



(RESEARCH ARTICLE)



Research on the influence of China's transfer payment system on the equalization of basic public services

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Abstract

Realizing the equalization of basic public services is of great significance for promoting social harmony and narrowing the regional development gap. Since 2006, China has officially proposed "equalization of basic public services". Since then, the gap of basic public service level between the eastern and western regions of China has narrowed year by year, but inequality still exists. Transfer payment system is the most important policy tool to realize the equalization of basic public services in China. This paper uses the variation coefficient method to analyze the internal reason for the narrowing of the gap, that is, the impact of China's transfer payment system on the equalization of basic public services. On this basis, in view of China's national conditions and foreign successful experiences, this paper puts forward some countermeasures and suggestions to improve the transfer payment system and promote the equalization of basic public services from the aspects of establishing a sound legal system, normalizing the direct fund management mechanism, and clarifying the division of routine powers and responsibilities.

Keywords: Transfer payment; Basic public services; Equalization; Variable coefficient

1. Introduction

The report of the 19th National Congress of the Communist Party of China clearly put forward the goal of "basically realizing the equalization of basic public services by 2035". However, due to the uneven distribution of regional resources, the difference of economic development level and the defects of China's transfer payment system, the inequality of basic public services still exists in China. The implementation of transfer payment system can improve the financial imbalance between central and local governments and between local governments, thus further promoting the realization of equalization of basic public services. Based on this, this paper selects the eastern and western regions of China, based on the relevant data from 2007 to 2018, analyzes the influence of transfer payment system on the equalization of basic public services by using the variation coefficient method. At the same time, in view of the existing problems in China's transfer payment to promote the equalization of basic public services, combined with the successful experiences of foreign developed countries, this paper puts forward reasonable countermeasures and suggestions, in order to further improve the transfer payment system and promote the equalization of basic public services in China.

2. Literature Review

Fiscal decentralization is the theoretical basis for implementing the transfer payment system. Its purpose is to improve the performance of the public sector and make the government closer to the needs of the people, so as to better provide public services for local residents. In the middle of last century, the theory of fiscal decentralization began to emerge in

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western countries and gradually developed, among which the main representatives are Stigler [1], Buchanan [2], Tiebout [3] and so on.

On the transfer payment system, a lot of research has been carried out at home and abroad. The concept of transfer payment was first put forward by Pigou, which believed that transferring the money of the rich to the poor would improve the overall social satisfaction, that is, the more national income, the more equal income distribution, and the greater social welfare [4]. Andrew and Brian found that intergovernmental transfer payments can effectively improve the level of local public services by analyzing the case of Australian local government fund system [5]. Sanguietti and Tommasi think that increasing the transfer payment funds from the central government to local governments will reduce the tax collection enthusiasm of local governments, thus making them more inclined to increase fiscal expenditure [6]. China's transfer payment system has been implemented for more than 20 years, which has also aroused widespread concern and discussion in academic circles. Fan Jida pointed out that since the tax-sharing reform in 1994, the financial relationship among Chinese governments has shown the characteristics of "asymmetric decentralization". For example, the economic and social phenomena such as the widening gap between urban and rural areas and the imbalance of regional development in China are closely related to this feature, and the correction of this feature needs to be realized by improving the transfer payment system [7]. Ma Zhonghua and Xu Hangmin think that there are still many problems in China's transfer payment system in the new era facing the new requirements of the modernization of state governance, and propose that the transfer payment system should be optimized through measures such as clarifying powers and responsibilities, strengthening the goal of equalization and improving the use management mechanism [8].

In terms of equalization of public services, the concept of equalization in foreign economics originated from "equalization of income distribution" put forward by Pigou in his book *The Economics of Welfare* [9]. E.S.Savas studied the concept of public service equity from various angles, which provided a theoretical basis for the emergence and development of public service equalization [10]. Van de Walle emphasized that transfer payment is an important means for the government to realize the equalization of public services, but also pointed out that the inequality of public services is extremely serious [11]. In China, Ping Yuxiao selected Nanchang City, Jiangxi Province as the research object, and pointed out that there are many problems in all aspects of equalization of basic public services between urban and rural areas in China, especially the unbalanced distribution of educational resources [12]. Liu Dehao made an empirical study on the equalization level of basic public services in China from 2009 to 2013. The results show that the overall level of equalization of basic public services in China is low, and various basic public services also show an unbalanced development trend [12].

