

Measuring and analyzing the determinant factors of poverty in the Iraqi Economy for the period (1996-2019)

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Abstract

The research aims to measure and analyze the phenomenon of poverty in Iraq as a problem facing all developed and developing countries by investigating the economic, social and political causes of poverty in the Iraqi economy. The importance of the research is that poverty is one of the serious problems facing society as a result of its consequences, such as social problems such as begging, delinquency, drug addiction and crimes, as well as the low level of health, education and other problems. The research relied on the descriptive analytical approach in the context of economic theories and the standard quantitative approach based on the economics and the application of modern standard methods based on the methodology of the Autoregressive Distributed Lag Model (ARDL) and annual data for the period (1996- 2019) were used to measure and analyze the relationship in the two terms short and long between the absolute poverty line after deducting the value of the ration card and some macroeconomic variables represented by (average per capita share of GDP at constant prices for the year 2007, the disparity in income distribution, unemployment rate, inflation rate, population density, The percentage of spending on health services, and the percentage of spending on a long-term balance relationship (joint integration) between the education), The research found that there is variables studies according to the Bound Test methodology, and the results of the standard analysis also demonstrated that the value of the error correction parameter was negative and significant as it reached (-1.25), meaning that the deviation of the previous years from the long term equilibrium is correcting by (125%), and the test fit the model have been free of all standards problems and its high ability to predict according to the test of the coefficient (Theil) , in addition to achieving the property of structural of the model parameters estimated in the short and long terms.

Keywords: Absolute poverty line, Extreme poverty line, Autoregressive Distributed lag Model (ARDL), Iraq.

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Introduction:

The phenomenon of poverty is receiving great international attention by official institutions and international organizations in order to address it and mitigate its effects. It is a social phenomenon with multiple economic and political dimensions, as all countries of the world suffer from it equally. Developed or developing, with great variation in the size and nature of this phenomenon. It is estimated that one fifth of the world's population is classified as poor and lacks minimal opportunities for a dignified and secure life. Despite the difference in the definition and criteria of poverty,

low individual or family income forms the basis for this concept, with the attendant inability to provide basic life requirements such as housing, food and clothing, in addition to health and education. And other requirements.

The analysis of the phenomenon of poverty gained great importance since the early 1990s, and there was much talk about this phenomenon in the second half of the twentieth century in the literature of the United Nations and it was considered a global problem in light of the classification of countries into rich and poor, as

well as setting measures and indicators for the phenomenon of poverty at the state level as well as at the individual level. In light of the implementation of economic reform programs in a number of developing countries, as the emergence and persistence of poverty in Iraq is due to many economic, social and political factors, and the issue of economic reform has become an urgent necessity in Iraq in light of the many problems and economic imbalances and the spread of the phenomenon of financial and administrative corruption resulting from wars And wrong economic policies, so the economic policy must express a radical economic project that stems from the strategic interests of the current Iraqi situation through the development of an effective economic policy. Therefore, measuring and analyzing the specific factors poverty in the Iraqi economy is an important matter for economic policy makers, due to the spread and exacerbation of the phenomenon of poverty. Where poverty is a prominent sign in Iraqi society and a phenomenon that cannot be overlooked or ignored, and the problem is still a problem It raised a challenge for political and economic decision-makers and was characterized by great peculiarity that led to a decline in the economic indicators associated with it. Here we have the saying of Imam Ali (peace be upon him) ((If the poorest man were to kill him)), which is evidence of the importance and danger of this phenomenon on society. From this standpoint, and in order to contribute to this field, the research topic was chosen.

Research Importance:

The importance of research comes from the fact that poverty is one of the serious problems facing society as a result of its implications, such as social problems such as begging, delinquency, drug addiction and crimes, in addition to the low level of health, education and other problems. Therefore, its effects must be reduced by preparing and adopting real national strategies as they are It is not limited to addressing the problem of poverty only, but for its impact as an effective tool in developing human energies and capabilities in order to advance society as a whole in order to practice its positive economic and social activities,

and this goal can only be achieved if the factors or variables that affect poverty rates are identified and which can be During its measurement and analysis, the development of economic and social policies capable of achieving the goal of combating poverty or alleviating it, given that poverty eradication is the paramount goal of development.

