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Chinese Official Exchange and Economic Growth

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Abstract: Since the establishment of the official exchange system in 1990, official exchanges in China have been ongoing, generally including two forms of communication: horizontal and vertical. A large amount of literature has proven that horizontal communication can promote local economic growth in different forms and to varying degrees. However, there is limited literature research based on vertical communication. Based on the Panel data of the central and local officials' vertical exchange of officials in 2010, this paper uses the double difference method to demonstrate whether the vertical exchange of officials can promote local economic development. The results indicate that vertical communication promotes economic growth in the destination and brings a positive impact of 2.56%. This indicates that officials with central to local vertical exchanges may also have incentives to promote local economic development. The findings of this article help to fill the gap in the research field of vertical communication and local economic growth.

Keywords: Vertical Communication; Economic Growth; Local Officials.

1. Introduction

Since the reform and opening up around 1980, China's economy has developed rapidly and being regarded as a "miracle". Numerous scholars at home and abroad have attempted to find the underlying reasons from different perspectives. The governance model of Chinese officials is an important perspective for understanding the miracle of China's economic growth. Zhang Jun and others believe that the official retirement system established in 1982 and the official exchange system established in 1990 have had a profound impact on the governance model of Chinese officials [1]. In Chinese cities, central or local government leaders are usually assigned to one or several new cities in their political careers to develop the local economy, which is a widely existing official exchange system in China (the system of senior officials serving in different places established in 1990, officially referred to as "official exchange"). As a result, officials' long-distance communication is divided into horizontal communication, also known as parallel communication, and vertical communication, also known as vertical communication.

Chinese government officials are an important factor in the governance model of Chinese officials, and as a human resource, they can play a certain role in regional development when governing the region. During the process of communication between officials in different regions, their own social network, abilities, and resources will promote the redistribution of resources between different regions, thereby affecting regional development. It can be seen that officials have played an important role in governance and promoting regional development.

Communication between different regions in China has been ongoing without interruption, reaching a peak in 2010. From June to December 2010, a two-way exchange and appointment of young and middle-aged cadres between central and state organs and provincial and municipal governments was organized. 65 young and middle-aged cadres from 54 ministries and commissions have gone to local positions for new positions, and 63 department and bureau level cadres from all over the country have served in central and state organs, marking the largest scale since the reform and opening up. The purpose of central to local officials is to solve the problem of relatively single sources and experiences of cadres in the process of national development, and relatively few cadres with grassroots experience. The official exchange system is a necessary supplement for high-level officials to better understand the grassroots situation and carry out their work more solidly.

2. Literature Review

Most scholars are concerned about the impact of horizontal communication among Chinese officials on regional development. Xu Xianxiang et al. used the Panel data of provincial governors and party secretaries from 1978 to 2005 to conduct research, and found that the exchange of provincial governors could increase the economic growth of the city inflow by about 1 percentage point [2]. Huang Shunwu et al. collected data from multiple mayors and city party secretaries from 1999 to 2009, and found that stable government officials can significantly promote enterprise exports, with mayors in charge of economic work having a greater impact [3]. Generally speaking, central officials generally have more political resources than local officials. Some scholars have also studied the impact of official exchanges on economic development at the central level, and they have found that horizontal and vertical official exchanges have significant heterogeneity in regional economic development. Zhang Ping studied the different impacts of central government officials' hometown provinces and regions on economic growth compared to provinces where they have worked before, and found that central government officials have a significant promoting effect on the economic growth of provinces of origin [4]. Zhang Jun and Gao Yuan empirically found that the term of office of government officials and the system of long-distance communication have a positive impact on economic growth overall, but there are significant differences in this impact between regions (especially between the east and west), with a greater impact in the east than in the central and western regions. Yang Haisheng et al. believe that vertical communication has a significant inhibitory effect on

economic growth [5]. Wang Xianbin and Xu Xianxiang found that the exchange of officials from the central to local level has a relatively unfavorable economic growth effect on the inflow areas [6].

3. Empirical Models

To examine the impact of vertical communication on the economic growth of the destination, it is necessary to compare the economic growth rates of the destination before and after the exchange of central officials. However, there are many factors that affect the economic growth rate of the region, and conclusions cannot be drawn through direct and simple comparison. This article intends to use the double difference method to solve this problem.

