ISSN : 0974 - 7435 Volume 8 Issue 2

BioTechnology
An Indian Journal

FULL PAPER

BTAIJ, 8(2), 2013 [224-232]

# On the measure of regional differences between the supply levels of local public goods of the people's livelihood

**Yang Yi*, Zhu Juan, Zhou Decai, Zhang Yuanzhen**
**School of Economics and Management, Nanchang University, Nanchang 330031, (CHINA)**
**E-mail: halley_60@163.com**

## ABSTRACT

Since the system of tax distribution reform has been put in, the supply of local public goods has been under the spotlight. Local public goods mostly belong to people's livelihood public goods, the supply is closely related to the vital interests of citizens in jurisdiction. Most of the research conclusion on the supply of local livelihood public goods is consistent: there exists major regional discrepancy. But research on how to judge the discrepancy extent, how to scale the level of supplying in different regions and how to find the critical influencing factor are few. This paper wants to solve these problems, so uses SPSS to process factor analysis to grade the supply level of local livelihood public goods in China's 30 provinces (not including Tibet) and researches into the critical influencing factors. To verify the methods the paper selects 16 indicators which include social security, education, sanitation, technology and infrastructure in city and countryside etc to assess these differences. The paper's core innovation lies in scoring the supply level of local livelihood public goods of different provinces and finding the critical influencing factors which is new compared with previous work. Based on these influencing factors this paper suggests how to supply local public goods harmoniously and efficiently. These suggestions are very important to narrow down the difference between regions and town and countryside. 

## KEYWORDS

Local livelihood public goods;
Supply level;
Regional differences;
Factor analysis.

## INTRODUCTION

The 18th National Congress of the Communist Party of China indicated, "strengthening social development, we must give high priority to ensuring and improving the people's wellbeing. We should bring as much benefit as possible to the people, resolve as many difficulties as possible for them, and solve the most pressing and real problems of the greatest concern to them. We should keep making progress in ensuring that all the people enjoy their rights to education, employment, medical and old-age care, and housing so that they will lead a better life. "After the 17th National Congress of the Communist Party of China, the people's livelihood problems once again become the core issue of the construction of modern social system and the fiscal and taxation policy research in our country. The mentioned education, employment, medical care, social security

and housing, etc belong to public goods. And these public goods of the people's livelihood mostly have the characteristic of regional supply and belong to the category of local public goods of the people's livelihood.

In terms of the regional economic development strategy, China has experienced three stages: non-balanced regional development, regional coordinated development and regional overall development. In order to achieve regional overall development, the function of local public goods supply, especially the supply of public goods of the people's livelihood, is necessary. Therefore, clearly grasping the characteristics of differences between regions in the supply of public goods of the people's livelihood is the premise to achieve regional overall development.

Based on the existing background of fiscal decentralization in our country, this paper have adopted the factor analysis by using SPSS and scored and quantified the local supply level of public goods of people's livelihood in 30 provinces(cities) in China (not including Tibet) to explore the main factors of the influence, Finally, this paper put forward balanced effective countermeasures and suggestions on local public goods supply.

## LITERATURE REVIEW

### Foreign literature review

The studies of local public goods supply most focus on fiscal decentralization and centralization. Most foreign scholars believe that fiscal decentralization is beneficial to improve the level of local public goods supply. Tiebout(1956) is the scholar who first studied the public goods supply and the decentralization at the same time[1]. He believed that individuals can vote with their feet. This vote mechanism can not only reflect the level and capacity of public goods supply in different regions effectively, but also stimulate local governments to compete with each other. After that, Stigler (1957), Musgrave (1959) and Oates (1972) demonstrated the source of advantages of local governments' public goods supply from different angles[2-4]. Also, they realized that the differences in endowments might lead to regional differences in the level of supply. Recently, on this basis, more and more scholars have found that decentralization will bring more bad effects if a region does not have the democratic institutions and community representatives. Besides, the decentralization will not bring an ideal level of local public goods supply, nor will it slow down the inter-regional differences in the public goods supply. Litvack, Ahmad and Bird(1998) once warned that most developing countries do not have the precondition for the aforementioned theory—a well-designed system[5]. These countries did not get a prospective level and public service efficiency in their decentralization trying. Azfar and Kähkönen et al(2001)studied the circumstances of Uganda and Philippines, which were both experiencing the fiscal decentralization, and found decentralization could not promote local welfare automatically[6].

