

Research on the Impact of Administrative Approval Reform on Urban Entrepreneurial Activity

--An Empirical Analysis Based on 257 Prefecture-Level Cities

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Abstract

Entrepreneurship is an important driving factor for China's rapid economic growth in the past three decades. However, China's entrepreneurial activity has shown obvious regional differences, and administrative approval is an important institutional factor affecting entrepreneurial activity. How does the administrative examination and approval reform affect the entrepreneurial activity of Chinese cities? In order to answer this question, we put forward the corresponding theoretical hypothesis, and use the data of prefecture-level cities in China from 2000 to 2013 to test the impact of administrative examination and approval reform on entrepreneurial activity. The study found that: (1) the improvement of the intensity of regional administrative examination and approval reform has significantly improved the entrepreneurial activity of the city. (2) Compared with the central and western cities, the intensity of the reform of the administrative examination and approval of the eastern cities has a more significant impact on the entrepreneurial activity. Therefore, in order to stimulate the vitality of "mass entrepreneurship and innovation", we should further accelerate the reform of administrative examination and approval, optimize the administrative examination and approval procedures, shorten the time for administrative examination and approval, and improve the efficiency of administrative examination and approval.

Keywords

Administrative examination and approval reform, entrepreneurial activity, Prefecture-level city.

1. INTRODUCTION

Entrepreneurship and innovation are regarded as the most important source of power for economic development. Entrepreneurship has contributed greatly to China's economic growth over the past three decades and is regarded as a booster for China's economic growth. In transition economies, entrepreneurship as an important driver of economic growth is also an important way to solve the employment problem (Fritsch & Falk, 2007), especially for China in transition, as the world's largest developing country. In the process of rapid urbanization, it faces enormous challenges such as job creation, industrial upgrading, and structural transformation. Improving the level of entrepreneurship or entrepreneurial activity is the key to effectively coping with these challenges. In September 2014, Premier Li Keqiang issued a call for "mass entrepreneurship and innovation". In response to the Prime Minister's call, all sectors of the government are vigorously promoting innovation and entrepreneurship. In this context, the number of newly registered enterprises and registered capital in China reached a record high in 2015, reaching 14.789 million and 29 trillion respectively. The social innovation and

entrepreneurial atmosphere was unprecedently high, setting off a new wave of entrepreneurial climax. However, the regional differences in entrepreneurial activity are particularly evident in China. According to the survey data of the Global Entrepreneurship Survey (GEM) in China, although the domestic entrepreneurial activity has increased year by year since 2002-2012, the region with the highest level of entrepreneurial activity is The gap in the lowest regions has also expanded and the geographical gap has become more apparent. Why does entrepreneurial activity show such a large regional gap?

Law and Macmillan (1988) argue that entrepreneurial activity is not only related to the personal destiny of the entrepreneur, the development of the industry, but also the economic growth of the region and the country. Therefore, entrepreneurial research can generally be carried out on five levels: individual, team, company, industry and society (regional and national). Entrepreneurial activity, as a core indicator of the degree of entrepreneurial initiative in a country (region), has been the focus of researchers and reformers (Cullen et al, 2014). There are two types of research on entrepreneurship: macro and micro level: the macro level research mainly examines the influence of factors such as culture, system and infrastructure between different countries on entrepreneurial activity (Manolova et al, 2008; Zhao et al., 2013), and this type of research focuses on research samples from developed countries and lacks an examination of countries with economies in transition. Micro-level research focuses on the impact of individual actors' abilities and resource differences on entrepreneurial choices (Wu and Wang, 2015; Marvel, 2013). Although the existing research has carried out specific analysis on the reasons for the differences in entrepreneurial activity in different countries (regions) from different levels and perspectives, and made meaningful conclusions, the unique regional differences in China's entrepreneurial activity during the transition period is unique. Valuable phenomena lack the necessary inspections.