Research Problem:

The problem of poverty in Iraq continued to dominate all the problems that successive governments tried to address or reduce their severity by taking a set of measures aimed at improving the standard of living of the population, but the problem of poverty began to worsen in recent years, and perhaps the reason for this is due to lack of serious attention. The specific factors and basic variables that affect the rates and rates of poverty in Iraq.

Research Hypothesis:

Based on the research problem and its goal, the following hypotheses can be formulated:

1 -The absolute poverty line, after deducting the value of the ration card, is affected negatively and positively by the changes that occur by the following variables: (average per capita gross domestic product at constant prices, disparity in income distribution, inflation rate, unemployment rate, population density, the proportion of spending on health services, And the percentage of spending on education).

2 -The existence of a long-term equilibrium relationship (co-integration) that results in the existence of a causal relationship that leads from the explanatory variables and is represented by: (average per capita gross domestic product at constant prices, disparity in income distribution, inflation rate, unemployment rate, population density, proportion of spending On health services, and the percentage of spending on education (towards the dependent variable (the absolute poverty line after deducting the ration card value) in Iraq during the search period.

Research Goals:

The research aims to achieve the following:

1- Analyzing the phenomenon of poverty as a problem facing all developed and developing countries, including Iraq, by investigating the economic, social and political causes of poverty in the Iraqi economy.

2- Measuring and analyzing the determinants of poverty in the Iraqi economy for the period (1996-2019) through building a standard model that clarifies the relationship between poverty and some of the factors and variables causing it, and coming up with recommendations for economic policy makers to develop strategies to mitigate this phenomenon.

3- Determining the economic and social policies and ways and means that can be used by the economic planner to alleviate poverty in the Iraqi economy.

Research Methodology:

Despite the existence of many methodologies to study the phenomenon of poverty, the methodology of economic quantitative is the

The first axis

The theoretical literature of the phenomenon of poverty.

First: Definition of poverty:

Poverty is defined as a state of severe deprivation for many of the necessities of life, such as food, health, housing, education, clean water and sanitation, and this definition focuses on material and moral issues. (Ali, 2004: 3).

Also, he defined multidimensional poverty in the literature of the United Nations as: "Poverty is depriving a person of the ability to live freely and with dignity while possessing full potential to achieve the desired goals in his life. Poverty has many aspects. Various other types of deprivation

dominant methodology of the economic literature used for this and to achieve the goals that the research seeks to achieve. And the second: a quantitative measurement based on economic measurement methods and methods of estimating and interpreting the results and analyzing them to reach specific conclusions that are drawn to be placed within the reach of economic policy makers using the analysis program

Reviews 10.

Research limits:

1- Spatial boundaries: The research dealt with measuring and analyzing the determinant factors of poverty in the Iraqi economy.

2- Temporal boundaries: The research covers a period of time extending from (1996-2019).

Research Structure:

The research was divided into two axes, the first axis included the theoretical literature on the phenomenon of poverty, while the second axis included the results of measuring the determinants of poverty and analyzing them in the Iraqi economy for the period (1996-2019), as well as conclusions and recommendations.

such as food insecurity, lack of health care, education and other basic services, lack or lack of adequate housing, lack of safety and equity, lack of a voice, access to information or basic participation" (United Nations, 2014: 31).

Second: Types of Poverty: Poverty has various forms and types represented as follows:

1- Extreme poverty: is the situation in which the poor are financially deprived to the extent that their lives are on the verge of danger. (United Nation, 2010: 1)

2- Absolute poverty: is the situation in which the individual is unable to dispose of his income to

achieve the satisfaction of his basic needs of food, shelter, clothing, health and education.

3- Relative poverty: This type of poverty expresses the position of the individual or the family in relation to the average income in the concerned community. (Al-Khafaji, 2009: 6).

4- There is also another type called welfare poverty: it has been identified by some researchers in Western societies whose members enjoy modern civilization achievements such as advanced equipment and various entertainment facilities, which some social groups lack. (Lahilh and Jassas, 2010: 173).

