws, regulations and policies, the operation status of the online loan platform has become more open, transparent and standardized, effectively protecting the legitimate rights and interests of Fintech service demanders. Through the intervention of government policies, the integrity and effectiveness of the Fintech governance chain is guaranteed, as well as correcting some inherent defects in the administrative governance mechanism of the Fintech industry.

#### 4) Direct impact of media attention on Fintech risks

Regression to Equation (6) yields the results of the direct impact of media attention on Fintech risks, as shown in Table 6. According to Table 6, the coefficient of media attention in the benchmark regression model is  $-0.00183$ , namely, media attention has a restraining effect on Fintech risks and has a significant effect ( $P < 0.05$ ). Thus hypothesis 2 is true.

This result shows that media attention is able to inhibit Fintech risks to some extent. It is difficult to extend the power of government to every public. Nowadays, every public can publish information anytime and anywhere, changing them from a single recipient of information to an information publisher. However,

**Table 6.** The direct impact of media attention on Fintech risks.

Variable	Coefficient	Standard error	t statistic	P value
Media	-0.00183	0.00063	-2.87909	0.00500
DBT	-0.00002	0.00001	-2.54465	0.01260
DFT	0.00263	0.00221	1.19405	0.03550
ABT	-0.00001	0.00001	-0.78372	0.03520

the public's information sources are mostly the authoritative media, and the dissemination of risk information is controllable to a certain extent. Therefore, in the public opinion field of Fintech risk, the mainstream media as a platform and a fulcrum, its multi-dimensional interaction and coordination with the government and the public is able to improve the information asymmetry in the Fintech market, and aggregate information from all aspects of society, correct the cognitive biases of investors, and form a social information environment conducive to preventing the Fintech risks.

#### 5) Result of the regression of the moderation effect of media attention

The results are shown in **Table 7**. As can be seen from the above table, in terms of Model 1, the independent variable GOV shows significance, which means that government intervention has a significant impact on Fintech risks. The F value changes significantly from Model 2 to Model 3, and the interaction term GOV\*Media between government intervention and media attention in Model 3 shows significance, which means that media attention has a moderation effect when government intervention affects the Fintech risks. In model 1, the coefficient of the main effect of government intervention is negative, and in Model 3, the interaction coefficient between government intervention and media attention is also negative, indicating that as a moderator variable, media attention will strengthen the inhibitory effect of government intervention on Fintech risks, thus hypothesis 3 is true.

This result shows that the media plays a positive regulatory role in the process of government intervention to curb Fintech risks. Media attention shapes the policy agenda of policymakers through agenda-setting (Kingdon, 1995), and media attention creates public pressure on relevant policymakers. Both of the above are conducive to the government regulatory authorities to put Fintech-related issues on the government policy agenda as soon as possible, and are conducive to the government's work to prevent and resolve the Fintech risks.

**Table 7.** Moderation effect regression results of media attention.

Variable	Model 1	Model 2	Model 3
Constant	-2.946	-3.419*	-2.680*
ABT	0.000***	0.000***	0.000*
DFT	-0.009**	-0.008*	-0.005
DBT	0.000***	0.000**	0.000
GOV	-0.000***	-0.081***	-0.029
Media		-0.001	-0.001
GOV * Media			-0.001***
R <sup>2</sup>	0.288	0.296	0.498
Adjusted R <sup>2</sup>	0.24	0.24	0.452
F value	6.003***	5.282***	10.788***

## 5. Conclusion and Recommendations

This paper analyzes the impact of government intervention and media attention on Fintech risks and the influencing mechanism thereof, and empirically examines the panel threshold effects of government intervention and the moderation effects of media attention. Research has found that both government intervention and media attention are able to effectively inhibit Fintech risks, meanwhile, media attention plays a role in the process of government intervention, which is conducive to improving the inhibitory effect of government intervention on Fintech risks.