Administrative examination and approval is an important means for the government to intervene in microeconomic activities. The cumbersome administrative examination and approval procedures and the low efficiency of administrative examination and approval will seriously distort microeconomic behavior and lower the level of social welfare. Accelerating the reform of the administrative examination and approval system, decentralization and decentralization will undoubtedly increase the autonomy and vitality of the micro-economy, and have an important impact on the economic behavior of the micro-subject. The key to promoting the reform of the administrative examination and approval system is to form institutional innovation (Wang, 2014), and the administrative examination and approval center is a kind of derivative system innovation generated in this reform process (Chen , 2006). As early as 1997, the Jiangmen Municipal Government took the lead in introducing the Administrative Service Center to realize the "one-stop" handling of the approval project. Since then, with the introduction of China's accession to the WTO in 2001 and the 2004 Administrative Licensing Law, the reform of the administrative examination and approval system has gradually begun, and this system innovation has also spread rapidly across the country. As of 2016, 276 prefecture-level cities in China have established administrative approval centers. It requires departments with approval authority to concentrate on the work, providing enterprises with "one-stop" approval for registration, investment, qualification review, national tax and land tax, etc., thereby strengthening collaboration among various examination and approval departments, improving approval efficiency, and reducing approval time. It also minimizes the privilege of the former approver to directly control social resources, reduces the resulting corruption, and standardizes the charging standards, reduces the institutional transaction costs, optimizes the public entrepreneurial environment, and creates the public. The situation of innovation is of great significance. In this context, it is of great practical significance to study the impact of the reform of the administrative examination and approval system on the entrepreneurial activity.

In recent years, more and more research has begun to focus on the entrepreneurial activities of micro-subjects in China. These studies explore the influencing factors of residents' entrepreneurial choices. However, few studies have further explored the impact of the reform of the administrative examination and approval system on the entrepreneurial activity. Therefore, it is especially necessary to conduct an in-depth study on the impact of the administrative examination and approval system reform on the geographical gap of China's entrepreneurial activity. The rest of the paper is organized as follows: the second part is the literature review; the third part is the theory and research design; the fourth part is the empirical analysis; the fifth part is the robustness test, and finally the conclusion and suggestion.

2. LITERATURE REVIEW

The existing research on entrepreneurship, from the influencing factors of entrepreneurship, the empirical analysis of entrepreneurship mainly from the macro-institutional environment, family characteristics and micro-personal characteristics. The factors affecting the macro-institutional environment mainly include industry regulation, liquidity constraints and property rights arrangements.

Institutional factors and entrepreneurship. A large number of empirical research results have been accumulated in the relationship between macro-institutional environment and entrepreneurship, such as industry regulation, liquidity constraints and property rights arrangements. The empirical literature is more consistent in that lower liquidity constraints and better property rights arrangements are good for entrepreneurship (Besley, 1995; Wang, 2008). But the impact of industry regulation on entrepreneurship is controversial. On the one hand, capital measures, industry licenses and other control measures have raised the threshold of entrepreneurship to a certain extent, reducing the probability of entrepreneurship (Holtz-Eakin et al., 1994); on the other hand, industry regulation is often accompanied by excess profits, regulation There may also be a positive correlation with entrepreneurial activity (Lu and Tao, 2007). Chen Gang (2015) examines the impact of Chinese government regulation on entrepreneurship and finds that government regulation significantly reduces the probability of an individual's entrepreneurship. Ardagna & Lusardi (2011), Zhou and Huang (2014) all found that factors such as regulation and liquidity constraints, in addition to directly affecting entrepreneurship, indirectly affect people's entrepreneurial choices through other family and individual characteristics. In addition, macro variables such as per capita GDP level and openness (Jia and Lan, 2013) will also affect entrepreneurship. Zhang Cui (2018) found that the realistic characteristics of China's specialized agglomeration make the diversified agglomeration economy rather than the specialized agglomeration economy have a sustainable impact on entrepreneurial enterprises. Ye (2018) studied the impact of the concentration of floating population on the level of entrepreneurial activity in China. He believed that the larger market size, stronger knowledge spillover effect and lower intermediate input price are the cities that attract migrants, especially entrepreneurial individuals. The important motivation has further enhanced the city's entrepreneurial activity. Tian et al. (2018) found that both foreign direct investment and the host country's overall institutional environment have contributed to the host country's international entrepreneurship. Foreign direct investment is regulating the relationship between the host country's general institutional environment and the host country's international entrepreneurship.

