The Equalization Gap of Basic Public Services Supply in China: An Empirical Study on Education, Health Care and Social Security

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The equalization of basic public services which helps to meet people's ever-growing needs for a better life is an important component of the supply-side structural reform under the new normal. This paper constructs the mechanism model and index of basic public services equalization, measures the equalization of education, health care and social security in China during the period of 2005-2016, and empirically tests the contributory factors with regional panel data. It is found that the equalization of basic public services has not been significantly improved by the last 12 years of urbanization; people tend to seek high-end consumption beyond basic public services with the increasing per capita disposable income; while the population structure and the gap between urban and rural areas constitute the main impediments, local governments' revenues and fiscal efficiency can significantly improve the equalization of basic public services. Therefore, the key to the supply-side structural reform of public services lies in enhancing the matching capability of public services in urbanization, reducing the consumption gap between urban and rural public services, and improving the efficiency of government's public services expenditure.

Keywords: public services supply gap, public services equalization index, supply-side structural reform

1. Introduction

Wagner was the first to propose the conception of public services from the perspective of public finance expenditure, who considered public finance as the currency to pay for public products and public services. Public services are non-exclusive and non-competitive. Simply relying on the market mechanism to provide

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public services will definitely lead to the lacking of efficiency. Government should be the main supplier of public services (Samuelson, 1954). The political processes and organization structure of government determine to a large extent supply quality and supply efficiency of public services (Wicksell, 1985). Basic public services satisfy the common basic consumption demand of general social groups, which demands the government to realize the efficiency and fairness of basic public services by various means (Doel and Velthoven, 1999).

Scholars in China and abroad are carrying on researches on equalization of basic public services and its influencing factors based on different perspectives. Jiang (2006) deemed that the equalization of basic public services is the trade-off of efficiency and fairness in basic public services supply, which includes interregional balanced allocation of financial resources. Chang (2007) lifted the basic public services' equalization to a height of institutional arrangement from a comparison between the effects of government functions and market forces and regarded it as an important measure to remedy market failure. Wang (2008) believed that the supply of basic public services such as agricultural infrastructure needed to be strengthened based on the practical needs of the farmers. Walle (2009) used questionnaires to investigate the components of basic public services. Hu (2010) held that basic public services' equalization did not mean simply equal services, but equitable opportunities and effects. Wang and Wu (2011) deemed that basic public services' equalization meant the government should implement same administrative systems to different strata, the purpose being to meet people's basic needs coequally.

Lv and Wan (2008) emphasized the serious impact of government responsibilities deficiencies. They thought government should shoulder more responsibilities in basic public services. Gebremariam *et al*. (2010) found that population outflow had a remarkable effect on expenditure of public services. Zhang and Zhang (2011) considered binary structure of urban and rural areas as the main factor affecting the equalization of basic public services. Wang (2011) thought the first thing to do to change the urban-rural dual system and to achieve the equalization of basic public services was to reform the household registration system. Zhang (2011) believed institutional obstacle and the path dependence to be the cause of current non-equalization of basic public services in China. Liu (2014) analyzed the impact on basic public services' equalization of fiscal decentralization and local government urban bias. Li (2014) found that the increasing proportion of fiscal expenditure had not improved the equalization of basic public services. On the contrary, Urban Bias principle of fiscal policy caused a bigger gap in basic public services. Zhao and Fu (2014) proposed government should guide the fiscal expenditure towards people's livelihood. Kong and Zhang (2015) pointed out that China's urban-rural basic public services were unequal, and urgent efforts were needed to strengthen construction of rural infrastructure, basic public education and medical care. Qiao *et al*. (2015) found that administrative capacity of different areas'

governments had significant impact on public services equalization. Ayansina (2015) held that as consumers' demand for public services was on the rise, the state should provide matching public services and the enlarging of public services' coverage required government intervention. Argento (2016) believed supervision system, consumer expectations and infrastructure needs all had an impact on the equalization of public services in this commercialized and information era.

The equalization of basic public services has great significance in stimulating economic growth and promoting fairness in income distribution. Singh (2010) studied the relationship between public services sector and growth of GDP in India from the perspectives of long-term equilibrium and short-term equilibrium, and found that stable equalization of public services was conducive to economic growth of India's industry and agriculture. Yoshida and Kenmochi (2011) revealed the government public services expenditure had remarkable promoting effects for the growth of national income by utilizing a two-sector model of monopolistic competition of public services.

China's economic and social development is facing the contradiction between rapid growth of the demand for public services and relatively inadequate of supply. Education, health care, and elderly care are now facing insufficiency supply and unbalanced distribution. Promoting the equalization of public services supply has become an important engine of improving public services supply's quality and upgrading. According to the 13th Five-Year Plan, the public services supply, government responsibility, supply capacity and sharing level of public services should be enhanced. The plan also emphasized the innovation of supply modes of public services. Government shouldn't undertake the public services directly which can be purchased. And the public services that can be provided by government should draw more social capitals'. The essence is to make the government and market function on their own (Gebremariam, *et al*, 2012), fully exhibit their advantages, form benign interaction and achieve better results in supply-side structural reform of public services.

The essence of supply-side structural reform is to advance structural adjustment, rectify factor allocation, increase effective supply, enhance the adaptability and flexibility of supply structure when facing demand change, and to increase total factor productivity by carrying out reform, so that we can better meet the needs of population size and structure's distribution change, and promote sustained and sound economic and social development. The emphasis of supply-side structural reform is on cutting overcapacity, cutting excess inventory, deleveraging, reducing cost and strengthening areas of weakness. The gap of basic public services supply is an area of weakness that prevents the people from meeting their needs for a better life. Achieving the equalization of basic public services will contribute to the implementation of supply-side structural reform of public services. At present stage, the gaps between different regions and between urban and rural areas are mainly reflected in the distorted allocation of basic public services resources, such as medical treatment and public health, compulsory

education, childcare, elderly care, and social security. Therefore, advancing the supply-side structural reform and promoting the equalization of basic public services is an important measure for adapting to China's new normal in economic growth.

Constructing the mechanism model and measure index of achieving the basic public services supply's equalization based on existing research is the main originality of this paper. We applied panel data model on basis of provincial level data of 2005–2016 to finish the empirical test on the main factors which have impact on equalization of basic public services supply—education, medical treatment, public health and social security, and proposed specific suggestions about how to achieve the equalization of basic public services from the perspective of supply-side structural reform.

