

Research Article

Spatial Spillover Effect of Financial Flexibility on Investment in China's Convention and Exhibition Listed Companies

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Financial flexibility is an important research issue in corporate finance. This paper utilizes the Spatial Durbin Model (SDM) to analyze the impact of financial flexibility on the investment of Convention and Exhibition companies listed on the New Third Board from 2014 to 2016. The empirical results show the following. Firstly, the greater the financial flexibility, the more investment the firm will make. Secondly, the enhancement in financial flexibility would lead to an increase in investment of companies in the Convention and Exhibition industry in the local provinces, indicating that the financial flexibility has a significant positive intraregional spatial spillover effect on investment. On the other hand, financial flexibility has spatial spillover effects, and its rise will reduce the investment in other provinces, which could be explained by the competition effect between enterprises. Overall, we have further elucidated the role of different levels of financial flexibility on the investment of the Convention and Exhibition listed enterprises from the spatial dimension, thereby enriching the existing research on corporate financial flexibility and corporate value to some certain extent.

1. Introduction

According to the “China Convention and Exhibition industry’s capital market development report in 2016,” released by China Convention and Exhibition Society in the end of 2017, China’s Convention and Exhibition industry has experienced a rapid development with its growth rate reaching 11.1 percent, which is far higher than the GDP growth rate of 6.7 percent, and also higher than the growth rate of 7.8% of the added value of other service industries. On the other hand, there are fewer Convention and Exhibition enterprises above the designated size in our country, scattered with low-degree concentration, and it is vulnerable to be affected by the overall macroeconomic fluctuations. While the Convention and Exhibition industry is in urgent need of financial support from capital market, it is especially important for its listed enterprises to make rational use of capital and seize favorable investment opportunities for sustainable development. In theory of corporate finance, the key to effective use of funds lies in the financial flexibility of

enterprises, which is closely related to the investment of enterprises. In order to enhance enterprise value, it is of strategic significance to quantify the impact of financial flexibility of Convention and Exhibition listed enterprises on investment by using an appropriate econometric model.

Financial flexibility refers to enterprises’ capability to obtain or transfer financial resources in time in order to take precautions against or take great advantage of uncertain events, grasp valuable investment opportunities, and ultimately realize its optimal value [1–3]. In other words, financial flexibility represents an enterprise’s ability to respond to unexpected shocks or investment opportunities of uncertainty at quite low cost [4]. When confronted with an unfavorable economic environment, the amount of debt financing determines the probability of enterprises coping with the crisis and avoiding bankruptcy risks, while the capital structure of low debt means good financial flexibility. Overseas researchers mainly concentrated on the following two aspects. First is the impact of financial flexibility on enterprise performance, value, and investment [5–7]. For

example, Gamba and Triantis [5] developed a model that endogenizes dynamic financing, investment, and cash retention/payout policies in order to analyze the effect of financial flexibility on firm value. Using the 2007 financial crisis as a natural experiment, Ferrando et al. [7] found that a higher degree of financial flexibility allows firms to reduce the negative impact of liquidity of shocks on investment and thus support the hypothesis that the financial flexibility improves companies' capability to undertake future investment. The second one is the application of specific financial decision-making [7, 8]; specifically, Almeida et al. [8] studied a model in which future financing constraints lead firms to have a preference for investments with shorter payback periods, investments with less risk, and investments that utilize more pledgeable assets, which indirectly revealed that the financial flexibility would affect the financial investment policy. In China, the previous researches focus on the following three points. First is the theory and practice of the relationship between financial flexibility and enterprise investment behavior, including the effects of financial flexibility posed on the performance of microenterprises under uncertain environment [9, 10], dividend policy [11], and investment decision-making choices [12]. Second is research on the relationship between financial flexibility and enterprise financing behavior [13–15]. The last one is introducing certain constraints into the original topic, such as bank credit granting [16], environmental uncertainty and enterprise characteristics [17], political connections of private enterprises [18], and overconfidence of managers [19], making the results more sufficient and credible.

Specifically, as for the financial flexibility and investment, researchers found that the path of the impact of financial flexibility on investment efficiency is complex: for example, the financial flexibility can be measured by cash flexibility and debt flexibility [20]; besides, investment contains underinvestment and overinvestment [12–14]. Moreover, financing constraint is an adjustment variable for the relationship between financial flexibility and insufficient investment of enterprises [14, 21, 22]; in addition, the enhanced effect of the financial flexibility on the investment of the company in future is profoundly affected by the effectiveness of corporate governance [23].