With regard to the relationship between transfer payment and equalization of basic public services, Tian Fa and Zhou Chenying explained the deviation of the financial system that caused the non-equalization of basic public services by constructing the trinity analysis framework of "division of responsibilities of intergovernmental public services-financial allocation arrangement-transfer payment effect" [14]. Li Ying pointed out through analysis that basic public services have two main characteristics: non-exclusive and non-competitive, and the market can't provide such services, which needs to be realized by the government's financial transfer payment system [15]. Li Fan thinks that the main goal of transfer payment is to realize the equalization of basic public services, transfer payment is an important means to promote the balance of financial resources, and the balance of financial resources is a necessary condition to promote the equalization of basic public services [16].

No matter from the perspective of transfer payment or equalization of public services abroad, the related research started far earlier than that in China, and it is also more abundant. From the domestic research status, most scholars agree that transfer payment can promote the equalization of basic public services, but at the same time, they also point out that China's current transfer payment system still has some defects and needs to be further improved, so as to better promote the equalization of basic public services. The realization scope of equalization of basic services covers the whole country, but through combing the literature, it is found that at present, most of the domestic researches are aimed at a certain region, but few of them are compared with the two regions. Therefore, this paper selects a broader region, and conducts a comparative study between the eastern and western regions with a large development gap to analyze the impact of China's transfer payment system on the equalization of basic public services.

3. The Mechanism of the Transfer Payment System on the Equalization of Basic Public Services

Through the research, it is found that after the formal proposal of "equalization of basic public services" in 2006, the gap of basic public services level between eastern and western regions of China has obviously narrowed, and the improvement speed of basic public services level in western regions is obviously higher than that in eastern regions. With the basic public services in western regions reaching a certain level, their improvement space has gradually

narrowed, and the gap between the two regions has also experienced a "deceleration". The above changes are due to the impact of the implementation of China's transfer payment system on the equalization of basic public services. The specific mechanism is as follows:

- The transfer payment system promotes the equalization of basic public services by balancing the financial resources among regions. Financial resources refer to the ability to obtain fiscal revenue. The imbalance of regional financial resources leads to the gap in the ability of local governments to provide basic public services, which leads to the inequality of basic public services. Financial imbalance can be divided into vertical and horizontal categories: vertical imbalance refers to the financial imbalance between central and local governments caused by China's fiscal decentralization system; The horizontal imbalance is mainly caused by the imbalance of regional economic development level. The higher the level of economic development, the higher the ability to obtain fiscal revenue. Balancing regional financial resources can be achieved by improving the economic development level of underdeveloped areas on the one hand, and by implementing the transfer payment system on the other hand, the areas with lower financial resources can have more financial funds to provide basic public services. Because the improvement of economic development level can't be realized in a short time, transfer payment has become the most important means to balance regional financial resources, and its main purpose is also to realize the equalization of basic public services in China.

The mechanism of action can be shown in the following figure:

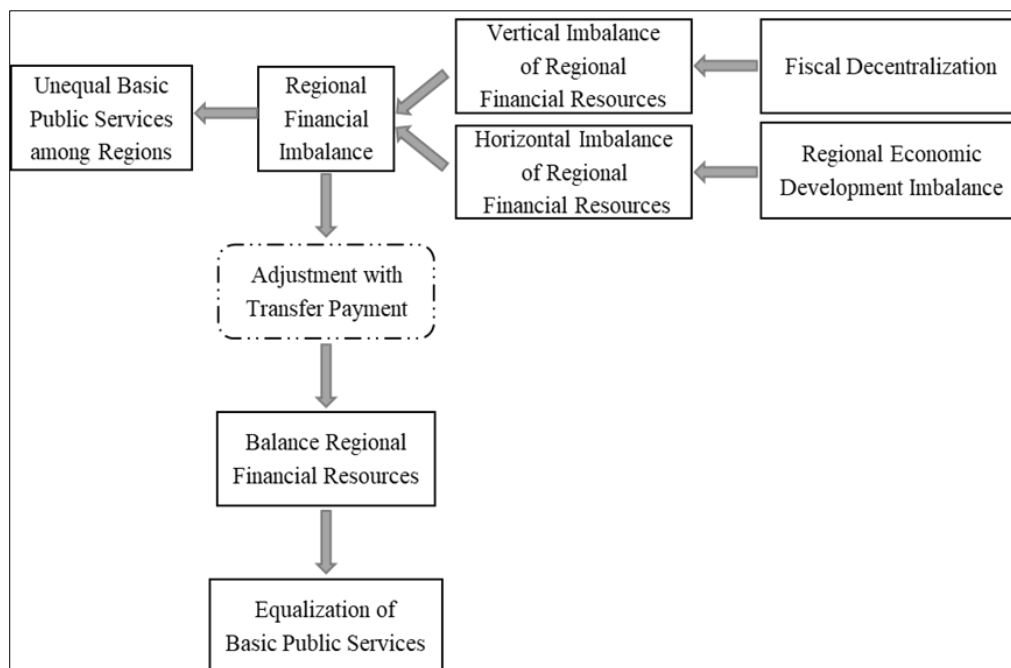


Figure 1 Mechanism of transfer payment system's influence on equalization of basic public services

4. Empirical Analysis of the Impact of Transfer Payment System on Equalization of Basic Public Services

As mentioned above, the transfer payment system influences the equalization of basic public services by balancing the financial resources among regions. Therefore, this paper measures the impact of transfer payment on the equalization of basic public services by per capita financial resources, and regards the per capita financial income (expenditure) of each place as the per capita financial resources level before (after) accepting transfer payment. All data in this paper come from China Statistical Yearbook (2007-2018) and local statistical yearbooks of relevant years of provinces, autonomous regions and municipalities directly under the Central Government.

4.1. Measurement method

In this paper, the variation coefficient method is used to analyze the influence of transfer payment on equalization of basic public services. The per capita financial resources before and after transfer payment are compared with the

national average level, and the degree of deviation reflects the degree of dispersion of local financial resources, so as to explain the changes of equalization of basic public services before and after transfer payment.

In this paper, CVx (CVy) is used to represent the variable coefficient of per capita fiscal revenue (expenditure). The greater the variable coefficient, the greater the difference of per capita fiscal revenue (expenditure). The specific algorithm is as follows:

$$CV_x = \frac{\sigma_x}{\bar{X}} = \frac{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 P_i}}{\bar{X}}$$

$$CV_y = \frac{\sigma_y}{\bar{Y}} = \frac{\sqrt{\sum_{i=1}^n (Y_i - \bar{Y})^2 P_i}}{\bar{Y}}$$

In the above formula, σ_x (σ_y) represents the standard deviation of the per capita financial income (expenditure) of each province in the region, X_i and Y_i represent the per capita financial income and expenditure of each province in the region, P_i represents the proportion of the population of each province in the region to the total population of the country, and \bar{X} and \bar{Y} represent the per capita financial income and expenditure of the country.

At the same time, this paper quotes U value and E value to measure the effect of transfer payment on equalization of basic public services. U value is the influence coefficient of transfer payment on equalization of basic public services. When $0 < U < 1$, transfer payment has a positive impact on equalization of basic public services. The smaller the U value, the better the effect. E value is the effect value of transfer payment on equalization of basic public services. When $E > 0$, transfer payment has a positive effect on equalization of basic public services. The larger the E value, the better the effect.

$$U = \frac{CV_y}{CV_x}$$

$$E = CV_x - CV_y$$

4.2. Empirical analysis

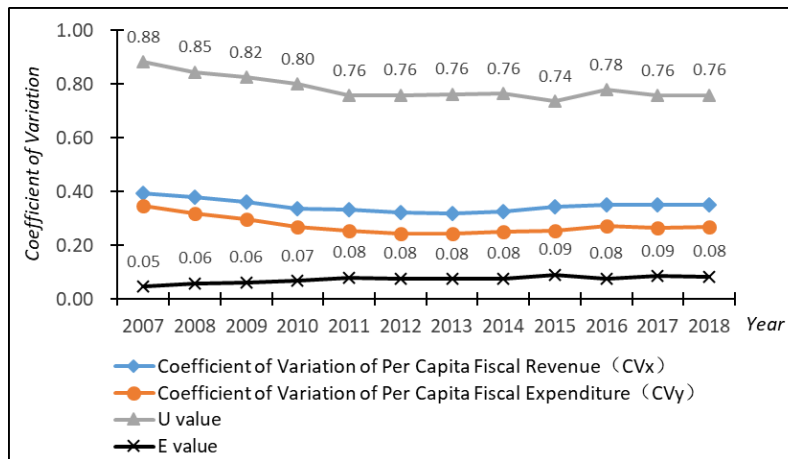


Figure 2 Equalization effect of transfer payment in eastern China during 2007-2018