Administrative approval and entrepreneurship. The literature on administrative examination and approval reform is still relatively rare, but it is on the rise. China's administrative examination and approval system originated from the initial stage of implementing the reform and opening up policy (Zhang , 2003). This system was established to maintain market order and to encourage the government to provide effective and high-quality public services. However,

in the process of reform, due to the factual offset, the original administrative examination and approval system gradually became a barrier to the market economy. After Deng Xiaoping's southern talks in 1992, governments at all levels in China accelerated the pace of reform and opening up. In particular, after the reform of the tax-sharing system in 1994, local governments could not continue to control the income of township enterprises, and instead introduced foreign investment and expanded exports as fiscal revenue growth points, and actively carried out investment promotion activities (Chen , 2010; Chen and Gao, 2012)). The key to promoting investment promotion by local governments, in addition to various supporting preferential policies, is to attract commercial investment by improving the efficiency of administrative examination and approval and providing efficient public services to investment companies. Administrative approval reforms across the region include integrating previously dispersed functions, reshaping previously redundant institutions, and streamlining complex administrative approval processes. The main form of administrative examination and approval reform is to create a "one-stop" administrative examination and approval center. The modernization of the administrative examination and approval center with the purpose of "efficiency, quality and service" shows the rise of the new policy approval system in China (Zhu and Zhang , 2014). Zhu and Zhang (2015) examined the process of the proliferation of administrative examination and approval reforms in China, and empirically analyzed the factors affecting the establishment of administrative examination and approval centers. Xia and Liu (2017) examined the relationship between administrative examination and approval reform and economic growth, and found that administrative examination and approval can curb social costs, while China's gradual approval reform can indeed promote economic growth. The research by Wang and Feng (2018) shows that the establishment of the administrative examination and approval center has significantly improved the level of enterprise innovation. Bi and Xu et al. (2018) examined the degree of influence of administrative examination and approval reform on enterprise entry rate, and found that the establishment of an administrative examination and approval center would increase the rate of enterprise entry. Liu and Zhong (2018) believe that promotion incentives will encourage local governments to use their administrative approval authority to promote capacity expansion, while administrative approval reform will reduce the authority of local governments and help to resolve excess capacity. The work of Zhang and Jiang et al. (2016) is similar to this paper. It is found that the improvement of the intensity of administrative examination and approval not only reduces the entrepreneurial tendency of local residents, but also reduces the scale of entrepreneurship. Obviously, the work of Zhang and Jiang et al. (2016) is to examine the impact of the administrative examination and approval system on entrepreneurship, and this paper examines the impact of administrative examination and approval system reform on urban entrepreneurial activity. Moreover, Zhang and Jiang et al. (2016) used micro-databases to verify the impact of the administrative examination and approval system on micro-individuals and family entrepreneurship. This paper is to construct urban entrepreneurial activity indicators and examine the impact of reform of administrative examination and approval system on regional level entrepreneurship.

Above, we have combed the institutional factors affecting entrepreneurship and found that the reform of the administrative examination and approval system as the main institutional factor affecting entrepreneurship has not received the attention of researchers, and this is undoubtedly a major flaw in current entrepreneurial research. Secondly, most of the existing entrepreneurial research is based on the micro level. The researchers empirically analyze the factors affecting individual or company entrepreneurship, but the entrepreneurial activity at the macro level has not received much attention, and the regional differences in urban entrepreneurial activity give us An important topic to be explored is proposed. Finally, although researchers have studied the relationship between administrative examination and approval

and entrepreneurship, their focus is on the relationship between the administrative examination and approval system and entrepreneurship, and has not further penetrated into the relationship between the reform of administrative examination and approval system and entrepreneurship, which is undoubtedly insufficiently deep and lacking. Timely interpretation of the reform of the administrative examination and approval system. To this end, our research is to further enrich the administrative examination reform and the entrepreneurial literature at the regional level.

3. THEORETICAL HYPOTHESIS AND RESEARCH DESIGN

3.1. Theoretical Hypothesis

In theory, there are two competing hypotheses about the impact of administrative approval on firm entry. One is the public interest hypothesis, first proposed by Pigou (1929). The public interest hypothesis emphasizes that government regulation, including administrative approval, can help solve market failures and promote resource allocation. Therefore, under this hypothesis, the administrative examination and approval reform may not be conducive to the market entry of enterprises, which is not conducive to entrepreneurship. The other is the public choice hypothesis, which emphasizes that government regulation, including administrative approval, can cause mismatches in resources. For example, the government may set strict controls to prevent the entry of new businesses in order to maintain the monopoly profits of incumbents (Stigler, 1971). What's more, Shleifer and Vishny (1993) argues that regulation itself is the government's mechanism for imposing "tolls" on businesses: it not only hinders the market entry of companies, but also causes official corruption.

