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Industrial Structure Optimization, Development Zone Establishment and Industry-City Integration

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ABSTRACT
The Integration-Urban Integration is a new model for coordinated regional development. However, during the exploration of this integration, there has been a neglect of the optimization of industrial structure and the role of development zones in promoting Industry-Urban Integration, leading to a separation between industry and urban areas. This paper discusses the relationship between the optimization of industrial structure, the establishment of development zones, and Industry-Urban Integration based on urban data from the Huai River Ecological Economic Belt. The study finds that: The rationalization and upgrading of the industrial structure have a significant positive effect on industry-urban integration; The establishment of development zones has an inhibitory effect on Industry-Urban Integration when the level of integration is low, but as the level of integration increases, the inhibitory effect diminishes until it significantly contributes to the positive effect on Industry-Urban Integration. Therefore, in promoting the exploration of Industry-Urban Integration in cities, it is necessary to place greater emphasis on optimizing the industrial structure and promoting new models of development zone development, providing insights for the high-quality development of Industry-Urban Integration.

KEYWORDS
Industry-Urban Integration; Development Zone Establishment; Optimization of Industrial Structure

1 Introduction and Literature Review

In 2011, China clearly proposed the development concept of "interactive development between industrialization and urbanization, and common integration of industry and cities" in the "Opinions on Accelerating the Interactive Development of New Industrialization and New Urbanization." In 2014, the "National New Urbanization Plan (2014-2020)" highlighted people-oriented development, emphasizing urbanization with people at the core, providing practical guidance for the development of "industry-city integration." In 2018, the state promulgated the "Huai River Ecological Economic Belt Development Plan (2018-2035)," upgrading the Huai River Ecological Economic Belt to a national strategy. Its geographical location, natural endowment, and cultural heritage make it one of the most developmentally promising areas in central and eastern China. However, on the one hand, the Huai River Ecological Economic Belt lacks core cities, has a single industrial structure, and stage mismatches in industry-city relations; on the other hand, issues such as land abuse, industrial repetition, environmental pollution, and resource waste during the development of development zones in the Huai River Ecological Economic Belt contradict the concept of "coordinated urban development."

The optimization of the industrial structure is divided into two dimensions: heightening and rationalization. Both the rationalization and heightening processes of the industrial structure have obvious stage characteristics in their impact on economic growth. The rationalization of the industrial structure has a strong stability with economic growth, while heightening shows greater uncertainty. The impact of the rationalization and heightening of the industrial structure on economic fluctuations is mainly manifested in unpredictable cyclical fluctuations. The cyclical fluctuations in the economy caused by the industrial structure may have corresponding effects on industry-city integration, and corresponding measures can be taken to promote the development of industry-city integration. Domestic scholars have pointed out that in the process of new urbanization, the "spillover effect" and "Tiebout choice" mechanism of infrastructure construction have achieved the agglomeration of labor and industry, which helps to promote the development of industry-city integration. Some scholars have also found that the optimization of the industrial structure will promote the development of urbanization of the population, and on this basis, they have proposed to promote the optimization of the industrial structure and pay attention to the development of industry-city integration to accelerate the urbanization of the population. Foreign researchers have found that the rapid development and collaborative agglomeration of modern service industries have also promoted the optimization of the industrial structure. Domestic scholars have used national data to find that the coordination degree of industry-city matching in China shows a pattern of "strong east and weak west," and there is a significant regional difference in this matching coordination. When the level of industrial structure is low, the industry-city relationship is in a mismatched stage. At this time, due to the mismatch of industry-city relations, there will be a "threshold effect" on the level of urbanization and the optimization of the industrial structure. On this basis, although the optimization of the industrial structure has led to the "structural deceleration" phenomenon in China's economic development, industry-city linkage is of great practical significance in alleviating the "structural deceleration" brought about by the slowdown in China's economic growth.

From the perspective of development zones, China began to introduce development zones in the early 1980s and built the earliest development zones in coastal open cities. With the continuous advancement of urbanization, the development of development zones has also reached a bottleneck. Under the background of promoting the integrated development of industry and city, the transformation of development zones has become a difficult issue in their development. Through empirical research on the transformation of development zones, it has been found that industry-city integration is an effective way to promote the transformation of development zones. After nearly 40 years of development, the development of development zones has gradually shifted from single-function areas attracting foreign investment to comprehensive urban economies with multiple functions. Some scholars have used Chinese city data to demonstrate that the establishment of development zones can significantly increase the growth rate of GDP, and this growth effect is mainly generated through capital accumulation. Moreover, the establishment of development zones can also promote the optimization of regional manufacturing and the growth of enterprise scale. Therefore, as a platform and pathway that can better promote the integrated development of industry and city, development zones are worth further discussion in this paper.

