Poverty and Subjective Poverty in Rural China

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Abstract

China is undergoing a campaign which is called "The Targeted Poverty Alleviation Policy" to eradicate extreme poverty from rural China until 2020. Though poverty in rural China has been studied intensively in different objective dimensions, little attention has been paid to poverty line settings and subjective poverty, which are hinged to the policy effects. In order to fill in the research gap, this study employs a nationally representative survey of rural households in 2016, to measure subjective poverty in rural China, and analyze the determinants as well. Our results indicate that the mean subjective poverty line of the rural households is 8297 yuan per capita, which is far higher than the national poverty line (2800 yuan). Statistically, 29% of the surveyed rural households who are not objectively poor feel subjectively poor. The objective poverty line cannot fully reflect the subjective poverty perception. Thus, how to reduce the subjective poverty perception could be a major policy agenda in rural China after 2020, when extreme poverty is no longer a problem.

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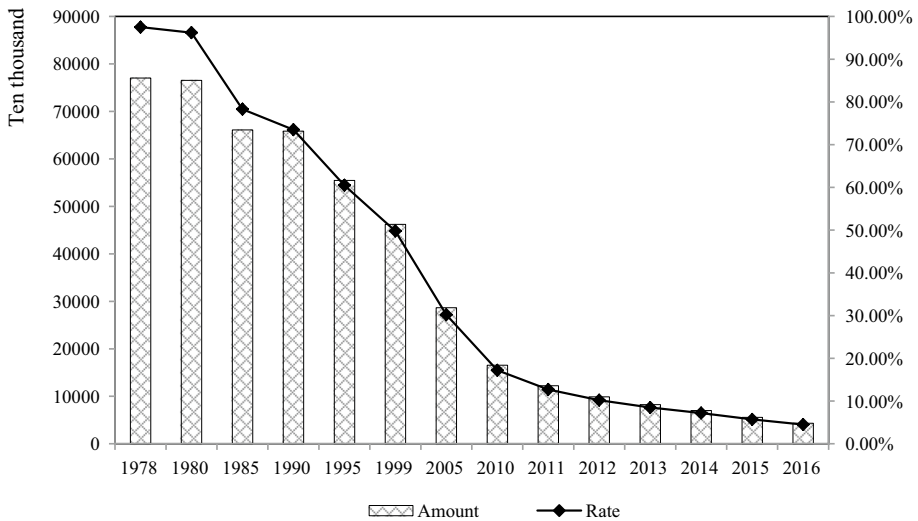
Fig. 1 The rural poverty of China[a]. Source: *Poverty Monitoring Report of Rural China (2017),* National Bureau of Statistics (NBS) of China[a] calculated by the national poverty line (2010)

1 Introduction

Poverty is globally regarded as a serious challenge, and poverty reduction is put in a prior position in the policy agenda of many developing countries. The United Nations' Sustainable Development Goals (SDGs) which was passed in 2015 put "No Poverty" as the first goal, specifically to "End poverty in all its forms everywhere" by 2030. China is no exception. Over the past 40 years, since the economic reform launched in 1978, rapid economic growth has lifted millions of people out of poverty in China. The Human Development Report in 2016 indicates that the global extreme poverty prevalence rate, measured by the poverty line of the US $1.90 per day, was less than 11% in 2013, and China has made a great contribution to the global poverty reduction efforts. Figure 1 shows, according to the national poverty line of China, the extreme poverty rate had been reduced from 97.5% in 1978 to 4.5% in 2016. Most of the poor live in rural areas and their livelihood depends on agriculture. In comparison, the urban residents in China could enjoy a well-established social security system that protects them from extreme poverty.

In response to SDGs, the Chinese government is currently undertaking a policy campaign which is so-called "The Targeted Poverty Alleviation", aiming to completely eliminate extreme poverty in rural China by 2020, 10 years ahead of the agenda of SDGs. According to China's National Bureau of Statistics, at the end of 2018, the extreme poverty rate has decreased to 1.7%. Given the strong leadership of the Chinese government, ongoing rapid economic growth and affluent fiscal resources, extreme poverty will be doubtlessly eliminated from rural China (Zhou et al. 2018).

Then, does it imply no poverty in rural China any more after 2020? Obviously, the answer is no. It is widely known that the definition of poverty has many dimensions. Even when absolute poverty can be eliminated in rural China, relative poverty still exists in the long run. In addition, poverty can not only be measured by a wealth status but also a subjective feeling. Mahmood et al. (2018) showed a difference between objective and subjective poverty in Pakistan, as they are determined by different factors.

Beyond promoting material wealth mainly measured by GDP, the Chinese government started to shed light on welfare improvement for its citizens (Zhou and Yu 2017). Along this line, the concept of "subjective poverty" is going to then move to the center of policy arena, as it is linked to those who have a perception of deprivation.

The main objective of this paper is to study subjective poverty in rural China and provide policy implications for poverty reduction in China beyond 2020 when absolute/extreme poverty is expected to be completely eliminated.

2 Background and Literature

2.1 Objective Poverty and Its Limitations

The most prevalent measurement of poverty is to set an objective absolute poverty line by the government, scholars or some organizations. Traditionally, absolute poverty measurement is based on a comparison of resources to needs. Thus, a family is identified as the poor if its resources short of the poverty threshold (Foster 1998). For instance, the most recent global poverty line recommended by the World Bank is US $ 1.90 expenditure per day per person (2011 purchasing power parity (PPP) price). Through the purchasing power parity (PPP), the global poverty line can be compared between different countries. However, the concept of the global poverty line has been strongly criticized by Deaton (2010). First, the poverty line is set by some experts which do not capture full information of the poor; Second, the prices collected by the International Comparison Program (ICP) are national average prices, which are different from those the poor face, as the expenditure patterns of the poor often differ the aggregate patterns; Third, each country (region) has different consumption patterns due to different food, culture, and traditions (Deaton 2010; Deaton and Dupriez 2011; Kim et al. 2018).

