



Government Pro-poor Spending, Social Capital and Residents' Happiness

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Abstract. Based on the data of CGSS in 2017, this article uses the ordered probability model and OLS to explore the relationship between government pro-poor expenditure, social capital and the subjective happiness of rural residents. The results show that the government's pro-poor expenditure has a significant positive impact on the happiness of rural residents, and the social capital owned by the residents has a significant positive correlation with happiness. However, the impact of government pro-poor expenditures on happiness is different. Educational services and social security expenditures are positively promoted, while medical expenditures negatively affect the happiness of rural residents. In addition, education services and social security expenditures mainly improve the happiness of middle-income rural residents, and have little effect on low-income and high-income groups.

Keywords: pro-poor expenditures; rural residents' happiness; social capital; ordered probability regression

1 Introduction

The report of the Nineteenth National Congress pointed out that the main contradiction in our society has been transformed into a contradiction between the people's growing needs for a better life and unbalanced and insufficient development. The "good life" refers to the living conditions in which the subjective needs of residents such as material life are abundant, cultural life is rich, and subjective needs such as sense of gain, happiness and security are satisfied. According to the 2020 per capita GDP ranking of the world's major economies released by the International Monetary Fund, China's 63rd place has risen from last year, while the data released by the National Bureau of Statistics in the first half of 2020 shows that the national per capita disposable income reached 15666 yuan, an increase of 2.4% in nominal terms over the same period last year, and the income of residents has risen. In the past three years, the United Nations "World Happiness Report" pointed out that the ranking of Chinese residents' happiness has declined continuously, from 79 to 93, although it

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Y. Chen et al. (eds.), *Proceedings of the 2023 2nd International Conference on Public Culture and Social Services (PCSS 2023)*, Advances in Social Science, Education and Humanities Research 787, https://doi.org/10.2991/978-2-38476-130-2_48

will rise to 84 in 2021, but the overall happiness of residents shows a downward trend.

2 A review of literature

(1) Government pro-poor spending and residents' happiness

Pro-poor expenditure refers to fiscal expenditure that is conducive to poverty alleviation or poverty reduction, and its main beneficiary groups are low-income residents. The study of government fiscal expenditure structure on residents' happiness has received extensive attention. The expenditure can significantly improve the subjective well-being of residents. Domestic scholar Hu Hongshu (2012) found that social expenditures such as education, health care and social security have a positive effect on the improvement of farmers' subjective well-being, while expenditures on agriculture, forestry and water have no significant effect^[1]. However, some studies have pointed out that social security and employment expenditures provided by the government have a significant effect on happiness, while financial expenditures on education and medical care have a certain negative effect on happiness (Zhao Xinyu & Bi Yibo, 2015). At the same time, there are differences between provinces, regions, and groups in pro-poor spending, and the effect of pro-poor spending on the happiness of rural residents is significantly stronger than that of urban residents (Meng Tianqi & Hu Yan, 2017)^[2].

(2) Social capital and residents' well-being

Three dimensions of social trust, social norms, and social networks in social capital are positively correlated with subjective well-being (Neira, 2018). In rural areas, social capital is seen as an equalizer to mitigate the growing income gap (Giuseppina Guagnano, 2016). The narrowing of the income gap has largely alleviated the problem of low happiness among residents due to the large income gap. Therefore, we believe that social capital can improve the happiness of rural residents. In a study examining the subjective well-being of immigrants and natives in Western Europe, Tegegne (2019) found that social capital leads to inequality in welfare between immigrants and natives, but it can effectively reduce the social distance between immigrants and natives in Western Europe, and has a positive impact on There is a role in enhancing happiness. Mahadevan (2019), when focusing on the well-being of residents in remote rural areas, pointed out that the government needs to focus on exploring the role of social capital on the well-being of remote rural areas when taking poverty alleviation and development measures^[3].

