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The Poverty Reduction Effect of Economic Growth: How Does China's Economic Growth Impact the Population Size of the Urban Livings of Minimum Living Allowance?

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Abstract: Poverty reduction is often seen as an easy solution to achieve economic growth. It is related to economic growth, as it reflects the improvement of the minimum standard of living and the rapid reduction of the impoverished population. In order to evaluate the effect of poverty reduction on China's economic growth in urban areas, this paper uses the proportion of urban subsistence allowances in the urban population and economic growth in each urban area as research variables. It presents the effect of poverty reduction in urban areas and regional differences. The study concludes that economic growth, income distribution, and education level have significantly reduced the proportion of the impoverished population. Looking at different time periods, the effect of poverty reduction after 2012 is more effective than before 2012, possibly because the government pays more attention to poverty reduction. From a regional perspective, the economic growth in the eastern region has a more significant impact on poverty reduction than any other region, which may be consistent with the different policy applications in each region.

Keywords: poverty reduction, economic growth, poverty rate, minimum living allowance

1. Introduction

Poverty has always been an issue in human society. It represents that people are unable to meet their basic living needs, but also shows an obstacle to economic development. In 2015, all member states of the United Nations adopted the 2030 agenda for Sustainable Development. Eliminating poverty was adopted as the first agenda topic [1]. The latest "Poverty and Shared Prosperity 2022" report by the World Bank predicts that the number of people living on less than $2.15 per day (that is the latest extreme poverty line) is nearly 7 percent of the world's population---about 600 million people by 2030, and the world is unlikely to meet the goal of eliminating the poverty. The report indicates that the year 2020 should be marked as a turning point in the history of poverty reduction because it was the biggest setback to global poverty in decades [2].

Since China implemented the reform and opening-up policy, it has achieved remarkable success in poverty reduction, as expressed by its rapid economic growth and social development. This achievement is not only reflected in eliminating the poverty completely in rural areas in 2020 but also in the great improvement of minimum living standard for the urban areas. According to the latest data from the China National Bureau of Statistic, the number of urban residents receiving minimum living

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allowances in 2021 was 7.378 million, compared to 22.468 million in 2003, representing a decrease of 15.09 million in the total amount of urban subsistence allowances. Over the past 20 years, the total number of people receiving minimum living allowances in the country has decreased by nearly 70%[1]. This is all due to the poverty reduction policies.

This paper will address the effect of China's economic growth on the population size of urban living who receive the minimum living allowances by analyzing the provincial panel data. Realizing the relationship between economic growth and the size of the urban minimum living allowance population is essential for understanding poverty reduction policies. In section 2, the literature review will define absolute poverty, relative poverty, and the minimum living allowance. The domestic and international research papers on the impacts of economic growth on poverty will be discussed. In section 3, the data sources of this study will be introduced. The model and variables will be explained. The section 4 will present the regression model of economic growth and the population of the urban living minimum standard rate. The following would be examinations of the mediating mechanism on net exports and heterogeneity in different regions and time periods. The last section will be a summary.

2. Literature Review

Poverty is discussed in terms of two concepts: absolute poverty and relative poverty. The current poverty reduction policies mainly focus on eliminating absolute poverty. It will eventually shift towards eliminating relative poverty, when the issue of absolute poverty is overcome.

2.1. The Definition of Absolute Poverty and Relative Poverty

The definition of absolute poverty is the income of an individual (or a household) that cannot meet its basic minimum needs [3]. The concept of poverty was first defined by Charles Booth in his report "Life and Labour of the People in London." He illustrated that an individual or a family earning less than 21 shillings per week was in poverty [4]. Later, in 1901, Seebohm Rowntree referred to poverty as "merely physical efficiency" and defined absolute poverty as when an individual's (or a household's) income falls below the minimum cost of basic living needs [5]. Rowntree proposed the absolute poverty line with a reference to Booth's line of poverty by using the income required to meet the minimum costs of essential expenditure [6]. The international absolute poverty line was established by the World Bank in 1990. The World Bank observed the poverty lines of some of the poorest countries and converted them into U.S dollars using purchasing power parity exchange rates, resulting in an international absolute poverty line of a $1 a day standard. The international poverty line has been adjusted twice in 2008 and in 2015, increasing from $1 a day to $1.25 a day and then to $1.9 a day. In September 2022, the World Bank updated the latest poverty line to $2.15 per person a day [7].