2. Theoretical Model and Hypothesis

Assuming that consumer's choice behavior conforms to budget constraint utility function, we standardize the price of private consumption goods (x) to 1. And all the residents shall enjoy equitable public services in accordance with the law. We use z to symbolize individual public services consumption, with P_z as price, Z is social public services' total consumption volume. And we use y_m to stand for per capita income, t_i for tax share, and T for total tax revenues. Then, the individual utility function can be expressed as:

$$U(x,z) \tag{1}$$

The budget constraint function is:

$$y_m = x + t_i b_m \tag{2}$$

In the equation above, b_m symbolizes tax base, and the individual demand function is also subject to government budget, i.e.:

$$uZ = G + tB \tag{3}$$

In the equation above, tB is total tax revenues, G stands for fiscal transfers between governments. And u is the urbanization parameters which influence public services consumption. The larger the U is, the higher the urbanization level is. It means the larger pubic services consumption is required. The equation can be transferred into:

$$t = \frac{[uZ - G]}{B} \tag{4}$$

The quality of public services' consumption also depends on γ, the equalization

level of public services supply, and N, population size or urban population density. According to the theory of Bocherding and Deacon (1972), we can adapt the congestion function of public services consumption to:

$$Z=N^{\gamma}z \tag{5}$$

In this equation, γ stands for equalization index of public services. If its value is 0, it means public services are completely supplied equitably. If γ is larger than 1, it means public services supply is not equitable. The higher γ, the more unequitable the public services supply.

Reorganizing equation (3) to equation (5), we can get:

$$y_a = y_m + g\,(b_m/b) = x + (b_m/b)uN^{\gamma-1}z \tag{6}$$

In the equation above, y_a is per capita disposable income that includes government transfer payment. And $g=G/N$, $b=B/N$, B is total tax base. The meaning of equation (6) is using all the per capita disposable income of residents which includes intergovernmental fiscal transfer payment to buy private consumption goods and public services, $(b_m/b)uN^{\gamma-1}z$. Deforming equation (6), we can get:

$$x = y_m + (b_m/b)\left[\, g - uN^{\gamma-1}z \,\right] \tag{7}$$

So let's put equation (7) in consumers maximum utility function:

$$\text{Max } U = U\left[\left(y_m + (b_m/b)\left[\, g - uN^{\gamma-1}z \,\right]\right), z\right] \tag{8}$$

Solving equation (8) for optimal solution, we can get the consumption demand function of public services, which is:

$$z = z\left[\, y_a, b_m/b\,, N \right] \tag{9}$$

We define the tax price of public services as the marginal cost of resident buying public services. In other words, determining the partial derivative of residents' per capita disposable income to public services' consumption, we can get:

$$\frac{\partial y_a}{\partial z} = p = (b_m/b)uN^{\gamma-1} \tag{10}$$

Now assume that each consumer knows his tax price and can decide the public services' consumption he can enjoy. Based on the consumption demand function of public services in equation (9), we add the demand elasticity β_1 and β_2, which possess fixed price and income. Then we get the consumption demand function of public services:

$$z = \alpha p^{\beta_1} y_a^{\beta_2} \tag{11}$$

In the equation above, α is the efficiency of government offering public services. Putting equation (10) into equation (11), we further turn the consumption demand function of public services into:

$$z = \alpha \left[(b_m / b) u N^{\gamma - 1} \right]^{\beta_1} y_a^{\beta_2} \tag{12}$$

Putting equation (12) into equation (5), we can get:

$$Z = zN^{\gamma} = \alpha \left[(b_m / b) u N^{\gamma - 1} \right]^{\beta_1} y_a^{\beta_2} N^{\gamma} \tag{13}$$

Further deforming equation (13), we get a functional relation with respect to public services equalization, which is:

$$\gamma = \frac{1}{(\alpha + \beta_1) \ln N} [\ln E - \ln \alpha + (1 + \beta_1)(\ln N - \ln t - \ln u) - \beta_2 \ln y_a] \tag{14}$$

From equation (14), we can get:

$$\frac{\partial \gamma}{\partial N} > 0, \frac{\partial \gamma}{\partial t} < 0, \frac{\partial \gamma}{\partial u} < 0, \frac{\partial \gamma}{\partial \alpha} < 0, \frac{\partial \gamma}{\partial y_a} < 0 \tag{15}$$

Equation (15) indicates that the larger the population size, the larger difficulty of reaching the public services' equalization the greater the equalization index. The greater the tax share, the stronger ability of government offering public services, and the smaller the public services' equalization index. The higher the efficiency of government offering public services, the bigger possibility of public services' equalization, and the smaller the public services' equalization index. The lower public services index also comes with higher urbanization rate and per capita disposable income, both make the bigger possibility of public services supply's equalization.

From the above analysis, we can get the hypothesis as follows. The equalization extent of basic public services supply has a negative correlation with regional population size and population structure, and it also has a positive correlation with regional tax share, efficiency of governmental public services supply, urbanization level and economic development level.

Based on the relationship between the equalization index of public services and the equalization level of public services supply, we will further get the main inference that the equalization index of public services has a positive correlation with regional population size and population structure, and it has a negative correlation with district tax share, efficiency of governmental public services supply, urbanization level and economic development level.

3. Index Measuring and Variation Trend

3.1. Constructing the Index of Basic Public Services' Equalization

Judging from the research and practice on basic public services equalization from both home and abroad, we know the equalization of basic public services is a complicated process. It involves various aspect, and impacts on a wide scope. Nevertheless, it's an evolutionary process to achieve basic public services' equalization. It has different emphases and problems at different phases. The equalization of basic public services is hard to be measured directly. We usually use equalization of fiscal expenditure to represent equalization of basic public services. The concept of basic public services' equalization is close to the government financial resources' equalization. It's because the public goods that all regions enjoy consist of two parts. One part is nationwide public goods provided by central government, with small regional disparities theoretically. The other part is the local public goods provided by local governments, and the supply level is determined by local government's financial resources. The differences of fiscal capacity between regions are one of main reasons of disparities of regioual basic public services' equalization.

The equalization of basic public services means government provides basic and nearly equal public services according to the united standard at different stages. This paper uses the equalization index of basic public services to measure equalization level of basic public services in China, which is defined in equation (16). The original data we use for measuring is derived from *China Statistical Yearbook* and *China City Statistical Yearbook*.

$$Index_{i,j,t} = 1 - \left[\left(\frac{x_{i,j,t} - u_{i,t}}{\sigma_{i,t}} \right) \Big/ \max \left(\frac{x_{i,j,t} - u_{i,t}}{\sigma_{i,t}} \right) \right] \tag{16}$$

In equation (16), i, j and t represent indexes' category, region and time respectively. $x_{i,j,t}$ is the actual value of category i of public services with the price factor excluded in different regions at different periods. $u_{i,t}$ is the mean of category i of public services at the period t, and $\sigma_{i,t}$ is the standard deviation of i of public services at the period t. The mathematical meaning of equation (16) is to standardize one type of public services' actual value at one period first, and divide it by maximum value of this standardize value. Then we get the relative position of the public service i in region j at the period t. The standardized relative value could be negative, but its absolute values are less than 1. As a result, we get the positive number of basic public services' equalization index by using 1 minus the standardized relative values. It's easy to see that the lower the index, the higher the equalization level of basic public services. The higher index comes with lower equalization level of basic public service. $0<Index_{i,j,t}<1$ means the basic public services supply is relatively equitable. And $Index_{i,j,t}>1$ means the basic public services supply is unequitable.