Specifically, we constructed a processing group with central transfer to local exchanges and a control group without central transfer to local exchanges. By controlling for other factors, we compared the differences between the processing group and the control group after central transfer to local exchanges occurred, in order to test whether vertical official exchanges from central transfer to local exchanges can promote the economic development of the relocation area. In practical operation, this article divides the sample into four groups: the pre inflow control group, the post inflow control group, the pre inflow experimental group, and the post inflow experimental group. This article sets two dummy variables, treat and post, to process the samples. The value of treat is: 1 for the experimental group and 0 for the control group; The value of post is 0 before migration, and 1 after migration. The regression equation is set as follows:

$$git = \beta_0 + \beta_1 treat_{it} + \beta_2 post_{it} + \beta_3 treat_{it} \times post_{it} + \varepsilon_{it} \quad (1)$$

Where 'i' represents the region and 't' represents the time; 'git' represents the economic growth rate, 'ε' represents a random perturbation term. coefficient 'β3' is the most important coefficient as a cross term, representing the impact of vertical official communication on the economic growth of the destination. The specific explanation is as follows:

In the control group, where $treat_{it}=0$, according to the regression equation, the economic growth of the destination before vertical communication is recorded as:

$$git=\{\beta_0+\varepsilon_{it} \quad (2)$$

the economic growth of the destination after vertical communication is recorded as:

$$git=\{\beta_0+\beta_2+\varepsilon_{it} \quad (3)$$

It can be seen that the difference in economic growth between the control group before and after communication is dif1=β2.

Correspondingly, in the experimental group, where $treat_{it}=1$, according to the regression equation, the economic growth before vertical communication is recorded as:

$$git=\{\beta_0+\beta_1+\varepsilon_{it} \quad (4)$$

the economic growth after vertical communication is recorded as:

$$git=\{\beta_0+\beta_1+\beta_2+\beta_3+\varepsilon_{it} \quad (5)$$

It can be seen that the difference in economic growth between the experimental group before and after communication is dif2=β2+β3. Therefore, the net impact of vertical communication on the inflow area is dif2-dif1=β2+β3-β2=β3, i.e., cross term $treat_{it}\times post_{it}$. The coefficient of $treat_{it}\times post_{it}$ is β3. When vertical communication has a significant positive impact on the economic growth of the destination, β3 is significant and positive.

4. Data

4.1. Data Sources

The list of officials for the 2010 official exchange was obtained from official information published on Nanhai Net, Zhongxin Net, and other websites. The resumes of officials were obtained from Sogou Net. The economic growth data of the relocation area and other control areas from 2008 to 2014 were sourced from Wind Financial Terminal and EPS data platform.

In 2010, the Central Organization Department selected 66 young and middle-aged cadres to exchange positions in local areas. The selected 66 cadres come from 54 central and national government departments and commissions. But from the list that has been announced, only 48 central to local exchange officials were found as samples of the text. Due to the fact that most of the cadres selected in 2010 took office from the central to local governments at the end of 2010, this article chooses 2011 as the year for policy implementation. Most officials ended their positions or were transferred back to the central government or changed positions in 2013, so this article selects 2014 as the end year.

4.2. Descriptive Statistics

There are a total of 588 sample data in this article; Year 2008-2014, a total of 6 years. 2008-2010 is the year when the policy was not implemented, and 2011-2014 is the year when the policy was implemented; Select 84 cities, 32 experimental groups, and 52 control groups, all of which are adjacent areas of the experimental group. This article uses the per capita GDP growth rate as the dependent variable to examine changes in economic development, rather than using the total amount as a result of drawing on a large num9ber of literature. Because the winsor2 command is used to process Outlier, the final sample size is only 578.

Table 1. Descriptive Statistics

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	S.d.	min	max
year	588	2,011	2.002	2,008	2,014
code	588	42.50	24.27	1	84
Per Capita GDP	588	40,532	22,848	5,761	149,495
Per capita GDP growth rate	578	0.147	0.0865	0.00967	0.683
treat	588	0.381	0.486	0	1
post	588	0.571	0.495	0	1
did	588	0.218	0.413	0	1

4.3. Construct Panel Data

As mentioned above, the DID method is used to identify the impact of vertical exchanges on the economic growth of inflow regions, and the values of $treat_{it}$ and $post_{it}$ are assigned according to the specific situation, so as to construct a Panel

data structure with multiple periods and cross sections.

Firstly, we examine the assignment of $post_{it}$. For the year of policy implementation, i.e. the year of not moving in, all individuals are assigned a value of 1, i.e. from 2011 to 2014, with $post_{it}$=1; For the years prior to policy implementation, all individuals are assigned a value of 0, from 2008 to 2010, with $post_{it}$=0.

Next, we process the assignment of $treat_{it}$. For the experimental group, i.e. areas with vertical communication, assign a value of 1. It should be noted here that when choosing the regions for vertical exchange and immigration, this paper only chooses the level of Prefecture-level city, not including districts and counties, considering that there are some cadres serving in Prefecture-level city and districts and counties at the same time in some regions. For neighboring provinces, i.e. non immigrant areas, assign a value of 0.

Did=treat*post, representing a variable that considers both the location of relocation and the year of policy implementation.

5. Conclusion Comments

5.1. Basic Results

From the regression results in Table 2, it can be seen that in 2010, vertical exchange improved the economic growth of the destination.

Specifically, when there are no control variables, the coefficient of did isβ3=0.0256, which can pass the significance level test of 5%. This indicates that compared to the control group, the vertical communication represented by the experimental group can significantly increase the per capita economic growth of the inflow area by 2.56%. The result has been processed to eliminate Outlier.