This paper considers the integrated development of industry and city from the perspectives of "industry" and "city." On the one hand, it focuses on optimizing the urban industrial structure; on the other hand, it promotes the establishment of development zones. The former provides an industrial foundation for the integration of industry and city, while the latter provides a spatial carrier. The marginal contribution of this paper is mainly reflected in: First, this paper takes the optimization of the urban industrial structure and the promotion of the establishment of development zones as the research perspective to promote the integration of industry and city; second, previous studies have mostly been conducted at the provincial or national level, and there are fewer studies on the optimization of the industrial structure, the establishment of development zones, and the integration of industry and city from the perspective of cities. This paper takes the perspective of cities and selects cities in the Huai River Ecological Economic Belt as the sample for study, enriching regional research. This paper uses the urban panel data of 29 cities in the Huai River Ecological Economic Belt from 2006 to 2018 as the sample to study the linear effects of industrial structure optimization and the establishment of development zones on the integration of industry and city, as well as the threshold effects on the coordination level of industry-city integration.

2 Research Design

2.1 Empirical Model Design

Firstly, to test Hypothesis 1 and Hypothesis 2, that is, to examine the impact of industrial structure optimization on the coordinated development of industry-city integration, this paper constructs the regression model as shown in Equation (1).

$$\ln D = \alpha_0 + \alpha_1 \ln ind + \Sigma \beta_j X_{it} + \varepsilon_{it} \tag{1}$$

Where D represents the level of industry-city integration, ind includes the rationalization and upgrading of the industrial structure, X represents the matrix of control variables, and ε_{it} represents the random error term in the regression model.

Secondly, to test Hypothesis 3, that is, to verify the impact of the establishment of development zones on the coordinated development of industry-city integration. This paper constructs the regression model as shown in Equation (2). Where *dezone* represents the dummy variable for whether the city established a development zone in that year.

$$\ln D = \alpha_0 + \alpha_1 dezone + \Sigma \beta_j X_{it} + \varepsilon_{it} \tag{2}$$

To consider whether there is a mutually promoting relationship between the optimization of the industrial structure and the establishment of development zones, this paper adds the interaction term of the two to study the impact of their mutually promoting relationship on the coordinated development of industry-city integration, constructing Equation (3), where*lnind*dezone*represents the interaction term between industrial structure optimization and the establishment of development zones.

$$\ln D = \alpha_0 + \alpha_1 lnind*dezone + \Sigma \beta_j X_{it} + \varepsilon_{it} \tag{3}$$

Finally, to test Hypothesis 4 and Hypothesis 5, that is, to verify the nonlinear effects of industrial structure optimization and the establishment of national-level development zones on the coordinated level of industry-city integration under different conditions of industry-city integration. This paper constructs the threshold effect model as shown in Equations (4) and (5).

$$\begin{aligned} \ln D = {} & \alpha_0 + \alpha_1 \ln ind_{it} I(\text{integration}_{it} \leqslant \delta_1) + \alpha_2 \ln ind_{it} I(\delta_1 < \text{integration}_{it} \leqslant \delta_2) + \cdots \\ & + \alpha_{n+1} \ln ind_{it} I(\text{integration}_{it} > \delta_n) + \Sigma \beta_j X_{it} + \varepsilon_{it} \end{aligned} \tag{4}$$

$$\begin{aligned} \ln D = {} & \alpha_0 + \alpha_1 dezone_{it} I(\text{integration}_{it} \leqslant \delta_1) + \alpha_2 dezone_{it} I(\delta_1 < \text{integration}_{it} \leqslant \delta_2) + \cdots \\ & + \alpha_{n+1} dezone_{it} I(\text{integration}_{it} > \delta_n) + \Sigma \beta_j X_{it} + \varepsilon_{it} \end{aligned} \tag{5}$$

2.2 Variable Setting

Dependent Variable. This paper sets the coordination degree of industry-city integration as the dependent variable, with the specific model shown in Equations (6) and (7) below.