Based on the research conclusions above, and combined with the background of the agenda-setting theory and the rise of today's new media and we media, this paper carries out the following suggestions: 1. In terms of the interaction between the government and the media. The relevant government departments need to focus more on media coverage and public opinion. The government should encourage and require economic media to learn financial knowledge on time, and establish a good Fintech knowledge system within the media, thus reducing the public opinion that is not conducive to the healthy development of Fintech due to the unfamiliarity with Fintech. The government should also encourage and monitor the media to adhere to objective reporting and confront risk-sensitive information in the Fintech market. For some illegal Fintech companies or platforms, with the support of the government, the media should dare to go deep and expose the "shady deals" behind their business operations, conduct dynamic tracking and in-depth analysis, and ensure the authenticity and reliability of information. Last year, the National Anti-Fraud Center went popular on the short video platforms. Through various forms such as police propaganda, network sitcoms, and arrest records, the National Anti-Fraud Center carefully produced and released a number of short videos, profoundly exposing and criticizing network loans, placing fake orders online, "pig-butcheringscams", impersonating customer service for refunds, impersonating "public security organs", "recommending stocks" and other typical fraud methods, many of which are related to Fintech. This has shown exactly how the government interacts with the media with the concept of "Fintech has certain risks", and integrates it into the anti-fraud links, helping the public to recognize the risks of Fintech and identify scams in the name of Fintech through vivid and interesting communication methods.

In terms of the interaction between the government and the public. On the one hand, governments need to use their authoritative advantages in the Fintech market to have a positive impact on the public. First of all, the government should improve the "Internet + Government Affairs" model, increase channels for internet voices, and make good use of the social attributes of official online accounts such as government websites, government Weibos, and WeChat official accounts, rather than simply emphasizing their political propaganda attributes, so as to narrow the distance between the government and the public. On the basis

of fully understanding the Fintech and public demands, the relevant government departments can fill the information gap of some new financial services through effective voices, so that the authoritative and accurate Fintech related information can be widely disseminated in the field of network and the public information dissemination system. This is conducive to strengthening the impact of the policy agenda on the public agenda and achieving effective communication between the government and the public. On the other hand, the rise of we media in recent years has made the general public no longer just the listeners and implementers of government policies, they are able to independently provide and share information, and their role has gradually changed from the communication object of social issues to the main body of communication, making the public's voice be able to directly conveyed to all sectors of the society. The government should set up a special group to pay close attention to the we media that speak on behalf of the public and companies, and conduct big data analysis on the voices of the public, thus quickly knowing the generation of public opinion and change of public opinion trends in the Fintech market, grasping the sources and trends of Fintech risks in a faster manner.

In terms of the interaction between the media and the public. As can be seen from the network agenda-setting, the truly effective dissemination is permeable and imperceptible. The media can hide their attitudes and views that they want to convey in the links related to the various factors of Fintech, and help the public shape a good Fintech knowledge system through in-depth processing and integration of each link, so that the public is able to make correct judgments and better respond to the Fintech risks. The media can cooperate with the financial institutions to set up a Fintech publicity team to advertise publicity materials when the public purchases Fintech service products, enabling the fundamental knowledge of Fintech and Fintech risk prevention known to every family.

However, due to the limitation of time, energy and article length, this paper still has some limitations, which are mainly reflected in the following two aspects: first, due to the wide variety of media and the wide coverage of internet, mobile phone and television, the data is difficult to count, so this paper refers to the practice of most of the literature on media reports, The number of news reports from the CNKI's "CCND" is selected as the measure of media reports, and the sample size is not rich enough. Second, studies have proved that media sentiment or media tone has a great impact on investors in the stock market. Due to the insufficient sample size of media reports, this paper does not distinguish between positive and negative media reports and analyze their internal relationship with Fintech risk. In view of the limitations of this paper, the follow-up research can be deeply discussed from the following aspects. First, when collecting media reports, we can cooperate with the platform to increase the samples of online media, and test the heterogeneity of the impact of online media and traditional media on Fintech risks. Second, in the case of sufficient sample size, distinguish media sentiment, and study the response of Fintech market and Fintech

risk to it. Third, conduct detailed research on the Fintech market and build a more objective and scientific Fintech risk index system. Fourth, the relationship between the government and the media in different countries and regions is different, and the development level of digital finance is also different. We can try to do this research in different countries and regions.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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