In addition to the global poverty line, many countries and areas are prone to set a national poverty line (an income or a consumption poverty line) based on their economic and social reality. The poverty lines are often adjusted according to economic development levels. Likewise, this type of traditional poverty line, mainly measuring absolute poverty, is very sensitive to different research designs. On the one hand, the household surveys, which are the main information sources for the poverty line setting, often cannot obtain accurate income or consumption information from the surveyed families. One typical example is the national sample survey of India in 1998. The Indian government replaced the traditional survey of 30-days food consumption with one of 7-days food consumption, which resulted in a sharp increase of food consumption expenditure per month. Due to the survey method change, the poor population in India reduced by nearly 175 million. Besides, according to Deaton (2001), the estimated deviation would be greater if we use the standard nutritional approach in which the poverty line is calculated by the costs of minimum nutrition requirement. Deaton and Drèze (2009) discussed the India poverty line by estimating the demand for calories, and the result showed that a family would prefer not to undertake heavy-labor work when the economic condition of the family improves, and hence the demand for calories declines. Thus, if the poverty line is based on calories demand, the incidence of poverty, on the contrary, would increase. On the other hand, if there are a lot of poor people live near the poverty line, a slight change in the poverty line would incur a great impact on the heads counting of the poor (Deaton and Heston 2010; Ravallion 2015). In addition, the cross-sectional survey data entail statistical errors. For instance, there is always

a difference between the household's consumption population and the survey population (Zhou and Yu 2014; Yu and Abler 2016). In most cases, the survey population is greater than the consumption population, and it leads to the underestimation of food consumption per capita.

Besides, the relative poverty line is also one of the most important objective poverty lines, which is widely used in developed countries. Compared with the absolute poverty line, the relative poverty line mainly focuses on the people who have some money but still no enough money to afford anything above the basics. Conventionally, it is useful for showing the percentage of the population who has been relatively left behind.

Apart from the several poverty measurements mentioned above, some literature focuses on the multidimensional poverty based on the "capability poverty" theory of Sen (1996) and presents a multidimensional poverty index that included education, health, living conditions, and so on (Alkire and Foster 2011; Alkire and Seth 2015). In practice, the multidimensional poverty index (MPI) is also widely used for measuring economic development levels globally, and the Human Development Index of the United Nations Development Programme (UNDP) is a typical application.

Income (consumption) or multidimensional poverty measurements belong to the category of objective poverty and are often measured by an objective poverty line threshold set by politicians, scholars or other authorized organizations. However, these objective poverty measures often ignore individual heterogeneities of wellbeing, result in large deviations in poverty headcounts, and have been subject to much criticism due to the aforementioned reasons.

Townsend (1979) further pointed out that the fundamental flaw of objective poverty is that it is difficult to scientifically define the non-material needs. Van Praag (1968) suggested that objective poverty is a patriarchal style measure, as the poverty line is decided by bureaucrats or experts, ignoring the real perception of the poor. Different people have a different understanding of poverty. Consequently, some who are not objective poverty may feel poor, while some who are objective poverty may not feel poor (Mahmood et al. 2018). Meanwhile, the information, provided from objective poverty, is very limited for policymakers particularly in an affluent society, which requires additional subjective information from the polls (Veenhoven 2002; Klasen et al. 2016). Hence, Deaton (2010) directly suggested that "why don't we just ask people?", since the people themselves have a very good idea of whether or not they are poor.

2.2 Subjective Poverty and Its Measures

There is a call for subjective poverty. The meaning of utility, a basic concept in economics, is defined as the subjective perception of self-welfare, but this is largely neglected in many studies, particularly in poverty measurement. Thus, some studies started to shed light on subjective poverty. They believe that social individuals possess the most fruitful information for themselves so that they can be the best persons who can judge whether they are in a poverty status or not. Combined with several drawbacks of objective poverty, the subjective poverty concept is beneficial to poverty identification and policy design (Ravallion and Lokshin 2002; Deaton 2010; Allen 2017; Zhou and Yu 2017; Deaton 2018). For example, Pradhan and Ravallion (2000) used the satisfaction of consumption to measure the subjective poverty status; Mahmood et al. (2018) compared the subjective poverty and objective poverty of Pakistan and found that the objective poverty cannot fully reflect the subjective poverty.

Empirically, subjective poverty is mainly identified through questionnaire surveys, evaluating social individuals for their welfare condition and minimum needs. According to the different identifications, there are three main types of questionnaire settings: namely, Income Evaluation Question (IEQ) (Van Praag 1968), Minimum Income Question (MIQ) (Goedhart et al. 1977) and Centre for Social Policy Question (CSP)[1] (Deleeck and Van den Bosch 1992). Early applications of the subjective poverty questions are mainly conducted in some Western industrial countries and regions. Van Praag et al. (1982) analyzed the subjective poverty line for 8 EU countries by the Income Evaluation Question (IEQ), and they found that the subjective poverty line of city residents was relatively higher than others. Danziger et al. (1984) and Colasanto et al. (1984) used the Minimum Income Question (MIQ) to study the subjective poverty of the United States, and the finding showed that the subjective poverty line was higher than the objective poverty line set by the government. Based on the Minimum Income Question (MIQ), Garner and Short (2005) proposed the Minimum Spending Question (MSQ) to study the subjective poverty of the United States with use of the data of Survey of Income and Program Participation (SIPP) and suggested that the subjective poverty line based on MIQ was higher than MSQ.

However, the subjective poverty in rural China has not been well studied though it is increasingly important from the policy perspective. There are a few exceptions or related studies in urban China. The earliest study is conducted by Gustafsson et al. (2004), who used the Minimum Income Question (MIQ) to investigate the subjective poverty in urban China and found that the subjective poverty line was close to the objective poverty line set by the Chinese government. Bishop et al. (2006) also used the Minimum Income Question (MIQ) to study the subjective poverty of different areas of China based on the data of the Chinese Household Income Project (CHIP). However, CHIP does not directly contain the Minimum Income Questions, and the MIQ used in their study was estimated through alternative indicators. Zuo and Yang (2013) discussed the implications of subjective poverty measurement for anti-poverty policy in China theoretically, suggesting that subjective poverty possesses both instrumental value and intrinsic value. However, there are no direct studies for subjective poverty in rural China, though more than 90% of the poor live in rural areas in China.

Currently, the poverty counting in rural China is still mainly based on an objective poverty line: the national poverty line. The current national poverty line is 3000 yuan net income per year (equals US \$2.3 per day[2]) set in 2016. The Chinese government is campaigning for eliminating absolute poverty by 2020. Beyond then, the subjective poverty measurement would be a better way to reflect the poverty perception of people in rural China. Therefore, in order to fill the gap in the research of subjective poverty, this study adopts the method of MIQ to measure subjective poverty in rural China and attempts to provide implications for poverty-reduction policies for China beyond 2020.

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[1] Income Evaluation Question is often defined as "Please try to indicate what you consider to be an appropriate amount for your household for each of the following cases. ___ very bad; ___ bad; ___ insufficient; ___ sufficient; ___ good; ___ very good". Minimum Income Question is defined as "What do you consider as an absolute minimum net income for a household as yours?" or "We would like to know an income amount below which you won't be able to make both ends meet". CSP question is defined as "Can you make ends meet with the actual net income of your household: with great difficulty; with difficulty; with some difficulty; rather easily; easily; very easily". The above definitions are provided by Filk & Van Praag (1991).