3 Research Design

(1) Data sources

The data of subjective well-being and micro-individual characteristics variables used in the empirical analysis in this paper come from the data of China General Social Survey (CGSS2017). CGSS is the earliest national, comprehensive, and continuous academic survey project in my country. It comprehensively collects data at multi-

ple levels of society, community, family, and individual, including demographic characteristics (such as age, education, income, etc.) and quality of life. The government's pro-poor expenditure data comes from the 2018 China Statistical Yearbook. Considering the lag of the data, the macroeconomic variables of the year will not have a timely impact on residents' well-being, and the annual financial expenditure final accounts are at the end of the year. Statistical, so the data used in this article are from the previous year. In the treatment of personal annual income, we refer to the analysis of Liu Junqiang (2012) and Zhang Tongjin (2020) and exclude the data of income outliers. The research object of this paper is rural residents, the samples with missing values are excluded and the final total sample size is 4932^[4].

(2) Variable description

The explained variable of this paper is residents' subjective well-being. For the CGSS survey question "In general, do you think your life is happy?", respondents answered according to the options, and the scores corresponded to 1-5 points respectively. In order to more intuitively reflect the current situation of subjective well-being of rural residents in my country, Table 1 lists the overall distribution of subjective well-being of rural residents in my country. The explanatory variables include "government pro-poor expenditure" and "social capital" and gender, age, health status, income selected as control variables^[5]. The specific definitions and descriptive statistical analysis of each variable are shown in Table 1.

Table 1. The overall distribution of happiness of rural residents in my country

	Absolute numbers	Proportion (%)
very unhappy	99	2.01
less happy	418	8.48
Can't say happy or not	759	15.40
relatively happy	2,919	59.15
relatively happy	737	14.96
sum	4932	100

As can be seen from Table 1, the proportion of respondents who answered "relatively happy" and "very happy" reached 74.11%, and the proportion of respondents who answered "very unhappy" and "relatively unhappy" was 10.49%. Overall, nearly 75 percent of rural residents feel happy^[6].

Table 2. The specific definition and descriptive statistical analysis of each variable

variable name	Variable measurement	minimum	maximum	mean	standard deviation
Happiness	Very unhappy = 1, somewhat unhappy = 2, not really happy = 3, somewhat happy = 4, very happy = 5	1	5	3.77	0.88
pro-poor spending	per capita (education + social security + medical expenditure)	8.21	9.22	8.47	0.22
social trust	Strongly disagree=1, somewhat disagree=2, disagree at all disagree=3, somewhat agree=4, strongly agree=5	1	5	3.49	1.02
social network	Never meet up = 1, a few times a year or less = 2, a few times a month = 3, a few	1	7	3.65	2.11

gender	times a week = 4, a day = 5 male=1, female=0	0	1	0.53	0.5
education level	Education below primary school (including private school and literacy class) = 1, junior high school (including vocational high school, ordinary high school, technical secondary school and technical school) = 2, college and above = 3	1	3	1.57	0.6
age	2017 - year of birth	21	95	53.77	15.68
Health status	Very unhealthy = 1, somewhat unhealthy = 2, average = 3, relatively healthy = 4, very healthy = 5	1	5	3.38	1.14
income	Total personal income in the previous year	4.61	12.9	9.32	1.33
Rise in social status	Overall, in the current society, where do you belong to? And what level do you think you were on 10 years ago? Status rise = 1	0	1	0.57	0.49
decline in social status	Overall, in the current society, where do you belong to? And what level do you think you were on 10 years ago? Status drop = 1	0	1	0.1	0.3
marital status	First marriage with spouse, remarriage with spouse and separation but not divorced = 0, single, cohabiting, divorced and widowed = 1	0	1	0.79	0.41
log income	The logarithm of the previous year's total personal income	4.38	12.9	9.71	1.33

Table 2 shows the definition of each variable and the results of descriptive statistical analysis. According to this, it can be seen that the sample mean of the variable pro-poor expenditure is 8.47, the standard deviation is 0.22, and the coefficient of variation is as high as 8.25, indicating that there is a significant difference in government pro-poor expenditure among residents. Among the respondents, 53% were male and 47% were female. The average education level was 1.57, and most of them were at junior high school or above, and the overall education level was not high. At the same time, the average age of the respondents is 53.77 years old, and the elderly population is mostly. The average self-assessed health status of the respondents was 3.38, which was close to satisfactory, and the overall health level of residents was relatively high. Compared with 10 years ago, the self-assessed economic and social status of the respondents showed an upward trend, and the income level was higher than before.

