Analysis of "Two Exemptions and One Subsidy" Policy on Educational Expenditure at Chinese Rural Residents

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Abstract:- China implemented the "two exemptions and one subsidy" education policy in 2008 to promote the development of China's education. This paper conducts an in-depth analysis on "two exemptions and one subsidy" policy and rural residents' educational expenditures by constructing an individual fixed effect model. This paper concludes that the implementation of the "two exemptions and one subsidy" policy has reduced the proportion of rural residents' education expenditures and optimized the consumption structure of rural residents. At the same time, the "two exemptions and one subsidy" policy has reduced the cost of raising children in rural areas and increase the supportive ratio of children. Moreover, children can further reduce the proportion of rural residents' education expenditures.

I. INTRODUCTION

The human capital theory put forward by Nobel Prize winner Schultz in 1979 pointed out: Education is not only consumption, but also a productive accumulation, and a human capital investment [1]. At the same time, the new economic growth theory also regards human capital to become sustained economic growth. Therefore, education level improving of the people is a very important task for achieving long-term economic growth in our country.

However, children in rural areas are restricted by economic conditions and are forced to have difficulty completing their studies because of the gap between urban and rural areas.China implemented "two exemptions and one subsidy" policy in 2008 to reduce the burden on poor families

in urban and rural areas. The policy "two exemptions and one subsidy" refers to the gradual meeting for tuition fees and providing free textbooks and subsidizing the living expenses of boarding students with financial difficulties.

The purpose of implementing the "two exemptions and one subsidy" policy is to reduce the family burden of rural residents in my country during the compulsory education stage. The initial implementation of the policy began in 2001. In this year, the central government gradually added rural education within the scope of public financial guarantees, established a new mechanism for central and local sub-projects, and shared a certain proportion of rural compulsory education funding guarantees. It is recommended to consolidate the nine-year compulsory education, implement a funding mechanism for rural education, and formulate the "two exemptions and one subsidy" policy.

In 2005, the "Two Exemptions and One Subsidy" policy began to be implemented in the central and western regions. Since 2006, Ministry of Education has carried out the "Two Exemptions and One Subsidy" work in rural areas and some pilot cities across the country.Since 2007, China has begun to exempt rural obligations Tuition and other related expenses for all students in the education stage, and free textbooks are provided for these students.

From the fall of the same year, all boarding students in all primary and middle schools can enjoy living expenses subsidies during the rural compulsory education stage, realizing the "two exemptions. In China's 400,000 rural areas, 150 million primary and middle school students are nearly covered by this policy.

The implementation of the policy is very large, providing strong support the development of education in rural areas.The policy "two exemptions and one subsidy" policy has a great impact on the promotion of urban and rural education equity. The policy has reduced the expenditure of rural residents on education expenditure, thereby indirectly increasing the disposable income of their families; thereby the income and expenditure of rural households have changed.

Although many researches have done on the impact of this policy on rural education, no researches have paid attention to the policy on rural household education expenditure. With increasing incomes, rural families will invest more capital in education, and how to promote rural families to independently increase their educational investment capital is a very important issue.

Therefore, this article empirically analyzes the impact of the "two exemptions and one subsidy" policy on rural education expenditure by constructing an individual fixed effect model, and further provides relevant recommendations for the development of Chinese education.

A. RESEARCH QUESTIONS

The questions used in this study are as follows:

(1)What is the impact of the "two exemptions and one subsidy" policy on education expenditures of rural residents in China？

(2)What other factors can reduce education expenditure of rural residents in China？

B. RESEARCH METHOD

The research method used in this study is anempirical analysis.

II.   LITERATURE REVIEW

A. Research onAnalysis of "Two Exemptions and One Subsidy" Policy on Educational Expenditure at Chinese Rural Residents

There are currently two effects on the consumption of urban and rural residents caused by fiscal expenditures: "crowding in" and "crowding out" byexisting literature in China. Guan Yongbinanalyzed the impact of fiscal expenditure on the consumption of urban and rural residents by establishing a representative consumer intertemporal substitution optimization consumption model, and the results showed that rural relief has a crowding-out effect on farmers' consumption in the long run[4].

Li Shanda focused on the analysis of the impact of expenditure on agriculture, rural areas and farmers as rural residents[5].Research has shown that expenditure on agriculture, rural areas and farmers have a positive effect on rural residents' consumption. In the short term, the squeeze-in effect of consumption is obvious.

ShenJingyu studied the impact of fiscal expenditure on urban and rural areas from both horizontal and vertical aspects [6]. The results showed that both at the time level and the regional level, people's livelihood education expenditures are negatively correlated with urban and rural residents' consumption.Huang Xiaoping studied the "two exemptions and one subsidy" policy which has a crowding-in effect on rural residents' consumption, and using fiscal expenditure as a substitute variable further supports the spillover effect of rural residents' consumption[7].

