

# Business Environment and Enterprise Value--Testing of Innovation Resources Based on Event Research Method

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**Abstract:** A good business environment is not only the soil for enterprises to survive, but also the factor to promote enterprise innovation and enhance enterprise value. The article selects the panel data of my countrys listed companies from September 2017 to September 2023, and uses the double difference method to examine the impact of business environment innovation pilot policies on corporate value. The empirical results show that the pilot policy of business environment innovation significantly enhances the value of listed enterprises in the pilot zone, and this impact is more significant in state-owned enterprises and enterprises in the tertiary industry. Therefore, we can consider further expanding the scope of pilot areas, and at the same time focus on formulating targeted policies for enterprises with different industry characteristics, so as to promote the stable development of enterprise economy and further protect the high-quality development of Chinas market economy.

**Keywords:** Business Environment; Enterprise Value; Event Study Method Classification No.: f Document Identification Code: a

## 1. Introduction

Business environment is the all-factor environment that enterprises face in their whole life cycle. A good business environment is conducive to attracting the rapid inflow and agglomeration of various development factors such as capital, technology and talents, and creating endogenous power for enhancing corporate value. To promote the high-quality development of enterprises, it is necessary to optimize the business environment, and a good business environment is the key variable to enhance the value of enterprises. In 2020, in order to further deepen the "streamline administration, delegate power, strengthen regulation and improve services" reform and

promote the creation of a market-oriented, legal and international business environment across the country, the State Council selected six cities, namely Beijing, Shanghai, Chongqing, Hangzhou, Guangzhou and Shenzhen, to carry out business environment innovation pilot projects. The establishment of pilot cities for business environment innovation provides a good practice window for smoothing and cultivating a strong domestic market and accelerating the creation of a stable, fair, transparent and predictable business environment. This article will explore the effects of business environment innovation pilot policies from the perspective of listed companies, and analyze the impact path of business environment pilot policies on corporate value.

## 2. Literature Review

The business environment is an important basis for market players to invest and make decisions, and it is the basis for operation and development. Therefore, optimizing the business environment is a crucial practical measure to promote the high-quality development of private economy under the new situation. At present, Chinas economic structure is gradually developing from a high-speed growth stage to high-quality development. Regarding the relationship between business environment and corporate value, academic circles have also analyzed it from different angles:

Some scholars believe that a good business environment can promote the improvement of enterprise value chain status and enterprise competitiveness by reducing enterprise decision-making errors caused by information asymmetry (Zhang Wanming, Yang Guangzhao, 2022 ); Business environment can ease financing constraints, promote R&D investment and stimulate innovation vitality of enterprises; Each sub-element of the business environment can enhance the driving force of enterprise innovation through joint effect and conscience coupling; The business environment can

significantly improve the productivity of private manufacturing enterprises and promote financial support for the real economy; Optimizing the business environment can effectively curb the job consumption of corporate executives by reducing agency costs and maintaining good government-enterprise relationships, improve corporate operational efficiency, and help enterprises achieve high-quality development (Zhou Zejiang, Hu Menghan, Wang Haoran, 2022); The improvement of the business environment will alleviate the adverse impact of local policy uncertainty that damages the vitality of enterprises.

From the existing research literature, rich research results have been achieved in various aspects of the influence relationship between business environment and enterprises. However, it mainly focused on the relationship between the traditional business environment and enterprises during the early "streamline administration, delegate power, strengthen regulation and improve services" reform, and lacked the latest business environment policy as a basis to explore the impact of the digital economy on the development of enterprises after the integration of the business environment. Therefore, this paper adopts the event research method and selects the event of "the State Council establishing the first batch of pilot business environment cities", that is, October 2020, as the base period of the event. The research results of this paper show that the pilot policy of business environment is not only an important practice to further implement the Regulations on Optimizing Business Environment and promote the creation of a market-oriented, legal and international business environment in the whole country, but also produce significant economic benefits and promote the promotion of enterprise value in the pilot areas. Therefore, it is necessary to expand the scope of the pilot. The pilot policies of business environment have significant differences in promoting the value of enterprises of different natures and industries. When further promoting the pilot policies, targeted policies should be formulated according to enterprises with different industry characteristics.