Figure 2 shows the variable coefficient of per capita fiscal revenue and expenditure in eastern China from 2007 to 2018, and the U value and E value of the effect of transfer payment on equalization of basic public services. It can be seen from Figure 2 that during this period, CVx in the eastern region has been greater than CVy, and U value has been in the range of 0-1, which shows that the implementation of the transfer payment system has been promoting the balance of the per capita financial resources of provinces in the eastern region, and the equalization level of basic public services in the eastern region has been improved. During the period from 2007 to 2011, the U value obviously decreased and the E value obviously increased, which indicated that the equalization of basic public services played by the transfer payment

in the eastern region was obviously enhanced in this period, and the equalization effect of the transfer payment was in a very stable state after 2011.

Figure 3 shows the variable coefficient of per capita fiscal revenue and expenditure in western China from 2007 to 2018, and the U value and E value of the effect of transfer payment on equalization of basic public services. Similarly, during this period, CV_x in the western region has always been greater than CV_y , and U value is also between 0 and 1, which also shows that the implementation of transfer payment system has been promoting the balance of per capita financial resources of provinces in the western region as in the eastern region, and the equalization level of basic public services in the western region has been further improved. During the period from 2007 to 2009, the U value in the western region has obviously decreased, on the contrary, the E value has obviously increased, which shows that during this period, the effect of the implementation of the transfer payment system on the financial balance in the western region has been continuously enhanced. U value reached the lowest in 2009, indicating that the role of transfer payment in the western region reached the maximum in 2009; From 2009 to 2014, the U value of the western region is increasing and the E value is decreasing, which shows that the role of transfer payment in the financial balance of the western region has weakened. After 2014, the equalization effect of transfer payment in the western region tends to be stable in fluctuation. In short, during the period of 2007 -2018, the implementation of the transfer payment system has been promoting the equalization of basic public services in the western region, but the promotion effect is different in different years.

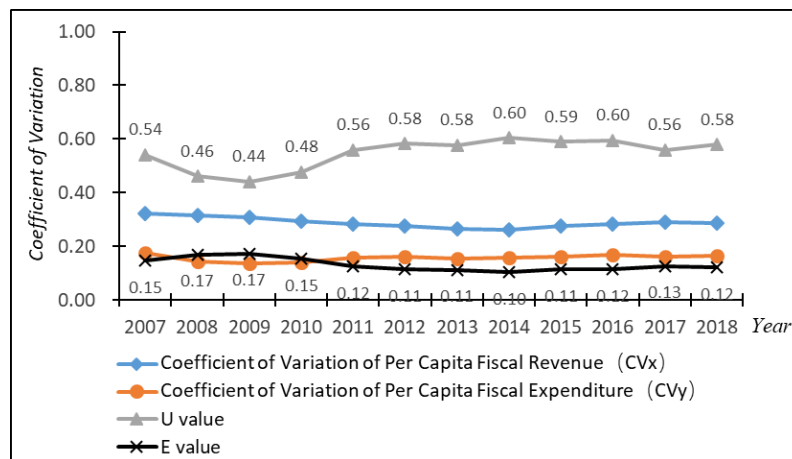


Figure 3 Equalization effect of transfer payment in western China during 2007-2018

After analyzing the two regions respectively, this paper further makes a comparative analysis of them. Figure 4 shows the comparison of transfer payment equalization effect between the eastern and western regions from 2007 to 2018.