Enlightened by the above literature review, our motivation is attempting to use a quantitative method to investigate the exact relationship between financial flexibility and investment in Convention and Exhibition industry. The possible contributions of our paper may lie in the following two dimensions. First, the scope of the research will be carried out at the industry level. At present, instead of taking the new three-board tourism enterprises as the main research object, most of the researches in China are concentrated in A-share listed enterprises [24–31]. Furthermore, in terms of research methods, quantitative analysis is employed by using the spatial panel econometric model from the spatial dimension. As we all know, quantitative analysis has become a necessary yet crucial method for almost all kinds of research areas [32–37]. As far as we know, there is no literature using this econometric empirical model to investigate the relationship between financial

flexibility and investment in Convention and Exhibition enterprises. As an emerging industry, the Convention and Exhibition industry has its unique nature, thus, exploring the internal relationship between financial flexibility and investment in this industry is beneficial for the Convention and Exhibition industry, which is relatively small in strength until now, not only to grasp investment opportunities and achieve stable development in an uncertain economy, but also to enrich the research results of the overall capital market in this field.

The remainder of the paper is organized as follows. Section 2 describes the theoretical mechanism and methods and specifies the spatial econometric model setting. Empirical analysis and results are presented in Section 3, and we make conclusions in Section 4.

2. Theories and Methods

2.1. Theoretical Mechanism. This paper utilizes the space panel econometric model to study the relationship between financial flexibility and investment of Convention and Exhibition listed enterprises. In the empirical analysis, the province where the enterprise is located is indicated as its spatial location.

Before analyzing the spatial spillover mechanism of corporate financial flexibility on corporate investment, we must first figure out how corporate financial flexibility directly affects intraregional corporate investment, as the spatial spillover effect is the extension of the direct effect to a certain extent. Financial flexibility is one of the important indicators that affect the investment level of enterprises [21]. In an uncertain market environment, by maintaining favorable financial flexibility through sufficient cash flow holding and low leverage rate, enterprises can not only smoothly survive on fierce external environmental threats, but also, more importantly, obtain external financing support easily, so as to seize future investment opportunities and improve corporate value.

Krugman [38] considered that spillover effects are never confined within the initial spillover site by either geographical or administrative boundaries. In general, financial flexibility may produce a spatial spillover effect through the following channel: a pure knowledge technology spillover effect—in order to achieve the corporate value by seizing investment opportunity, the company will emulate the investment behavior of enterprises in the same industry by drawing lessons from their components' excellent financial flexibility plan and formulating their own financing scheme.

2.2. Spatial Econometric Model Setting

2.2.1. Benchmark Model Settings and Descriptions. Due to the lack of available data, while the quantitative method has become a trend in economy related issues [39–45], most of the researches belong to qualitative analysis in Convention and Exhibition industry area, and we try to utilize the following spatial econometric model to investigate the exact relationship between financial flexibility and investment.

The first step of studying the existence of the spatial spillover effect is correctly setting the spatial econometric model. Three spatial panel models are mainly adopted in empirical research: the spatial lag model, the spatial error model, and the SDM. Based on the specific purpose and theoretical mechanism of the study, this paper attempts to

explore the spatial impact of financial flexibility on corporate investment with the SDM. In addition, combined with Richardson's model and Yu's [21] research, as well as the availability to the variables, our model is as follows:

$$\text{Invest}_{it} = \rho W_{it} \text{Invest}_{it} + \theta W_{it} \text{FF}_{it} + \eta \text{Size}_{it} + \varphi \text{Tan}_{it} + \kappa \text{CF}_{it} + \mu_i + \delta_t + \varepsilon_{it}, \quad \varepsilon_{it} \sim N(0, \sigma^2), \quad (1)$$