### 3. Theoretical Analysis

#### 3.1 The Impact of Business Environment Pilot Policies on Corporate Value

A good business environment can often have a positive impact on the investment behavior, R&D investment, and business model innovation of enterprises, and will also give birth to some new profit value-added points or business opportunities (Liu Lei, 2020 ) [1]. The pilot policy of business environment can improve the bond market system and optimize supporting financing policies, enhance the financial carrying capacity of market economy, promote the standardized and healthy development of multi-level capital markets, and broaden the financing channels of market entities; An efficient business environment can not only improve the regional economic development level, but also be an important factor affecting the investment decisions of enterprises among regions. A good business environment can effectively reduce the credit cost of enterprises and significantly alleviate the market entry risk, financing risk, competition risk and credit risk of enterprises; The implementation of the pilot policy can provide a better development platform for enterprises, stimulate the vitality of innovation, inject new impetus into economic growth, and provide better policy support, market support, talent support, and financial support for enterprise innovation. Optimizing the business environment has increased support for enterprises in key areas such as technological innovation, "specialization, specialization and innovation", green and low-carbon, improved market supervision and optimized information disclosure systems, effectively enhanced the innovation capabilities of enterprises, and promoted enterprises to Conduct business smoothly, reduce costs, improve efficiency, meet market demand, and provide betterProducts and services to further enhance the competitiveness of enterprises (Wang Haifang, Wang Xinyi, Wang Mingtao, 2021 [2])

Based on the above analysis, the following competitive hypotheses are put forward:

H1: The pilot policy of business environment has a positive effect on the promotion of enterprise value.

#### 3.2 The Impact of the Business Environment on the Value of Enterprises of Different Industries and Natures

The business environment has different effects on the value growth of enterprises in different industries. Compared with enterprises in the

primary and secondary industries, the development of the tertiary industry is directly affected by the quality of the business environment. A good business environment can attract more investment and innovation, promote the development of service industry, and play a positive role in economic growth and job creation. Under a high-quality business environment, the development level of the tertiary industry is relatively high, and enterprises have a large profit margin, so they can better carry out business activities and gain more development opportunities; However, in a harsh business environment, the tertiary industry develops slowly, and enterprises are faced with problems such as high profit pressure and insufficient market competition, which affect its development and growth.

The business environment has different effects on the value growth of enterprises of different natures. Although optimizing the business environment can bring more innovative resources and elements to private enterprises, state-owned enterprises have comparative advantages in resource acquisition and risk-taking ability, and are more capable of carrying out R&D activities with large investment, long cycle and high risk. State-owned enterprises have closer ties with the government, and they will be more active and proactive than private enterprises when facing the pilot business environment.

Based on the above analysis, the following competitive hypotheses are put forward:

H2: Business environment pilot policies have different effects on enterprise values of different enterprises and industries;

## 4. Research Design

### 4.1 Source and Processing of Data

In view of the event study that Beijing, Shanghai, Chongqing, Hangzhou, Guangzhou and Shenzhen were established by the State Council as the first batch of pilot business environment cities at the end of October 2020, this paper selects all A-share companies listed on the Shanghai and Shenzhen Stock Exchanges as research samples, among which companies located in six approved cities are used as experimental groups and companies located in other cities are used as control groups. Considering that the State Council established the first batch of pilot business environment

cities late and the time span is not long enough, this article uses semi-annual data as sample data, selects the same number of periods before and after the policy, and finally selects September 2017-September 2023 as the sample period.

In addition, on the basis of the initial sample, this paper eliminates ST stocks with abnormal stock price fluctuations, trading suspension for several consecutive days during the sample period, some index data are missing, and the sample enterprises with registered address change, and finally obtains 2762 enterprises with 13 consecutive semi-annual data observation values, including 906 in the experimental group and 1856 in the control group. All data were obtained from CSMAR (Guotai An Database).