[2] Source: *Poverty Monitoring Report of Rural China (2017)*.

3 Data and Descriptive Statistics

3.1 Survey

The data used in this paper is a nationally representative survey of 2025 rural households in five provinces of China (Jiangsu, Sichuan, Shannxi, Jilin, Hebei) in 2016, namely China Rural Development Survey (CRDS), collected by the Center for Chinese Agricultural Policy, Chinese Academy of Science. The sample was selected as the following steps. First, we selected five provinces to represent the five major agro-ecological zones in China: Jiangsu is a representative sample province of the eastern coastal region; Sichuan is a sample of the south-west region; Shaanxi is a sample of the north-west region; Jilin is a sample of the north-east region; Hebei is a sample of the central region. Second, according to the per capita gross value of industrial output (GVIO),[3] we divided all counties into five groups for each province, and then randomly selected one from each group. Following this procedure, we randomly selected two towns from each county, and two villages from each town, and then selected 20 sample households from each village. Finally, we collected a nationally representative sample of 2025[4] households' information for the year of 2015.

3.2 Variables

How to measure subjective poverty is a key issue in this study. As aforementioned, there are three main methods to identify the subjective poverty for social individuals: IEQ, MIQ, CPS. Compared with IEQ and CPS methods, MIQ is more easily for the respondents to understand and more feasible in the survey. Due to these advantages, Minimum Income Question (MIQ) is widely used in the subject poverty research all over the world (e.g. Van Praag et al. 1982; Gustafsson et al. 2004; Bishop et al. 2006). Thus, this study adopts the Minimum Income Question to identify the subjective poverty in rural China. The survey question reads: "*Please offer an income amount below which you will feel poor for a household as yours*". We believe such a number offered by the respondents entails all information about their individual living condition, subjective well-being, and regional development level. This is a typical MIQ for estimating a subjective poverty line for this household.

In order to control for the effect of family size, the subjective poverty line per capita is computed by dividing the self-reported minimum income by the family size. Based on the mean value of individual subjective poverty standards, the subjective poverty status for each rural household can be identified: 1 if the per capita real income surpasses the subjective poverty standard and 0 otherwise. Besides, we could also define the depth of subjective poverty, which is computed by dividing the gap between the subjective poverty standard and per capita real income by the subjective poverty standard.[5] In addition, to reveal the difference between the subjective poverty and objective poverty, this study

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[3] The reason why we select the GVIO is that GVIO is one of the best indicators to reflect the standard of living and development potential as well as the income distribution within province (Rozelle 1996).

[4] Theoretically, the total sample should be 2000 households. However, during the tracing investigation, one village of Jiangsu province was dismantled into two villages, thus, the final village sample is 101. Besides, there are also 5 rural households was dismantled into two households. As a result, the household sample we finally get is 2025.

[5] The depth of subjective poverty can be expressed by the following equation: subjective poverty depth = (subjective poverty standard—per capita income)/subjective poverty standard.

measures the objective poverty by two means: the national poverty line (2800 yuan per year in 2015)[6] and the global poverty line (the US $1.90 per day[7]).

The explanatory variables mainly include the demographic and socioeconomic characteristics of the rural household (characteristics of the household head, characteristics of the household, human capital of the household, material capital of household, social capital and major irregular expenditure of the household). Specifically, (1) the characteristics of a household head includes head's age, head's gender, marital status, head's education level, whether the head is a village leader, and whether the head is a party member; (2) the characteristics of a household include per capita income, family size, number of elders, number of children and number of labor forces; (3) the human capital includes average health condition of family members, and average education level of family members; (4) the material capital includes land size, house value, productive asset value, and consumption asset; (5) the social capital is measured by two questions: "how many friends or relatives working in the government" and "how many friends or relatives working as managers in the enterprise"; (6) the major irregular expenditure of a household includes education expenditure, medical expenditure, gift expenditure, and wedding expenditure. Table 1 presents the definitions of all variables involved in this study.

3.3 Descriptive Statistics

Table 2 shows the descriptive statistics of the subjective poverty, the objective poverty, and other information of the rural household. It is clear that the prevalence rate of subjective poverty is 0.44, while the rates of objective poverty are 0.22 (National objective poverty line) and 0.20 (Global objective poverty line), respectively. It indicates that the objective poverty measurement cannot reflect the subjective poverty comprehensively in rural China. It highlights the importance of a study on subjective poverty in rural China.

Looking at characteristics of the household head, the average age of the household heads is 57.84 years old; 88% of the heads are male and married; Their average school years is only 6.84[8]; 16% of them are party member; only 8% are village leaders. This shows a general picture of the demography in rural China, and aging is a problem facing rural China.

Regarding the characteristics of the household, the average family size is 4.14. Both the average numbers of elders and children in a household are 0.64, which shows that 36% are dependent population. The average number of labor forces is approximately 2.66, but the average school year is only 6.73, slightly lower than the number of household head.

The house value is the most precious asset in rural China, while the medical expenditure and the gift expenditure are the two largest irregular expenditures. As for the social capital, there are more friends or relatives working in government organizations (1.02) than acting as managers in enterprises (0.47).

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[6] This is the national poverty line of 2015 in rural China, which is from "POVERTY MONITORING REPORT OF RURAL CHINA".

[7] Using Purchasing Power Parity (PPP) price, 1 $ equals 3.696 RMB. (Source: *Poverty Monitoring Report of Rural China (2017)*). Based on that, the global poverty line equals 2563 RMB approximately.

[8] 6.8 school years means almost household head only graduate from the primary school.

Table 1 Definition of Variables

Variables	Definition	Unit
Subjective poverty		
Subjective poverty standard	Log of (self-report minimum income/family size)	Yuan
Subjective poverty status	Whether per capita income surpass subjective poverty standard? Yes = 0, No = 1	Dummy
The depth of subjective poverty	(subjective poverty standard-per capita income)/subjective poverty standard	Ratio
Objective poverty		
Objective poverty _c	Below 2800 yuan per year is poor, above 2800 yuan is non-poor. Poor = 1, Non-poor = 0	Dummy
Objective poverty _g	Below $ 1.90 per day is poor, above $ 1.90 per day is non-poor. Poor = 1, Non-poor = 0	Dummy
Head's characteristics		
Head's age	The age of household head	Years
Head's gender	The gender of household hear Male = 1, Female = 0	Dummy
Marital status	Married = 1, otherwise = 0	Dummy
Head's education	School years of household head	Year
Village leader	Whether be a village leader? Yes = 1, No = 0	Dummy
Party member	Whether be a party member? Yes = 1, No = 0	Dummy
Household's characteristics		
Per capita income	Log of per capita income of household	Yuan
Family size	The number of family members	Person
Number of elders	The number of family members whose age above 65	Person
Number of children	The number of family members whose age below 15	Person
Number of labor forces	The number of family labor forces	Person
Human capital		
Health condition	Average health condition of family members (1 = very good, 2 = good, 3 = general, 4 = bad, 5 = very bad)	Category
Education level	Average school years of family members	Year
Material capital		
Land Size	Log of the area of cultivated land	mu
House value	Log of the value of the house	Yuan
Productive asset value	Log of value of the productive asset	Yuan