Among the types of poverty also (human and monetary poverty).

Third: Factors Determining Poverty:

1- Average per capita GDP at constant prices: (AGDP) Poverty in Iraq is affected by the average per capita GDP and the relationship between them is an inverse relationship, so by increasing the average per capita GDP, this leads to a reduction in poverty levels and vice versa.

2- Inequality in income distribution: (Gini) The increase in inequality in income distribution leads to an increase in poverty levels and the relationship between them is positive.

3- Population density: (PD) High population density is one of the direct causes of poverty as it leads to an increase in poverty levels and the relationship between them is positive.

4- The percentage of spending on education: (LA) The increase in the percentage of spending on

education leads to a reduction in poverty levels, while the decrease in the percentage of spending on education leads to an increase in poverty levels and the relationship between them is inverse.

5- The proportion of spending on health services: (HS) that an increase in the proportion of spending on health services leads to a reduction in poverty levels, while a decrease in the proportion of spending on health services leads to an increase in poverty levels, and the relationship between them is inverse.

6- Inflation: (INF) High inflation leads to an increase in poverty levels, while low inflation leads to a reduction in poverty levels, and the relationship between them is positive.

7- Unemployment (UE). High unemployment increases poverty levels and vice versa, and the relationship between them is positive.

The second axis

Results of measuring and analyzing poverty determinants in the Iraqi economy for the period (1996-2019).

First: Defining the model variables:

Based on the economic analysis of the factors determining poverty in the Iraqi economy and the information available on previous standard studies, a standard model can be formulated for the factors determining poverty in the Iraqi economy according to the following indicative relationship:

$$POV = (AGDP, GINI, HS, INF, LA, PD, UE) \quad \dots (1)$$

GINI: Gini coefficient, to measure the inequality in the distribution of income, and it is assumed that it has a positive relationship with the absolute poverty line after deducting the value of the ration card.

HS: The Government spending on health services, and it is assumed that it has an inverse relationship with the absolute poverty line.

As:

POV: the absolute poverty line after deducting the ration card value.

AGDP: The average per capita share of GDP at constant prices, and it is assumed that it has an inverse relationship with the absolute poverty line.

INF: The inflation rate, as measured by the Consumer Price Index, is assumed to be positively related to the absolute poverty line.

LA: Government spending on Education is assumed to be inversely related to the absolute poverty line.

PD: population density, and it is assumed that it has a positive relationship with the absolute poverty line.

UE: unemployment rate, and it is assumed that it has a positive relationship with the absolute poverty line.

Table (1) shows data for the search variables for the period (1996-2019).

Table (1): data for research variables.

INF	HS	LA	PD	UE	GINI	AGDP	POV	السنوات
9.3	0.21	0.78	48331	13.9	0.49	2128.68	16708	1996
11.4	0.14	0.79	50441	15.4	0.51	2264.45	20849	1997
13.1	0.11	0.69	51933	17.4	0.54	2665.94	22846	1998
14.7	0.26	1.6	53448	20.2	0.55	3490.78	26137	1999
15.5	0.24	1.79	54985	22.4	0.57	3984.53	27642	2000
18.0	0.22	1.56	56544	24.6	0.58	4601.99	32881	2001
21.5	0.24	2.87	58121	26.7	0.59	4100.28	35444	2002
28.7	0.01	4.86	59717	28.1	0.35	2520.8	48547	2003
36.4	4.56	0.76	61328	26.8	0.41	3752.63	48783	2004
49.9	5.78	1.41	62953	17.9	0.42	3703.15	58069	2005
76.4	4.14	0.64	64590	17.5	0.38	3796.88	87625	2006
100.0	4.88	1.33	66238	11.7	0.30	3754.99	68396	2007
112.7	5.07	3.08	72974	15.3	0.31	3944.92	77411.7	2008
122.1	7.05	3.45	72446	14	0.32	3938.24	84140	2009
125.1	6.64	3.1	74335	12	0.32	4095.27	85696.8	2010
132.1	7.27	2.8	76276	11	0.31	4312.65	89829.6	2011
140.1	5.4	2.89	78266	11.9	0.29	4820.96	94731.2	2012
142.7	5.67	2.8	80236	12.1	0.27	5101.04	95480.5	2013
145.9	5.76	2.26	82378	10.6	0.25	4993.59	96191.2	2014
148.0	6.9	3.17	80566	13.18	0.23	4817.35	97056	2015
148.1	7.52	2.14	82754	10.8	0.24	5515.13	96882.9	2016
148.4	6.31	1.37	84973	13.8	0.27	5426.26	96863.6	2017
148.6	6.91	1.47	87226	13.59	0.26	5223.18	97075	2018
148.7	4.09	0.93	89522	13.65	0.30	5412.76	96844.3	2019