### 4.2 Variable Definition

#### 4.2.1 Explained variables

Enterprise Value (MRS). According to the efficient market theory, the market value of an enterprise is the truest and most direct reflection of the value of an enterprise, and the price of an enterprises stock fully reflects the public information of an enterprise. Therefore, this paper uses the market value of enterprises at the end of the year to measure the value of enterprises.

#### 4.2.2 Explanatory variables

Doing Business Environment Pilot (Treat  $\times$  Post). In this paper, dummy variables are selected as the measurement method. If the enterprise is in the first batch of six business environment pilot areas such as Beijing, the value is assigned to 1; On the contrary, the assignment is 0.

#### 4.2.3 Control variables

The variables selected in this paper include company Age (Age), enterprise Size (Size), asset-liability ratio (Lev), cash flow level (CF), operating efficiency (AT) and liquidity (Liq). Refer to Table 1 for the specific definitions of control variables. In addition, considering the influence of individual effect and time effect on the regression results of the model, two indicators are further set to control the time effect of individual enterprises and different years.

#### 4.2.4 Model setting

As an important method to analyze policy effects, double difference method is widely used by scholars. This paper constructs a double difference model to analyze the impact of business environment pilot policies on

enterprises environmental protection investment.

The specific model is as follows;

$$MRS_{it} = \lambda + \mu_{it} Treat_i * Post_t + \gamma_i Treat_i + \gamma_t Post_t + \varepsilon_{it} \quad (1)$$

Among them, subscript  $i$  represents the enterprise, subscript  $t$  represents the year,  $MRS$  represents the enterprise value,  $Treat$  represents whether it is an enterprise in the pilot area, where  $Treat = 1$  represents "yes",  $Treat = 0$  represents "no",  $Post$  represents whether the

State Council has announced the list of the first batch of pilot cities for business environment, where  $Post = 1$  represents "yes",  $Post = 0$  represents "no",  $\gamma_i$  represents individual fixed effect,  $\gamma_t$  represents time fixed effect, and  $\varepsilon_{it}$  is a random disturbance term. The parameter focused on in this paper is  $\mu_{it}$ . If  $\mu_{it}$  is significantly positive, it indicates that the pilot policy of business environment can promote the value of enterprises.

**Table 1. Variable definitions**

	Variable name	Variable symbol	Variable definition	Unit
Explained variable	Enterprise Value	MRS	Enterprise year-end market capitalization	Tens of billions
Explanatory variables	Interaction term	$Treat \times Post$	Dummy variable, if the list of the first batch of pilot cities has been published at $t$ time and the enterprise is located in the first batch of six business environment pilot areas such as Beijing, the assignment is 1; On the contrary, the assignment is 0.	/
Control variable	Enterprise age	Age	Time since the establishment of the enterprise	Year
	Enterprise size	Size	Natural logarithm of total assets	/
	Asset-liability ratio	Lev	Total Liabilities/Total Assets	%
	Level of cash flow	CF	Net cash flows from operating activities/total assets	%
	Operational efficiency	AT	Operating income/total assets	%
	Liquidity	Liq	Current assets/current liabilities	%

## 5. Empirical Results and Analysis

### 5.1 Descriptive Statistics

Descriptive statistical analysis of the main variables is presented in Table 2. The results show that the standard deviation of enterprise value is 10.90, the minimum value is 0.076, and the maximum value is 271.6. There are large differences in the market value at the end of the year of different enterprises.

### 5.2 Benchmark Regression Analysis

In this paper, the DID model is used to test the impact of business environment pilot on enterprise value enhancement, and the time fixed effect and individual fixed effect are controlled. The test results are shown in Table 3, in which column (1) only includes the core explanatory variables. At this time, the estimated coefficient of pilot dummy variables is significantly

positive, indicating that business environment pilot is conducive to enterprise value enhancement, Column (2) includes six control variables on the basis of column (1). After including the control variables, the estimated coefficient of dummy variables is still significantly positive, and the absolute value of the coefficient is slightly improved, indicating that after excluding the influence of missing variables, the business environment pilot dummy variables can still effectively enhance enterprise value. Therefore, the business environment pilot policy has significantly promoted the improvement of enterprise value, verifying H1.