### Domestic literature review

The domestic scholars hold two views on the study of the relationship between fiscal decentralization and the level of local public goods supply. Some scholars believe that fiscal decentralization is not conducive to narrow the differences in the supply of local public goods and public services. West and Wong(1995), respectively, conducted field research in Shandong Province, Hebei Province and Guizhou Province to study the relationship between the fiscal decentralization and public services in 1993 and 1994[7]. They found there were large differences between provinces in some important public services such as health care spending per capita. Fu Yong (2007)analyzed from the structure of local government's fiscal expenditure and found that fiscal decentralization reduced the level of education and urban public services supply[8]. Deng Kebin and Ding Juhong (2009)analyzed the game relationship between the central government and local governments and found that fiscal decentralization was beneficial for promoting the local government's supply level of "hard"public goods while has significant inhibitory effect to that of "soft" public goods[9]. Jia Zhilian, Lu Hongyou(2010)used the dynamic factor analysis and made comprehensive evaluation to the provincial governments' effective supply levels of education and public goods of the people's livelihood from 2001 to 2006[10]. The research showed fiscal decentralization and the government preference did not improve local government's effective supply level of education and

public goods of the people's livelihood. But some other scholars consider fiscal decentralization improves the supply level of local public service and favors reducing regional differences.

In summary, we can find there are regional differences between the levels of local public goods supply which are the fiscal decentralization derivatives. However, the degree of the differences and the impact factors are relatively scarce in the existed literature.

## MODEL APPLICATION AND RESULTS EVALUATION

### Index system selection

Considering the data's authority, accessibility and sustainability of further study, this paper chose a total of 16 indicators to conduct quantitative analysis of the supply level public goods of the people's livelihood from 30 local governments. On the assumption that the financial capacity is established, the more the output of public goods is, the higher the local government's supply level of public goods of the people's livelihood will be.

In the selection of indicators, this paper chose the indexes in the supply of public goods of the people's livelihood which are clear and easy to get, such as social security, education, sanitation, science and technology and the infrastructure in urban and rural areas. The indicator variables used in this paper: $X_1$ indicates the coverage rate of urban basic endowment insurance. $X_2$ indicates the coverage rate of unemployment insurance. $X_3$ indicates the coverage rate of urban medical insurance. $X_4$ indicates the coverage rate of urban birth insurance to reflect the regional social security situation. $X_5$ indicates city water penetration. $X_6$ indicates city gas penetration. $X_7$ indicates city road area per capita to reflect the situation of regional urban infrastructure. $X_8$ indicates the number of rural hydropower stations per rural 10. 0000 population. $X_9$ indicates the number of reservoirs per 10, 0000 rural population. $X_{10}$ indicates the number of pension institutions per 10, 0000 rural population to reflect the regional rural infrastructure. $X_{11}$ indicates public library collection per capita. $X_{12}$ indicates the number of domestic patent applications accepted. $X_{13}$ indicates the average number of students in colleges and universities per 10, 0000 to reflect the regional public service supply in education and science and technology. $X_{14}$ indicates the number of health technicians per thousand population. $X_{15}$ indicates the number of beds in medical and health institutions per thousand population. $X_{16}$ indicates sanitary toilets penetration to reflect the regional public service supply.

### Data sources and processing

The data of the 16 variables mentioned above are mainly from "2012 China Statistical Yearbook ", "2012 China Health Statistics Yearbook", "2012 China Statistical Yearbook on Science and Technology" and "2012 China Rural Statistical Yearbook". We first standardize the original data using the basic model of factor analysis. In order to make a better comparability of data, we also conduct dimensionless processing to the original data.

### Model application

The purpose of factor analysis is to reduce the dimension of the data. If there is no correlation between the original variables, factor analysis is not of much significance. So, we first use KMO& Bartlett's Test of Sphericity to determine whether there is correlation between the original variables. The results are shown in TABLE 1:

**TABLE 1 : KMO& Bartlett's Test of Sphericity**

| KMO& Bartlett's Test of Sphericity | | |
|---|---|---|
| The KMO measure of sampling adequacy | | 0. 746 |
| Bartlett's Test of Sphericity | Approximateof chi-squared | 467. 340 |
| | df | 120 |
| | Sig. | . 000 |

From the table above we know the KMO value is 0. 746. The statistic of $\chi^2$ distribution is 467. 34. The value of statistical significance probability is 0. 000, indicating that the variables are highly correlated with each other. They are suitable for factor analysis.