As shown in Figure 4, during this period, the U value in the eastern region has been higher than that in the western region, which shows that the implementation of the transfer payment system has a significantly greater effect on the equalization of basic public services in the western region than in the eastern region, and before 2011, it has a significantly greater effect on the equalization of the eastern and western regions than in the later period. This shows that the eastern region has a high level of economic development and a good equalization foundation, while the western region has a low level of equalization foundation of basic public services due to historical debts, weak development foundation and other factors. Therefore, when the transfer payment plays a role, its promotion effect on the eastern region is not very obvious compared with the western region. When the equalization level of basic public services in the western region is promoted to a certain degree, the role of transfer payment will begin to weaken and gradually stabilize. Similarly, for the eastern region, the equalization effect of transfer payment will also become more and more stable, so the two U value curves in the figure are almost parallel after 2011, but the equalization effect of transfer payment in the western region is still greater than that in the eastern region.

At the same time, the change trend of the equalization effect value of transfer payment E value is opposite to that of U value. The E value in the western region has been higher than that in the eastern region, and before 2011, the difference between them was larger, but after 2011, the difference between them was smaller and tended to be stable, which further verified the previous analysis.

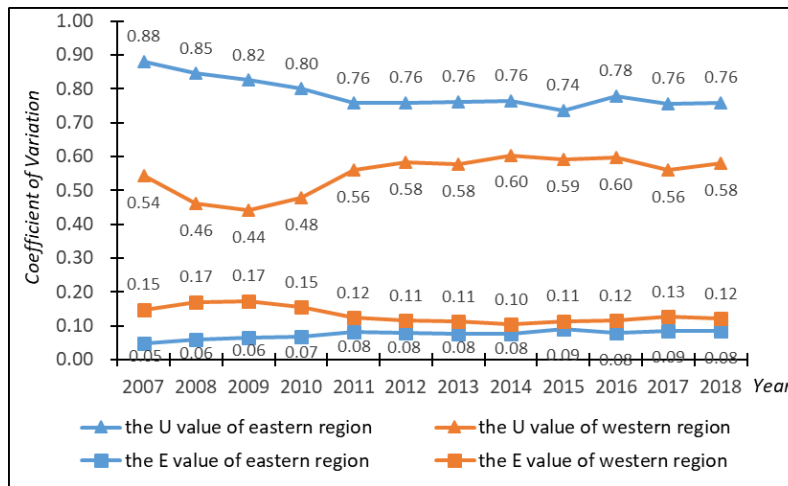


Figure 4 Comparison of transfer payment equalization effect between eastern and western regions during 2007-2018

4.3. Empirical conclusion

It is found that from 2007 to 2018, China's transfer payment system has always had a positive impact on the equalization of basic public services, and the positive impact on the western region is greater than that in the eastern region. At the same time, the equalization function played by transfer payment tends to be stable in recent years, and there is no obvious improvement, which requires further reform and innovation of transfer payment system, improving the performance level of transfer payment and enhancing its ability to promote equalization of basic public services.

Although the implementation of the transfer payment system has promoted the equalization level of basic public services, many studies and the data of this paper show that in China, the inequality of basic public services among regions, within regions and between urban and rural areas still exists. Taking the regional differences studied in this paper as an example, this paper selects the ratio of teachers and students in ordinary junior middle schools and the participation rate of basic medical insurance to illustrate. As shown in the table below, in 2018, the teacher-student ratio of ordinary junior middle schools in eastern Beijing was 12.78%, while that of Guizhou province in western China was only 7.09%. The participation rate of basic medical insurance in Guangdong Province in the eastern region has reached over 90% for five consecutive years, while that in Shaanxi Province in the western region is only 34.98%.

Table 1 Comparison of teacher-student ratio of ordinary junior middle schools and participation rate of basic medical insurance

Teacher-student ratio of ordinary junior middle schools (%)												
Province	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Beijing	8.94	9.24	9.54	9.76	10.10	10.17	10.26	10.59	11.59	12.48	12.93	12.78
Guizhou	5.06	5.12	5.11	5.13	5.20	5.46	5.48	5.78	6.25	6.72	6.97	7.09
Participation rate of basic medical insurance (%)												
Province	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Guangdong	20.93	23.97	45.10	48.30	64.42	79.50	86.24	91.42	93.43	92.28	92.80	93.57
Shanxi	11.06	11.64	23.88	25.36	29.13	29.81	33.06	33.01	32.88	32.73	32.62	34.98

5. Countermeasures and Suggestions for Improving the Transfer Payment System and Promoting the Equalization of Basic Public Services

As mentioned above, there is still a gap in the level of basic public services among regions in China, and the goal of equalization of basic public services has not yet been achieved. It is urgent to further improve the transfer payment system to promote the achievement of this goal. In view of the mature experience of transfer payment system in developed countries such as Germany, Japan and so on, combined with the reality of China's economic and social

development, this paper puts forward the following countermeasures and suggestions to improve the transfer payment system.