Note: \*, \*\*, and \*\*\* indicate significant at the level of 10%, 5%, and 1%, respectively, with  $t$  values in parentheses. Among them, because the sample is selected as quarterly data, the time fixed effect here is also changed from the general year fixed to the quarterly fixed.

**Table 2. Descriptive Statistics**

	(1)	(2)	(3)	(4)	(5)
Variable	Sample size	Mean value	Standard deviation	Minimum Value	Maximum value

MRS	35, 906	2.896	10.90	0.0760	271.6
Treat × Post	35, 906	0.151	0.358	0	1
Age	35, 906	21.01	5.645	5	56
Size	35, 906	22.45	1.388	17.70	28.68
Lev	35, 906	0.432	0.218	0.00620	6.621
CF	35, 906	0.168	2.477	-42.23	176.9
AT	35, 906	0.301	0.314	-0.133	7.050
Liq	35, 906	2.430	2.930	0.0191	111.6

**Table 3. Baseline Regression Results Ordning to the Industry**

	(1)	(2)
VARIABLES	MRS	MRS
Treat × Post	0.323*** (5.79)	0.330*** (6.08)
Age		-0.027 (-0.53)
Size		1.951*** (41.73)
Lev		-0.585*** (-4.30)
CF		0.006 (0.96)
AT		0.315*** (3.77)
Liq		0.041*** (4.65)
Constant	2.249*** (47.82)	-13.621*** (-13.60)
Individual fixation effect	YES	YES
Time-fixed effect	YES	YES
Sample size	35,906	35,906
R2	0.040	0.088

### 5.3 Heterogeneity Analysis

As a reform measure for enterprises and market environment, the pilot business environment market may have different effects on the promotion of the value of listed enterprises depending on the nature of enterprise property rights (Soe) and industry type (IT). First of all, for the nature of property rights (Soe), it is divided into state-owned enterprises and non-state-owned enterprises according to the nature of enterprises at the time of registration; Secondly, for the industry type (IT), the enterprise is divided into third enterprise and non-third enterprise accry type at the time of registration. The final regression results are shown in the following table 4:

The test results are shown in Table 4. First of all, the estimated coefficient of intersection

multiplication in columns (1) and (2) is significantly positive at the level of 1%, and the estimated coefficient in column (1) is greater than that in (2), which indicates that compared with non-state-owned listed enterprises, the business environment pilot plays a stronger role in promoting the value promotion of state-owned listed enterprises. The possible reason is that state-owned enterprises are more susceptible to government intervention and more inclined to cater to the governments requirements. In order to gain greater advantages and more resources in the fierce market competition. Secondly, the estimated coefficient of intersection multiplication in columns (3) and (4) is significantly positive at the level of 1%, and the estimated coefficient in column (3) is greater than that in (4), which indicates that compared with non-tertiary listed enterprises, the pilot business environment plays a stronger role in promoting the value enhancement of listed enterprises in tertiary industry. The possible reason is that compared with other industries, the survival of listed enterprises in tertiary industry depends more on the market environment, and a good business environment can provide the guarantee for innovation and development of service industry. In summary, H2 is verified.

**Table 4. Results of Heterogeneity Test**

	MRS		MRS	
VARIABLES	(1)	(2)	(3)	(4)
	State-o wned	Non-state- owned	Tertiary industry	Non-terti ary industry
Treat × Post	0.867** *	0.098***	0.348** *	0.345** *
	(5.89)	(2.58)	(4.14)	(4.90)
Constant	-76. 279***	-31.833** *	-38.419 ***	-43.468* **
	(-17.17)	(-35.16)	(-17.22)	(-24.62)
Control variable	YES	YES	YES	YES
Individual	YES	YES	YES	YES

fixation effect				
Time-fixed effect	YES	YES	YES	YES
Sample size	11,570	24,332	9,980	25,922
R2	0.099	0.145	0.104	0.087

Note: \*, \*\*, and \*\*\* indicate significant at the level of 10%, 5%, and 1%, respectively, with t values in parentheses.