Table 1 (continued)

Variables	Definition	Unit
Consumption asset value	Log of the value of the consumption asset	Yuan
Social capital		
Government organization	How many friends or relatives working on the government organization?	Person
Enterprise's manager	How many friends or relatives working as a manager on the enterprise?	person
Major expenditure		
Education expenditure	Log of the total education expenditure	Yuan
Medical expenditure	Log of the total medical expenditure	Yuan
Gift expenditure	Log of the total gift expenditure	Yuan
Wedding expenditure	Log of the total wedding expenditure	Yuan

Table 2 Descriptive statistics of variables

Variables	Mean	SD	Min	Max
Subjective poverty				
Subjective poverty standard	8.77	0.74	5.81	10.82
Subjective poverty status	0.44	0.50	0.00	1.00
Depth of subjective poverty	−1.12	3.52	−71.00	1.00
Objective poverty				
Objective poverty _c	0.22	0.42	0.00	1.00
Objective poverty _g	0.20	0.40	0.00	1.00
Head's characteristics				
Head's age	57.84	10.26	23.00	88.00
Head's gender	0.88	0.32	0.00	1.00
Marital status	0.88	0.32	0.00	1.00
Head's education	6.84	3.42	0.00	16.00
Village leader	0.08	0.27	0.00	1.00
Party member	0.16	0.37	0.00	1.00
Household's characteristics				
Per capita income	8.64	1.66	0.00	11.71
Family size	4.14	1.83	1.00	13.00
Number of elders	0.64	0.80	0.00	3.00
Number of children	0.64	0.83	0.00	6.00
Number of labor forces	2.66	1.27	0.00	9.00
Human capital				
Health condition	2.15	0.85	1.00	5.00
Education level	6.73	2.61	0.00	15.67
Material capital				
Land size	1.02	2.49	−4.61	6.11
House value	2.21	1.55	−2.30	6.17
Productive asset	−3.84	2.97	−6.91	3.44
Consumption asset	0.09	1.68	−6.91	4.03
Social capital				
Government organization	1.02	3.14	0.00	70.00
Enterprise's manager	0.47	2.28	0.00	60.00
Major expenditure				
Education expenditure	2.37	4.05	0.00	12.56
Medical expenditure	7.40	2.68	0.00	13.35
Gift expenditure	7.13	2.49	0.00	11.00
Wedding expenditure	0.28	1.78	0.00	13.60

3.4 Discussions

The descriptive statistics clearly show some differences between subjective poverty and objective poverty. Table 3 reveals the subjective poverty lines in rural China which are compared with national and global poverty lines. The average subjective poverty standard for rural households is 8297 yuan, which can be used as a nationally representative *Subjective Poverty Line*, much higher than the national (objective) poverty line (2800 yuan) and

Table 3 Subjective poverty standard in rural China

Province	(1) Subjective poverty	(2) National poverty line	(1)/(2)	(3) Global poverty line	(1)/(3)	(4) Per capita income	(1)/(4)
Whole	8297.18	2800	2.96	2563	3.23	10,891.3	0.76
Jiangsu	9387.75	2800	3.35	2563	3.66	13,588.1	0.69
Sichuan	7813.68	2800	2.79	2563	3.04	8637.38	0.90
Shaanxi	7432.38	2800	2.65	2563	2.89	11,307.17	0.66
Jilin	8371.67	2800	2.99	2563	3.26	10,164.39	0.82
Hebei	8476.76	2800	3.03	2563	3.30	10,785.86	0.79

Table 4 Incidence of subjective poverty in rural China

Province	(1) Subjective poverty	(2) National poverty line	(1)–(2)	(3) Global poverty line	(1)–(3)
Whole	0.44	0.22	0.22	0.20	0.24
Jiangsu	0.37	0.17	0.20	0.15	0.22
Sichuan	0.49	0.27	0.22	0.25	0.24
Shaanxi	0.39	0.24	0.15	0.21	0.18
Jilin	0.53	0.24	0.29	0.21	0.32
Hebei	0.44	0.20	0.24	0.18	0.26

global (objective) poverty line (2563 yuan) respectively. Specifically, the subjective poverty line is about 2.96 and 3.23 times of the national and global poverty lines respectively. It implies that the objective poverty line in China and the World Bank cannot well mirror the welfare level of rural households in China, given continuously high economic growth rates in the past 40 years.

Table 3 also shows the subjective poverty standards for five sample provinces. We have a similar finding that the subjective poverty standards for all five provinces are all higher than the objective poverty lines. The gap of Jiangsu province is the largest though the differences within the five provinces are not substantial, all-around three times. It is possible that the Jiangsu province is the richest region within the five provinces.

Besides, we also compared the subjective poverty standard with real per capita net income for each province and the nation as well. The result shows that the average subjective poverty standard is lower than the average per capita income, about 76% of the average real income. It shows that the gap between the subjective poverty line and the real net income is correlated with the income level again. The higher the income is, the larger the gap is. The largest gaps are from Shaanxi and Jiangsu, with relatively higher income.

Once we have a nationally representative *Subjective Poverty Line*, we can use it to count the subjective incidents. Table 4 compares the incidences of subjective poverty and objective poverty and their difference in rural China as well. Overall, the prevalence rate of subjective poverty is 0.44, which means that almost half of rural households feel that they are in subjective poverty status. However, the prevalence rate of objective poverty are only 0.22 based on the national poverty line and 0.20 based on the global poverty line, respectively. It is clear that the prevalence of subjective poverty is twice as much as objective

Table 5 Subjective poverty of the objective poor in rural China

Group	Subjective poor		Subjective poverty standard	Subjective poverty standard > Objective line			Subjective poverty standard < Objective line		
	Obs	Percent		Obs	Percent	Mean	Obs	Percent	Mean
Objective poverty based on national poverty line (Poor Obs = 449; Non-poor Obs = 1576)									
Poor	434	96%	7876.87	369	82%	9155.61	80	18%	1978.65
Non-poor	467	29%	8416.92	–			–		
Objective poverty based on global poverty line (Poor Obs = 417; Non-poor Obs = 1608)									
Poor	405	97%	80,804.30	340	84%	9245.02	65	16%	2012.84
Non-poor	496	31%	12,293.81	–			–		

poverty with the national poverty line, indicating that even if China eliminates the absolute poverty by 2020, there are still plenty of rural households who fall into the subjective poverty.