where subscript i denotes a Convention and Exhibition company and t denotes a semiannual, Invest_{it} is the dependent variable, representing the ratio of the cash paid for the purchase on fixed assets, intangible assets, and other long-term assets in t year minus the net cash paid for the disposed fixed assets, intangible assets, and other long-term assets, as well as their depreciation and amortization in t year, to the average total assets, and W is the exogenous space weight matrix, FF_{it} is the independent variable, an abbreviation for financial flexibility, $W_{it} \text{Invest}_{it}$ specifies the weight matrix for the spatial-autoregressive term, and ρ is the spatial correlation coefficient indicating the degree of influence between adjacent variables, $W_{it} \text{FF}_{it}$ specifies the weight matrix for the spatially lagged regressor, and θ is its spatial coefficient. Size_{it} , Tan_{it} , and CF_{it} are control variables, representing the ratio of fixed asset to total assets and cash flow, respectively, μ_i and δ_t represent the city individual effect and time fixed effect, respectively, and ε_{it} is random error term. Given the distribution function, Anselin [46] pointed out that a consistent unbiased estimate can be obtained by using maximum likelihood estimation, and the spatial panel maximum likelihood estimation is used in this paper. In fact, the "endogeneity problem" in this case has to do with simultaneous equations, and formula (1) actually can be interpreted as a "typical" equation of a simultaneous equation model with as many equations as there are cities ($i = 1, 2, \dots, n$).

In addition, we would apply the Hausman test to decide whether the spatial econometric model with fixed effect or with the random effect model would be employed.

2.2.2. Measurement of Direct and Indirect Effects. In a spatial setting, the effect of an explanatory variable change in a

particular unit affects not only that unit but also its neighbors. By applying the concept of partial differential method in mathematics, Lesage and Pace [47] propose to measure the direct and indirect effects between adjacent regions. Furthermore, Elhorst [48] applies this approach to the direct and indirect effects measurement in SDM, taking into account the spatial correlation information of the dependent variables and the independent variables.

According to these researchers' ideas, the existence of an intraregional spillover effect is not related to the estimated coefficient of explanatory variables (β), so we should pay attention to whether the direct effect of the estimation of explanatory variables is significant. Also, to test for the existence of a spatial spillover effect, we should concentrate on whether the indirect effect of explanatory variables is significant, and not either the spatial autocorrelation coefficient (ρ) or the spatial lag coefficient of explanatory variables (θ). Assume that the general matrix expression of the SDM model is as shown in the following:

$$Y_{it} = \rho W Y_{it} + \beta X_{it} + \theta W X_{it} + \mu_i + \delta_t + \varepsilon_{it}, \quad (2)$$

where Y_{it} is the explained vector and X_{it} represents an explanatory variable vector. ρ is the spatial autocorrelation coefficient, W is the exogenous space weight matrix, and ρW represents ρ multiple W ; the use of ρW is calculating the direct and indirect effect, which possesses no economic meaning, however, while $W Y_{it}$ also signifies W multiple Y_{it} ; it has a true economic meaning; that is, $W Y_{it}$ is a new explanatory variable.

It is modified as shown in the following:

$$Y_{it} = (1 - \rho W)^{-1} (\beta X_{it} + \theta W X_{it}) + (1 - \rho W)^{-1} \mu_i + (1 - \rho W)^{-1} \delta_t + (1 - \rho W)^{-1} \varepsilon_{it}, \quad (3)$$

where the interpretations of ρ and θ are the same as (2), and in the process of the model construction, if $\theta = 0$, then the

SDM degrades into the SLM, and if $\theta + \rho\beta = 0$, it degrades into SEM; otherwise, it still SDM.

Taking a partial derivative of formula (3) to the k -th explanatory variable, a partial differential matrix is obtained, as shown in the following:

$$\left[\frac{\partial Y}{\partial X_{it}} \times \frac{\partial Y}{\partial X_{Nt}} \right] = \begin{bmatrix} \frac{\partial Y_1}{\partial X_{1t}} \times \frac{\partial Y_1}{\partial X_{Nt}} \\ \vdots \\ \frac{\partial Y_N}{\partial X_{1t}} \times \frac{\partial Y_N}{\partial X_{Nt}} \end{bmatrix} = (I - \rho W)^{-1} \begin{bmatrix} \beta_t & w_{12}\delta_t & \cdots & w_{1N}\delta_t \\ w_{21}\delta_t & \beta_t & \cdots & w_{2N}\delta_t \\ \vdots & \vdots & \ddots & \vdots \\ w_{N1}\delta_t & w_{N2}\delta_t & \cdots & \beta_t \end{bmatrix}, \quad (4)$$

where the average value of the elements on the main diagonal of the matrix is defined as the direct influence of the k -th explanatory variable on the explained variable in the region; the average value of elements other than diagonal lines is defined as the indirect effect of the explanatory variable affected by other regions.

2.2.3. Setting of Spatial Weight Matrix W . Regional agglomeration characteristics, namely, spatial autocorrelation, indicate whether there are significant spatial spillover and mutual imitation effects in the variables. We calculated Moran's I index to test for the existence of the spatial correlation [47]. Moran's I index is defined as follows.