5.1. To establish a sound legal system to ensure the implementation of the transfer payment system

The standardization and legalization of transfer payment system is the general trend, and it is also the inevitable requirement of China's rule of law. For a long time, there is no special legal basis for the implementation of China's transfer payment system. Although some people think that China's transfer payment system has legal basis such as *the Budget Law of the People's Republic of China* and *the Reform Plan of Income Tax Revenue Sharing*. In fact, they only roughly relate to the transfer payment system in content, rather than special legislation for transfer payment. Therefore, in order to promote the standardization, legalization and authority of transfer payment, we should speed up the establishment of China's *Transfer Payment Law* and its supporting legal system, standardize the implementation of the transfer payment system with legal effect, and clearly stipulate the division of routine powers, financial rights and responsibilities among governments at all levels, the calculation method of transfer payment quota, relevant regulatory requirements, etc., so as to ensure that all aspects of the implementation and implementation of transfer payment can be governed by laws.

5.2. Develop special transfer payment forms and establish a normalized direct fund management mechanism

In 2020, in the face of the COVID-19 epidemic and the impact of the downward pressure on the economy caused by it, the Ministry of Finance used 2 trillion yuan of newly added fiscal deficit and special anti-epidemic government bonds as special transfer payments, and direct financial funds to cities and counties, thus reducing the intermediate links in the allocation of financial funds, improving the efficiency and accuracy of the use of transfer payment funds, avoiding the interception or misappropriation of funds, and avoiding rent-seeking and corruption problems to a certain extent. It is of great significance to speed up the establishment of the normalized direct mechanism of financial funds (hereinafter referred to as "direct funds") for more efficiently promoting the equalization of basic public services and improving the enthusiasm of local governments in providing basic public services. First of all, we should promote the institutionalization of direct funds, such as establishing and improving relevant laws and regulations and introducing special management measures to ensure the normalization and long-term operation of direct funds; Secondly, it is necessary to further increase the proportion of direct funds, expand the source range of direct funds, and ensure their coverage and fund scale; Finally, improve the supervision system of direct funds, strengthen the supervision of direct funds, achieve "whole chain, whole process and all-round" fund monitoring, ensure the openness and transparency of the use of funds, and rely on the masses and other subjects for effective supervision.

5.3. Further clarify the division of routine powers and responsibilities, and explore the supply of diversified basic public services

At present, the Chinese Constitution expresses the division of routine powers among governments in a very general way, and the functions, powers, obligations and expenditures of governments at all levels are in a legal vacuum to some extent. China should further rationally and clearly define the scope of authority and division of responsibilities of governments at all levels in legal form, so that governments at all levels can have legal basis when exercising their routine powers and performing their responsibilities, standardize the supply of basic public services of the government, and avoid arbitrary policy interpretation, which also shows the necessity of perfecting the relevant legal system of transfer payment. In addition, we can learn from the successful experience of Japan and other countries, clarify and standardize the routine powers and responsibilities of government, market and social organizations, and explore the main body and forms of basic public service supply other than government, such as forming a diversified basic public service supply system through government purchase, service outsourcing and PPP mode. This diversified supply form of basic public services can alleviate the financial pressure of the government, give full play to the role of the market in resource allocation, reasonably improve the quality and level of basic public services through competition, and promote the equalization process of basic public services.

6. Conclusion

Through the research in this paper, it is found that during the period from 2007 to 2018, China's transfer payment system has always had a positive impact on the equalization of basic public services, but this equalization effect has not been significantly improved in recent years, which requires further reform and innovation of the transfer payment system, improving the performance level of transfer payment and enhancing its ability to promote the equalization of basic public services. Therefore, this paper puts forward countermeasures and suggestions from three aspects: establishing a sound legal system, normalizing the direct fund management mechanism, and further clarifying the

division of routine powers and responsibilities. It is of great theoretical and practical significance for China to further improve the transfer payment system and further promote the goal of equalization of basic public services.

Compliance with ethical standards

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Disclosure of conflict of interest

All authors declare that No conflict of interest in this work.

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