On the one hand, the transitional economy represented by China is gradually opening its market and introducing a competitive mechanism. The society is gradually moving towards a market economy. On the other hand, the planned economic system still deeply affects the entire social economy. The government still plays an important guiding role. The government and the market are the dual forces that influence China's social economy, ignoring the unique entrepreneurial environment in which no one can explain the Chinese context (Cai et al., 2011). One of the characteristics of the institutional environment in the Chinese context is the existence of government intervention (Cai and Shan , 2013). The government's intervention is that it controls a large number of scarce resources and strategic resources, such as land, oil, bank credit, subsidies, tax incentives, etc. (Faccio, 2006; Khwaja and Mian, 2005), and through the development of industrial development plans and some policies and regulations. To guide economic activities (Park and Luo, 2001; Sheng et al., 2011). Government agencies have greater dominance over project approval and resource allocation, which profoundly affects the size, structure, and competitiveness of the market (Hillman and Keim, 1995; Hillman and Wan, 2005). Like other countries with economies in transition, these Special rights may result in some bureaucratization (Aidis, Estrin and Mickiewicz, 2008). Obviously, under the public choice hypothesis, the administrative examination and approval reform will reduce the institutional costs of enterprises, which will not only benefit the market entry of new enterprises, but also benefit the growth of incumbents (Bi , Chen, Xu , Li , 2018). That is to say, the administrative examination and approval system has an impact on the entrepreneurial society. Based on this, we propose the first theoretical hypothesis.

Theoretical Hypothesis 1: The reform of the administrative examination and approval system will affect the degree of entrepreneurial activity in the city, that is, the reform of the administrative examination and approval system and the promotion of urban entrepreneurship.

3.2. Data Sources

This paper uses prefecture-level city data to test the impact of administrative approval system reform on urban entrepreneurship. As discussed above, local governments may have a special role in promoting urban entrepreneurship and need to be targeted. Therefore, prefecture-level city data is used to reflect regional differences.

In order to ensure the robustness of the conclusions, the sample selects prefecture-level cities that existed before 2000, but does not include autonomous prefectures, alliances, Hong Kong, Macao and Taiwan regions, and excludes 257 prefecture-level cities established after 2000 and missing data. The sample interval for the test was 2000-2013 for a total of 14 years. Data on savings, education expenditure, science and technology expenditure, per capita GDP, marketization, Internet development, and FDI in various cities come from the China City Yearbook database. The resident population data of each city comes from the China Urban Construction Yearbook. Private sector data for each city comes from the statistical yearbooks of the provinces. The data of the approval center is manually verified through the official website of the approval center of each city, Baidu Encyclopedia, Sogou search, and news retrieval.

3.3. Measurement Equations and Main Variables

In order to test the effect of the reform of the administrative examination and approval system on the entrepreneurial activity of the city, we have designed the following measurement equation.

$$CPEA_{it} = \beta_0 + \beta_1 Center_{it} + \sum X_{it} + year_t + \gamma_i + \varepsilon_{it}$$

Among them, $CPEA_{it}$ represents the entrepreneurial activity of city i in t years, $Center_{it}$ is the main explanatory variable, representing the reform of the administrative approval system of local governments, and X_{it} is a series of control variables. ε_{it} represents the residual term, where $year_t$ and γ_i represent time and regional fixed effects, respectively. Regression was performed using both mixed least squares (POLS) and panel fixed effects (FE).

The main variables are the urban entrepreneurial activity and the reform of the administrative examination and approval system. Here, their measurement methods are briefly explained one by one.

3.3.1 Urban entrepreneurial activity

There are two main methods for measuring entrepreneurial activity in the existing research: labor market law and ecological research method (Ye, 2018). The essence of both is to measure regional entrepreneurial activity by observing the number of new ventures born in a given period of time (Reynolds et al, 2005). Among them, the ecological research method uses the ratio of the number of newly-added enterprises in the region to the total number of enterprises to measure the entrepreneurial activity, while the ratio of the number of newly-created enterprises in the labor market law area to the regional labor force population represents the entrepreneurial activity. Because the ecological law does not consider the heterogeneity of the size of the enterprises in the region, it may overestimate the entrepreneurial activity of large-scale enterprise cities in the region, which will lead to large deviations. Therefore, GEM uses the labor market method to measure the entrepreneurship of different countries. Activity. This paper draws on GEM and Ye's research and uses the labor market method to measure urban entrepreneurial activity.