After analyzing the subjective poverty for five provinces, we can draw a similar conclusion: there are more rural households in the status of subjective poverty than in the objective poverty. The gaps between the prevalence of subjective poverty and objective poverty for Jilin province are the largest (0.29 and 0.32, respectively for the national and global poverty lines).

Table 5 specifically sheds light on the comparison between the poor households differently measured by the subjective and objective poverty standards. This would offer us a deeper understanding of the subjective poverty in rural China. As Table 5 shows, 449 rural households fall into the objective poverty based on the national poverty line, and 1576 households are non-poor. Among the 449 objective poor, 434 households also feel subjectively poor, about 96% of the objectively poor, which means that nearly all the objective poor fall into the subjective poor with a few exceptions. As the national poverty line is relatively low, it is comprehensible that these extreme poor subjectively feel they are poor as well. In this case, the target of the objective poor is also an ideal way to reduce the subjective poverty, particularly for the extremely poor people.

Nevertheless, 467 rural households who are not identified as the objective poor fall into the subjective poverty status, sharing 29% of the non-poor. Similar with Mahmood et al. (2018), it reveals a reality that plenty of rural households who feel subjectively poor are not identified as the poor with the national poverty line. Thus, if we only focus on the objective poor, we ignore a large part of the subjective poor. A similar conclusion can be drawn from the objective poverty line measured by the global poverty line. Specifically, 97% of the objective poor who fall into the subjective poverty status while 31% of the non-objective-poor feel that they are in the subjective poverty status. Such a finding once again highlights the importance of the concept of subjective poverty for poverty reduction in rural China beyond 2020.

Subjective poverty is measured by a subjective statement so that each individual has a different understanding of the subjective poverty line. Table 5 also compares the subjective poverty standards for the objective poor and non-poor. The subjective poverty standard for the objective poor is 7876.87 yuan, while the standard for the objective non-poor is 8416.92 yuan when we use the national poverty line. Clearly, the objective non-poor have

Table 6 Comparison between the subjective poor and the non-subjective poor

Variables	Non-poor		Poor		Mean diff
	Obs	Mean	Obs	Mean	
Head's characteristics					
Age	1124.00	57.20	901.00	58.63	− 1.43***
Gender	1124.00	0.88	901.00	0.88	0.00
Marital status	1124.00	0.90	901.00	0.87	0.03**
Education	1124.00	7.03	901.00	6.60	0.43***
Village leader	1124.00	0.07	901.00	0.08	− 0.01
Party member	1124.00	0.16	901.00	0.16	0.01
Household's characteristics					
Per capita income	1124.00	9.50	901.00	7.55	1.95***
Family size	1124.00	4.49	901.00	3.72	0.77***
Number of elders	1124.00	0.56	901.00	0.74	− 0.18***
Number of children	1124.00	0.70	901.00	0.57	0.13***
Number of labor forces	1124.00	3.03	901.00	2.20	0.83***
Human capital					
Health condition	1124.00	2.03	901.00	2.30	− 0.27***
Education level	1124.00	7.02	901.00	6.37	0.65***
Material capital					
Land Size	1124.00	1.35	901.00	0.60	0.76***
House value	1124.00	2.29	901.00	2.10	0.20***
Productive asset	1124.00	− 3.74	901.00	− 3.97	0.22*
Consumption asset	1124.00	0.35	901.00	− 0.23	0.58***
Social capital					
Government organization	1124.00	1.06	901.00	0.97	0.10
Enterprise's manager	1124.00	0.45	901.00	0.49	− 0.04
Major irregular expenditure					
Education expenditure	1124.00	2.33	901.00	2.43	− 0.10
Medical expenditure	1124.00	7.24	901.00	7.60	− 0.36***
Gift expenditure	1124.00	7.29	901.00	6.94	0.35***
Wedding expenditure	1124.00	0.37	901.00	0.17	0.20**

*$p<0.1$, **$p<0.05$, ***$p<0.01$

a higher subjective poverty standard. A similar result is found when we use the global poverty line.

Furthermore, there is an asymmetry between subjective and objective poverty. In our sample, 449 households are identified as the objective poor according to the national poverty line. Within these 449 households, 369 (or 82%) confirmed that they were also the subjective poor, and the rest 80 (18%) thought they did not belong to the subjective poor. A similar result could be yielded even we use the global poverty line. There are some poor who are even below the national/global poverty line, but they do not think they are poor. It is possible that the poverty could be transitory, or they live a simple life.

In order to further investigate the characteristics of the subjective poor, Table 6 presents the comparison of the demographic and socioeconomic characteristics between the subjective poor and non-poor. From the last column of Table 6, we can find that there are some

significant differences in the demographic and socioeconomic characteristics between the subjective poor and non-poor. In particular, for the subjective non-poor, household head's age is younger and their education level is higher than the subjective poor. In terms of the characteristics of the household, per capita income of the subjective non-poor is higher than the subjective poor. Moreover, there are more family members, children, and labor forces in the subjectively non-poor households, while the (subjective) poor households have more elders to support. The human capital condition of the subjective non-poor is better than the subjective poor, having more healthy members and higher education experience. The subjective non-poor households also have a higher value of the house, productive asset, consumption asset, and more land size than the subjective poor. Regarding the major irregular expenditure, the subjectively non-poor households spend more money on the gift and wedding expenditures, while the subjectively poor households spend more money on the medical expenditure. It shows that medical insurance is not well established in rural China, and the poor suffer from medical expenditure due to extremely serious diseases. Finally, we do not find a significant difference between the subjective non-poor and poor households in the aspect of social capital.

In the next section, we are going to exercise econometric models to study the determinants of subjective poverty in rural China.