X is variable, including both the explained and explanatory variables, and W represents an adjacent order matrix with $n \times n$ spaces; the key issue becomes how to choose a reasonable W . Either the contiguity based spatial weight matrix ($W1$) or distance based spatial weights ($W2$) are widely used. In this paper, we use the former, and we find that the empirical results do not change when the alternative is applied. $W1$ is expressed as follows:

$$W_{ij} = \begin{cases} 1, & \text{regions } i \text{ and } j \text{ are neighboring regions,} \\ 0, & \text{regions } i \text{ and } j \text{ are not neighboring regions,} \end{cases} \quad (5)$$

$$\text{financial flexibility} = \text{financial debt ratio} + \text{cash asset ratio}, \quad (6)$$

where

$$\text{financial debt ratio} = \frac{\left(\begin{array}{l} \text{total current liability} + \text{short-term loan} + \text{noncurrent liabilities due within one year} \\ + \text{transactional financial liabilities} + \text{transactional financial liabilities} \end{array} \right)}{\text{total liability}}, \quad (7)$$

$$\text{cash asset ratio} = \frac{\text{ending balance of cash and cash equivalents}}{\text{total assets}}.$$

In this paper, Moran's I index of all explanatory variables and dependent variables is calculated, with the aim of judging whether the spatially lagged term of the variables should be taken as an additional explanatory variable. At the same time, a statistical test for the significance of Moran's I index needs to be conducted; this is usually achieved by a Z -test of normal distribution.

2.3. Specific Variables

2.3.1. Dependent Variable. The explanatory variable of this article is the enterprise financial flexibility, which is quantified as the sum of cash flexibility and debt financing flexibility by using the method of multi-index combination [23, 49]. In fact, Zeng et al. [49] summarized that the measurement of financial flexibility is as follows at home and abroad: single index measurement, multi-index combination measurement, and multi-index synthesis measurement. The first one assesses the degree of financial flexibility by a single index, while the second one is combining multiple indexes at the same time. Thus, in this paper, the financial flexibility is defined as follows:

2.3.2. *Key Explanatory Variable.* This paper focuses on the spatial impact of corporate financial flexibility on corporate investment; thus, the core explanatory variable is corporate investment. Corporate investment is calculated as the cash paid for the purchase on fixed assets, intangible assets, and other long-term assets in t year minus the net cash paid for

the disposed fixed assets, intangible assets, and other long-term assets, as well as their depreciation and amortization in t year divided the book value of total assets at end of period; this is,

$$\text{investment} = \frac{\left(\begin{array}{l} \text{the cash paid for the purchase on fixed assets, intangible assets, and other long - term assets} \\ -\text{the net cash paid for the disposed fixed assets, intangible assets, and other long - term assets} \end{array} \right)}{\text{book value of total assests at end of period}} \quad (8)$$

2.3.3. *Control Variables.* Enlightened by the extant researches on financial flexibility and investment of other industries, like Yu [21] and Dai and Ren [23], which verified that the corporate size, cash flow, and the ratio of fixed asset to total assets significantly determined the total expenditure

of the corporate investment; this paper also takes these variables as crucial control variables. The definitions of all the control variables are as follows:

size: natural logarithm of the ending total assets,

$$\text{cash flow} = \frac{\text{net cash flow from operating activities}}{\text{ending total assets}}, \quad (9)$$

$$\text{ratio of physical assets} = \frac{\text{fixed asset}}{\text{total assets}}$$

3. Empirical Analysis

3.1. *Data and Descriptive Statistics.* Considering the influence of changes in corporate accounting standards and according to the classification of “Activity Content,” this paper selected companies listed in the national small- and medium-sized enterprise share transfer system from 2014 to 2016 with the industry attributes of “business service industry” and “sports” as research samples; the detailed reasons are as the development of China’s convention and exhibition industry is still in the primary stage, strictly speaking, there are no mature listed ones in China. Meanwhile, there is no authoritative definition for the convention and exhibition enterprises, and this paper adopts the concepts of “activities” to identify the sample selection, specifically, the companies which aim to organize activities, provide information services, organize offline activities or provide online and offline integrated marketing services, and gather specific people on specific occasions in the mode of project operation; more importantly, the organization and operation services provided that have third-party attributes, emphasizing the participation of “people” and meeting the financial requirements of 2014 to 2016, will be selected as our sample. Undeniably, the deficiency of this paper is the limited data selection and acquisition, which may lead to the error of the research results to a certain extent. At the same

time, the paper removed the samples under the following conditions. First is excluding enterprises in the media industry of the business service industry that only focus on advertising production and film and television production, leasing, media, printing, and so on. The characteristic of such enterprises is that their main business is only one procedure in the whole planning and operation process. Second, enterprises that are in the business of providing service for real estate and tourist attractions to promote sales are not included; the reason is that such planning and operation only provide warm-up and promotion services for its real main business income, which is not the main business itself. Third, eliminating enterprises lacking public released financial information in 2014 to 2016.