The definition of relative poverty is when an individual or a household's income falls below the average income level of society [8]. Peter Townsend defined relative poverty as "the absence or inadequacy of those diets, amenities, standards, services and activities which are common or customary in society [9]." Sangui Wang and Mingyue Liu demonstrated that relative poverty is based on a comparison of an individual (a household)'s earnings with others in society and highlighted the characteristics of relative poverty: 1. Chronicity: relative poverty persists over time. 2. Relativity: the amount of an individual's income is determined by other individuals under the same social conditions. 3. Inequality: relative poverty reflects income disparities and imbalance of resource allocation among different groups. 4. Dynamism: the measurement criteria of relative poverty change with the socioeconomic situation. 5. Subjectivity: researchers have subjective opinions on different countries.

[1] Data source from China National Bureau of Statistic: http://www.stats.gov.cn

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6. Multidimensionality: the measurement criteria include not only material standards but also spiritual standards [10].

This paper focuses on the impact of economic growth on the population of living minimum allowance using the definition of absolute poverty because absolute poverty carries out more significant social implications, and its data is more direct.

2.2. Theories of Impact of Economic Growth on Poverty Population

The main theory in early foreign research on the impact of economic development on poverty is that economic growth reduces poverty, which suggests that as the economy grows, the number of people in poverty will decrease. Fields found in his study on economic development and poverty in 18 developing countries that faster economic growth leads to a significant reduction in poverty [11]. Ravallion argued that economic growth does not have a significant negative impact on reducing poverty [12]. In 1997, Roemer and Gugerty's study of 26 developing countries confirmed the theory of economic growth reducing poverty and stated that economic growth is one of the best methods to combat poverty [13]. In later studies, scholars refined this theory by examining the impact of the growth rate of per capita real GDP on the poverty reduction rate or the impact of the growth rate of per capita real GDP on the size of the poverty population. Warr, in his research on the relationship between economic development and poverty in Asian countries, primarily observed the impact of the growth rate of per capita real GDP on the poverty reduction rate. His study showed that the growth rate of per capita real GDP plays a significant role in reducing poverty rates in Asian countries [14]. Dollar and Kraay used empirical analysis to demonstrate that the more the growth rate of per capita real GDP increases, the more significant the reduction in the size of the poverty population [15]. However, some scholars have proposed different theories. Lustig, Arias, and Rigolini argued that economic growth and a decrease in the poverty population have a two-way causal relationship, and income inequality can offset the positive effects of economic growth. They believe that economic growth is a crucial factor in reducing the number of people in poverty, but the level of income inequality can affect the poverty reduction achieved through economic growth. At the same time, they also pointed out that reducing the size of the impoverished population can effectively enhance economic growth [16].

3. Data and Model

This paper uses panel data from 30 provinces in China from 2007 to 2021, including the population of urban poverty (population of minimum living allowance) and the GDP per capita, to examine the relationship between economic growth and poverty reduction in urban areas. All data are from the official website of China National Bureau of Statistic.