4 Empirical Model

4.1 Econometric Model

In the previous sections, we designed a questionnaire to reveal each household's subjective poverty line and use the average value as the representative subjective poverty line for the nation to identify the subjective poverty status for each household. In order to study the determinants of subjective poverty in rural China, econometric models are specified as follows:

$$Log(SS_i) = \alpha_1 + \sum_{j=1}^{6} \beta_j HD_i + \sum_{j=1}^{5} \gamma_j HH_i + \sum_{j=1}^{2} \delta_j HC_i + \sum_{j=1}^{4} \theta_j MC_i + \sum_{j=1}^{2} \rho_j SC_i + \sum_{j=1}^{4} \varphi_j ME_i + \varepsilon_{1i}$$
$$(1)$$

$$SP_i = \alpha_1 + \sum_{j=1}^{6} \beta_j HD_i + \sum_{j=1}^{5} \gamma_j HH_i + \sum_{j=1}^{2} \delta_j HC_i + \sum_{j=1}^{4} \theta_j MC_i + \sum_{j=1}^{2} \rho_j SC_i + \sum_{j=1}^{4} \varphi_j ME_i + \varepsilon_{2i}$$
$$(2)$$

$$SD_i = \alpha_1 + \sum_{j=1}^{6} \beta_j HD_i + \sum_{j=1}^{5} \gamma_j HH_i + \sum_{j=1}^{2} \delta_j HC_i + \sum_{j=1}^{4} \theta_j MC_i + \sum_{j=1}^{2} \rho_j SC_i + \sum_{j=1}^{4} \varphi_j ME_i + \varepsilon_{3i}$$
$$(3)$$

In Eqs. (1), (2), and (3), subscript i denotes the i th household. Specifically, Eq. (1) is to study the determinants of subjective poverty standard, and SS denotes the subjective poverty standard reported by each rural household; Eq. (2) is to study the determinants of subjective poverty status, and SP denotes the subjective poverty status of the rural household measured by whether the real income is higher than the nationally representative *Subjective Poverty Line or not (0-higher, 1-lower)*; And Eq. (3) is to study the determinants of

the depth of subjective poverty, and SD denotes the depth of subjective poverty of the rural household.

In terms of the independent variables, HD, HH, HC, MC, SC, and ME respectively stand for the characteristics of household head, the characteristics of household, human capital of the household, material capital, household social capital, and major irregular expenditures (including education expenditure, medical expenditure, gift expenditure, and wedding expenditure). The explanations for all the related variables are reported in Table 1. The terms ε are error terms following normal distributions with zero mean.

4.2 Estimation Method

As SS (Subjective Poverty Standard) and SD (Subjective Poverty Depth) are continuous variables, OLS can be used for estimating Eqs. (1) and (3). In contrast, for Eq. (2), SP is a dummy variable that denotes whether the rural household is subjectively poor (SP = 1 if the rural household is subjectively poor; SP = 0 if the household is not subjectively poor) with use of the subjective poverty line. Thus, a Probit model is used in the estimation of Eq. (2). Besides, as the data used in this study is cross-sectional, we report the robust standard errors to remedy the heteroscedasticity problem.

We also used the variance inflation factor (VIF) to check multicollinearity, and find that it is not an issue in the regressions (Mason et al. 1989).

5 Empirical Results and Discussion

5.1 Determinants of the Subjective Poverty Standard

Table 7 shows the results of the determinants of subjective poverty standard. Model 1 is the estimation of Eq. (1), indicating that the head's age, per capita income, family size, human capital, material capital, and major irregular expenditure play significant effects on the subjective poverty standard reported by the rural household. However, the subjective poverty standard might be affected by regional policies, customs, cultures, and geographical environments. To remedy this problem, we add county dummy variables in Model 2 to control for the unobservable regional effect. The two results are very similar, and the following discussion is mainly based on the estimation results from Model 2.

First, the coefficients for the head's age and the family size within the category of demographic variables are statistically significant at 1%, and respectively are −0.007 and -0.164. It implies that old household heads and large family size are less likely to feel subjectively poor. Specifically, when the age of a household head increases by one year, the subjective poverty line decreases by 0.7%. It is possible that a young family demands more money, e.g., for building a new house and supporting the education of children. When the household size increases by one member, the subjective poverty line decreases by 16.4%, perhaps due to the consumption of family public goods.

Second, the coefficient for per capita income is 0.022 and statistically significant at 5%, indicating per capita income of a household would increase the subjective poverty standard significantly. It is easy to understand that the more money a rural household has, the higher life quality they pursue. As a result, the subjective poverty standard obviously increases. Much literature points out that per capita income is an important

Variables	Model 1		Model 2	
	Coefficient	t value	Coefficient	t value
Head's characteristics				
Age	−0.006***	−2.85	−0.007***	−3.28
Gender	−0.021	−0.41	−0.034	−0.65
Marital status	−0.051	−0.93	−0.024	−0.42
Education	0.003	0.41	0.001	0.15
Village leader	0.018	0.31	0.030	0.50
Party member	0.023	0.51	0.019	0.41
Household's characteristics				
Per capita income	0.024**	2.28	0.022**	2.00
Family size	−0.180***	−8.16	−0.164***	−7.33
Number of elders	−0.010	−0.37	−0.020	−0.76
Number of children	0.027	0.75	0.006	0.17
Number of labors	0.028	1.23	0.013	0.60
Human capital				
Health condition	−0.008	−0.38	−0.009	−0.39
Education level	0.022**	2.41	0.024**	2.58
Material capital				
Land Size	−0.011	−1.44	−0.011	−1.36
House value	0.031***	2.75	0.036***	3.06
Productive asset	0.009	1.52	0.007	1.03
Consumption asset	0.085***	6.64	0.076***	5.52
Social capital				
Government organization	−0.010*	−1.84	−0.009	−1.64
Enterprise's manager	0.013*	1.90	0.013*	1.88
Major irregular expenditure				
Education expenditure	0.009**	2.17	0.008*	1.75
Medical expenditure	0.024***	3.78	0.021***	3.28
Gift expenditure	0.012*	1.81	0.017**	2.31
Wedding expenditure	0.001	0.11	0.001	0.13
Other information				
Constant	9.151***	48.59	9.235***	43.12
County fixed effect	No		Yes	
Observations	2025		2025	
F test	15.98***		9.46***	

Table 7 Determinants of the subjective poverty standard

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

factor that affects the subjective poverty standard (Kingdon and Knight 2006; Posel and Rogan 2014; Reyes-García et al. 2016; Mahmood et al. 2018).

The socioeconomic characteristics also significantly affect the subjective poverty standard. Particularly, the coefficient for the average education level of family members is 0.024 and statistically significant. It can be explained by the fact that a person with more education often has a higher expectation of good life quality. Similarly, the

material capital, the house value, and the value of consumption assets also enhance the subjective poverty standard significantly.

For the variables related to major irregular expenditures, the coefficients for almost all variables are positive and significant, specifically including education expenditure, medical expenditure, and gift expenditure. One plausible interpretation is that, due to imperfections of the social security system in rural China, rural households face high education and medical expenditures, and they wish a high income to compensate for these necessary expenditures. As a result, it increases the subjective poverty standard directly. Besides, in the traditional culture of rural China, when one's friends or relatives celebrate a variety of social events, such as wedding, funeral, childbirth and so on, it is conventional to give cash-gift to express their blessing, which has occupied a large chunk of the rural household income (Chen 2014). Thus, gift expenditure also could increase the subjective poverty standard significantly. In fact, the coefficient for the medical expenditure is 0.021, greater than the other expenditures. Clearly, the medical expenditure plays the most important role in the subjective poverty standard within the category of irregular expenditures.