In all, the samples spanned from 2014 to 2016 depend on the availability of the data, primarily originating from the CSMAR database. After satisfying the above constraints, 12 sample companies were obtained. Table 1 reports the mean, the standard deviation, the maximum, and the minimum of the variables. As shown, the mean of corporate investment and financial flexibility are 0.05 and 0.46, respectively, whereas, in Chen et al.’s [15] and in Yu’s [21] papers, the mean of these two variables are 0.04 and 0.07 and 0.05 and -0.05, respectively, indicating that there are obvious differences in the financial flexibility of different industries.

TABLE 1: Descriptive statistics of the variables.

Variable	Obs	Mean	Std. Dev.	Min	Max
Invest	72	0.0494	0.0895	-0.0230	0.3860
FF	72	0.4620	0.2490	0.0379	0.9760
ln size	72	7.7700	0.4480	6.7860	8.7040
Tan	72	0.0749	0.1020	0.0058	0.5770
CF	72	2.52E+06	1.86E+07	-2.62E+07	1.07E+08

TABLE 2: Moran's I of FF and Invest from 2014 to 2016 semiannually.

FF	Moran's I	Z-statistic	P value	Invest	Moran's I	Z-statistic	P value
201412	0.744	2.653	0.001	201412	0.309	4.389	0.005
201506	0.684	2.753	0.002	201506	0.322	4.546	0.004
201512	0.726	2.543	0.003	201512	0.735	3.650	0.003
201606	0.343	2.617	0.008	201606	0.873	3.104	0.001

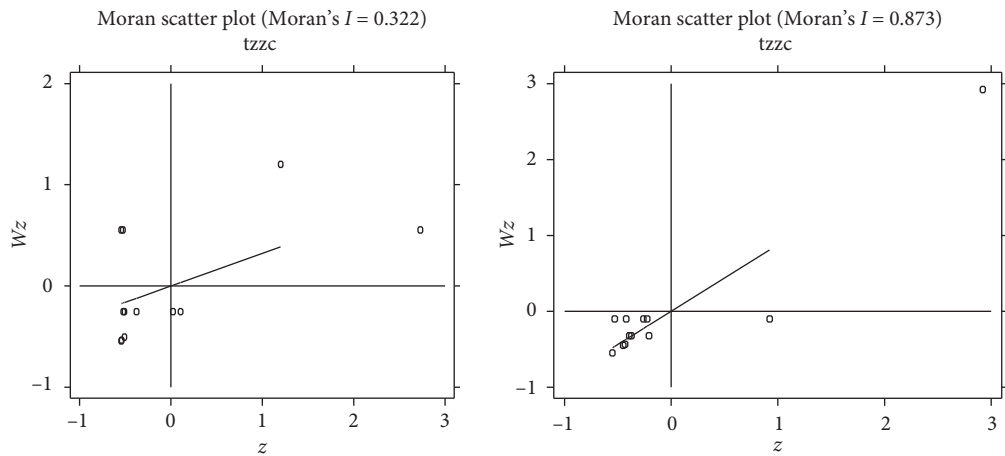


FIGURE 1: Scatter plot of Moran's I for investment (tzzc) at Q2 2015 and Q2 2016.