B.RESEARCH ON RURAL RESIDENTS' INCOME ON CONSUMPTION STRUCTURE

Hall believes that changes in consumption are not predictable, and that the expected growth of personal income has nothing to do with the expected growth of consumption, that is, the uncertainty of future income have nothing to do with consumption [8].

Thaler empirically analyzed that consumption is excessively sensitive to income. In reality, consumers' consumption patterns are quite different when they are young and old, and multiple wealth cannot be substituted for each other [9].

Yu Wenchao examined the relationship between rural residents' consumption structure and income types, and the results showed that in the short term, various types of consumption expenditures have adjustment mechanisms, but the short-term changes in basic income and non-basic income

will not have an impact on consumer spending other than food[10].

LengChenxinused dynamic GMM to analyze the impact of different income source structures on the consumption rural's residents under urbanization that results showed that the increase in the proportion of wage income promotes the consumption expenditure of rural residents.Housing, household equipment and services, and health care expenditures have a greater impact, but have less impact on education expenditures [11].

Wang Yan tested the difference between subsistence consumption and non-subsistence consumption by different types of income of farmers based on historical data. The research results show that the increase in the proportion of non-agricultural income of rural residents leads to a corresponding increase in non-survival marginal consumption [12].

C.REVIEW

The research on rural residents' consumption mainly focuses on two points such as the change of total consumption and the adjustment of consumption structure.

Changes in fiscal expenditures will affect the consumption of rural residents, but in the end there will be a "crowding out" effect or a "crowding in" effect.

There is no consensus yet. The research on the influencing factors of rural residents' education expenditure is still blank. Therefore, this article takes the "two exemptions and one subsidy" policy as an important influencing factor to study the rural residents' education expenditure.

III.   RESEARCH DESIGN

A. VARIABLE SELECTION

a.   DEPENDENT VARIABLE
The proportion of rural residents' education expenditure refers to the ratio of rural residents' consumption to rural residents' total consumption. Education expenditure can be measured as two ways: one is the amount of education

expenditure, and the other is the proportion of education expenditure.

This article is to study the changes about education by the "two exemptions and one subsidy" policy, the focus is on the change in the proportion of education expenditure in the overall consumption. Therefore, the proportion of total consumption of rural residents is selected as Explained variable. Since there is no separate indicator of education expenditure in the statistical yearbook, the indicators of cultural, educational, entertainment and service expenditure are used in this article to replace the education expenditure of rural residents that lead to calculate the proportion of rural residents' education expenditure.

b.   INDEPENDENT VARIABLE
The "two exemptions and one subsidy" policy will have a certain impact on my country's educational expenditures. Therefore, this article uses the "two exemptions and one subsidy" policy as a dummy variable to study the impact on rural residents' educational expenditures. If the "two exemptions and one subsidy" policy has been implemented in that year, the value is "1", otherwise, the value is "0"

c.   CONTROL VARIABLE

(1) THE POPULATION STRUCTURE
Since the amount of residents' education expenditure is closely related to our country's demographic structure, when the proportion of adolescents is large, the educational expenditure will also increase. Therefore, the population structure needs to be included in the explanatory variables.

According to the research standards of most scholars, this article chooses the dependency ratio of young children and elderly as the measure of population structure. Among them, the child-rearing ratio refers to the ratio of the population aged 0-15 years to the population aged 15-64 years. Elderly population dependency refers to the ratio of population aged over 64 yearsold to the population between 15 – 64 years.

(2) SAVINGS RATE

The amount of education expenditure of residents has a great relationship with income. In this article, the savings rate is used as an indicator to measure the size of income. The amount of savings is obtained by subtracting the difference between income and consumption, and the savings rate is expressed by the ratio of the amount of savings to total income. This indicator can more accurately reflect the status of household income.

(3) URBANIZATION RATE

The size of urbanization can also affect the size of residents' education expenditure. The higher the degree of urbanization may lead to higher status in economic level and education level of residents. This article uses the ratio of the number of rural residents to the total population of the areato express the degree of urbanization with reference to the research of domestic and foreign scholars.

(4) GDP GROWTH RATE

The consumption level of residents will be restricted by economic development. The higher level of economic development will lead to higher consumption level of residents. Therefore, this article introduces the GDP growth rate that relevant with education.