From what we have discussed above, we can draw a conclusion that, except for the demographic characteristics, such as age, family size, and education, subjective poverty standards are linked to wealthy levels and irregular expenditures of a family. On the one hand, the wealthy level, measured by per capita income and house value, etc. can reflect the life quality, and it is comprehensible that wealthier families are expected to have high subjective poverty lines. On the other hand, irregular expenditures are linked to imperfections of the social security system in rural China (mainly medical and education expenditure), and the traditional culture of cash gift. The government should enhance the coverage of medical insurance, increase the education expenditure, and change the culture of cash gift, to reduce insecurity and enhance life satisfaction for rural households.

5.2 Determinants of the Subjective Poverty Status

We now use the average subjective poverty lines as the representative subjective poverty lines to categorize the subjective poverty status. If the per capita income of the household surpass the representative subjective poverty line, they are categorized as subjectively non-poor households (0 in the Probit model); otherwise, they are subjectively poor households (1 in the Probit model). Table 8 presents the estimation results for Eq. (2) to study the determinants of the subjective poverty status. Similarly, Model 1 does not control for regional effects, while Model 2 does. The estimation results of Model 2 show that the coefficients for head's age, head's gender, family size, and per capita income are negative and significant, while the coefficients for human capital, material capital, social capital, and major irregular expenditures are positive and statistically significant.

Specifically, the older the head is, the less chance the household falls into subjective poverty. Male heads seem to be beneficial to the subjective well-being of the rural household. Importantly, the coefficient for per capita income is negative and statistically significant, and it suggests that the growth of per capita income for rural households is an effective way to alleviate the subjective poverty, which is consistent with the findings of the current literature (Stevenson and Wolfers 2013; Mahmood et al. 2018).

Furthermore, rural households with higher education level, more material capital, and more social capital are more likely to fall into the status of subjective poverty. Perhaps these aspects increase their expectation for better life quality. When they did not reach it, they are more likely to feel subjectively poor.

Table 8 Determinants of the subjective poverty status

Variables	Model 1		Model 2	
	Coefficient	t value	Coefficient	t value
Head's characteristics				
Age	−0.010[*]	−1.90	−0.010[*]	−1.92
Gender	−0.216	−1.56	−0.265[*]	−1.87
Marital status	−0.005	−0.03	0.081	0.55
Education	−0.015	−0.97	−0.022	−1.29
Village leader	0.043	0.29	0.028	0.18
Party member	0.036	0.32	0.021	0.19
Household's characteristics				
Per capita income	−1.649[***]	−22.63	−1.701[***]	−22.99
Family size	−0.224[***]	−3.86	−0.227[***]	−3.83
Number of elders	0.047	0.73	0.049	0.73
Number of children	−0.009	−0.10	−0.014	−0.15
Number of labors	−0.039	−0.64	−0.053	−0.86
Human capital				
Health condition	−0.063	−1.10	−0.055	−0.88
Education level	0.068[***]	2.92	0.074[***]	3.06
Material capital				
Land Size	−0.017	−0.87	−0.027	−1.30
House value	0.069[**]	2.32	0.091[***]	2.87
Productive asset	0.050[***]	3.44	0.041[***]	2.58
Consumption asset	0.115[***]	3.39	0.124[***]	3.36
Social capital				
Government organization	0.001	0.11	0.006	0.51
Enterprise's manager	0.044[***]	2.72	0.049[***]	3.00
Major irregular expenditure				
Education expenditure	0.004	0.34	0.001	0.13
Medical expenditure	0.039[**]	2.38	0.032[*]	1.82
Gift expenditure	0.011	0.59	0.019	0.98
Wedding expenditure	−0.021	−1.04	−0.027	−1.22
Other information				
Constant	15.714[***]	19.95	16.306[***]	19.30
County fixed effect	No		Yes	
Observations	2025		2025	
Wald Chi2	635.36[***]		679.81[***]	

*p<0.1, **p<0.05, ***p<0.01

Moreover, regarding the major irregular expenditures of the rural household, only the coefficient for medical expenditure is positive and significant, meaning that medical expenditure worsens the subjective poverty status. Mainly due to the imperfection of medical insurance, many households have to pay a large chunk of medical expenditures particularly for extremely serious diseases by themselves. The results are consistent with the findings in Sect. 5.2.

Table 9 Determinants of the poverty depth of the subjective poor

Variables	Model 1		Model 2	
	Coefficient	*t* value	Coefficient	*t* value
Head's characteristics				
Age	0.001	0.95	0.001	1.14
Gender	0.052**	2.00	0.048*	1.83
Marital status	−0.031	−1.32	−0.032	−1.34
Education	0.004	1.12	0.004	1.20
Village leader	0.011	0.40	0.019	0.72
Party member	−0.004	−0.18	−0.006	−0.29
Household's characteristics				
Per capita income	−0.102***	−17.10	−0.100***	−17.00
Family size	−0.023**	−2.23	−0.022**	−2.07
Number of elders	−0.018	−1.45	−0.018	−1.37
Number of children	0.009	0.51	0.008	0.46
Number of labors	0.003	0.33	−0.001	−0.07
Human capital				
Health condition	0.022**	2.07	0.015	1.36
Education level	−0.005	−1.02	−0.002	−0.34
Material capital				
Land Size	−0.007*	−1.94	−0.008**	−2.34
House value	0.001	0.11	−0.001	−0.15
Productive asset	−0.000	−0.07	−0.001	−0.31
Consumption asset	0.020***	3.16	0.017**	2.51
Social capital				
Government organization	−0.002	−1.11	−0.003*	−1.75
Enterprise's manager	0.001	0.49	0.001	0.26
Major irregular expenditure				
Education expenditure	0.006***	2.71	0.005**	2.38
Medical expenditure	0.005*	1.66	0.007**	2.15
Gift expenditure	0.000	0.08	0.002	0.47
Wedding expenditure	0.006	1.33	0.006	1.20
Other information				
Constant	1.252***	13.81	1.225***	11.83
County fixed effect	No		Yes	
Observations	901		901	
F test	23.85***		14.60***	

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

5.3 Determinants of the Depth of Subjective Poverty

Finally, this study discusses the determinants of the depth of subjective poverty, specifically for the subsample of the subjective poor. Table 9 shows the estimation results of Eq. (3). Similarly, we report both results without and with control for regional fixed effect, respectively in Model 1 and Model 2. From the estimated result of Model 2, we can find

that, for the subjective poor, the coefficient for per capita income is negative and statistically significant, and it implies that the growth of per capita income can alleviate the subjective poverty depth for the subjective poor.