From TABLE 2, we can see that the communalities extracted from variables are all very high. The communalities of the coverage rate of urban basic endowment insurance, the coverage rate of unemployment insurance, the coverage rate of urban medical insurance, the coverage rate of urban birth insurance, the city road

area per capita, the number of health technicians per thousand population and the number of beds in medical and health institutions per thousand population all reach more than 80%. And the rest also reach more than 50%. These indicate that the common factors can explain the original variables well.

**TABLE 2 : Common Factor Variance**

| Common factor variance | | |
|---|---|---|
| | Initial | Extraction |
| Z(the coverage rate of urban basic endowment insurance) | 1. 000 | . 949 |
| Z(the coverage rate of unemployment insurance) | 1. 000 | . 874 |
| Z(the coverage rate of urban medical insurance) | 1. 000 | . 807 |
| Z(the coverage rate of urban birth insurance) | 1. 000 | . 801 |
| Z(urban water penetration) | 1. 000 | . 689 |
| Z(urban gas penetration) | 1. 000 | . 709 |
| Z(urban road area per capita) | 1. 000 | . 838 |
| Z(the number of rural hydropower stations per 10. 0000 rural population.) | 1. 000 | . 682 |
| Zscore(the number of reservoirs per 10, 0000 rural population.) | 1. 000 | . 783 |
| Z(the number of pension institutions per 10, 0000 rural population) | 1. 000 | . 550 |
| Z(public library collection per capita. (book)) | 1. 000 | . 627 |
| Z(the number of domestic patent applications accepted) | 1. 000 | . 510 |
| Z(the average number of students in colleges and universities per 10, 0000 population) | 1. 000 | . 647 |
| Z(the number of health technicians per thousand population.) | 1. 000 | . 881 |
| Z(the number of beds in medical and health institutions per thousand population. ) | 1. 000 | . 883 |
| Z(sanitary toilets penetration ) | 1. 000 | . 655 |

Extraction Method : Principle Component Analysis

**TABLE 3 : Total Variance Explained**

| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Initial Eigenvalues | | | Extraction of Squares | | | Rotating Squares | | |
| | Total | % of VAR | Cumulative% | Total | % of Variance | Cumulative% | Total | % of VAR | Cumulative% |
| 1 | 7. 781 | 48. 634 | 48. 634 | 7. 781 | 48. 634 | 48. 634 | 7. 700 | 48. 127 | 48. 127 |
| 2 | 2. 401 | 15. 005 | 63. 639 | 2. 401 | 15. 005 | 63. 639 | 2. 175 | 13. 595 | 61. 722 |
| 3 | 1. 703 | 10. 641 | 74. 280 | 1. 703 | 10. 641 | 74. 280 | 2. 009 | 12. 558 | 74. 280 |
| 4 | 0. 916 | 5. 722 | 80. 002 | | | | | | |
| 5 | 0. 868 | 5. 427 | 85. 429 | | | | | | |
| 6 | 0. 669 | 4. 179 | 89. 608 | | | | | | |
| 7 | 0. 479 | 2. 993 | 92. 601 | | | | | | |
| 8 | 0. 378 | 2. 360 | 94. 960 | | | | | | |
| 9 | 0. 267 | 1. 670 | 96. 630 | | | | | | |
| 10 | 0. 169 | 1. 059 | 97. 689 | | | | | | |
| 11 | 0. 131 | 0. 818 | 98. 507 | | | | | | |
| 12 | 0. 093 | 0. 583 | 99. 090 | | | | | | |
| 13 | 0. 068 | 0. 423 | 99. 513 | | | | | | |
| 14 | 0. 044 | 0. 273 | 99. 786 | | | | | | |
| 15 | 0. 023 | 0. 144 | 99. 930 | | | | | | |
| 16 | 0. 011 | 0. 070 | 100. 000 | | | | | | |

Extraction Method : Principle Component Analysis

FULL PAPER

From the table above, we can see the first factor explains 48. 634%. The first three factors explain 74. 28% cumulatively and the eigenvalues are all greater than 1. From the screen plot, we can see the drop rates of the broken line from the first factor to the second factor to the third factor are large, after which, the broken line becomes gentle. Therefore, we extract the first three factors as the common factor to conduct factor analysis.