B.MODEL BUILDING

This article introduces the policy "two exemptions and one subsidy" as dummy variables, the population structure, savings rate, urbanization rate and GDP growth rate will be used as control variables to construct a regression model and construct a model as follows:

$$econs_{it} = \partial_0 + \partial_1 pol_t + \partial_2 yng_{it} + \partial_3 old_{it} + \partial_4 urban_{it} + \partial_5 save_{it} + \partial_6 ggdp_{it} + u_{it}$$

$econs_{it}$;the proportion of rural residents'education expenditures in province i in year t;

pol_t ; thedummy variable of the "two exemptions and one subsidy"policy (after policy implementation=1; before policy implementation = 0),

yng_{it} ;the dependency ratio of children and children in year t of province i; old_{it} represents the dependency ratio of the elderly in year t of province i.

$urban_{it}$; the urbanization rate of province i in year t;

$save_{it}$;the rural household savings rate of province i in year t;

$ggdp_{it}$; the GDP growth rate of province i in year t;

u_{it} ;the Random Disturbance.

C. ESTIMATION METHOD

To construct panel data, data collection was carried out from 1998 to 2017 at 31 provinces in China by using three methods: mixed regression, fixed effects regression and random effects regression, and uses Stata 14.0 measurement software to conduct empirical analysis on sample data.

IV. RESULT

A.DATA SOURCES AND DESCRIPTIVE STATISTICS

As the research sample, this article uses the annual panel data (1998 to 2017)of the provincial administrative regions in China. The data comes from the WWW. the National Bureau of Statistics. The missing data are supplemented by searching the statistical yearbooks of the provincial administrative regions. The proportion of education expenditure to rural residents; the dependency ratio of children and children; the dependency ratio of the elderly population; the urbanization rate; the savings rate of rural residents; the GDP growth rate. The relevant data are as shown in Table 1:

TABLE 1 DESCRIPTIVE STATISTICAL RESULT OF SAMPLE DATA

Variable type	Variable name	Variable symbol	Mean	Variance
Dependent variable	Proportion of rural residents' education expenditure	$econs_{it}$	9.710	2.867
Independent variable	"Two exemptions and one subsidy" policy	$save_{it}$	23.367	10.222
Control variable	Average savings rate of rural residents	pol_t	0.5	0.5
	Child dependency ratio	yng_{it}	26.563	8.388
	Older population dependency ratio	old_{it}	12.118	2.782
	Urbanization	$urban_{it}$	44.635	17.961
	GDP growth rate	$ggdp_{it}$	10.789	2.735

It can be seen from Table 1 that the data on the average saving rate and urbanization rate of rural residents fluctuates greatly, which indicates that the two indicators have a large gap between 1998 and 2017 and between provinces, which may be due to the gap in economic development. The data between the dependency ratio of children also fluctuate greatly, and the data of the dependency ratio of children and adolescents fluctuate more than that of the elderly population. This may be caused by the large demographic differences between provinces.

B.EMPIRICAL ANALYSIS AND RESULT INTERPRETATION

Firstly, the stationary test is performed on the data, and the unit root test is performed on the panel data using LLC. When there is neither a intercept term nor a trend term, the result shows that the P value is much less than 0.05. At the same time, combined with the judgment of the graph, it shows the panel data is stable. Secondly, using Stata-14 to regress the panel datainclude three methods, namely the mixed estimation model, the fixed effect model and the random effect model. The results are shown in Table 2.

TABLE 2 THE IMPACT OF THE "TWO EXEMPTIONS AND ONE SUBSIDY" POLICY ON RURAL RESIDENTS'EDUCATION EXPENDITURE

variable	（1）	（2）	（3）	（4）	（5）
	OLS_vce	FE_robust	FE_trend	FE_putong	RE_putong
pol	-3.367***	-2.755***	-3.273***	-2.755***	-2.895***
	(0.509)	(0.419)	(0.374)	(0.264)	(0.240)
yng	-0.161***	-0.101***	-0.0467	-0.101***	-0.111***
	(0.0353)	(0.0408)	(0.0604)	(0.0260)	(0.0242)
old	0.188	0.305***	0.223*	0.305***	0.291***
	(0.106)	(0.0771)	(0.0910)	(0.0497)	(0.0471)
urban	-0.0153	-0.0285	-0.0668	-0.0285*	-0.0239
	(0.0229)	(0.0198)	(0.0334)	(0.0131)	(0.0122)
save	-0.0246	-0.00417	-0.00629	-0.00417	-0.00362

	(0.0260)	(0.0272)	(0.0275)	(0.0133)	0.0121
ggdp	-0.228***	-0.211***	-0.154***	-0.211***	-0.218***
	(0.0712)	(0.0518)	(0.0442)	(0.0315)	(0.0304)
year			0.180		
			(0.122)		
常数项	17.11***	13.71***	-364.3	13.71***	14.08***
	（1.952）	（1.576）	（244.1）	（1.278）	（1.283）
N	620	620	620	620	620

Note: *, * *, * * *represent the significance level of 10%, 5%, and 1%, respectively. The regression coefficients in parentheses are the robustness standard errors

Regression test is performed on the model, and the F value in all regression results is far less than 0.05. Therefore, fixed and random effects models should be used for estimation. Afterwards, the xtoverid test results showed P value is less than 0.05. Therefore, the model should be estimated using a fixed effects model.