(3) Model setting

Based on the research on well-being, this paper uses the Odered Probit model (ordered probability model) to carry out econometric analysis of the selected variables, pro-poor expenditure, social capital and well-being^[7]. The model is set as follows:

$$H_{ij} = \alpha_0 + \alpha_1 \times QPS_j + \alpha_2 \times Cap_{ij} + \alpha_3 \times Con_j + \varepsilon_1 \tag{1}$$

H_{ij} represents the happiness level of the i interviewed resident in j area; QPS_j represents the pro-poor expenditure in the j region, which generally consists of education expenditure, social security expenditure and medical expenditure in the region; Cap_{ij} represents the social capital of the i interviewed resident in region j , including social trust and social network composition; Con_j represents the control varia-

ble. In addition, the α coefficient is the direction vector of the regression coefficient and ε represents the random error term of the set model.

4 Empirical Results and Analysis

(1) Basic regression results

This paper conducts an ordered probability regression analysis on the selected variables. Model 1 reflects the regression results of government pro-poor spending and social capital on the happiness of rural residents under the framework of an ordered probability model. The results show that the increase of pro-poor government expenditure per unit will increase the happiness of rural residents by 0.3901 units; the increase of each unit of social capital will increase the happiness of residents by 0.3372 units. Model 2 reflects the regression results of government pro-poor spending and social capital on the happiness of rural residents under the OLS model. Except for the change in the coefficient vector, the positive and negative directions of the coefficients of all explanatory variables remain the same. The significance levels of all explanatory variables also did not change. Model 3 conducts an ordered probability regression analysis on the two dimensions of government pro-poor spending and social capital. The results show that the social network and social trust of each unit increase, the happiness of residents will increase by 0.0614 and 0.3474 units, respectively, and social trust has a more obvious effect on the happiness of rural residents. Model 4 is an ordered probability regression analysis of the main components of government pro-poor spending, social capital and rural residents' well-being. The analysis of the three important components shows that social security expenditure has the greatest impact on the happiness of rural residents, followed by education expenditure and medical expenditure and medical expenditure is negatively correlated with the happiness of rural residents at the 1% significance level. Model 5 is the impact of government pro-poor spending and social capital on residents' well-being in different dimensions. Overall, the model estimation results are significant and have strong reliability and robustness.

Table 3. The influence of pro-poor expenditure and social capital on the subjective well-being of rural residents

Subjective Well-being	(1)	(2)	(3)	(4)	(5)
pro-poor spending	0.3901***	0.1305**	0.3099**		
	-0.1357	-0.0571	-0.1361		
education spending				0.6280**	0.6037**
				-0.2601	-0.2602
social security spending				0.7060***	0.6646***
				-0.1071	-0.1073
medical expenses				-1.2631***	-1.2681***
				-0.3201	-0.3202

social capital	0.3372***	0.1345***		0.3417***	
	-0.0343	-0.0142		-0.0344	
social network			0.0614***		0.0651***
			-0.2194		-0.022
social trust			0.3474***		0.3473***
			-0.0287		-0.0287
gender	-0.1998***	-0.0881***	-0.2193***	-0.2020***	-0.2212***
	-0.0583	-0.0246	-0.0584	-0.0584	-0.0585
age	-0.0401***	-0.182***	-0.0393***	-0.0440***	-0.0431***
	-0.0129	-0.0054	-0.0129	-0.0129	-0.013
age squared	0.0006***	0.0002***	0.0005***	0.0006***	0.0006***
	-0.0001	0	-0.0001	-0.0001	-0.0001
marital status	0.4383***	0.1887***	0.4433***	0.4271***	0.4327***
	-0.0773	-0.0323	-0.0774	-0.0774	-0.0774
education level	0.2823***	0.1263***	0.2660***	0.2631***	0.2469***
	-0.0579	-0.0244	-0.058	-0.0581	-0.0582
Health status	0.3832***	0.1646***	0.3913***	0.3904***	0.3983***
	-0.0294	-0.0119	-0.0294	-0.0295	-0.0295
log income	0.0692**	0.0325***	0.0696**	0.0645**	0.0645**
	-0.0274	-0.0115	-0.0273	-0.0279	-0.0279
rise in social status	0.3198***	0.1483***	0.3278***	0.3410***	0.3491***
	-0.0623	-0.0261	-0.0623	-0.0625	-0.0626
decline in social status	-0.2499***	-0.1078**	-0.2347**	-0.2413**	-0.2259**
	-0.1016	-0.0427	-0.1016	-0.1018	-0.1018
Adjusted R ²	0.0441	0.1028	0.0494	0.0473	0.0525
observed value	4932	4932	4932	4932	4932

Note: Robust standard errors are in parentheses. ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively. The same below.