Panel Data Regression Model:

$$\ln\left(POP_{RATE\,i,t}\right) = \beta_0 + \beta_1 \ln\left(GDP_{i,t}\right) + \beta_2 X_{i,t} + \gamma_i + \delta_t + u_{i,t}$$

Table 1: Definitions of Variables

Variable	Definition
$POP\_RATE_{i,t}$	The ratio of the population of urban poverty (the population of minimum living allowance) to the total urban population in province i at year t
$GDP_{i,t}$	Per-capita real gross domestic product in province i at year t
$X_{i,t}$	X are control variables: per capita urban disposable income in province i at year t, per capita urban education level in province i at year

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Table 1: (continued).

	t(measured by the ratio of having a junior degree or above to the total urban population), the urban unemployment rate in province i at year t
Mediating Variable	Net exports in province i at year t
γ_i δ_t	Province and time fixed effect

In this multiple regression model, i represents the province and t represents time. The dependent variable is the poverty population rate which is the natural log of the ratio of the population of urban poverty to the total urban population in each province. The independent variable is the natural log of the real GDP per capita of each province. Other control variables include income distribution, education level, and unemployment rate of urban residents in each province. γ_i and δ_t represent the fixed effects of provinces and time, respectively, and $u_{i,t}$ represents the error term.

The purpose of this paper is to explore the impact of economic growth on the poverty population, specifically the effect of changes in real GDP per capita on the ratio of the population receiving the minimum living allowance to the total urban population. However, economic growth is not the only factor influencing the urban poverty population. Therefore, it is necessary to control other variables that may have impacts in order to obtain the objective conclusions. The three control variables selected in this paper are: per capita income of urban residents, the education level of the urban residents, and urban unemployment rate. The possible outcomes would be affected by these three variables: 1. An increase in income per capita of urban residents will reduce the poverty rate and have a positive effect on poverty reduction. 2. A higher education level of urban residents, with most residents having a college degree or above, is positively correlated with income and then leads to a decrease in the poverty rate. Higher education levels lead to higher incomes, while lower education levels result in lower incomes. 3. If the urban unemployment rate is high in an area, this area will tend to have a larger poverty population because the unemployed individuals do not have a stable income, which could contribute to poverty.

4. Empirical Analysis

Figure 1 (a) and (b) show scatterplot and binscatter plot of the relationship between the urban poverty rate and the real GDP per capita. From figure 1(a), it can be observed that the scatterplot is a downward trend. Figure 1(b) shows a downward-fitting line. Both graphs indicate a negative correlation between the poverty population rate and the real GDP per capita, confirming the poverty reduction theory. Moreover, it suggests that the greater the growth in GDP per capita, the larger the reduction in the poverty rate.

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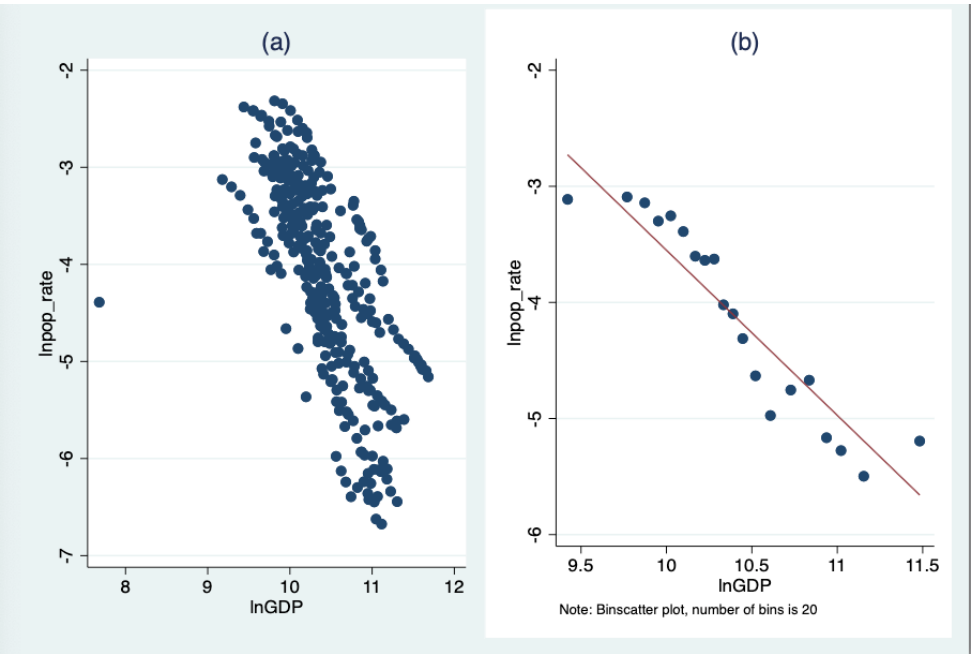