3.2. The Variation Trend of Basic Public Services' Equalization Index

3.2.1. The Variation Trend of Equalization Index of Per Capita Education Expenditure

Averaging the per capita education expenditure's equalization indexes of the same years from 31 province-level administrative regions, we can get the variation trend of equalization index of education supply from 2005 to 2016 as follows.

In general, China's compulsory education's equalization index is fluctuating within the range of (0.9999,1]. As to variation trend, the index was downward from 2005 to 2008. It was on the rise from 2008 to 2011, and peaked at 2011, then went downward again from 2011 to 2013. It rose again from 2013 to 2015, and experienced a small decline in 2016. Therefore, we can conclude that the equalization level of China's educational basic public services supply is unstable and below the mark (see Figure 1).

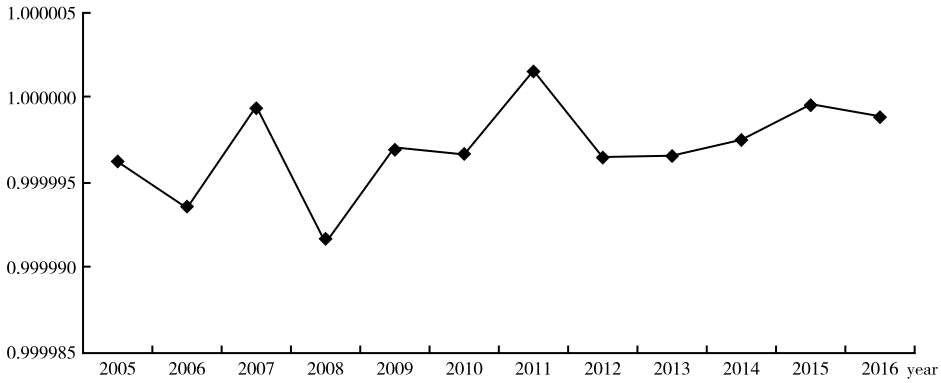

Figure 1. The Variation Trend of Equalization Index of Per Capita Education Expenditure

3.2.2. The Variation Trend of Equalization Index of Per Capita Expenditures for Medical Care and Health

Averaging the equalization indexes of per capita expenditures for medical care and health of the same years from 31 province-level administrative regions, we get the variation trend of equalization index of medical care and health from 2005 to 2016 as follows.

In general, this index is far away from the equivalent value 0, several years' indexes are over 1, and the downtrend is not obvious. That means there is no fundamental improvement in the equalization extent of China's medical care and health's basic public services supply (see Figure 2).

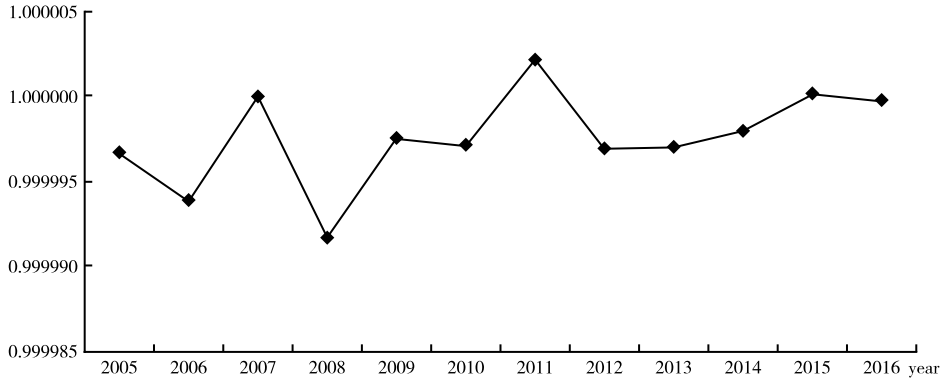

Figure 2. The Variation Trend of Equalization of Per Capita Expenditures for Medical Care and Health

3.2.3. The Variation Trend of Equalization Index of Per Capita Social Security and Employment Expenditure

Averaging the equalization indexes of per capita social security and employment expenditure of the same years from 31 province-level administrative regions, we get the variation trend of the equalization index of per capita social security and employment expenditure from 2005 to 2016 as follows.

Overall, the indexes from 2005 to 2014 were almost less than 1, the fluctuation is not obvious and is on a declining curve. But in 2015 and 2016, it began to rise to more than 1. This shows that the equalization of social security and employment has been decreasing in recent two years, and the trend of unequalization has begun to appear (see Figure 3).

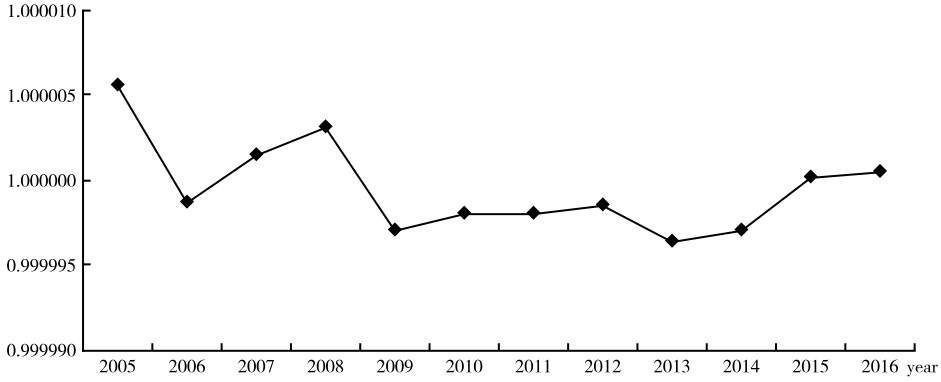

Figure 3. The Variation Trend of Equalization Index of Per Capita Social Security and Employment Expenditure

4. The Empirical Test on the Realization Mechanism of Basic Public Services Supply's Equalization

4.1. Variables Selection and Data Sources

From the mathematical model above, there are many factors affecting the equalization of basic public services. The factors include population at the year-end of regions (*pyer*), tax share (*ts*), urbanization level (*urbn*), government efficiency (*gove*), per capita disposable income (*pcdi*), urban-rural consumption gap (*urcr*), etc. Representing the factors further in the form of function is as follows.

$$index_{i,j,t} = f(urbn_{i,j,t}, pyer_{i,j,t}, ts_{i,j,t}, gove_{i,j,t}, pcdi_{i,j,t}, urcr_{i,j,t} \cdots)$$

The following analyses focus on the main influencing factors of the equalization of basic public services such as education, medical care, social security and employment.

We consider demographic factor first. Under the constraints of government resources, the larger the regional population size is, the more difficult the equalization of basic public services is. This paper uses number of primary and secondary school students at the year-end of regions (*snce*) as explanatory variable to measure demographic size factor which influences equalization of compulsory education basic public services, uses the population at the year-end of regions (*pyer*) and hospital beds of regions (*tnhb*) as explanatory variable and control variable to measure demographic size factor which has impact on medical care, and uses total dependency ratio as explanatory variable to measure the population structure which influences the

equalization of basic public services.