It can be seen from Table 3 that the regression coefficients of social security expenditure and education expenditure are both positive numbers, and compared with the overall impact of social capital on the happiness of rural residents, social security and education expenditure have a higher degree of influence, but are affected by medical security. The negative impact of spending thus reduces the overall effect of pro-poor spending. Under the dual structure of urban and rural areas, the government's support for the supply of public services (including medical and health care) in urban areas is significantly greater than that in rural areas. The development of basic medical services in my country is uneven between urban and rural areas, and the urban population accounts for the vast majority of basic medical service resources. As a result, the problem of "difficult and expensive medical treatment" for rural residents has not been solved. Medical reform is still a worldwide problem. China's medical system reform is in a deep-water area. The main reason for the problems in my coun-

try's medical system reform lies in the background of China's market economy and social transformation. The main body of medical supply and service is single. Because medical and health services are public goods and private goods in nature, there are four needs of the government, the market, the medical department and the individual. At the same time, the government, as the leading agency, should accelerate the reform of China's medical system, increase government medical investment, and solve the problems of uneven distribution and relative scarcity of resources.

The results of the impact of social capital on residents' well-being show that it has a significant positive impact on the well-being of rural residents. Both dimensions of social trust and social network are positive at the 1% significance level. Existing research shows that social capital is an important factor explaining individual happiness. Since ancient times, China has been seeking harmonious social relations between neighbors. Social networks have played a vital role in the social and economic activities of residents. Due to the lag in the construction and development of political systems in rural areas, informal systems such as "guanxi" have played an important role in economic society. It is particularly prominent. By providing emotional communication and social support, social networks can help improve the psychological status of individuals and enhance residents' well-being (Ma Wanchao, 2018). At the same time, social trust, an important part of social capital, can effectively reduce the communication cost of communicating with others, and has a positive effect on residents' well-being.

Among the control variables, the happiness of men is significantly lower than that of women, and men who are the pillars of the family need to bear a higher level of family burden, which leads to a higher sense of stress in men. The effect of age on residents' well-being presents a positive U-shaped relationship, which is consistent with previous research conclusions. Compared with those without a spouse, those with a spouse are more happier, and there is a positive correlation between education and happiness, but the correlation coefficient is small. There is an obvious positive correlation between income and happiness, indicating that the "Easterlin" paradox is not obvious in rural areas. In addition, rising social status will improve residents' happiness, while psychological trauma caused by declining social status will reduce residents' happiness.

(2) Grouping regression results

Since income is the main factor determining the level of happiness, this paper further explores the impact of social welfare and the resulting social capital on happiness that residents receive from government pro-poor spending under different income conditions. The status is stratified from low to high, and the heterogeneous effects of different income levels on residents' well-being are analyzed. This paper selects the top 30% of the residents as the low-income group (personal annual total income is less than 5,000 yuan), and the last 30% of the residents as the high-income group (personal annual total income is higher than 30,000 yuan) for investigation. The results are as follows shown in Table 4.

Table 4. Effects of pro-poor spending and social capital on well-being of different income groups

Explained variable: subjective well-being	low income group		middle income group		high income group	
	(1)	(2)	(3)	(4)	(5)	(6)
pro-poor spending	0.0344 (0.3645)		0.8195*** (0.2320)		0.1457 (0.1966)	
social capital	0.4414*** (0.0629)	0.4360*** (0.0631)	0.2636*** (0.0549)	0.2921*** (0.0500)	0.3222*** (0.0626)	0.3228*** (0.0628)
education spending		-0.4412 (0.5479)		1.3179*** (0.4255)		0.3233 (0.4389)
social security spending		0.6220*** (0.2145)		0.9320*** (0.1752)		0.5249*** (0.1854)
medical expenses		-0.6017 (0.6221)		-1.7737*** (0.5073)		-0.9414 (0.5740)
control variable	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.0464	0.0502	0.0437	0.0483	0.0432	0.0456
observed value	1516	1516	1949	1949	1467	1467