Figure 1: Plot of natural log of poverty population rate on natural log of GDP between 2011 and 2021

4.1. The Empirical Analysis of Basic Multiple Regression Model

The basic multiple regression:

$$\ln\left(POP_{RATE_{i,t}}\right) = \beta_0 + \beta_1 \ln\left(GDP_{i,t}\right) + \beta_2 \ln(income)_{i,t} + \beta_3 \text{education}_{i,t} + \beta_4 \ln(unemployment)_{i,t} + \gamma_i + \delta_t + u_{i,t}$$

The data of the basic regression on the urban poverty rate, GDP per capita, income per capita, urban residents' education level, and urban unemployment rate were collected from 30 provinces from 2011 to 2021.

The basic multiple regression results are as follows:

Table 2: The Regression Results on Poverty Rate from 2011 to 2021.

VARIABLES	Model(1) lnpop_rate	Model(2) lnpop_rate	Model(3) lnpop_rate	Model(4) lnpop_rate
lnGDP	-0.328***	-0.292***	-0.287***	-0.287***
	(0.110)	(0.0948)	(0.0926)	(0.0854)
lnincome		-1.461**	-1.717***	-1.540***
		(0.598)	(0.570)	(0.593)
education			-0.378***	-0.364***
			(0.106)	(0.122)
lnunemployment				0.381*
				(0.196)
Time fixed effect	yes	yes	yes	yes

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Table 2: (continued).

Province fixed effect	yes	yes	yes	yes
Constant	-0.182	13.92**	16.41***	14.19**
	(1.033)	(5.838)	(5.502)	(5.800)
Observations	330	330	330	330
Number of id	30	30	30	30

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In model 4, real GDP per capita, urban income per capita, urban residents' education level, and urban unemployment rate have significant effects on the urban poverty rate (minimum living allowance rate). On average and holding other variables fixed, a 1% increase in urban per capita real GDP leads to a 0.287% decrease in the urban poverty rate, a 1% increase in urban per capita income results in a 1.54% decrease in the urban poverty rate, a one-unit change in urban residents' education level leads to a 36.4% decrease in the poverty rate, and a 1% increase in the urban unemployment rate causes a 0.381% increase in the poverty rate.

Overall, the regression results demonstrate that an increase in real GDP per capita, urban income per capita, and the education level of residents (particularly those with a junior college degree or above) have a positive impact on the urban poverty rate. However, an increase in urban unemployment exacerbates the poverty rate. These findings confirm the applicability of poverty reduction theory in the context of China.

4.2. Robust Test: Dynamic Panel GMM Estimation

Panel data with a fixed effects model has revealed a relationship between economic growth and poverty rate. On the one hand, economic growth is consistent. The regions that initially had a significant poverty reduction effect through economic development may continue to perform well in future. This implies that the poverty reduction effect led by economic development in a given year may be related to the poverty reduction effect caused by economic growth in the previous year. In order to test for robustness, the Generalized Method of Moments (GMM) is applied here, which helps to overcome endogeneity issues and heteroscedasticity problems.

In this section, a dynamic panel GMM estimation is conducted with a one-period lag of the poverty rate. The estimation results are shown in Table 3.