Tax share (*ts*). Tax share means the proportion of region's tax revenue in national tax revenue. This index reflects the interprovincial difference of tax revenue. It also reflects the difference between local governments in terms of the ability of purchasing basic public services. Under the current system of central and local government fiscal decentralization, local governments' financial capacity determines the equalization providing capacity of local basic public services. Therefore, we use tax share as an important explanatory variable which influences the providing of basic public services' equalization.

Urbanization rate (*urbn*). The experience of developed countries indicates that urbanization process is positively correlated with the level of basic public services supply's equalization. With the speedup of reform process of China's household registration system, choosing the city life will be an irreversible process. It is necessary to explore the urbanization model and the urbanization path that suits China's national conditions, which will further narrow the gap between urban and rural areas and achieve a moderately prosperous society in all respects. Hence, equitable access to basic public services is an inherent requirement of China's urbanization process. Domestic scholars use population urbanization and land urbanization to measure the urbanization level of China and conclude that the process of land urbanization is faster than the process of population urbanization. International scholars usually use the proportion of urban permanent residents in the whole population as a measure of urbanization rate. Considering the research needs of this paper, we adopt the measure indicators commonly used by international scholars.

Government efficiency (*gove*). Government efficiency means government is engaged in the public administration process to achieve the optimal government output at low cost and with less resources, so that government can reach the level and capacity of the intended administrative target such as providing public services. We assume that efficient government can provide relatively equitable services with public finance expenditure under established financial income constraints. This paper uses per capita fiscal expenditure to measure the government efficiency, which includes per capita education financial expenditure of local governments (*pefe*), medical and health expenditure (*pemh*) and social security and employment expenditure (*pese*). Government effciency is used as an important explanatory variable to measure its impact on the equalization of basic public services.

Per capita disposable income (*pcdi*). Per capita disposable income can measure the overall affluence of regional residents. International experience shows that the degree of regional affluence is positively correlated with the equalization of basic public services in the region. The underlying mechanism is the higher the level of per capita disposable income, the higher the consumption demand level and the consumption capacity of services. Only when the consumer demand for basic public services is met,

is it possible to pursue the higher level of service consumption demand. This paper uses per capita disposable income as an explanatory variable to measure its effect on equalization of public services.

Urban-rural consumption gap (*urcr*). Realizing the equalization of basic public services is an intrinsic requirement of narrowing the gap between urban and rural areas. The gap between urban and rural areas is mainly reflected in the provision of public goods such as infrastructure and the gap between the consumption of basic public services. If the government implements the equalization of basic public services or the equalization of public goods such as urban and rural infrastructure and public services is higher, the gap between urban and rural areas will narrow further. As a result, the urban-rural consumption gap can serve as an important indicator to explain the degree of equalization of basic public services.

Regional attribute (*apdv*). The basic conditions of public services in different region vary greatly because of geographical conditions and historical reasons. As to some certain node, the starting points for the equalization of public services in various provinces and cities are different. Because of population distribution, natural geography and other factors, the cost of providing public services in each region is also inconsistent. In the process of comprehensively advancing the equalization of basic public services in China, regional attribute is an important factor influencing the equalization of basic public services. According to the administrative region of *China Statistical Yearbook*, china is divided into four regions: east, west, central and northeast. So we introduce regional virtual variables, use 1, 2, 3 and 4 to represent the eastern region, the central region, the western region and the northeast region respectively.

All these nominal variable values above adjusted for the price index of the region and the consumer price index of various products with services, have eliminated the influence of price factors. The original data of all the indicators came from the annual *China Statistical Yearbook*. All explanatory variables and explained variables involved in this paper are summarized in Table 1.

Table 1. Major Variables and Their Implications

Variables	Description
EIEEP	Explained variable, measuring the equalization of education; the smaller the index value, the higher the equalization
EIMHE	Explained variable, measuring the equalization of medical care; the smaller the index value, the higher the equalization
EISEE	Explained variable, measuring the equalization of social security and employment; the smaller the index value, the higher the equalization
urbn	Explanatory variable, the development factors that affect the equalization of basic public services
pcdi	Explanatory variable, the income factors that affect the equalization of basic public services

Variables	Description
snce	Explanatory variable, measuring the demographic factors that affect the supply of education
ts	Explanatory variable, expressed as the proportion of provincial tax revenues in total national revenues, measuring regional capacity for equitable basic public services
urcr	Explanatory variable, reflecting the gap between urban and rural development and the gap in public service consumption
pefe	Explanatory variable, measuring the government efficiency of education expenditure
Pemh	Explanatory variable, measuring the government efficiency of medical care expenditure
pese	Explanatory variable, measuring the government efficiency of social security and employment expenditure
pyer	Explanatory variable, population factors affecting the supply of medical and health services
tnhb	Explanatory variable, condition factors affecting the supply of medical and health services
gdrp	Explanatory variable, measuring the regional population structure that affects basic public services supply

4.2. Descriptive Statistics of Variables

The descriptive statistics of each variable are shown in Table 2.

Table 2. Descriptive Statistics of Variables

Variables	Mean value	Standard deviation	Maximum value	Minimum value	Observed value
EIEEP	0.972	0.347	1.44	0	341
EIMHE	0.999	0.299	1.34	0	341
EISEE	0.999	0.313	1.53	0	341
urbn	50.31	14.832	89.6	31.13	341
pcdi	18106.41	7476.925	48841.4	7990.15	341
snce	4956339	3613443	6654714	78823	341
ts	3.226	2.858	12.55	0.06	341
urcr	3.01	0.656	5.9	1.5	341
pefe	1049.49	693.902	4348.31	168.33	341
pemh	413.64	282.6	1495.41	65.35	341
pyer	4270.445	2698.87	10724	277	341
tnhb	153082.6	101723	500631	6750	341
gdrp	36.181	6.985	57.58	19.27	341

Sources: The authors' calculation based on the raw data of *China Statistical Yearbook* and *China City Statistical Yearbook*. Data of the year 2008 has been eliminated as it is disturbance.

Table 2 shows that the data is balanced panel data. The cross-section number is 31, the span is 11, which belongs to short panel. In the explained variables, the mean value of per capita education's equalization expenditure is 0.972, which means the equalization level of education is relatively low. But the between-group standard deviation of the equalization index of per capita education expenditure is greater than the intragroup standard deviation. It shows that the difference between regions in the equalization of per capita education expenditure is greater than that in the region within 11 years. The per capita health care and per capita social security and employment equalization indexes all averaged 0.999, close to 1. It reflects the levels of equalization of health care and social security and employment are both low. And both between-group standard deviations are greater than their intragroup standard deviations, which means the equalization of per capita health expenditure and per capita social security and employment expenditure is mainly reflected in regional disparities.

In the main explanatory variables, the average urbanization rate in the provinces of China is 50.31%. It means that China's urbanization rate is relatively high, but the level of urbanization between regions is relatively large. The intragroup standard deviation of per capita disposable income group is greater than the between-group standard deviation. It shows that per capita disposable income in the region has increased relatively fast, and the interprovincial gap is relatively narrow. The between-group standard deviation of urban-rural consumption gap is bigger than the intragroup standard deviation, which means that the interprovincial consumption gap between urban and rural areas is even greater. The intragroup standard deviations of per capita education expenditure and per capita health expenditure are both greater than the between-group standard deviations, which shows that the increase of per capita expenditure of education and per capita medical expenditure in the region is relatively fast, but the interprovincial gap of expenditure on per capita education and medical is relatively narrow.