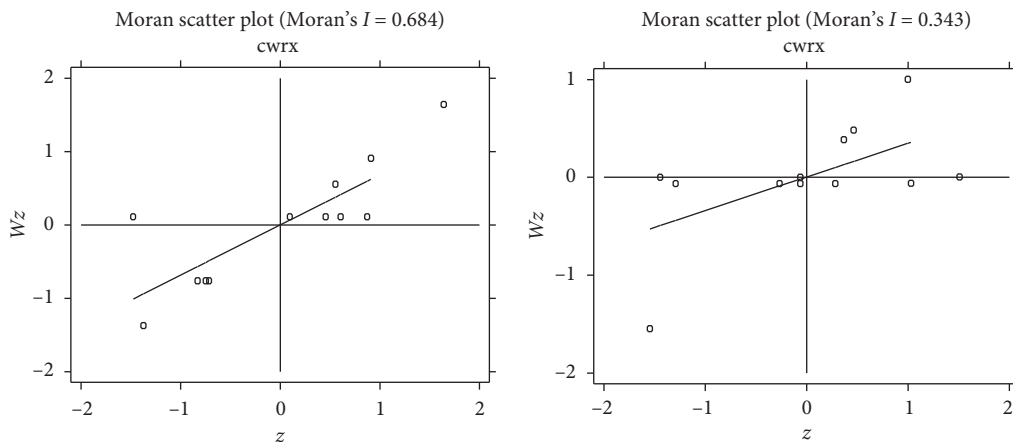


FIGURE 2: Scatter plot of Moran's I for financial flexibility (cwrX) at Q2 2015 and Q2 2016.

3.2. Empirical Results. The explanatory variables' Moran's I indexes are calculated by GeoDa software. Moran's I index is within $(-1, 1)$; its zero value indicates that there is no

spatial correlation, while greater than zero and less than zero represent positive and negative spatial correlations, respectively. Table 2 reports Moran's I of FF and Invest

TABLE 3: SDM regression results for financial flexibility and investment.

Invest	Coef.	Std. Err.	z	$P > z $
<i>Main</i>				
Invest. L1.	-0.2460***	0.0690	-3.56	0.0000
Winvest L1.	0.3330***	0.0778	4.28	0.0000
FF	0.0377*	0.0204	1.84	0.065
ln size	0.0854***	0.0211	4.05	0.0000
Tan	0.1470	0.1160	1.27	0.2050
CF	0.0000	2.16E-10	0.04	0.9640
<i>Wx</i>				
Invest	19338	—	—	—
FF	-0.0226	0.0529	-0.43	0.669
<i>Spatial</i>				
Rho	19337***	0.0358	540000	0.0000
R ²	0.857			

Note. *Main* is explanatory variables without the Durbin terms, *Wx* represents the weight matrix for the spatially lagged dependent and independent variables, *Spatial* means the existence of spatial effect, Coef. is the coefficient of the explanatory variable, Z is the critical value of the Z -test, and R^2 signifies the fitness of the whole model. All these symbols are the same for all tables. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

from 2014 to 2016 semiannual and the Z -statistic and P value, and it can be found that Moran's I indexes of the corporate financial flexibility are significantly greater than zero to certain extent, indicating an obvious positively spatial autocorrelation exists. Therefore, it would be appropriate to employ the SDM to conduct our empirical analysis.

To further investigate the characteristics of the autocorrelation of corporate financial flexibility and investment, Moran's I scatter plots are generated to depict local spatial autocorrelation features in Figures 1 and 2, and the sample period is at the second quarter of 2015 (Q2 2014) and 2016 (Q2 2016), whose Moran's I for investment are 0.322 and 0.873, respectively, and Moran's I for financial investment are 0.684 and 0.343, respectively. The four quadrants of Moran's I scatter plots reflect the spatial connection of the region to its neighboring regions. The data points in quadrant I to quadrant 4 represent the HH type, the LH type, the LL type, and the HL type, respectively. The first and third quadrants reflect the positive spatial autocorrelation. It can seem that, for most of the enterprises, the HH and the LL

TABLE 4: SDM regression results of direct and indirect effects of financial flexibility on investment.

Invest	Coef.	Std. Err.	z	$P > z $
<i>SR Direct</i>				
FF	0.0199**	0.0098	2.03	0.0420
lnsize	0.0424***	0.0106	4.02	0.0000
Tan	0.0714	0.0574	1.25	0.2130
CF	0.0000	0.0000	0.01	0.9880
Invest	0.5000***	9.30E-07	540000	0.0000
<i>SR Indirect</i>				
FF	-0.0199**	0.0098	-2.03	0.0420
lnsize	-0.0424***	0.0106	-4.02	0.0000
Tan	-0.0714	0.0574	-1.25	0.2130
CF	0.0000	0.0000	-0.01	0.9880
Invest	0.5000***	0.0000	540000	0.0000
<i>LR Direct</i>				
FF	0.0160**	0.0079	2.03	0.0420
lnsize	0.0341***	0.0085	4.02	0.0000
Tan	0.0573	0.0461	1.25	0.2130
CF	0.0000	0.0000	0.01	0.9880
Invest	0.5000***	0.0000	540000	0.0000
<i>LR Indirect</i>				
FF	-0.0160***	0.0079	-2.03	0.0420
lnsize	-0.0341***	0.0085	-4.02	0.0000
Tan	-0.0573	0.0460	-1.25	0.2130
CF	0.0000	0.0000	-0.01	0.9880
Invest	0.5000***	0.0000	540000	0.0000