In order to clarify the relationship between each common factor and variables as well as to name the common factor, we have to conduct rotated factor loading to each variable. The results are shown in TABLE 4:

**TABLE 4 : Rotated Component Matrix**

**Rotated Component Matrix[a]**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Z(the coverage rate of urban basic endowment insurance) | . 973 | . 030 | . 034 |
| Z(the coverage rate of unemployment insurance) | . 934 | . 029 | -. 019 |
| Z(the coverage rate of urban medical insurance) | . 891 | . 048 | . 102 |
| Z(the coverage rate of urban birth insurance) | . 880 | . 144 | . 080 |
| Z(urban water penetration) | . 509 | . 655 | . 031 |
| Z(urban gas penetration) | . 559 | . 616 | . 127 |
| Z(urban road area per capita) | -. 354 | . 838 | -. 101 |
| Z(the number of rural hydropower stations per rural 10. 0000 population.) | -. 060 | . 139 | . 812 |
| Z(the number of reservoirs per 10, 0000 rural population.) | -. 299 | . 121 | . 824 |
| Z(the number of pension institutions per 10, 0000 rural population) | . 332 | -. 287 | . 598 |
| Z(public library collection per capita. (book)) | . 781 | -. 098 | -. 081 |
| Z(the number of domestic patent applications accepted) | . 365 | . 597 | . 144 |
| Z(the average number of students in colleges and universities per 10, 0000 population) | . 801 | -. 008 | -. 068 |
| Z(the number of health technicians per thousand population.) | . 922 | -. 061 | -. 167 |
| Z(the number of beds in medical and health institutions per thousand population.) | . 873 | -. 129 | -. 323 |
| Z(sanitary toilets penetration) | . 643 | . 370 | . 322 |

Extraction Method : Principle Component Analysis
Rotation Method: A quarter rotation with standardized Kaiser

It can be seen from the table above that the following ten variables load large on the first common factor: the coverage rate of urban basic endowment insurance, the coverage rate of unemployment insurance, the coverage rate of urban medical insurance, the coverage rate of urban birth insurance, public library collection per capita, the number of domestic patent applications accepted, the average number of students in colleges and universities per 10, 0000 population, the number of health technicians per thousand population and the number of beds in medical and health institutions per thousand population and sanitary toilets penetration. This common factor has significant correlation with the supply level of social security, education, science and technology and sanitation and other basic public services. Therefore, it can be named as social public service supply factor. While the second and third common factor have significant correlation with the urban and rural infrastructure supply respectively. Therefore, we name the second common factor as urban infrastructure supply factor and the third common factor as rural infrastructure supply factor. These two common factors reflect the level of urban and rural infrastructure supply from local government. These two factors also accord with the dualistic situation of public goods supply in our country.

In order to measure the level of public goods supply in each region, we use SPSS to calculate the component score coefficient. The results are shown in TABLE 5:

According to TABLE 6, we can get the factor scores expressions of the three common factors:

**TABLE 5 : Component Score Coefficient Matrix**

| Component Score Coefficient Matrix | | | |
|---|---|---|---|
| | Component | | |
| | 1 | 2 | 3 |
| Z(the coverage rate of urban basic endowment insurance) | . 129 | -. 030 | . 028 |
| Z(the coverage rate of unemployment insurance) | . 123 | -. 025 | . 000 |
| Z(the coverage rate of urban medical insurance) | . 119 | -. 024 | . 060 |
| Z(the coverage rate of urban birth insurance) | . 113 | . 025 | . 041 |
| Z(urban water penetration) | . 040 | . 294 | -. 032 |
| Z(urban gas penetration) | . 050 | . 265 | . 021 |
| Z(urban road area per capita) | -. 085 | . 431 | -. 127 |
| Z(the number of rural hydropower station per 10. 0000 rural population.) | -. 003 | . 002 | . 404 |
| Z(the number of reservoir per 10, 0000 rural population.) | -. 034 | . 003 | . 408 |
| Z(the number of pension institutions per 10, 0000 rural population) | . 065 | -. 204 | . 335 |
| Z(public library collection per capita. (book)) | . 074 | . 125 | . 143 |
| Z(the number of domestic patent applications accepted) | . 108 | -. 075 | -. 023 |
| Zscore(the average number of undergraduate in colleges and universities per 10, 0000 population ) | . 025 | . 262 | . 029 |
| Z(the number of health technicians per thousand population.) | . 107 | -. 033 | -. 023 |
| Z(the number of beds in medical and health institutions per thousand population.) | . 124 | -. 056 | -. 068 |
| Z(sanitary toilets penetration) | . 118 | -. 074 | -. 143 |