4.3. Measurement Model Setting and Testing Method

Considering that this paper analyzes the reasons for the failure of basic public services' equalization in China from three aspects—compulsory education, medical and health care, social security and employment, we need to build general panel metering models.

$$EIEEP = \partial_0 + \partial_1 \ln(urbn)_{it} + \partial_2 \ln(pcdi)_{it} + \partial_3 \ln(snce)_{it} + \partial_4 \ln(pefe)_{it} + \partial_5 urcr_{it} + \partial_6 ts_{it} + \partial_7 \ln(gdr)_{it} + \lambda_{it} \tag{17}$$

$$EISEE = \beta_0 + \beta_1 \ln(urbn)_{it} + \beta_2 \ln(pcdi)_{it} + \beta_3 \ln(pese)_{it} + + \beta_4 urcr_{it} + \beta_5 ts_{it} + \beta_6 \ln(gdr)_{it} + \delta_{it} \tag{18}$$

$$EIHME = \gamma_0 + \gamma_1 \ln(urbn)_{it} + \gamma_2 \ln(pcdi)_{it} + \gamma_3 \ln(pemh)_{it} + +\gamma_4 urcr_{it} + \gamma_5 ts_{it} + \gamma_6 \ln(gdr)_{it} + \gamma_7 \ln(thnb)_{it} + u_{it} \quad (19)$$

Among them, ∂_i, β_i and γ_i are explanatory variables' coefficients of equation (17), (18) and (19) . These three equations build the panel model by using the equalization indexes of per capita education expenditure, per capita Health expenditure and per capita social security and employment expenditure as explained variables, and using urbanization rate, per capita income of residents, number of compulsory education students, public finance expenditure of per capita compulsory education, medical treatment and public health, social security and employment, urban-rural consumption gap and total social dependency ratio as main explanatory variables.

In this paper, we first use Hausman test to determine the fixed effect and random effect of the model. To observe the significant effect of explanatory variables on explained variables, we introduce single explanectory variable for regression analysis each time, then we do robustness test and endogeneity test.

4.4. Regression Results and Analysis

In these three regression equations above, we cannot exclude the endogeneity problem between the error terms and the explanatory variables. The fixed effect of this panel data will be consistent if these factors that we cannot observe donot change over time. Table 3 shows fixed effect of three models and six regression analysis of stochastic effect model. We use the Hausman Test according to the empirical results to determine whether to use a panel model with a random effect or a fixed effect. Through the Hausman test, we find that our original hypothesis is rejected and the fixed effect model should be applied.

From regression (1) in Table 3, we can find that in the regression analysis of *EIEEP*, the coefficient of urbanization variable ln(*urbn*) is not consistent with that in the previous hypothesis and theresult is not significant. The coefficient of populations of students who are in compulsory educational school ln(*snce*) is positive and the result is not significant. The coefficient of In(*gdr*) is negative and the result is not siguificant either. However, these two variables' test results are consistent with the hypothesis. There may be some defects in data selecting and processing, resulting in no significant results. The logarithms of per capita disposable income In(*pcdi*) is significant at the level of 1%, and 1% change in per capita accopanies 0.453% change in the equalization index of education. This means per capita disposable income has positive effects on equalization index of education. This is not consistent with the hypothesis, and the possible reason may be high-income families have higher requirements for education demands and level which leads to higher requirements for the supply of public services. The coefficient of In(*pefe*) is negative and is significant at the level of 1%, which is

consistent with the hypothesis. The coefficients of urban and rural consumption gap (*urcr*) and tax share (*ts*) are significant at the level of 10% and 5% respectively, and one of them is positive and the other is negative, which is consistent with the hypothesis. Above all, all the factors affecting *EIEEP* are in line with the theoretical expectation except per capita disposable income.

Table 3. Regression Results of Fixed Effect and Random Effect

	EIEEP		*EISEE*		*EIHME*	
	(1)	(2)	(3)	(4)	(5)	(6)
Explanatory variable	FE	RE	FE	RE	FE	RE
ln(*urbn*)	0.156	0.155	0.341*	–0.240**	–0.18	0.00487
	(0.77)	(1.86)	(2.06)	(–3.28)	(–1.07)	(0.07)
ln(*pcdi*)	0.453***	0.337***	0.638***	0.781***	0.245***	0.322***
	(4.05)	(3.66)	(9.4)	(17.44)	(3.73)	(4.96)
ln(*snce*)	0.0895	0.281***				
	(1.76)	(14.12)				
ln(*pefe*)	–0.297***	–0.240***				
	(–4.72)	(–5.00)				
ln(*pemh*)					–0.145***	–0.228***
					(–3.83)	(–8.07)
ln(*pese*)			–0.499***	–0.537***		
			(–11.49)	(–19.66)		
urcr	0.0731**	0.0182	0.0281	–0.000924	0.0391*	0.0319
	(2.73)	(0.79)	(1.26)	(–0.04)	(2.00)	(1.69)
ts	–4.385*	–6.820***	–3.191*	–3.790***	–3.495**	–4.968***
	(–2.43)	(–11.24)	(–2.14)	(–6.40)	(–2.93)	(–8.42)
ln(*gdr*)	–0.119	0.0176	–0.167	0.0396	0.0683	0.207**
	(–0.96)	(0.2)	(–1.62)	(0.48)	(0.83)	(2.83)
ln(*thnb*)					0.184	0.248***
					(1.76)	(13.89)
Constant value	–3.041*	–5.431***	–2.686***	–2.205***	–2.240*	–4.398***
	(–2.23)	(–8.04)	(–3.84)	(–3.87)	(–2.22)	(–7.12)
Hausman test p	0		0		0	
N	341		341		341	
Within R^2	0.1706	0.2007	0.3723	0.3263	0.1201	0.1063

Notes: (1) The value in parentheses below the coefficients is the *t* statistic of the coefficient; (2) ***,** and * indicate statistical significant of 1%, 5% and 10% level respectively.

From regression (3) we can find that in the *EISEE* regression analysis the coefficient of *urcr* is positive, but not significant. The coefficient of ln(*gdr*) is negative, but the coefficients is relatively small, which means there may be little relationship between dependency ratio and per capita social security and employment. The coefficient of ln(*urbn*) is significant at the level 10%, and is negative, which is consistent with the previous hypothesis. But the coefficient of ln(*pcdi*) is positive at the significance level of 1%, just contrary to the previous hypothesis, and the possible reasons are the same

as discussed above. The coefficient of ln(*pese*) is positive at the significance level of 1%, and when fiscal expenditure changes by 1%, basic public services' equalization index declines by 0.499%. The coefficient of *ts* is significant at the level of 10%, and is negative, which is consistent with the previous hypothesis. Overall speaking, except for per capita income level, the factors that influence *EIMHE* are all in line with theoretical expectation.