$$C=\{\frac{U_1\cdot U_2\cdot U_3\cdot U_4}{(\frac{U_1+U_2+U_3+U_4}{4})^4}\}^{\frac{1}{4}} \tag{6}$$

In the context of the model, C represents the coupling degree value, which is a measure of the integration between industry and city development. The symbols U_1、U_2、$U_3$and U_4 denote the comprehensive scores of four subsystems within the industry-city integration evaluation index system. These scores are calculated individually using the entropy method, which is a statistical technique for measuring the degree of dispersion or uncertainty within each subsystem. The entropy method assigns weights to each indicator based on the variability of the data, with the assumption that higher variability indicates more information and thus a higher weight in the composite score.

$$\begin{aligned} D&=\{\{\frac{U_1\cdot U_2\cdot U_3\cdot U_4}{(\frac{U_1+U_2+U_3+U_4}{4})^4}\}^{\frac{1}{4}}\cdot(\alpha U_1+\beta U_2+\gamma U_3+\omega U_4)\}^{\frac{1}{2}} \\ &=\sqrt{C\cdot T} \end{aligned} \tag{7}$$

In the context of the model, D represents the coordination degree value, which signifies the level of harmony or synchronization between different subsystems within the industry-city integration framework. $T=\alpha U_1+\beta U_2+\gamma U_3+\omega U_4$ refers to the composite indices of these subsystems, reflecting the overall performance or status of each subsystem in relation to industry-city integration. The coefficients$\alpha,\beta,\gamma,\omega$ are undetermined weights assigned to each subsystem's index. These weights are typically determined through various methods, such as expert opinions, statistical analysis, or optimization techniques, to reflect the relative importance or contribution of each subsystem to the overall coordination degree of industry-city integration.

Core Explanatory Variables. The core explanatory variables in this paper are the optimization of the industrial structure and the establishment of development zones. Due to the limitations in the availability of city data, this paper follows the approach of Gan Chunhui and introduces the Theil index to measure the rationalization of the industrial structure, with the calculation formula shown in Equation (9).

The high-level advancement of the industrial structure is measured by the ratio of the output value of the secondary industry to that of the tertiary industry.

This paper defines the establishment of development zones as a dummy variable, based on whether the city was approved as a national-level development zone in that year according to the "China Development Zone Audit Announcement Catalog (2018)", matching cities with national development zones. $dezone=0$indicates that the city was not approved to establish a national-level development zone in that year, and $dezone=0$ indicates that the city was approved to establish a national-level development zone in that year.

$$TL=\sum_{i=1}^{n}(\frac{Y_i}{Y})\ln(\frac{Y_i}{L_i}/\frac{Y}{L}) \tag{8}$$

$$ind\_TL=\frac{1}{TL} \tag{9}$$

In the context of the Theil index calculation mentioned in the document, let's denote the following.

Y represents the output value,L represents employment, I represents the primary , secondary , and tertiary industries, respectively.When the economy is in a state of equilibrium, it indicates that the industrial structure is rationalized. The closer the TL value is to zero, the more rational the industrial structure is considered to be. To ensure that the direction of industrial structure rationalization is consistent with the Theil index, the paper takes the reciprocal of the Theil index. This means that if the Theil index is TL, the rationalization measure used in the paper would be TL.The smaller the Theil index, the larger the reciprocal value, indicating a more rational industrial structure.

Threshold Variable. This paper sets the degree of industry-city integration as the threshold variable. In the process of industry-city integration, "industry" and "city" do not develop in a mechanical, isolated manner but evolve dynamically under certain environmental conditions.

Currently, there is a lack of quantitative research on industry-city integration, so this paper draws on the research of scholars to construct an evaluation index system for industry-city integration with 4 elemental layers and 16 indicator layers to measure the degree of industry-city integration. To highlight the significance of the coordination degree of industry-city integration, this paper selects industry-city coordination coefficients, industry-people coordination coefficients, and city-people coordination coefficients in the synergy of industry, city, and people.

Control Variables. Drawing on previous research, this paper selects control variables including the level of urban transportation, the degree of openness, the degree of government intervention, the level of informatization, and the degree of residential investment. Specifically, the level of urban transportation is represented by the per capita area of urban roads owned; the degree of openness is represented by foreign direct investment; the degree of government intervention is represented by the proportion of local budget expenditures excluding science and education expenditures to the total regional gross domestic product; the level of informatization is represented by the number of mobile phones in the city at the end of the year; and the degree of residential investment is represented by the amount of residential investment.