3.3.2 Reform of the administrative examination and approval system

Administrative examination and approval is the main form in which the government uses administrative means to control economic activities. The progress of the reform of China's administrative examination and approval system is concentrated in the establishment of the examination and approval center. The examination and approval center is the master of the

examination and approval reforms, which simplifies and centralizes the examination and approval matters, reduces the institutional transaction costs of enterprises, and is also the main body of action to promote the reforms to continue. Its establishment in turn promotes the administration in an all-round way. Deepening reform of the examination and approval system. Irene et al. (2013) believe that the administrative examination and approval center has the ability to integrate and innovate and rebuild, which is the key to the comprehensive deepening of the examination and approval reform. Drawing on the practices of Zhu and Zhang (2016), Xia and Liu (2017), and Liu (2018), this paper uses the time series (Center) established by the municipal administrative examination and approval centers to indicate the different degrees of approval reform. The proxy variable for the reform of the approval system. In data identification, we manually checked the establishment time of the municipal-level city approval center, after which the value was 1; otherwise, it was 0.

3.3.3 Other variables

Entrepreneurial activity is the result of the joint role of enterprises, markets and governments. In addition to the reform of the administrative examination and approval system, it also controls the variables related to enterprises and markets. Specifically: education expenditure, technology expenditure, savings, internet development level, market degree (marketization), per capita GDP (pcgdp), foreign direct investment (fdi), housing price (housingprice). The specific definition is shown in Table 1.

Table 1. Variable definitions

	Name	Symbol	Definition
Explanatory variables	Entrepreneurial activity	CPEA	Enterprise incremental/resident population
Explanatory variable	Administrative approval reform	Center	Center Has the approval center been established in the previous year, yes=1, no=0
	Education expenditure	education	Natural logarithm of education expenditure
	Technology expenditure	technology	Natural logarithm of science and technology expenditure
	Saving	save	Resident deposit balance
	Internet development level	internet	Internet households / Total population
	Degree of Marketization	marketization	GDP/Government budget revenue
Control variable	Per capita GDP	pcgdp	Per capita gdp
	Foreign direct investment	fdi	Total fdi
	Housingprice	housingprice	The natural logarithm of the ratio of the total sales of commercial housing to the sales area of commercial housing

3.4. Descriptive Statistics

Table 2 presents descriptive statistics for each of the main variables. The average value of the approval system reform dummy (Center) in 2000-2013 was 63.87%, far more than half. During this period, the entrepreneurial activity increased rapidly, and the average urban entrepreneurial activity was 6.0872, which means that 6.0872 private enterprises will be added

per 10,000 people. Descriptive statistics of other variables are shown in Table 2, which is limited to the length and will not be described again.

Table 2. Descriptive statistics of the main variables

Variable	observation value	mean value	standard deviation	maximum value	minimum value
CPEA	3638	6.0872	4.686	112.9200	0.0400
Center	3598	0.6387	0.480	1	0
internet	3354	905.1983	1426.488	36635	1
technology	3635	8.1174	2.086	14.7620	-2.0402
education	3640	11.6153	1.296	15.7318	6.3969
housingprice	3615	7.7028	0.660	10.6960	5.1240
pcgdp	3630	2.4411	2.455	46.7749	0.2269
save	3633	733.3889	1446.147	22904.3566	1.4582
marketization	3639	20.8355	13.566	424.4900	3.8900
fdi	3594	5.1584	13.056	168.2897	0.0001

4. THE EXAMINATION AND APPROVAL SYSTEM REFORM AND ENTREPRENEURIAL ACTIVITY

4.1. General Regression Results

This section uses mixed OLS, random effects RE, and fixed-effect FE methods. It has been found by Haussmann that the fixed-effect FE method is more robust than the stochastic model. The regression results of entrepreneurial activity on the approval reform are shown in Figure 4. It should be noted that in order to reduce the endogenous interference, the Center made an advance one-stage treatment when returning, that is, whether the impact of the approval center on the entrepreneurial activity of the current year has been checked. Through the results (1)~(4), it can be found that the coefficient of the core explanatory variable Center is always positive and significant, indicating that the establishment of the examination and approval center can significantly improve the urban entrepreneurial activity. From the results (4), it can be estimated that the examination and approval reform can significantly improve the entrepreneurial activity 60.27 percentage points. Moreover, after controlling the city and the year, the fixed effect model has a larger coefficient than the mixed OLS model. This shows that setting up an approval center can significantly promote the growth of entrepreneurial activity and verify the correctness of the hypothesis. This also verifies that the examination and approval cost is an important institutional transaction cost in the process of innovation in Chinese enterprises. Therefore, accelerating the reform of the examination and approval system and decentralization will significantly enhance the entrepreneurial vitality of the public.