Table 3: The Result of GMM Estimation

	Model(5)
	gmm1
VARIABLES	lnpop_rate
L.lnpop_rate	0.855***
	(0.006)
lnGDP	-0.225***
	(0.007)
education	0.065***
	(0.004)

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Table 3: (continued).

lnunemployment	0.150***
	(0.028)
Constant	1.447***
	(0.080)
Observations	300
Number of id	30

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

From the regression results, the coefficient of the lagged poverty rate is significantly positive, indicating that the poverty rate in the previous period has a significant impact on the current poverty rate. Additionally, the control variables are also regressed by using the difference method. Table 4-2 shows that the coefficient of lnGDP is significantly positive, indicating that as GDP per capita increases, the poverty rate decreases.

4.3. Mediating Mechanism

To explore the mediating mechanism, the net export (trade balance) in each province is selected as the mediating variable, analyzing its mediating effect on the relationship between the trade balance and poverty rate. This variable provides a more intuitive demonstration of its effect on GDP per capita, which, in turn, affects the poverty rate. In order to observe the mediating effect of the trade balance, the first regression is that it regresses the trade balance on GDP per capita. Then, the other regression is conducted by regressing the poverty rate on the trade balance and GDP per capita. The regression results are as follows.

Table 4: The Results of Regression on Poverty Rate and Trade Balance from 2011 to 2021

VARIABLES	Model(6) lnnet	Model(7) lnpop_rate	Model(8) lnpop_rate
lnGDP	2.097***	-0.287***	-1.494***
	(0.804)	(0.0854)	(0.548)
lnnet			-0.0627**
			(0.0259)
lnincome		-1.540***	-0.353
		(0.593)	(0.827)
education		-0.364***	-0.447***
		(0.122)	(0.0708)
lnunemployment		0.381*	0.487
		(0.196)	(0.337)
Constant	-5.282	14.19**	15.18**
	(7.863)	(5.800)	(7.271)
Observations	228	330	228
Number of id	23	30	23

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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Model 6 shows that real GDP per capita has a significant direct effect on the trade balance. Model 8 demonstrates that both real GDP per capita and the trade balance have significant effects on the poverty rate. The regression results of Models 6 and 8 suggest that the trade balance plays a significant mediating role in the relationship between real GDP per capita and the poverty rate. In other words, an increase in real GDP per capita reduces the urban poverty rate through an increase in the trade balance. By comparing the coefficients of Model 7 to the coefficient of Model 8, the impact of real GDP per capita on urban poverty increases. On average and holding other variables fixed, a 1% increase in real GDP per capita leads to a 1.494% decrease in the poverty rate, which is 1.207% greater than the decrease observed in the baseline regression.

4.4. The Analysis of the Heterogeneity

4.4.1. The Regional differences: Eastern, Central, and Western Regions

The geographical locations of cities have a certain influence on their economic development, which in turn affects the population of urban poverty in that region. In China, locations of provinces are generally divided into eastern, central, and western regions based on their geographical locations. In particular, the eastern region is more economically developed compared to the central and western regions, resulting in a lower population of urban poverty in the eastern region. To observe the impact of geographical location on the relationship between real GDP per capita and the urban poverty rate, the data of 30 provinces are divided into three groups: eastern, central, and western. The provinces in the eastern group are assigned a value of 2, those in the central group are assigned a value of 1, and those in the western group are assigned a value of 0. Then, the baseline regression analyses are conducted on these three groups, expressing as the following table.

Table 5: The Results of Regression on Poverty Rate based on Different Regions from 2011 to 2021

VARIABLES	Model(9) lnpop_rate	Model(10) lnpop_rate	Model(11) lnpop_rate
lnGDP	-0.318***	0.949***	-0.136
	(0.1000)	(0.286)	(0.307)
lnincome	-0.573	-0.924	-0.433
	(0.733)	(0.928)	(1.224)
education	-0.427**	-2.260***	-4.172**
	(0.184)	(0.872)	(1.887)
lnunemployment	0.193	0.391**	0.366
	(0.385)	(0.181)	(0.279)
Time fixed effect	yes	yes	yes
Province fixed effect	yes	yes	yes
Constant	4.547	-3.797	2.276
	(7.113)	(8.984)	(12.38)
Observations	132	88	110
Number of id	12	8	10

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
*Model 9 is eastern region, Model10 is central region, Model11 is western region.