Table 1 Huai River Ecological Economic Belt Industry-City Integration Evaluation Index System

Taget Layer	Element Layer	Indicator Layer	Units	Indicator Type
Huai River Ecological Economic Belt Industry-City Integration Index System	Industry	Secondary Industry Value-Added as a Percentage of GDP	%	Positive
		Tertiary Industry Value-Added as a Percentage of GDP	%	Positive
		Output Value per Unit Land Area	10,000 Yuan/ Square Kilomete	Positive
		Total Output Value of Large-Scale Enterprises	Billion Yuan	Positive
	Human capital	Number of Urban Registered Unemployed at Year-End	Persons	Negative
		Per Capita Regional Gross Domestic Product	Yuan	Positive
		Population Density	Person/Square Kilometer	Positive
		Number of Employees in Non-Agricultural Industries per Unit	10,000 Persons	Positive
		Per Capita Retail Sales of Consumer Goods	Yuan	Positive
	City	Total Social Fixed Asset Investment	10,000Yuan	Positive
		Harmless Treatment Rate of Domestic Waste	%	Positive
		Number of College Students per 10,000 People	Person	Positive
		Emission of Three Wastes	Tons	Negative
	Industry-City Synergy	Industry-City Synergy Coefficient	—	Positive
		Industry-People Synergy Coefficient	—	Positive
		City-People Synergy Coefficient	—	Positive

2.3 Data Sources and Explanation

This paper selects 29 counties and cities in the Huai River Ecological Economic Belt as the sample for the years 2006-2018. The data for this paper is sourced from the "China Statistical Yearbook," "China Urban Statistical Yearbook," and the official websites of various urban bureaus of statistics. Data on development zones are derived from the "China Development Zone Audit Announcement Catalog (2018 Edition)." For missing values of certain variables in some counties and cities for certain years, this paper uses linear interpolation to supplement the data. To reduce the impact of data factors on empirical results, all variables except the threshold variables have been log-transformed and standardized for each indicator.

This section of the paper provides transparency regarding the data collection process and the methodology used to handle missing data and to prepare the data for analysis. The use of log transformation and standardization are common practices in econometrics to normalize the distribution of data and to reduce the impact of heteroscedasticity, which can improve the efficiency and validity of regression analysis.

3 Empirical Analysis

3.1 Benchmark Regression

To examine the impact of industrial structure optimization and the establishment of development zones on industry-city integration, this paper conducts a benchmark regression analysis on the models specified in Equations (1) and (2). The Fully Modified Generalized Least Squares (FGLS) method is used as the benchmark model. The regression results are presented in Table 2 below.

Table 2 Benchmark Regression Results

	Model 1	Model2	Model3	Model4	Model5
lnind_TL	0.0123*** (2.97)				
lnind_GL		0.0194*** (2.90)			
dezone			0.0331*** (2.94)		
*lnind_TL*dezone*				0.0124*** (2.81)	
*lnind_GL*dezone*					0.0400*** (3.20)
lntraffic	-0.0464*** (-2.96)	-0.0526*** (-3.31)	-0.0523*** (-3.41)	-0.0513*** (-3.35)	-0.0382*** (-3.35)
lnopen	0.0540*** (8.65)	0.0538*** (8.67)	0.0527*** (8.66)	0.0539*** (8.83)	0.0495*** (9.99)
lngov	-0.1590*** (-11.32)	-0.1644*** (-11.88)	-0.1702*** (-12.64)	-0.1671*** (-12.23)	-0.0909*** (-9.27)
lnmobile	0.0371*** (4.32)	0.0334*** (3.85)	0.0381*** (4.70)	0.0373*** (4.70)	0.0274*** (3.86)
lninvest	0.0312*** (4.05)	0.0452*** (5.95)	0.0341*** (4.73)	0.0332*** (4.73)	0.0324*** (5.44)
_cons	-1.6959*** (-23.73)	-1.7511*** (-25.66)	-1.7051*** (-23.39)	-1.7029*** (-23.36)	-1.4616*** (-22.74)
N	377	377	377	377	377
R^2	0.5644	0.5633	0.5329	0.5359	0.5642

Note: *, **, *** represent significance at the 10%, 5%, and 1% levels, respectively, and the numbers in parentheses indicate the statistical values (*t*-statistics).