Extraction Method：Principle Component Analysis
Rotation Method: A Quarter Rotation with Standardized Kaiser

$$Factor_1 = 0.129X_1 + 0.123X_2 + 0.119X_3 + 0.113X_4 + 0.04X_5 + 0.05X_6 - 0.085X_7 - 0.003X_8 - 0.34X_9 + 0.065X_{10} + 0.074X_{11} + 0.108X_{12} + 0.025X_{13} + 0.107X_{14} + 0.124X_{15} + 0.118X_{16}$$

$$Factor_2 = -0.03X_1 - 0.025X_2 - 0.024X_3 + 0.025X_4 + 0.294X_5 + 0.265X_6 + 0.431X_7 - 0.002X_8 + 0.003X_9 - 0.204X_{10} + 0.125X_{11} - 0.075X_{12} + 0.262X_{13} - 0.033X_{14} - 0.056X_{15} - 0.074X_{16}$$

$$Factor_3 = 0.028X_1 + 0X_2 + 0.06X_3 + 0.041X_4 - 0.032X_5 + 0.21X_6 - 0.127X_7 + 0.404X_8 + 0.408X_9 + 0.335X_{10} + 0.143X_{11} - 0.023X_{12} + 0.029X_{13} - 0.023X_{14} - 0.068X_{15} - 0.143X_{16}$$

In order to make comprehensive evaluation to the public goods supply in 30 regions, this paper use the common factor variance contribution rate as the weight to calculate the factor's composite score F:

$$F = \frac{\lambda_1}{\lambda_1 + \lambda_2 + \lambda_3} F_1 + \frac{\lambda_2}{\lambda_1 + \lambda_2 + \lambda_3} F_2 + \frac{\lambda_3}{\lambda_1 + \lambda_2 + \lambda_3} F_3$$

Where $\lambda_1, \lambda_2, \lambda_3$ are the initial eigenvalues in TABLE 3. $F_1, F_2, F_3$ stands for $Factor_1$, $Factor_2$, $Factor_3$ calculated above respectively. From this formula, we can get each region's composite score as follows:

## Statistic analysis and discussion

In the above statistic analysis, we find the differences between the supply levels of public goods of the people's livelihood in different regions in our country have the following four characteristics:

First, the supply level of public goods of the people's livelihood in one region has obvious relationship with its economic development, which is the regional characteristic. The supply levels of public goods of the people's livelihood in developed provinces(cities) are generally higher than that in undeveloped regions. According to the data, the supply level of public goods of the people's livelihood in Beijing, Shanghai and Tianjin rank top three, after which follows Guangdong Province, Zhejiang Province and Jiangsu Province who are fairly developed. The supply levels of public goods of the people's livelihood in undeveloped regions rank the last.

Second, the supply level of public goods of the people's livelihood in each region has significant correlation with the supply level of social public services—the social security and public goods such as technology, education and sanitation. As can be seen from Figure1, the composite score of the supply level of public goods of the people's livelihood show a downward trend with the decrease of the composite score of the supply level of public services in each region.