Table 2. Regression Results

VARIABLES	Per capita GDP growth rate
did	0.0256**
	(0.0117)
Constant	0.141***
	(0.00382)
Observations	578

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2. Parallel Trend Testing

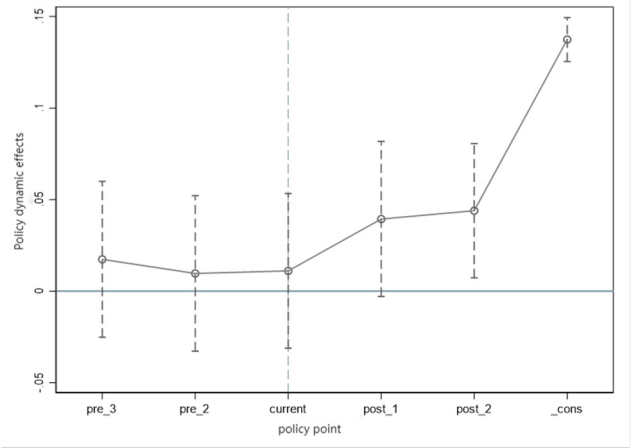

Figure 1. Parallel Trend Test Results

This article conducted parallel trend testing on the values and obtained the results shown in Figure 1. Current represents the year of policy implementation, which is 2011. The coefficient of interaction terms was not significant in the first three years of policy implementation; After the implementation of the policy, it is significant, indicating that there is indeed a parallel trend.

5.3. Placebo Test

This article conducted a placebo test, randomly sampling 500 interaction items to see if there is a significant difference between the coefficients and the benchmark estimation results. As shown in Figure 2 below, the random sampling coefficient takes zero as the mean and presents a Normal distribution. As shown in Figure 3, the t-values of the random sampling results are all located near zero, indicating that this article can pass the placebo test.

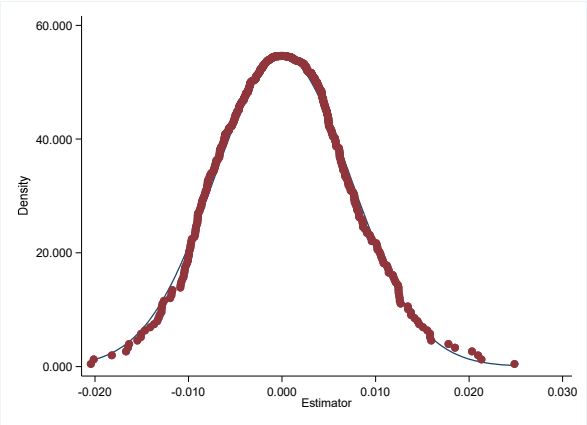

Figure 2. Coefficients of placebo test results

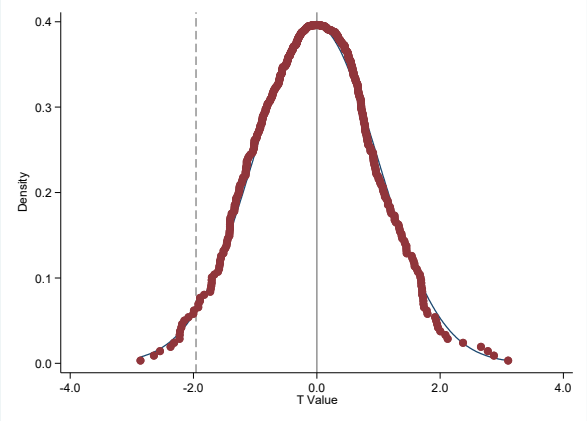

Figure 3. T-value graph of placebo test results

6. Empirical Analysis

Local officials in China play an important role in China's economic development. Generally speaking, central officials have more political resources than local officials, but may lack grassroots experience. The communication between central and local officials is conducive to mutual benefit, first and foremost, it is beneficial for local economic development, as the central government is likely to bring more resources to the migration zone; Secondly, communication is conducive to filling the gap between central officials' understanding of grassroots situations, enabling them to penetrate deeper into the grassroots and contribute better to the country's economic development.

From a methodological perspective, we cannot directly identify quantitatively whether central officials have played a promoting role in the economic development of the relocated areas. Therefore, this paper uses dummy variable assignment

and Panel data to increase the sample size, with year and individual fixed effects.

On an empirical basis, this article draws a conclusion using the double difference method, indicating that vertical communication between the central and local governments and officials from the central to local levels are conducive to promoting the economic development of the inflow areas. With Ceteris paribus, it can promote the growth of per capita GDP by 2.56%.

This article finds that communication between central and local officials is beneficial for the economic development of the inflow areas. However, the experiment presented in this article is only the result of one official exchange and cannot represent all. Because the systematic and quantitative identification of official communication, including horizontal communication and vertical communication (central to local, local to central), is a topic worth further exploration.

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