Table 2 presents the regression results for the impact of industrial structure rationalization, industrial structure upgrading, and the establishment of development zones on the coordination degree of industry-city integration. Model 1 shows that industrial structure rationalization is significant at the 1% level with a positive coefficient, indicating a significant positive effect on industry-city integration. The higher the level of industrial structure rationalization, the greater the advantage for the development of industry-city integration, which is consistent with Hypothesis 1 proposed earlier.

Model 2 demonstrates that industrial structure upgrading is also significant at the 1% level with a positive coefficient, validating Hypothesis 2. In Model 3, the regression coefficient for the establishment of development zones is significantly positive at the 1% level, thus confirming Hypothesis 3.

Models 4 and 5 in Table 2 represent the regression results for the interactive effects of industrial structure rationalization and upgrading with the establishment of development zones on the development of industry-city integration.

The results of Model 4 indicate that the interaction term between industrial structure rationalization and the establishment of development zones is significantly positive at the 1% level, suggesting that the synergistic relationship between them has a significant positive effect on the development of industry-city integration. The results of Model 5 show that the interaction term between industrial structure upgrading and the establishment of development zones is positive at the 1% significance level, indicating that the degree of urban industrial structure upgrading can expand the non-agricultural scale and, together with the establishment of development zones, has a positive effect on the development of industry-city integration.

3.2 Robustness Check

Robustness Check Based on Adjusted Sample:

To verify the robustness of the aforementioned regression results, this paper re-estimates the models by adjusting the sample size. The regression results are presented in Table 3 below, which demonstrates the robustness check based on the adjusted sample.

Table 3 Regression Results Based on Adjusted Sample

	Model 1	Model 2	Model 3	Model 4	Model 5
lnind_TL	0.0184***				
	(4.51)				
lnind_GL		0.0212***			
		(2.92)			
dezone			0.0345***		
			(3.26)		
*lnind_TL*dezone*				0.0124***	
				(2.96)	
*lnind_GL*dezone*					0.0233***
					(6.32)
_cons	-1.5133***	-1.6544***	-1.5765***	-1.5789***	-1.3302***
	(-19.33)	(-22.64)	(-20.21)	(-20.05)	(-19.70)
Control variables	Basically Consistent	Basically Consistent	Basically Consistent	Basically Consistent	Basically Consistent
Individual effects	Controlled	Controlled	Controlled	Controlled	Controlled
Fixed effect	Controlled	Controlled	Controlled	Controlled	Controlled
N	325	325	325	325	325
R^2	0.5286	0.5192	0.4888	0.4955	0.5241

Note: *, **, *** represent significance at the 10%, 5%, and 1% levels, respectively, and the numbers in parentheses indicate the statistical values (*t*-statistics).

3.3 Threshold Effect

Panel Threshold Effect Test.

To investigate the nonlinear impact of industrial structure optimization and the establishment of development zones on industry-city integration at different levels of industry-city integration, this paper provides a theoretical basis for the coordinated development of industry-city integration and conducts panel threshold regression on Equations (3) and (4). The test results are presented in Table 4 below.

Table 4 Threshold Effect Test

Model	The number of thresholds	Critical Value					Thresholds
		F	P	1%	5%	10%	
1	Single Threshold	60.86***	0.0000	33.9500	21.0236	17.8975	0.3545
	Double Threshold	49.96***	0.0000	27.6773	20.9045	16.4086	0.4572
	Triple Threshold	15.91	0.4667	51.2928	37.4872	32.5705	0.4178
2	Single Threshold	17.65**	0.0200	27.2623	13.5800	9.7328	0.4651
	Double Threshold	9.34*	0.0800	13.8151	11.0551	7.2261	0.5629
	Triple Threshold	2.08	0.8000	14.6379	12.4302	10.0886	0.5611
3	Single Threshold	113.06***	0.0000	23.3126	17.7919	14.5244	0.3899
	Double Threshold	31.64***	0.0000	24.4449	17.5750	14.5226	0.6117
	Triple Threshold	17.35	0.4567	43.2507	35.0052	31.0175	0.4572

Note: *, **, *** represent significance at the 10%, 5%, and 1% levels, respectively.