Third, there are large differences between the sup-

FULL PAPER

**TABLE 6 : Each Region's Composite Score of Public Goods Supply**

| Rank | Region | F1 | F2 | F3 | Composite Score |
|---|---|---|---|---|---|
| 1 | Beijing | 3. 06151 | -0. 93994 | -0. 23058 | 1. 753864 |
| 2 | Shanghai | 3. 04594 | -1. 11172 | -0. 24623 | 1. 706865 |
| 3 | Tianjin | 1. 3289 | 0. 8631 | -0. 81906 | 0. 915058 |
| 4 | Guangdong | 0. 77239 | 0. 70054 | 1. 81737 | 0. 900659 |
| 5 | Zhejiang | 0. 67539 | 1. 38187 | 1. 09288 | 0. 871856 |
| 6 | Jiangsu | 0. 43655 | 2. 58919 | -0. 61149 | 0. 717322 |
| 7 | Fujian | -0. 05983 | 0. 67085 | 2. 14001 | 0. 403535 |
| 8 | Shandong | -0. 21592 | 2. 08591 | -0. 64231 | 0. 189939 |
| 9 | Liaoning | 0. 53952 | -0. 31347 | -0. 75993 | 0. 176146 |
| 10 | Hubei | -0. 14188 | 0. 30497 | 0. 66869 | 0. 065816 |
| 11 | Chongqing | 0. 03287 | -1. 43354 | 2. 15173 | 0. 039943 |
| 12 | Hainan | -0. 20742 | 0. 47613 | 0. 40162 | 0. 019806 |
| 13 | Sinkiang | 0. 09681 | 0. 29144 | -1. 02333 | -0. 02525 |
| 14 | Jilin | 0. 15873 | -0. 72449 | -0. 08146 | -0. 05554 |
| 15 | Jiangxi | -0. 63518 | 0. 43081 | 1. 77448 | -0. 06883 |
| 16 | Hunan | -0. 54698 | -0. 22709 | 1. 30835 | -0. 21158 |
| 17 | Shanxi | -0. 22265 | -0. 21968 | -0. 85563 | -0. 31075 |
| 18 | Hebei | -0. 61083 | 1. 13175 | -1. 15364 | -0. 33108 |
| 19 | Shanxi | -0. 30965 | -0. 10138 | -0. 80482 | -0. 33574 |
| 20 | Heilongjiang | -0. 06043 | -0. 96977 | -0. 76405 | -0. 34441 |
| 21 | Anhui | -0. 75878 | 0. 56517 | 0. 03406 | -0. 37088 |
| 22 | Ningxia | -0. 41712 | 0. 26898 | -1. 14268 | -0. 37873 |
| 23 | Sichuan | -0. 489 | -0. 70187 | 0. 46229 | -0. 39129 |
| 24 | Qinghai | -0. 51439 | 0. 00414 | -0. 53786 | -0. 40837 |
| 25 | Inner Mongolia | -0. 40467 | -0. 81984 | -0. 85476 | -0. 54939 |
| 26 | Guangxi | -0. 87994 | -0. 05023 | 0. 19484 | -0. 5504 |
| 27 | Henan | -0. 75075 | -0. 87239 | -0. 48847 | -0. 73098 |
| 28 | Gansu | -0. 76186 | -0. 86216 | -0. 65563 | -0. 76004 |
| 29 | Yunnan | -1. 03715 | -0. 64054 | -0. 25878 | -0. 83616 |
| 30 | Guizhou | -1. 12424 | -1. 77673 | -0. 11561 | -1. 10141 |

ply levels of public goods in different regions. There are 12 provinces(cities) whose composite score is greater than zero, which indicates the comprehensive capacity of public goods supply in these 12 provinces(cities) is strong. There are also 18 provinces(cities) whose composite score is less than zero, which indicates the comprehensive capacity of public goods supply in these 18 provinces(cities) is weak. Besides, the regional disparity is very big. The composite score of Beijing who ranks the first is 1. 7534 while the score of the last one, Guizhou Province, is only -1. 101.

Fourth, there are large gap between the levels of urban public goods supply and rural public goods supply in the same region. As is shown in TABLE 7 and Figure 1, there are large differences between the level of urban infrastructure supply and the level of rural infrastructure supply. For example, the supply factor score of urban infrastructure in Jiangsu Province, who ranks sixth, is 2. 58919, while its supply factor score of rural infrastructure is only -0. 61149. It is the same with most

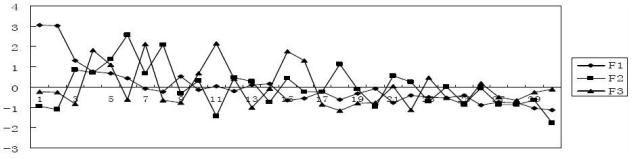


**Figure 1 : The Level Score of Public Goods Supply in Each Region**

other provinces (cities).