Taking the result (4) as an example, by controlling the coefficient of the variable, we find that the house price significantly inhibits the entrepreneurial activity. Wu et al (2014) found that high housing prices will promote the entrepreneurial probability of housing users and curb the probability of entrepreneurs without housing. Our research shows that high housing prices will inhibit the macro overall entrepreneurial probability, which means that high housing prices will increase the entrepreneurial cost of entrepreneurs, thus inhibiting the overall entrepreneurial level of the city. The coefficient of fdi is positive and significant, indicating that the increase in foreign direct investment will promote the local entrepreneurship rate. This may be the introduction of foreign capital and the introduction of advanced technology and management experience, thus promoting the local entrepreneurial atmosphere. Previous studies have shown that the impact of education on entrepreneurship is not clear, but we find that the increase in education spending is positively affecting entrepreneurship, but not significant. The coefficient

of technology spending is negative but not significant. We also find that the increase in the level of savings will inhibit entrepreneurship, and the results are significant. This may be due to the fact that a large part of China's entrepreneurship is a viable entrepreneurship. As the wealth of residents increases, the level of survivability entrepreneurship will also decline. The rest of the control variables are basically the same as our expectations, and we will not repeat them here.

Table 3. General regression results

	(1) POLS	(2) RE	(3) FE	(4) FE
Center	0.4237** (2.127)	0.9179*** (4.528)	1.1281*** (4.364)	0.6027** (2.277)
education	1.1596*** (7.763)	0.7412*** (4.780)	0.6210*** (3.045)	0.1155 (0.342)
fdi	0.0231** (2.245)	0.0310*** (2.697)	0.0277*** (2.745)	0.0306*** (2.911)
housingprice	-0.2163 (-0.876)	-1.1312*** (-4.930)	-1.2778*** (-4.180)	-1.0351*** (-3.974)
internet	0.0003*** (4.380)	0.0001** (1.972)	0.0001 (1.343)	0.0000 (0.658)
pcgdp	-0.0460 (-0.887)	0.0837 (1.630)	0.1327** (2.090)	0.1313** (2.228)
technology	-0.6300*** (-6.166)	-0.5361*** (-6.176)	-0.5074*** (-2.687)	-0.4096 (-1.350)
save	-0.0001 (-1.195)	-0.0001 (-0.950)	-0.0002 (-1.650)	-0.0003** (-2.282)
marketization	0.0115 (1.602)	0.0105 (1.599)	0.0103 (1.576)	0.0081 (1.039)
_cons	-1.2493 (-0.677)	9.4484*** (5.626)	11.6369*** (6.995)	13.3784*** (2.966)
City	NO	NO	YES	YES
Year	NO	NO	NO	YES
N	3244	3244	3244	3244
R2	0.030		0.050	0.117

t statistics in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

4.2. Grouping Regression Results

In order to ensure the robustness of the regression results, we grouped 257 cities in the sample, that is, according to the national classification criteria for the eastern, central and western provinces, the sample cities were grouped and divided into eastern cities, central cities and western cities. The results of group regression are shown in Table 4, which indicates that the administrative examination and approval reform is still positively related to the regional entrepreneurial activity, indicating that the examination and approval reform has promoted entrepreneurship. However, under the fixed effect model, only the eastern city coefficient is

significant and much higher than that of the central and western cities. This may be due to the higher level of economic development in the eastern cities and better business environment, so the institutional effect brought about by the examination and approval reform is even more sensitive, grouped regression results basically support our conclusions.

Table 4. Grouping regression results

	Eastern city		Central city		Western city	
	(1) POLS	(2) FE	(3) POLS	(4) FE	(5) POLS	(6) FE
Center	0.3746 (1.148)	0.8964** (2.425)	0.4258 (1.541)	0.3810 (0.976)	0.9760** (2.056)	0.3855 (0.691)
_cons	15.8706*** (-4.144)	23.4179*** (2.674)	2.6360 (1.149)	2.6474 (0.467)	15.7896*** (3.153)	29.4439*** (3.060)
Control variable	YES	YES	YES	YES	YES	YES
City	NO	YES	NO	YES	NO	YES
Year	NO	YES	NO	YES	NO	YES
N	1258	1258	1237	1237	750	750
R2	0.064	0.188	0.101	0.154	0.034	0.143

t statistics in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

5. REBUSTNESS TEST

The baseline regression results basically confirm the conclusions of this paper, but there are still some potential factors that may affect the inference of the article. Therefore, this paper will further consider the impact of these factors and test the robustness of the research conclusions.