## 5.4 Robustness Test

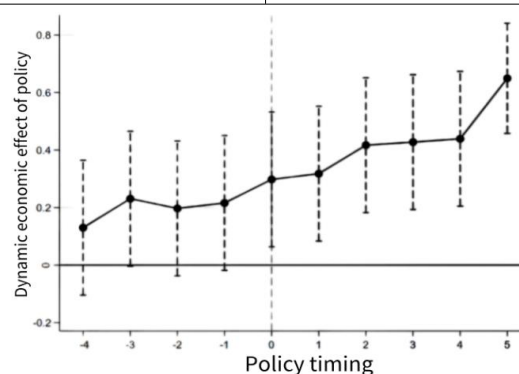
### 5.4.1 Parallel Trend Hypothesis Testing

The premise of using the double difference model is that before the implementation of the business environment pilot policy, there is no time trend difference among all samples, so parallel trend test is an indispensable part of empirical research. Taking the pilot in the third quarter of 2020 as the initial period of the business environment pilot policy, it is measured every other quarter (i.e. half a year), and the time of implementing the business environment pilot policy is pushed forward or backward for t half a year respectively, so as to judge whether the parallel trend assumption is valid through the estimated coefficient of the cross term of the dummy variables before and after. Set the dummy variable of the business environment pilot to be assigned to 1 in the current period, and the remaining values are 0, which is recorded as current; The previous period assigned value is 1, and the rest assigned values are 0, which is recorded as pre \_ 1; The assignment value of the latter period is 1, and the remaining values are 0, which is recorded as post \_ 1. Based on this, it is set to the first 4 periods and the last 5 periods. The results of the parallel trend test are shown in Table 5. Before the implementation of the pilot business environment policy, the estimated coefficients were not significant, but after the implementation, the estimated coefficients became significant except for t+1 period. This shows that before the implementation of the business environment pilot policy, the business environment pilot did not have a significant impact on the promotion of enterprise value, but after the implementation of the business environment pilot policy, it began to have a positive and significant impact on it, and the impact was sustained. stability. Therefore, this study adopts double difference to conduct the previous studyThe mention is established. The

test results verify the hypothesis of parallel trend, and show that the pilot of business environment has a robust role in promoting enterprise value enhancement.

**Table 5. Parallel Trend Test**

Variable	Parallel trend test
Pre _ 4	0.130(1.09)
Pre _ 3	0.231*(1.93)
Pre _ 2	0.197(1.65)
Pre _ 1	0.216(1.81)
Current	0.298**(2.49)
Post _ 1	0.318*** (2.66)
Post _ 2	0.417*** (3.49)
Post _ 3	0.428*** (3.57)
Post _ 4	0.439*** (3.67)
Post _ 5	0.649*** (6.65)
Control variable	YES
Observations	35, 906



**Figure 1. Parallel Trend Test**

### 5.4.2 Propensity score matching test

In order to overcome the difference in the change trend of enterprises within the scope of business environment pilot and those outside the scope of business environment pilot, and reduce the bias of double difference estimation, this paper uses the double difference propensity score matching method (PSM-DID) to test the robustness. Firstly, the samples of the control group are reset, and a paired sample is found by the company Age (Age), enterprise Size (Size), asset-liability ratio (Lev), cash flow level (CF), operating efficiency (AT) and liquidity (Liq) for 1: 1 closest matching, and then the propensity score matching result is obtained.

After eliminating the unmatched samples, the DID test was performed, and the results are shown in Table 7. It can be seen that the estimation coefficient is still significantly positive, which confirms that the business environment pilot event has a significant role in promoting the value enhancement of enterprises, and further verifies the robustness of H1.