From regression (5) we can find that in the *EISEE* regression analysis the coefficient of ln(*urbn*) is positive, which is inconsistent with the previous hypothesis, the coefficients of synchronous variables are not significant. The coefficients of ln(*gdr*) and ln(*thnb*) are both positive, but not significant. The coefficients of ln(*pcdi*) is also positive at the significance level of 1%, which is contrary to the previous hypothesis, and the probable cause is consistent with the above analysis. The coefficient of ln(*pemh*) is negative at the significance level of 1%. The coefficient of (*urcr*) is positive at the significont level of 10%. The coefficient of *ts* is negative at the significant level of 5%, whether the coefficient is positive or negative is consistent with the previous hypothesis. Collectively, except for per capita income level, the factors which influence *EIMHE* are in line with theoretical expectation.

As can be seen from the regressions results in Table 3, most influencing factors from the presupposition inference in basic public services index are in line with expectations, but obviously per capita disposable income is the opposite of expectations. The reason maybe that the increase in personal income does not directly affect the equalization level of public services, but the increase in personal income and the improvement of living environment will raise people's demand for public services. As we can see in the above regressions, the equalization indexes of education and health care are in direct proportion to income levels. As far as social security and employment is concerned, the increase of people's income will directly lead to. For example, people with higher income tend to buy more social insurance.

Through a simple regression analysis of fixed effects above, we confirm that most of the indicator variables are in line with the requirements, but there are variables in each equation that are not really significant. Therefore, we use regression analysis on each of the variables in the three equations to verify if the introduction of subsequent variables is the reason of the previous variables becoming not significant. And the results are shown in Table 4, Table 5 and Table 6.

Table 4 reflects the regression of variables in *EIEEP* model one by one. The coefficient of urbanization is significant at the level of 1% in the beginning, and becomes less significant as more variables are included, and its coefficients are only negative in regression (2) and (3) and are in live with the hypothesis. The coefficient of per capita disposable income is negative at first, consistent with the previous hypothesis, but with more variables induded, the coefficients' positive or negative has changed and at the same time is becoming significant at the level of 1%. The coefficient of compulsory

education student number is positive at the beginning, and significant at the level of 10%. The positive or negative has not changed but becomes not significant anymore with more variables included. After education fiscal revenue is introduced, its coefficient is significant at the level of 1%, which is consistent with the previous hypothesis. The coefficients' positive or negative of tax revenue and gap between urban and rural areas are consistent with the previous hypothesis and respectively significant at the level of 10% and 5%. Because total dependency ratio is the last variable to be introduced, its coefficient is negative, which is consistent with the previous hypothesis, but the coefficient is not significant.

Table 4. One-by-One Regression of Explanatory Variables in *EIEEP* Model

EIEEP	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ln(*urbn*)	0.437***	–0.32	–0.28	0.01	0.08	0.13	0.16
	(–4.78)	(–1.57)	(–1.38)	(0.05)	(0.42)	(0.65)	(0.77)
ln(*pcdi*)		–0.03	–0.02	0.457***	0.519***	0.457***	0.453***
		(–0.64)	(–0.31)	(4.18)	(4.71)	(4.09)	(4.05)
ln(*snce*)			0.116*	0.111*	0.102*	0.0906	0.0895
			(2.15)	(2.15)	(2.00)	(1.78)	(1.76)
ln(*pefe*)				0.303***	–0.314***	0.287***	0.297***
				(–4.86)	(–5.09)	(–4.62)	(–4.72)
urcr					0.0780**	0.0734**	0.0731**
					(2.90)	(2.75)	(2.73)
ts						–4.520*	–4.385*
						(–2.51)	(–2.43)
ln(*gdr*)							–0.119
							(–0.96)
Fixed effect of province	yes	yes	yes	yes	yes	yes	yes
Fixed effect of year	yes	yes	yes	yes	yes	yes	yes
Sample size	341	341	341	341	341	341	341
R^2	0.0759	0.1285	0.0924	0.1642	0.1890	0.2073	0.2099

Notes: (1) The value in parentheses below the coefficients is the *t* statistic of the coefficient; (2) ***, ** and * indicate statistical significant level of 1%, 5% and 10%, respectively.

Table 5 reflects the regression in the social security and employment model. The coefficient of urbanization is not significant at the beginning and becomes significant at the end, but its coefficient stays positive, which is inconsistent with the previous hypothesis. The coefficient of per capita income is always positive. The coefficient is significant at the level of 1% from regression (3), but the positive or negative has not changed. As for the introduction of social security expenditure, the coefficient of this variable has always been negative which is consistent with the previous hypothesis, and significant at the level of 1%. The coefficient of the gap between urban and rural consumption is positive, unchanged with the introduction of variables. It is

consistent with the previous hypothesis, but not significant. The coefficient of total dependency ratio is negative as previous hypothesis. Its coefficient remains negative with the introduction of tax revenue, and significant at the level of 10% just like the hypothesis.

Table 5. One-by-One Regression of Explanatory Variables of *EISEE* Model

EISEE	(1)	(2)	(3)	(4)	(5)	(6)
ln(*urbn*)	(0.05)	(0.24)	0.25	0.269	0.311	0.341*
	(–0.61)	(–1.19)	(1.51)	(1.63)	(1.89)	(2.06)
ln(*pcdi*)		0.05	0.679***	0.688***	0.656***	0.638***
		(1.03)	(10.32)	(10.42)	(9.78)	(9.40)
ln(*pese*)			–0.514***	–0.506***	–0.489***	–0.499***
			(–12.09)	(–11.81)	(–11.34)	(–11.49)
urcr				0.0317	0.0298	0.0281
				(1.41)	(1.33)	(1.26)
ts					–3.363*	–3.191*
					(–2.26)	(–2.14)
ln(*gdr*)						–0.167
						(–1.62)
Fixed effect of province	yes	yes	yes	yes	yes	yes
Fixed effect of year	yes	yes	yes	yes	yes	yes
Sample size	341	341	341	341	341	341
R^2	0.0013	0.0051	0.3497	0.3544	0.3662	0.3723

Notes: (1) The value in parentheses below the coefficients is the *t* statistic of the coefficient; (2) ***, ** and * indicate statistical significant level of 1%, 5% and 10%, respectively.

Table 6 reflects the regression in the basic public services of medical and health care model. The coefficient of urbanization is significant at the level of 10% level except in regression (2), and it is negative in other regressions, which are in line with previous hypothesis, but not significant. The introduction of per capita income coefficient is significant at the level of 10% in regression (2), and the other coefficients are significant at the level of 1%, it is different with hypothesis. The medical and health care fiscal expenditure is significant at the level of 1% in all the regressions above and the coefficients changed little. Urban-rural consumption gap is significant at the level of 10% at last with the adding of variables, and its coefficient is positive, which conforms to previous hypothesis. And with the adding of tax revenue, the coefficient is negative and significant at the level of 5%, in line with the hypothesis. The coefficient is positive

with the introduction of total dependency ratio and district hospital beds. It is in line with the previous hypothesis, but not significant.