5.1. Replace the Interpreted Variable

In the benchmark regression, we use the labor market method to build entrepreneurial activity, and further we use the ecological research method to build entrepreneurial activity. The entrepreneurial activity CPEA_ under the ecological research method is equal to the ratio of the number of new enterprises in the region to the total enterprise. We still use the mixed OLS model and the fixed effect model for testing. The results are shown in Table 5. Although we see that the result of the result (1) is negative and significant, the result (4) after controlling the characteristic effects of the city and the year, the coefficient of the Center is positive and significant at the level of 1%, which proves our benchmark regression. The robustness of the results.

Table 5. Replace explanatory variables for robustness testing

	(1) POLS	(2) FE	(3) FE
Center	-0.0036** (-1.998)	0.0004 (0.148)	0.0070*** (2.629)
_cons	0.3200*** (19.010)	0.3959*** (15.932)	0.0926** (2.351)
Control variable	YES	YES	YES
City	NO	YES	YES
Year	NO	YES	YES
N	3245	3245	3245
R2	0.249	0.449	0.514

t statistics in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

5.2. Instrumental Variables

Endogenous problems caused by two-way causality. The level of entrepreneurial propensity of local residents will also affect the intensity of local administrative approval. Because in an area where entrepreneurship is active, residents have a demand for local governments to improve the administrative approval environment. On the other hand, the policy is mandatory, but the actual implementation is very flexible. The establishment of the examination and approval center may not represent the actual examination and approval reform situation and has measurement errors. It can be seen that there may be endogenous problems caused by two-way causality between the administrative examination and approval reform and the choice of residents' entrepreneurial choices, which will lead to biased and inconsistent results of the benchmark regression. The most common way to solve this problem is to find instrumental variables that are related to the administrative approval reform but not subject to entrepreneurial tendencies, and then use the instrumental variable method to estimate. Referring to the research by Xia et al. (2017), we used the dummy variable (Center2001) of the approval center as the IV of the Center before 2001. First, using the initial sample or the lag period variable as a tool variable is a common method of selecting IV (Zhou and Tao, 2009; Faleye et al, 2011). Acemoglu et al. (2015) design tool variables based on historical information, mainly considering that the system has continuity. The past system can represent the current system to a certain extent, but the current performance will not affect the past system, so it can be well avoided. Responding to causal problems. At the same time, the establishment of the examination and approval center in 2001 was earlier than the administrative examination and approval reform work leading group and the administrative licensing law. It is more of its own willingness to reform. With the actual reform actions, the representativeness of the examination and approval reform is stronger, and the measurement error can be reduced. . Therefore, we select the establishment of the approval center before 2001 as IV, and the estimated results are shown in Table 6. From the regression results, the impact of the approval center on entrepreneurial activity is still significantly positive, indicating the robustness of the benchmark regression results.

Table 6. Tool Variable 2SLS Regression

	(1)	(2)	(3)	(4)
	FE	FE	2SLS	2SLS
	CPEA	CPEA_	CPEA	CPEA_
Center	0.6027** (2.277)	0.0070*** (2.629)	4.8158*** (4.430)	0.0393*** (4.000)
_cons	13.3784*** (2.966)	0.0926** (2.351)	6.0025** (2.205)	0.3909*** (15.663)
Control variable	YES	YES	YES	YES
N	3244	3245	3244	3245
R2	0.117	0.514	.	0.119

t statistics in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

5.3. Placebo Test

Although the use of the instrumental variable method can better avoid the endogenous problem caused by the reverse causality, it cannot exclude the influence of the entrepreneurial growth trend, which may be due to the fact that the entrepreneurial growth expectation is prior, and then the approval center is set up, which will also create endogenous problems. In theory, cities that are about to set up an approval center may have a better entrepreneurial atmosphere. Their growth rate of entrepreneurship has already been decentralized before the establishment of the approval center. It may be that the entrepreneurship in these cities is very active, and the call for improving the business environment is higher, and the approval center is set up, not the other way around. To this end, this article uses a placebo test to test the time trend. If the time trend of starting a business leads to a false return, then the change of the time of the establishment of the administrative examination and approval center, the relevant conclusions can still be significant, and vice versa, there is no increasing trend of entrepreneurship. Referring to the research of Xia (2017), we have calculated the establishment time of each city administrative examination and approval center for 3 years and set up the Center3 variable. For example, Center3, which established the approval center in 2007, has a value of 1 in 2004 and before. The year is 0. The regression results are shown in Table 7. The estimation coefficients of Center3 are not significant. This shows that there is no obvious decentralization trend in the previous entrepreneurial activity. The establishment of the approval center is robust to the entrepreneurial activity.