In Table 2, model (1) is a mixed regression of least squares method, model (2) is an individual fixed effect regression and corrects the heteroscedasticity that exists in the model, model (3) is an individual fixed effect with a time trend term, model (4)) is a general individual fixed effect, and model (5) is a random effect. Through the comparison of the regression results, it is found that the regression results of the province fixed effects are more in line with the actual situation, and when the robustness test is passed, the estimated results are more accurate.

It can be seen from Table 2 that the impact of the savings rate on the education expenditure of rural residents is not significant. The indicators of urbanization after adjusting for heteroscedasticity by individual fixed effects also become insignificant. However, before the correction was made, the urbanization index was significant and had a negative impact on rural residents' education expenditure.

In the least squares regression model, the coefficient of the "two exemptions and one supplement" policy dummy variable is -3.367, but after controlling the individual effect of the province, the coefficient becomes -2.755, and the impact on rural residents' education expenditure is significant, It shows that after controlling the provinces, the impact of the policy has declined, but from the results, the implementation of the policy has indeed reduced the expenditure of rural residents as a proportion of education.

From the perspective of the demographic structure, the increasing proportion of children and teenagers will reduce the education expenditures at rural families, indicating that policy "two exemptions and one subsidy" has a very obvious effect on the reduction of educational costs for rural families, which is beneficial to rural families. The cultivation of children, on the other hand, is also conducive to raising more children.

V. CONCLUSION AND RECOMMENDATION

A. CONCLUSION

(1)The "two exemptions and one subsidy" policy has reduced the proportion of rural residents' education expenditure in my country. It shows that the implementation of this policy has a direct effect on consumption structure of rural residents, which will help reduce rural residents' education expenditure and increase rural residents' income.

(2)The increase in the child support ratio will reduce the proportion of rural residents' education expenditure reducing the cost of raising children for rural residents, and will also promote the birth of second children, which is conducive to a better adjustment of my country's population structure.

B. RECOMMENDATION

a.CHINA SHOULD INCREASE FISCAL EXPENDITURE ON EDUCATION

Human capital investment is a very important factor for my country's sustained economic growth. Increasing fiscal expenditures on education will help expand the scale of human capital in my country. At the same time, rural residents will reduce the cost of education expenditures, which will help them. Increase the number of years of education. In addition, the state should vigorously support investment in vocational education and higher education, which is very important for the accumulation of human capital in our country.

b.IMPLEMENT DIFFERENTIATED EDUCATION PR EFERENTIAL POLI-CIES FOR DIFFERENT PROVI NCES

Different level of economic development will lead to different quality of education. In China, various economic developmentslead to differences such as the eastern region has the highest level of economic development and the western region has the lowest level of economic development.In the eastern region where the level of economic development is relatively high, the education level is also very high, and the overall educational level is higher than that in the western region. Therefore, to improve the level of education in the western region, China can formulate corresponding educational preferential policies according to local conditions, which will make the implementation effect of the policy more obvious and benefit rural residents' education even more.

c.IMPROVE CHINA'S POVERTY SECURITY SYSTEM AND EDUCATION EXPENDITURES

Due to the income gap between urban and rural areas, there are many differences in education expenditure between urban and rural areas in China.In order to enable rural residents to lift themselves out of poverty, it is an important task to strengthen farmers' education. Although China has been implementing a poverty alleviation strategy in recent years, after the completion of the strategy, how to ensure that the agricultural name is no longer anti-poverty is a very important issue. Therefore, from the research of this article, only by letting the farm name receive more education and master more survival skills can we achieve true poverty alleviation. Therefore, the public income should be further improved to narrow the gap of education between urban and rural residents in China.

d.VIGOROUSLY DEVELOP VOCATIONAL EDUCATION

Different from the training model of higher education, the training model of vocational education allows people to learn more professional skills in a shorter period of time. Therefore, China should further standardize the training mechanism of vocational education, give greater support to the development of vocational education, so that more people can receive vocational education, and enable junior high school graduates who have received nine years of compulsory education to master survival skills as well as Conducive to the accumulation of my country's professional talents and increase the accumulation of China's human capital.

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