Note. *LR_Direct* and *LR_Indirect* are the long-run direct effect and indirect effect of the variables. *, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

types account for the variables of corporate financial flexibility and investment. Moreover, as time goes by, an increasing number of provinces transfer to the first quadrant (HH type) of each variable, indicating that the spatial differentiation characteristics are obvious.

According to Moran's I value of investment, the full dynamic SDM model in Table 3 is applied for analysis; that is to say, the paper used the SDM model with both the time and space lagged dependent variable and space lagged independent variable. And in part of robustness test, the SDM model with spatial lagged terms will be used:

$$Invest_{it} = \beta Invest_{it-1} + \rho W_{it} Invest_{it} + \rho' W'_{it} Invest_{it-1} + \beta FF_{it} + \theta W_{it} FF_{it} + \theta' W'_{it} FF_{it-1} + \eta Size_{it} + \varphi Tan_{it} + \kappa CF + \mu_i + \delta_t + \varepsilon_{it}. \quad (10)$$

The empirical regression of the model in Table 3 preliminarily manifests that the corporate financial flexibility (denoted by "FF" in "Main" of the Table) is statistically positive, indicating the higher degree of the financial flexibility of the enterprises, the more investment expenditure. At the same time, the "rho" of "Spatial" in the table is

obviously significant, which represents the feasibility of adding time and space lagged spillover effects of dependent variable. In all, Table 3 shows that we could apply the SDM model to quantitatively investigate the effect of financial flexibility on investment in the Convention and Exhibition industry.

TABLE 5: SDM_dlag regression results for financial flexibility on investment.

Invest	Coef.	Std. Err.	z	$P > z $
<i>Main</i>				
Winvest L1.	0.0590	0.0474	1.25	0.2130
FF	0.0533*	0.0286	1.87	0.0620
Insize	0.0638***	0.0217	2.94	0.0030
Tan	0.0713	0.0931	0.77	0.4440
CF	0.0000	0.0000	0.01	0.9950
<i>Wx</i>				
Invest	12707	—	—	—
FF	-0.0477	0.0668	-0.71	0.4750
<i>Spatial</i>				
Rho	12706	0.0306	410000	0.0000
Variance				
Sigma2	0.0008**	0.0004	2.02	0.0430
R^2	0.872			

*, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

Meanwhile, in a spatial setting, Lesage and Pace [47] propose to measure the direct and indirect effects between adjacent regions due to the effect of an explanatory variable change in a particular unit would affect not only that unit but also its neighbors. Thus, based on Table 3, Table 4 shows the empirical results of direct and indirect effects of financial flexibility on enterprise investment expenditures.

The empirical results of Table 4 manifest that the short-term and long-term direct effects of financial flexibility are significantly positive, indicating that the enhancement in financial flexibility would lead to an increase in investment of companies in the Convention and Exhibition industry in the local province; that is to say, financial flexibility has a significant positive intraregional spatial spillover effect on investment. On the other hand, the short-term and long-term indirect effects of financial flexibility are significantly negative, implying that financial flexibility has spatial spillover effects, and its rise will reduce the investment in other cities, which could be explained by the competition effect between enterprises.

Convention and exhibition industry is an emerging service industry. One of the most outstanding features for this industry is “the clustering effect,” which means that the regional competitiveness of convention and exhibition industry is very fierce, as shown by the empirical results in Table 4: financial flexibility has spatial spillover effects, and its rise will reduce the investment in other cities,

TABLE 6: SDM_dlag regression results of direct and indirect effects of financial flexibility on investment.