Meanwhile, the depth of subjective poverty decreases as the rural households have more family members or more friends and relatives working in government organizations. Besides, the land size of the households plays a negative effect on the subjective poverty depth, and it indicates that the households with more cultivated land are more likely to alleviate the subjective poverty depth. Agricultural land is a very important asset for rural households, and it could help reduce poverty, particularly the extreme poverty.

On the other hand, the coefficients for head's gender and the value of the consumption asset are positive and statistically significant, and it suggests that male head and accumulation of the consumption asset would worsen the subjective poverty depth, perhaps males have more expenditure on addicted goods, such as cigarettes and alcohol.

It is particularly important to point out that education and medical expenditures could exacerbate the subjective poverty specifically for the subjective poor. Once again, as we mentioned above, under the context of the imperfect social security system in rural China, education and medical expenditures are two major heavy financial burdens for the rural households, especially for the poor.

5.4 Robustness Check

In this part, we further check the robustness of empirical results by excluding 5% of the extreme values of subjective poverty standard, and the estimation results are reported in Table 10. Specifically, model 1 is the results of Eq. (1), while model 2 and model 3 are the results for Eqs. (2) and (3), respectively. It is clear that these results are consistent with previous empirical results.

6 Conclusions and Policy Implications

Poverty is also a subjective feeling. On a background that China promises to eliminate absolute poverty by 2020, the concept of subjective poverty should become increasingly important for poverty policymaking in rural China. However, little attention has been paid to the research of the subjective poverty in rural China. We employ a nationally representative survey of rural households in China, and particularly shed light on the situation of subjective poverty in rural China and then analyze the determinants.

The results show that the mean subjective poverty standard for the rural households is 8297 yuan per capita, much higher than the national poverty line and the global poverty line. It implies that the objective poverty line cannot reflect the subjective poverty comprehensively. 82% of the objective poor in rural China report higher subjective poverty standards or feel subjectively poor, while 29% of the rural household who are not the objective poor feel subjectively poor.

The results of our empirical analysis show that the demographic and socioeconomic characteristics have significant effects on the subjective. Specifically, on the one hand, the wealthy level of a household, measured by per capita income and house value, etc. can reflect the life quality. It is understandable that wealthier families expect a better life quality so that a high subjective poverty line for them is comprehensible. On the other hand, irregular expenditures due to imperfections of social security system in rural China (mainly

Table 10 Robustness check

Variables	Model 1	Model 2	Model 3
Head's characteristics			
Age	-0.006^{***}	-0.011^{*}	0.001
	(-3.24)	(-1.88)	(0.70)
Gender	0.011	-0.213	0.056^{**}
	(0.23)	(-1.33)	(2.04)
Marital status	-0.070	0.091	-0.040
	(-1.46)	(0.54)	(-1.60)
Education	-0.001	-0.021	0.003
	(-0.15)	(-1.15)	(0.77)
Village leader	0.031	0.024	0.033
	(0.60)	(0.14)	(1.18)
Party member	0.016	0.026	-0.022
	(0.39)	(0.21)	(-0.94)
Household's characteristics			
Per capita income	0.030^{***}	-1.949^{***}	-0.108^{***}
	(3.07)	(-22.04)	(-16.15)
Family size	-0.110^{***}	-0.198^{***}	-0.023^{**}
	(-5.83)	(-3.02)	(-2.13)
Number of elders	-0.003	0.127^{*}	-0.005
	(-0.12)	(1.72)	(-0.40)
Number of children	0.008	-0.010	0.021
	(0.26)	(-0.10)	(1.22)
Number of labors	0.011	-0.041	0.002
	(0.57)	(-0.59)	(0.17)
Human capital			
Health condition	0.006	-0.032	0.020^{*}
	(0.28)	(-0.47)	(1.75)
Education level	0.014^{*}	0.052^{**}	-0.002
	(1.76)	(2.00)	(-0.36)
Material capital			
Land Size	-0.007	-0.028	-0.009^{**}
	(-1.07)	(-1.19)	(-2.35)
House value	0.014	0.060^{*}	-0.004
	(1.33)	(1.74)	(-0.68)
Productive asset	0.006	0.042^{**}	0.000
	(1.04)	(2.41)	(0.11)
Consumption asset	0.064^{***}	0.132^{***}	0.018^{***}
	(5.29)	(3.28)	(2.60)
Social capital			
Government organization	-0.006	0.021	-0.002
	(-1.33)	(1.63)	(-1.59)
Enterprise's manager	0.012^{**}	0.046^{*}	-0.001
	(2.17)	(1.95)	(-0.56)
Major irregular expenditure			
Education expenditure	0.008^{**}	0.002	0.006^{***}
	(2.18)	(0.12)	(2.78)
Medical expenditure	0.015^{***}	0.019	0.004
	(2.79)	(1.03)	(1.30)
Gift expenditure	0.011^{**}	0.010	0.001
	(1.98)	(0.50)	(0.42)

Table 10 (continued)

Variables	Model 1	Model 2	Model 3
Wedding expenditure	0.001	− 0.024	0.007
	(0.12)	(− 0.95)	(1.40)
Other information			
Constant	9.016***	18.568***	1.304***
	(49.78)	(19.45)	(11.94)
County fixed effect	Yes	Yes	Yes
Observations	1872	1872	822

t statistics in parentheses

$*p < 0.1$, $**p < 0.05$, $***p < 0.01$

medical and education expenditures) and traditional culture of cash gift, are also positively correlated with the subjective poverty lines.

This study offers some policy implications as follows: First, compared with the objective poverty line, the measurement of subjective poverty is a more flexible method to reflect the poverty perception particularly when extreme poverty is not an important issue, such as in China. This will be increasingly important for China's poverty and welfare policymaking particularly beyond 2020 when extreme poverty is eliminated. Second, medical expenditure and education expenditure are found to play important roles in subjective poverty in rural China. The government should enhance the coverage of medical insurance, increase the education expenditure, and change the culture of cash gift, to reduce insecurity and enhance life satisfaction for rural households.[9] Third, the subjective poverty standard is correlated with income level, and it should increase gradually if there is a national subjective poverty line. In order to evaluate the efficiency of the policies more scientifically, it is necessary to integrate subjective poverty into the policy evaluation system and combine both subjective and objective poverty to show a full picture of poverty reduction in rural China. Fourth, sustainable growth of income is an effective way to alleviate both subjective and objective poverty and to increase the life satisfaction of the citizens (Zhou and Yu 2017).

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[9] Chinese government has issued several regulations for the culture of cash gift. For instance, No. 1 Central Document of 2018 has proposed the policies to restrict the culture of cash gift.

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