Under the control of micro-variables, the effects of government pro-poor expenditure, social capital and their various dimensions on residents' well-being were investigated. The results are shown in Table 4. The government's pro-poor expenditure has a significant positive impact on the happiness of the middle-income group, and the overall improvement effect on the low-income and high-income groups is not significant. Compared with low-income groups, high-income groups are more affected by the government's pro-poor expenditures. The reason may be that government fiscal expenditures cannot fundamentally solve the problem of poverty. From the perspective of my country's national conditions, my country still has the problem of unbalanced economic development. The core contradiction lies in the contradiction between the people's growing demand for a better life and unbalanced and insufficient development. It is still necessary to focus on the poor.

Comparing Model 2 and Model 6, it can be seen that the negative impact of medical security expenditure on happiness is consistent with the above conclusion. However, the inhibitory effect of education expenditure on the happiness of low-income groups and the significant effect of social security on the happiness of low-income groups can be seen. It can be seen that low-income groups are the main beneficiary groups of social security expenditures, and for the vast majority of struggling For rural residents on the poverty line, the government's social security benefits can alleviate the adverse effects of excessive income disparity. According to Mallow's Hierarchy of Needs Theory, for low-income groups, more consideration is given to solving physiological needs, that is, to meet the needs of residents' daily necessities for food, clothing, housing, and transportation. For low-income groups with an annual personal income of less than 5,000 yuan, it is impossible to consider the favorable impact of education expenditures on them and even consider education expenditures as a burden on the family. The family income cannot pay for children's education expenditures, and education is regarded as a luxury. Reduced the impact on their well-being.

Therefore, the government should increase the social security of low-income groups to solve the most basic physiological needs, and at the same time, it should try

its best to improve the education and medical system to protect the daily life of residents from intrusion. Although my country's education expenditure accounts for a large proportion of the pro-poor expenditure structure, due to its unreasonable internal structure and the growth rate of education expenditure is smaller than the ratio of government financial expenditure, taxation, as the main source of national financial expenditure is higher than that of consumption expenditure. When the education expenditure ratio is concerned, it is difficult for low-income people to cover their income to education. The government should give certain policy preference to rural, remote, poor and ethnic areas and realize rural residents fundamentally get rid of poverty through the hematopoietic function of education expenditure and completely cut off poverty. Intergenerational transmission and hereditary poverty. Some studies have pointed out that it is necessary to strengthen the supervision of the allocation of basic public service resources, improve the information collection of residents, especially to strengthen the information management of low-income groups, so as to prevent the basic public service resources aimed at improving the living standards of low-income residents from being overtaken by social capital. High middle and high income groups are "captured" (Liu Chengkui, Ren Feirong & Wang Zhouxiang, 2019).

(3) robustness check

We use the ordered regression model and the least squares method (OLS) to carry out regression analysis on pro-poor expenditure, social capital and well-being respectively. Both models take the well-being of rural residents as the explained variable. As the core explanatory variable, social capital is the core explanatory variable. After controlling the relevant variables, it is found that the positive and negative directions of all explanatory variables have not changed except the coefficient vector and the significance level of the explanatory variables has not changed significantly, so the model is reliable^[8].

Table 5. Pro-poor spending, social capital and residents' well-being (robustness analysis)

Explained variable: happiness	Ordered Probit	OLS
pro-poor spending	0.3901*** (0.1357)	0.1305** (0.0571)
social capital	0.3372*** (0.0343)	0.1345*** (0.0142)
control variable	Have	Have
Province Fixed Effects	Have	Have
observed value	4932	4932

5 Conclusions

This paper uses the data of the China General Social Survey in 2017 to analyze the impact of government pro-poor spending and social capital on the happiness of rural residents by using the ordered regression model and the least squares method. The research results show that after controlling for variables such as gender, age, health

status, income, education, marital status and social status changes, government pro-poor spending and social capital can significantly improve the happiness of rural residents. Regarding the influence of different income groups on happiness, it can be seen that the pro-poor expenditure has no obvious effect on the happiness of low-income and high-income groups, but has a significant positive effect on the happiness of the middle-income group. The effect of being part of government social spending on residents' well-being has been proven. Social capital has a significant positive impact on the well-being of low-, middle- and high-income groups.

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