Table 6. One-by-One Regression of Explanatory Variables of *EIEEP* Model

EISEE	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ln(*urbn*)	–0.069	–0.314*	–0.0724	–0.0400	–0.0116	–0.0233	–0.180
	(–1.16)	(–2.38)	(–0.50)	(–0.28)	(–0.08)	(–0.16)	(–1.07)
ln(*pcdi*)		0.0697*	0.263***	0.286***	0.246***	0.263***	0.245***
		(2.08)	(4.31)	(4.56)	(3.89)	(4.05)	(3.73)
ln(*pemh*)			–0.127***	–0.131***	–0.114***	–0.114***	–0.145***
			(–3.75)	(–3.87)	(–3.38)	(–3.39)	(–3.83)
urcr				0.0279	0.0238	0.0244	0.0391*
				(1.55)	(1.34)	(1.37)	(2.00)
ts					–3.622**	–3.685**	–3.495**
					(–3.04)	(–3.09)	(–2.93)
ln(*gdr*)						0.0931	0.0683
						(1.14)	(0.83)
ln(*thnb*)							0.184
							(1.76)
Fixed effect of province	yes	yes	yes	yes	yes	yes	yes
Fixed effect of year	yes	yes	yes	yes	yes	yes	yes
Sample size	341	341	341	341	341	341	341
R^2	0.0048	0.0201	0.0676	0.0757	0.1059	0.1101	0.1201

Notes: (1) The value in parentheses below the coefficients is the *t* statistic of the coefficient; (2) ***, ** and * indicate statistical significant level of 1%, 5% and 10%, respectively.

From the regression result above and the analysis of inspection index value like *p* and R^2, we can see that the overall fixed effect of the model is relatively good. To sum up, in equation (17), the impact of China's urbanization rate in regression analysis on education equalization index is inconsistent with the previous hypothesis. Though per capita disposable income has a significant influence on the equalization of education, the direction of influence is not consistent with the hypothesis. The possible reason is when the income level increases, the previous income demand elasticity is positive, and then the elasticity turns negative when the income reaches a certain amount. More upper-middle income families choose better private schools for children at the stage for compulsory education. Education revenue and taxation have become the main drivers for improving the equalization of education public services. In equation (18) , social security expenditure and taxation remain the main factors that promote the equalization of public services, but though the impact of urbanization and per capita disposable income on the equalization of social security is significant, the direction is contrary to the theoretical expectation. In equation (19) , urbanization, medical and health fiscal expenditure, urban-rural consumption gap and taxation have effectively promoted the equalization of

public services in medical and health services. Although the per capita disposable income also significantly affects the equalization of health care, the direction is opposite to the hypothesis.

4.5. Robustness Test

Through the theoretical analysis of and regression results, some of the explanatory variables did not have the desired effect, so we choose some of these variables to perform variable substitution to test the stability of the regression model.

The theoretical analysis shows that demographic factor is an important explanatory variable affecting the equalization of education in a region. In our regression analysis above, the impact on explained variables of *snce* is not significant. In order to determine whether population factors are important indicators that affect the equalization of education again, we take the ratio of the number of students receiving compulsory education of one area to the end-of-year population of the area as the new explanatory variable (*rsnce*) to redo the regression analysis and further confirm the reliability of the estimated results.

$$\begin{aligned} EIEEP = {} & \alpha_0 + \alpha_1 \ln(urbn)_{it} + \alpha_2 \ln(pcdi)_{it} + \alpha_3 rsnce_{it} + \alpha_4 \ln(pefe)_{it} \\ & + \alpha_5 urcr_{it} + \alpha_6 ts_{it} + \alpha_7 \ln(gdr)_{it} + \lambda_{it} \end{aligned} \tag{20}$$

For the equalization of medical treatment and public health, the factor of local hospital beds do not show significant influence on the explained variable of equalization of medical care. But theoretically, the quality of local medical facilities directly determines the level of medical and sanitary conditions. So, we use another index to rerun the regression analysis—the ratio of medical workers to the local population at the end of the year (*rthhb*). The model is as follows.

$$\begin{aligned} EIHME = {} & \gamma_0 + \gamma_1 \ln(urbn)_{it} + \gamma_2 \ln(pcdi)_{it} + \gamma_3 \ln(pemh)_{it} + + \gamma_4 urcr_{it} \\ & + \gamma_5 ts_{it} + \gamma_6 \ln(gdr)_{it} + \gamma_7 rthnb_{it} + u_{it} \end{aligned} \tag{21}$$

The regression results are shown as Table 7. The proportion of students receiving compulsory education has a significant impact on the basic public services of medical and health care, and the coefficient is positive, which further confirms the accuracy of our earlier hypothesis. In the meanwhile, the proportion of people in the region has a significant impact on the equalization of medical and health care, which is also in line with our hypothesis, making the model more accurate and the results more reliable.

Table 7. Robustness Regression Analysis after Substituting Variables

Explained variable	EIEEP	EIEEP	EIHME	EIHME
Method of estimation	FE	RE	FE	RE
ln(*urbn*)	0.168	–0.199*	0.0487	0.0119
	(0.83)	(–2.00)	(0.33)	(0.13)
ln(*pcdi*)	0.513***	1.119***	0.251***	0.683***
	(4.53)	(11.16)	(3.87)	(8.48)
rsnce	2.822**	3.031***		
	(2.89)	(3.44)		
ln(*pefe*)	–0.303***	–0.674***		
	(–4.85)	(–13.57)		
ln(*pemh*)			–0.0791*	–0.291***
			(–2.09)	(–6.49)
urcr	0.0661*	–0.0134	0.0179	–0.0191
	(2.48)	(–0.44)	(1.00)	(–0.76)
ts	–4.065*	–4.917***	–3.527**	–2.911***
	(–2.26)	(–6.76)	(–2.97)	(–4.13)
ln(*gdr*)	–0.208	–0.102	0.104	0.286**
	(–1.64)	(–0.77)	(1.27)	(2.99)
rthnb			–0.00240*	–0.00444**
			(–2.01)	(–3.02)
Constant term	–2.289*	–4.394***	–1.342	–4.614***
	(–2.16)	(–5.22)	(–1.72)	(–5.83)
Hausman test p	0.000		0.000	
Sample size	341	341	341	341
R^2	0.4725	0.7070	0.1483	0.5601

Notes: (1) The value in parentheses below the coefficients is the *t* statistic of the coefficient; (2) ***, ** and * indicate significant level of 1%, 5% and 10%, respectively.

4.6. Endogeneity Test

As a matter of fact, the factors influencing the equalization of public services are clearly not limited to the variables listed in this paper which can be seen from the low R-squared in the regression result. We can't list all the explanatory variables in the

modeling process. Therefore, three models cannot exclude the endogeneity arising from missing variables.