Based on the results from Table 4, Model 1, which uses industrial structure rationalization as the core explanatory variable, rejects the hypothesis of a triple threshold at the 10% confidence level. This indicates that the double threshold model provides a better fit for Model 1.

The double threshold value for industry-city integration is 0.4572, suggesting that when the level of industry-city integration is at different stages, industrial structure rationalization has heterogeneous effects on the development of industry-city integration.

In Model 2, where industrial structure upgrading is the core explanatory variable, the threshold test also rejects the hypothesis of a triple threshold at the 10% confidence level, indicating that the double threshold model fits Model 2 well. This means that the threshold variable in Model 2 shows that when passing the double threshold value of 0.5629, the establishment of development zones has heterogeneous effects on industry-city integration.

For Model 3, which uses the establishment of development zones as the core explanatory variable, the threshold test rejects the hypothesis of a triple threshold at the 10% confidence level, indicating that the double threshold model provides a good fit for Model 3.

This suggests that when the threshold variable in Model 3 passes the double threshold value of 0.6117, the establishment of development zones has heterogeneous effects on industry-city integration.

3.4 Panel Threshold Regression Results Analysis

In order to identify the nonlinear impact of industrial structure optimization and the establishment of development zones on the coordination degree of industry-city integration at different levels of industry-city integration, this paper conducts panel threshold regression on Equations (3) and (4). The analysis aims to explore the nonlinear effects of industrial structure optimization and the establishment of development zones on industry-city integration. The regression results are presented in Table 5 below.

Table 5 Panel Threshold Regression Results

	Model 1	Model 2	Model 3
lnind_TL	-0.0939***		
	(-8.83)		
	-0.0238***		
	(-3.75)		
	0.0176***		
	(6.08)		
lnind_GL		-0.0063	
		(-0.82)	
		0.0525***	
		(5.08)	
		0.149***	
		(2.63)	
dezone			-0.1193***
			(-10.91)
			-0.0012
			(-1.399)
			0.0035***
			(3.39)
	-0.7966***	-1.0691***	-1.0094***
	(-11.02)	(-13.87)	(-12.03)
Control variables	Yes	Yes	Yes
Individual Fixed Effects	Yes	Yes	
N	377	377	377
R^2	0.5327	0.4225	0.6751

Note: *, **, *** represent significance at the 10%, 5%, and 1% levels, respectively, and the numbers in parentheses indicate the statistical values (*t*-statistics).

The regression results from Model 1 provide the nonlinear effects of industrial structure rationalization on the coordination degree of industry-city integration at different levels of industry-city integration. The regression results from Model 2 reflect the nonlinear effects of industrial structure upgrading on the coordination degree of industry-city integration at varying levels of industry-city integration. The results from Model 3 show the nonlinear effects of the establishment of development zones on the development of industry-city integration at different levels of industry-city integration.

4 Conclusion

This paper utilizes empirical data from the Huai River Ecological Economic Belt to explore the mechanisms by which industrial structure optimization and the establishment of development zones contribute to the development of industry-city integration. It analyzes both the linear effects and the nonlinear effects at different levels of industry-city integration. The following conclusions are drawn.

Industrial structure optimization and the establishment of development zones can significantly and positively affect the development of industry-city integration, and their interactive effects also have a significant positive impact on industry-city integration.

The rationalization of the industrial structure significantly promotes the coordinated development of industry-city integration. When the level of industry-city integration is low, the rationalization of the industrial structure significantly inhibits the coordinated development of industry-city integration. As the level of industry-city integration increases, the inhibiting effect of industrial structure rationalization on the coordinated development of industry-city integration gradually weakens; when the level of industry-city integration is high, the rationalization of the industrial structure can promote the coordinated development of industry-city integration.

The upgrading of the industrial structure has a significant positive effect on the coordinated development of industry-city integration. When the level of industry-city integration is low, the upgrading of the industrial structure will have an inhibiting effect on the coordinated development of industry-city integration. As the level of industry-city integration continues to improve, the inhibiting effect gradually decreases until the upgrading of the industrial structure begins to positively promote the coordinated development of industry-city integration.

The establishment of development zones has an inhibiting effect on the coordinated development of industry-city integration when the level of industry-city integration is low, but this inhibiting effect diminishes as the level of industry-city integration increases.

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