## CONCLUSIONS AND RECOMMENDATIONS

In this paper, we use factor analysis to grade the supply level of public goods in 30 provinces(cities). Horizontally, there are large differences between the levels of public goods supply in different regions. Besides, the supply of public goods is not sufficient in most regions. From the vertical structure, there are large gap between the level of urban infrastructure supply and the level of rural infrastructure supply in one region, which is known as the duality phenomenon. Besides, public services, such as the social security, technology, education and sanitation, account for high weight. This is the key factor influencing the supply difference. In order to narrow the gap between regions in the public goods supply and achieve a balanced level of effective supply, this paper believes we have to start with the following two aspects:

On one hand, to narrow the differences between provinces(cities)in the public goods supply, the central government, the provincial governments and other local governments have to define their own rights and responsibilities. One principle that has to be established as soon as possible is local governments are responsible for the supply of public services and the superior governments are responsible for the funding. First, reasonable division in the compulsory education between the central and local governments is necessary. The central government is responsible for the expenses on the new compulsory education and the tuition and fees deduction in central and western rural areas(including country). Second, we have to narrow the funding gap between regions through the central government budget. For example, the province whose fiscal expenditure per capita is below 80% of the national average can get fundings from central government after which, its fiscal expenditure is expected to increase to 80% of the national average. Third, reasonable division in public health and basic medical services between the central and local governments is necessary. The general principle is that the central government is responsible for the public health. The central government and local governments share the expenses and the central government share the most. The basic medical budgets and the public health budgets can be considered separately. Specifically, the central government is responsible for the public health budgets. The provincial governments, the municipal governments and the country governments share the expenditure on basic medical services reasonably. Besides, the central government should increase the transfer payments to the poverty-stricken areas.

On the other hand, balancing the supply of public goods of the people's livelihood in urban and rural areas can narrow the gap of longitudinal supply. The government can legislate to guarantee the supply of public goods of the people's livelihood in rural area. A supply system including the central government, the provinces, the countries, the villages and the farmers should be set up. Besides, we need an expression mechanism and an independent decision-making mechanism which can reflect farmers' demands and preference accurately and timely. What's more, we should bring the long-term effective supply of public goods and farmers' satisfaction into the evaluation of government performance to perfect the government performance evaluation system.

## ACKNOWLEDGEMENT

This paper is supported by Foundation item: sponsored by National Social Science Foundation Item (13CJY117), National Social Science Foundation Item (12BJL071) and Humanities and Social Science Research Project of colleges in Jiangxi (JJ0803)

## REFERENCES

**[1]** Tiebout, Charles; A pure Theory of Local Expenditure[J]. Journal of Political Economy, **(64)**, **(1956)**.

**[2]** Stigler; Tenable range of functions of local government[R]. Washington, D. C. : Joint Economic Committee. Subcommittee on Fiscal Policy, **(1957)**.

**[3]** Musgrave, A.Richard; The Voluntary Exchange Theory of Public Economy[J]. Quarterly Journal of Economics, **(53)**, **(1939)**.

**[4]** W.Oates; Fiscal Federalism[M]. New York: Harcourt Brace Jovanovich, **(1972)**.

**[5]** Litcack, Ahmad, Bird; Rethinking decentralization in Developing Countries[R]. Washington, D. C., **(1998)**.

FULL PAPER

**[6]** Azfar, Omar, Satu Kähkönen, Patrick Meagher, Conditions for Effective Decentralized Governance: A Synthesis of Research Findings. University of Maryland[R], Center for Institutional Reform and the Informal Sector, College Park, Md, **(2001)**.

**[7]** West, A.Loraine, Wong, P.W.Christine; Fiscal Decentralization and Growing Regional Disparities in Rural China: Some Evidence in the Provision of Social Services[R]. Oxford Review of Economic Policy, **(1995)**.

**[8]** Fu Yong, Zhang Yan; Chinese style decentralization and fiscal expenditure structure bias: the cost of competition for growth[J]. Management World, **(3)**, **(2007)**.

**[9]** Deng Kebin, Ding Juhong; Fiscal Decentralization and Public Goods supply in Economic transition: Empirical Study Based on Evidence from China. [J]. Journal of Finance and Economics, **(3)**, **(2009)**.

**[10]** Jia Zhilian, Lu Hongyou, Fiscal Decentralization and Effective Supply of Education and Public Goods of the People's Livelihood[J]. The Journal of Quantitative&Technica, **(6)**, **(2010)**.

**[11]** Lin Yifu, Liu Zhiqiang; China's Fiscal Decentralization and Economic Growth[J]. Journal of Peking University(Philosophy and Social Science), **37(4)**, **(2000)**.

**[12]** Deng Xiaolan, Huang Xianlin; Analysis of Effect of Fiscal Decentralization Reform over 30 Years. [J]. Journal of Xi'an Jiaotong University(Social Sciences), **29(3)**, **(2009)**.