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Model 9 shows that for the eastern region, real GDP per capita and the education level of urban residents have a significant and positive effect on the urban poverty rate, but income per capita and the unemployment rate do not have a significant impact on the poverty rate. On average and holding other variables constant, a 1% increase in per capita real GDP in the eastern provinces leads to a 0.318% decrease in the poverty rate, and a one-unit change in the education level results in a 42.7% decrease in the poverty rate. The eastern provinces in China have received policy support for economic development in the early stage due to their advantageous geographical location. After implementing reform and opening-up policy, the eastern provinces were the earliest to become wealthy, and adopt a more mature socio-economic model. Therefore, in the eastern coastal provinces, the burden of poverty alleviation on the local government's expenditure is relatively smaller, and fluctuations in the poverty rate are more influenced by national poverty reduction policies. It is expected that fluctuations in disposable income per capita and unemployment rate have a weakened impact on the poverty rate.

Model 10 shows that for the central region, the education level of urban residents and the unemployment rate have significant effects on the urban poverty rate. Specifically, when other variables are held constant, on average, a one-unit change in the education level results in a 226% decrease in the poverty rate, and a 1% increase in the unemployment rate leads to a 0.391% increase in the poverty rate. The improvement in education level has a positive impact on the poverty rate, while the increase in the unemployment rate has a negative effect. However, real GDP per capita has a positive and significant impact on the poverty rate in the central provinces, indicating that on average and holding other variables constant, a 1% increase in per capita real GDP leads to a 0.949% increase in the poverty rate. The reasons behind this are as follows: Firstly, the central region has a higher-end industrial structure, which requires a corresponding talent pool to drive economic growth. This makes it more difficult for low-skilled labor to find a job, leading to an increase in both the unemployment rate and the number of people receiving subsistence allowances. Additionally, the central region experiences migration of its population, with a portion of high-skilled labor choosing to seek better opportunities in eastern provinces, while some low-skilled labor also migrates to the east in search of employment. As a result, the production created by this labor force is attributed to the development of the eastern provinces, rather than contributing to the development of the central provinces. Therefore, for the central provinces, based on the existing unemployment rate, the speed of economic growth has not kept up with the fluctuation of the subsistence allowance standard, resulting in a positive and significant impact.

Model 11 shows that for the western region, the education level of urban residents has a highly significant impact on the urban poverty rate. When other variables are held constant, on average, a one-unit change in the education level leads to a 417.2% decrease in the poverty rate. The impacts of GDP per capita and disposable income per capita in western provinces are lower than those in eastern provinces. Therefore, the western provinces are the main battleground for China's poverty alleviation policies. In Model 11, the effects of the variables on the poverty rate in the western region are not significant but have economic significance. This is because the implementation of relevant policies weakens the impact of these variables on the research subject under condition. Additionally, the significant correlation between the poverty rate and the education level indicates the positive role played by poverty reduction policies in the western provinces, as these policies have stimulated local economic development.

4.4.2. The Period differences: 2007-2012 and 2013-2018

The time span also has a profound impact on economic development. To better demonstrate the impact of different stages of economic development on the urban poverty rate, the research sample was expanded and divided into two groups: one group covering the period from 2007 to 2012, and

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the other group covering the period from 2013 to 2018. Regression analyses were then conducted on these two groups. The regression results for the poverty rate of urban provinces in different years are as follows.

Table 6: The Results of Regression on Poverty Rate based on Different Periods: 2007-2012 and 2013-2018

VARIABLES	Model(12) lnpop_rate	Model(13) lnpop_rate
lnGDP	-0.324***	-0.600**
	(0.104)	(0.304)
lnincome	-2.461***	-1.713**
	(0.792)	(0.839)
education	1.058	-0.287**
	(0.678)	(0.136)
lnunemployment	0.374	0.274
	(0.338)	(0.385)
Time fixed effect	yes	yes
Province fixed effect	yes	yes
Constant	21.92***	19.48***
	(7.259)	(7.225)
Observations	180	180
Number of id	30	30

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
*Model 12 is 2007-2012 group, Model 13 is 2013-2018 group.