Invest	Coef.	Std. Err.	z	$P > z $
<i>SR Direct</i>				
FF	0.0259*	0.0141	1.83	0.0670
Insize	0.0328***	0.0107	3.06	0.0020
Tan	0.0364	0.0472	0.77	0.4410
CF	0.0000	0.00175	0.01	0.9940
Invest	0.5000***	1.64E-06	310000	0.0000
<i>SR Indirect</i>				
FF	-0.0259*	0.0141	-1.83	0.0670
Insize	-0.0328***	0.0107	-3.06	0.0020
Tan	-0.0364	0.0472	-0.77	0.4410
CF	0.0000	0.00175	-0.01	0.9940
Invest	0.5000***	1.64E-06	310000	0.0000
<i>LR Direct</i>				
FF	0.0259*	0.0141	1.83	0.0670
Insize	0.03288***	0.0107	3.06	0.0020
Tan	0.0364	0.0472	0.77	0.4410
CF	1.35E-05	0.00175	0.01	0.9940
Invest	0.5000***	1.64E-06	310000	0.0000
<i>LR Indirect</i>				
FF	0.0259*	0.0141	1.83	0.0670
Insize	0.0328***	0.0107	3.06	0.0020
Tan	0.0364	0.0472	0.77	0.4410
CF	0.0000	0.00175	0.01	0.9940
Invest	0.5000***	1.64E-06	310000	0.0000

*, **, and *** represent 10%, 5%, and 1% significance levels, respectively.

which could be explained by the competition effect between enterprises. As we can see, in reality, most of the Convention and Exhibition enterprises are mainly distributed in Beijing, Shanghai, Guangzhou, Dalian, Shenzhen, Xiamen, and other economically developed areas. According to the survey data, Beijing is the first province to hold the most exhibitions in China, followed by Shanghai and Guangdong. From the perspective of exhibition revenue, Guangdong, Beijing, and Shanghai occupy a monopoly position, accounting for nearly 90% of the national exhibition revenue.

3.3. Robustness Tests. The paper applies the SDM model with the space lagged dependent variable and independent variable (abbreviated as SDM_dlag) to conduct the robustness test. The model is as follows:

$$\text{Invest}_{it} = \rho W_{it} \text{Invest}_{it} + \rho' W_{it} \text{Invest}_{it-1} + \beta \text{FF}_{it} + \theta W_{it} \text{FF}_{it} + \theta' W_{it} \text{FF}_{it-1} + \eta \text{Size}_{it} + \varphi \text{Tan}_{it} + \kappa \text{CF} + \mu_i + \delta_t + \varepsilon_{it}, \quad (11)$$

Tables 5 and 6 examine the impact of financial flexibility on investment with SDM_dlag.

As can be seen from Tables 5 and 6, when considering the space lagged effect only, the significance of financial flexibility has not changed greatly. Moreover, while both

long-run direct effect and short-term effect of financial flexibility are significantly positive, the indirect effects are statistically negative. Therefore, it signifies that robustness test analysis is consistent with that of the main part.

4. Conclusion

This paper utilizes the Spatial Durbin Model to examine the spatial spillover effect of financial flexibility on investment from a specific industry perspective, 12 Convention and Exhibition enterprises listed on the New Third Board. This is quite distinct from previous studies that have focused on A-share listed companies from the Main Board Security Market and using common panel econometric models. The empirical results show that financial flexibility in Convention and Exhibition companies has spatial spillover effects, and its rise will reduce the investment in other provinces, which could be explained by the competition effect between enterprises.

These empirical evidences from an emerging industry are complementary to the existing literature on the topic predominantly resting on the US and Europe market and the Main Board Security Market in China. However, due to the limited listed time of Convention and Exhibition enterprises, the length of data is limited. In the future, we will track over the data and make reexamination.

Data Availability

All relevant data are available from GitHub: https://github.com/LiuxiaoqunFinancialResearchGroup/financial_flexibility.

Additional Points

Considering the influence of changes in corporate accounting standards, and according to the classification of "Activity Content," this paper selected companies listed in the national small and medium-sized enterprise share transfer system from 2014 to 2016 with the industry attributes of "business service industry" and "sports" as research samples, and removed the samples under the following conditions. First is excluding enterprises in the media industry of the business service industry that only focus on advertising production and film and television production, leasing, media, printing, and so on. The characteristic of such enterprises is that their main business is only one procedure in the whole planning and operation process. Second, enterprises that are in the business of providing service for real estate and tourist attractions to promote sales are not included; the reason is that such planning and operation only provide warm-up and promotion services for its real main business income, which is not the main business itself. Thirdly, eliminating enterprises lacking public released financial information in 2014 to 2016. In all, the samples spanned from 2014 to 2016 depending on the availability of the data, primarily originating from the CSMAR database. After satisfying

the above constraints, 12 sample companies were obtained.

Conflicts of Interest

The authors declare no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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