Table 7. Placebo test

	(1) POLS	(2) RE	(3) FE	(4) FE
Center3	-0.0671 (-0.261)	0.0519 (0.186)	0.0519 (0.186)	0.0570 (0.103)
_cons	-1.9525 (-1.074)	7.3681*** (4.546)	7.3681*** (4.546)	13.6357*** (2.930)
Control variable	YES	YES	YES	YES
City	NO	NO	YES	YES
Year	NO	NO	NO	YES
N	3244	3244	3244	3244
R2	0.029			0.115

t statistics in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

6. CONCLUSIONS AND RECOMMENDATIONS

Entrepreneurship and innovation are regarded as the most important source of power for economic development. Entrepreneurship has made tremendous contributions to China's economic growth in the past 30 years and is regarded as a booster for China's economic growth. However, the regional differences in entrepreneurial activity are particularly evident in China. According to the survey data of the Global Entrepreneurship Survey (GEM) in China, although the domestic entrepreneurial activity has increased year by year since 2002-2012, the region with the highest level of entrepreneurial activity is The gap in the lowest regions has also expanded and the geographical gap has become more apparent. Why does entrepreneurial activity show such a large regional gap? Administrative examination and approval is an important means for the government to intervene in microeconomic activities. The cumbersome administrative examination and approval procedures and the low efficiency of

administrative examination and approval will seriously distort microeconomic behavior and lower the level of social welfare. Accelerating the reform of the administrative examination and approval system, decentralization and decentralization will undoubtedly increase the autonomy and vitality of the micro-economy, and have an important impact on the economic behavior of the micro-subject. How will administrative approval reform affect the city's entrepreneurial activity? In order to answer this question, this paper conducts an empirical test based on panel data at the prefecture-level city level in China. The study found that the greater the intensity of administrative examination and approval, the higher the entrepreneurial activity of the city, and this positive relationship exists in the cities of eastern, central and western China, but the administrative approval reform in the eastern cities has the most significant effect on entrepreneurial activity.

The research in this paper shows that the intensity of administrative examination and approval reform will increase the entrepreneurial activity of the society. Therefore, optimizing the administrative examination and approval procedures, shortening the time for administrative examination and approval, and improving the efficiency of administrative examination and approval are important means to stimulate the vitality of "mass entrepreneurship". Judging from the specific procedures for the approval of the New Deal, the reason why China's administrative examination and approval time, cost, and minimum paid-in capital are higher than other economies is mainly due to the cumbersome administrative approval procedures and the low efficiency of examination and approval. For the purpose of minimum paid-in capital and shortening the time for examination and approval, government departments should focus on optimizing the administrative examination and approval procedures and improving the efficiency of administrative examination and approval. At the same time, the results of our group regression show that the eastern cities are more sensitive than the administrative approval reforms compared to the central and western cities. As the most developed economy in China, the most prosperous business environment and the most active in the region, the eastern city is also more willing to reform the existing approval system and create a more favorable business environment. However, the central and western cities are far behind the business environment in the eastern cities, and the institutional costs of entrepreneurship are higher, leading to a much lower level of entrepreneurial activity than the eastern cities. Therefore, in order to further explore the entrepreneurial enthusiasm of the central and western cities and promote the employment and growth of cities in the central and western regions, the state should formulate targeted administrative reform measures to avoid a one-size-fits-all approach, to consider the actual situation of the central and western cities, and to focus on the central and western regions. The city's administrative examination and approval reforms and ensure that the implementation of reform measures is in place.

Future research can be expanded as follows: On the one hand, the impact of administrative approval reform on entrepreneurial activity is identified by further distinguishing between different types of entrepreneurial activity (survival entrepreneurship, opportunistic entrepreneurship). On the other hand, it is also a shortcoming of this paper. It is necessary to further identify the internal mechanism of the administrative examination and approval reform affecting the entrepreneurial activity, and further unlock the mechanism of the administrative examination and approval reform.

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