Model 12 represents the regression for the period from 2007 to 2012, analyzing the effects of real GDP per capita, disposable income per capita, education level, and the unemployment rate on the urban poverty rate. The results show that real GDP per capita and disposable income per capita have significantly negative correlations with the urban poverty rate during this period. When other variables are held constant, on average, a 1% increase in real GDP per capita leads to a 0.324% decrease in the poverty rate, and a 1% increase in income per capita results in a 2.461% decrease in the poverty rate.

However, during the period from 2013 to 2018, the effects of the variables on the urban poverty rate were different from the previous period. Model 13 represents the regression for this period, showing the effects of real GDP per capita, disposable income per capita, education level, and the unemployment rate on the poverty rate. The results indicate that real GDP per capita, disposable income per capita, and the education level of urban residents have a significantly negative relationship with the urban poverty rate, respectively. Specifically, ceteris paribus, a 1% increase in real GDP per capita leads to a 0.6% decrease in the poverty rate, a 1% increase in income per capita results in a 1.713% decrease in the poverty rate, and a one-unit change in the education level leads to a 28.7% decrease in the poverty rate.

The most prominent contrast in these two data sets is the education level of urban residents. In the period from 2007 to 2012, this variable was not significant, but the education level showed a positive correlation. However, in the period from 2013 to 2018, the education level of urban residents had a significant effect on the poverty rate, and the correlation was negative. By observing the data, the

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samples of education level in these two groups, measured by the ratio of people with junior degrees or above to the total urban population, are the same. However, the different results in the two groups may be explained by the following reasons:

1. The education resources and policies in the 2007-2012 period were relatively tighter and limited compared to the 2013-2018 period. For example, there might have been less education expenditure during 2007-2012, and most universities were still in the early stages of preparing enrollment expansion.
2. The cost of having individuals with associate degrees or above during 2007-2012 was higher, making it more challenging for impoverished families to afford. Additionally, there were more people living in poverty and there was a slightly larger wealth gap during 2007-2012. Hence, the relationship between the education level of residents and the urban poverty rate was not significant during 2007-2012.

However, after 2013, the government increased the expenditure on education, and further optimized poverty reduction policies, significantly reducing the burden on impoverished families in terms of education and lowering the cost of raising children. This, in turn, gradually reduced the number of impoverished families.

Furthermore, in these two data sets, the most critical factor is GDP per capita. The results of economic growth and poverty reduction during these two periods align well with China's poverty alleviation policies. From 2007 to 2012, the poverty alleviation policy focused on comprehensive poverty reduction, employing various measures such as targeted poverty alleviation, industrial poverty alleviation, collaborative poverty alleviation, and more. These efforts laid a solid foundation for subsequent poverty alleviation initiatives [17].

5. Conclusion

To better evaluate the poverty reduction effects of China's economic development in urban areas and compensate for the shortcomings of existing research, this study focuses on the population of urban residents receiving low-income assistance and economic development. By establishing panel data with fixed effects and dynamic panel GMM models, the study verifies the poverty reduction effects of economic development in urban areas, as well as the regional and periodic heterogeneity of poverty reduction effects. The main conclusions are as follows:

1. The growth of GDP per capita, the increase in disposable income per capita, and the improvement in education level reduce the population of urban residents receiving low-income assistance significantly.
2. In terms of periodic differences, the poverty reduction effect of economic growth after 2012 is greater than that before 2012, possibly due to the Chinese government's increased attention to poverty reduction.
3. In terms of regional differences, the poverty reduction effect of economic development in the eastern region is greater than that in central and western regions, which is related to the economic development in different stages based on different policies across regions.

This study provides further data support for evaluating the poverty reduction effects of China's economic development.

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