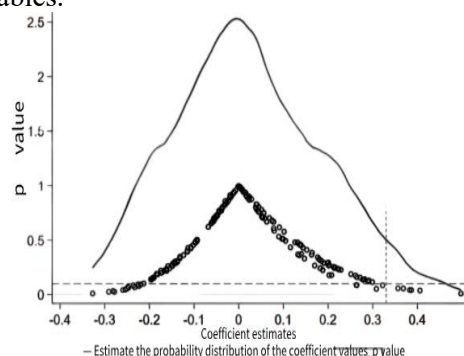
**Table 6. Regression Results After Matching**

VARIABLES	MRS
Treat $\times$ Post	0.330*** (6.07)
Control variable	YES
Individual fixation effect	YES
Time-fixed effect	YES
Sample size	35,897
R2	0.089

Note: \*, \*\*, and \*\*\* indicate significant at the level of 10%, 5%, and 1%, respectively, with t values in parentheses.

#### 5.4.3 Placebo test

In order to eliminate the interference of other non-observed omission variables caused by the enterprise value promotion effect caused by the business environment pilot, this paper randomly assigned experimental groups to conduct placebo test. In this paper, a virtual business environment policy variable is generated, and this virtual business environment policy variable has a policy impact on the experimental group randomly assigned in the whole sample through self-help sampling. In order to improve the validity of the test, this randomization process is repeated 200 times in this paper. Figure 4 is a placebo test diagram. It can be found that the coefficient estimated values of the randomly assigned experimental group are concentrated around 0, most of the estimated values are not significant at the 10% confidence level, and the estimated results of benchmark regression are not included in the test results, which shows that the enterprise value promotion effect caused by the business environment pilot is not seriously disturbed by other non-observed omission variables.

**Figure 2. Placebo Test**

## 6. Conclusions and Recommendations

### 6.1 Conclusion

The article selects panel data of 2,762 listed

companies in my country from September 2017 to September 2023 to examine the impact of business environment pilot policies on corporate value. The empirical results show that the pilot policy is not only an important practice to promote the creation of a market-oriented, legal and international business environment in the whole country, but also produce significant economic benefits and promote the promotion of enterprise value in the pilot areas. The heterogeneity analysis shows that the promotion effect of the pilot policy on enterprise value is more significant in state-owned enterprises and enterprises in the tertiary industry. Therefore, we can consider further expanding the scope of pilot areas, focusing on formulating targeted policies for enterprises with different industry characteristics, promoting the stable development of enterprise economy, and further escorting the high-quality development of Chinas market economy.

### 6.2 Policy Recommendations

According to the above research conclusions, this paper puts forward the following suggestions:

First, the government can consider expanding the scope of the pilot. The establishment of pilot cities for business environment innovation has a significant role in promoting the value of enterprises in the pilot areas, and the government should promote them to further exert the effect of business environment policies; Second, the business environment should formulate targeted financial policies. From the above analysis results, it can be seen that the current pilot policy has no obvious effect on enhancing the value of non-state-owned enterprises. It may be that the market environment for the survival of non-state-owned enterprises still needs to be further optimized, financing constraints need to be further relaxed, and it is difficult for non-state-owned enterprises to obtain funds to promote transformation and upgrading. Therefore, the business environment pilot policy should formulate specific differentiated policies and regulations based on the characteristics of different industries, provide a good financing environment for the innovation and upgrading of non-state-owned enterprises, and help high-quality economic development. State-owned enterprises and tertiary industry enterprises should also actively respond to my countrys high-quality economic and social

development strategy, enhance their sense of social responsibility, assume due responsibilities for stabilizing the market economy, proactively plan business transformation, relax financing constraints under the background of optimizing the business environment, and achieve a smooth transition.

### References

- [1] Lei Liu. Research on the Influence of Business Environment and Innovation Mechanism on Enterprise Value--Based on the Empirical Analysis of Listed Companies in Automobile Manufacturing Industry [J]. Price Theory and Practice, 2020, (12): 123-126.
- [2] Wang Haifang, Wang Xinyi, Wang Mingtao, Zhang Xiaoyu. Institutional investor shareholding, dual innovation and firm value-an analysis based on the perspective of optimizing business environment [J]. Price Theory and Practice, 2021, (11): 114-117 + 198.