Table 8. Endogeneity Test of *EIEEP* and *EIMHE*

	EIEEP	*EIHME*
L1	–0.0903***	0.337***
	(–6.52)	(28.34)
L2	–0.123***	0.252***
	(–3.82)	(26.21)
ln(*urbn*)	–0.0726	0.0779
	(–0.18)	(0.81)
ln(*pcdi*)	0.363**	0.194***
	(2.70)	(7.98)
rsnce	5.583***	
	(5.25)	
ln(*pefe*)	–0.194***	
	(–8.22)	
ln(*pemh*)		–0.117***
		(–9.74)
ln(*pese*)		
urcr	0.0289*	0.0152*
	(2.55)	(2.54)
ts	(4.47)	
	(–1.65)	
ln(*gdr*)	–0.278***	
	(–3.58)	
rtnhb		0.0516***
		(3.55)
Constant term	–0.349	–0.732*
	(–0.48)	(–2.16)
AR(1)	0.0001	0.0086
AR(2)	0.4202	0.1312
Sargan test p	0.2871	0.9191
N	248	248

Notes: (1) The value in parentheses below the coefficients is the *t* statistic of the coefficient; (2) ***, **, * indicate statistical significant level of 1%, 5% and 10%, respectively; (3) The null hypothesis of AR(1) and AR(2) are with the residual of first-order autocorrelation and second-order autocorrelation. The null hypothesis of Sargan test makes it effective to overidentify the instrumental variables.

Although the fixed effect can remove individual effects that do not change over time, and largely eliminate endogeneity, if the endogeneity comes from other temporarily undiscovered factors, the consistency of regression results requires careful consideration. This paper assumes that there is a second-order self-correlation of

explained variables, and establishes the following dynamic panel model.

$$EIEEP = \alpha_0 + \alpha_1 EIEEP_{it-1} + \alpha_2 EIEEP_{it-2} + \partial_j x + u_i + \lambda_t + \varepsilon_{it} \quad (22)$$

$$EISEE = \chi_0 + \chi_1 EISEE_{it-1} + \chi_2 EISEE_{it-2} + \chi_j z + u_i + \lambda_t + \gamma_{it} \quad (23)$$

$$EIHME = \beta_0 + \beta_1 EIHME_{it-1} + \beta_2 EIHME_{it-2} + \beta_j y + u_i + \lambda_t + \gamma_{it} \quad (24)$$

We use the two-stage system GMM method to estimate, and use the first and second order lags as instrumental variables to mitigate the effects of endogeneity. Through the selection of various instrumental variables, we conduct the endogeneity test on three models, but there was no endogeneity in equation (23). So, the results of equation (22) and (24) of endogeneity are displayed in Table 8. From Table 8, we can see that the results of equation (22) and equation (24) don't have much differences from the previous analysis, the variables' significance is enhanced correspondingly and more robust, and these two equations pass the test of AR (2) and Sargan.

To sum up, by experimenting with the introduction of various instrumental variables, the significance of the regression results of Table 8 is basically consistent with the regression analysis above. It means the regression results of the previous text are authentic, especially the two equations of the equalization of basic public services in education and the equalization of basic public services in medical care.

5. Main Conclusion and Policy Suggestions

5.1. Main Conclusion

Equalization of basic public services is an important part of the supply-side structural reform under the new normal as it is the intrinsic requirement of people's ever-growing needs for a better life. This paper constructs the realization mechanism models and index of the equalization of basic public services. We measure the equalization level of education, health care and social security in China from 2005 to 2016, and use regional panel model of our country to make an empirical test on factors affecting the equalization of basic public services. It is found that the urbanization of the past 12 years has not improved the equalization of basic public services in China significantly; higher per capita disposable income leads to more high-end consumption beyond basic public service; population structure and the gap between urban and rural areas are main obstructive factors that influence equitable basic public services supply; local government tax revenue and fiscal efficiency can significantly improve the degree of equalization of basic public services.

5.2. Policy Suggestions

The general idea is to promote supply-side structural reform in public services, improve the equalization level, and increase the supply of diversified public services, so as to better tackle the contradiction between inadequate and unbalanced development and people's ever-growing needs for a better life. Based on the empirical results of this paper, the following policy recommendations are made on how to further the supply-side structural reform of basic public services.

(1) Government should further optimize the current fiscal and taxation system, increase the supply of basic public services in relatively backward areas. Local government fiscal revenue is the basis for enhancing the supply capacity of basic public services in the region. In order to increase the fiscal and tax capacity of local governments, in addition to increasing the central government's financial transfer payment, it is more important to optimize the current fiscal and taxation system, divide properly the proportion of payments made by the central government and local governments in the basic public services properly such as education, medical care, health and social security, and to increase the proportion of the central government's expenditures in the relatively backward areas. Reasonably levying new taxes is conducive to sustainable economic and social development as a source of tax revenue for local governments.

(2) Government should further optimize the government's fiscal expenditure structure and improve the government's public services expenditure efficiency. Under the constraint of local government revenue, the key to enhancing the effective supply capacity of local basic public services is to improve the government's public service expenditure efficiency. We should use the leverage of government expenditure on public services to its full potential, fully attract private capital into basic public services such as education, medical treatment, health and social security, and actively explore the PPP mode of basic public service supply and the profit model of private capital in basic public services. Governmental expenditure on public services should be focused on infrastructure and the construction of shared platforms.

(3) Government should further improve the quality of urbanization in China and narrow the gap between urban and rural areas to promote the equalization of basic public services. We should change the over-rapid urbanization model of land in the past, control the scale of industrial new town construction strictly, plan the population size of large and medium-sized cities rationally. We need to reform the existing household registration system and land system, focus on building small towns by relying on the existing urban and rural layout. In the meanwhile, to enhance the infrastructure construction of small and medium-sized towns, reasonably allocode the high quality resouroes of education, medical care, elderly care and other basic public services of small towns and cities and orderly guide rural residents to move to small

towns and cities, increase the density of permanent residents in small towns and cities.

(4) Government should encourage sharing economy and increase the supply of non-basic public services, so as to slow down the widening gap of basic services supply. The aging of the population will further increase the supply pressure of basic public services in elderly care, medical care and social security. New birth policies will lead to a rapid increase in demand for babies' and school-aged children's education and in demand for basic public services in the employment sector, which will result in wider supply gap of basic public services. To meet the consumption demands for high-end services brought by increasing per capita disposable income and to narrow the gap in public services supply, we should encourage the new mode of sharing economy, implement incentive policies, and involve private providers for public services such as education, medical care and elderly care, so as to increase the supply of non-basic pubic services.

(5) Government must establish a comprehensive and scientific basic public services equalization performance assessment system as soon as possible. Government should improve the performance management and evaluation system of government public services' equalization, strengthen the social functions of governments at all levels. The system needs to define the right of governments at all levels to provide basic public services such as education, public hygiene and social security and improve the financial system that matches the administrative power. According to the different nature and characteristics of various public services, the responsibilities of government at all levels should also be different. How to assign authority rationally and give full play to the government's public service delivery capacity becomes more important. We need to monitor government action to get the government to pay more attention to the supply of public services, thus improving the current situation of insufficient supply of public services.

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