Source:

- The Ministry of Planning, the Central Bureau of Statistics, the National Accounts Directorate, and separate statistical groups.

The population density was calculated by the two researchers by dividing the number of population by the total area of Iraq, which was estimated at (437,072 km²).

Second: Unit root tests for stationarity:

- Philips Peron Test (PP).

There are many tests to detect the problem of the root of the unit and determine the static time series of economic variables, and among these tests the Phillips Peron Test (PP), which was used in this research as the most accurate test to detect the staticity of time series, so the time series of the variables must pass this test In order to determine the appropriate model for assessment and analysis, the results were as follows:

In this test, the possibility of rejecting the null hypothesis ($H_0: \beta = 0$) is verified or not. It is noted from Table (2) that the results according to the Phillips Prion test did not differ much from what they were in the Dickie Fuller test (ADF), which means greater reliability, meaning that the time-series data were not static from the original level, but became static after taking the first teams. For her, since the calculated value (t) is greater than its tabular value at the level of significance (1%) and (5%), which means acceptance of the

alternative hypothesis ($H_1: \beta \neq 0$) which states that the strings for these variables are static and have no root Unit, that is, it is integrated from the (I) I order, and what reinforces these results are the critical probability values (Prob.) Less than (5%). It is noted from the foregoing that the results of the static tests are in agreement with each other, which enhances the reliability of the static degree of the variables under discussion.

Table (2): Results of the unit root test according to the (PP) Test at the first level and difference.

ADF		At Level							
With Constant	Variable s	UE	PD	LA	INF	HS	GINI	AGDP	POV
	t-Statistic	-1.4969	-0.0158	-2.9892	-2.6538	-1.5336	-1.0844	-1.7593	-1.6535
	Prob.	0.5172	0.9477	0.0509	0.0973	0.4991	0.7039	0.3900	0.4404
	Result	n0	n0	*	*	n0	n0	n0	n0
With Constant & Trend	t-Statistic	-2.2429	-2.8668	-2.8020	-3.5182	-1.4337	-2.4315	-2.9555	-1.6382
	Prob.	0.4458	0.1902	0.2104	0.0610	0.8226	0.3553	0.1650	0.7453
	Result	n0	n0	n0	*	n0	n0	n0	n0
Without Constant & Trend	t-Statistic	-0.4500	7.3756	-1.0393	-0.7911	-0.4230	-1.1676	1.5752	1.6555
	Prob.	0.5087	1.0000	0.2601	0.3623	0.5193	0.2144	0.9676	0.9723
	Result	n0	n0	n0	n0	n0	n0	n0	n0
		At First Difference							
With Constant	Variable s	d(UE)	d(PD)	d(LA)	d(INF)	d(HS)	d(GINI)	d(AGDP)	d(POV)
	t-Statistic	-4.4692	-6.5761	-6.4957	-6.3237	-4.5127	-5.5665	-5.6200	-6.8991
	Prob.	0.0021	0.0000	0.0000	0.0000	0.0019	0.0002	0.0002	0.0000
	Result	***	***	***	***	***	***	***	***
With Constant & Trend	t-Statistic	-4.4238	-6.3848	-8.5320	-6.0263	-4.5655	-5.4797	-5.4673	-7.5771
	Prob.	0.0104	0.0002	0.0000	0.0004	0.0077	0.0011	0.0012	0.0000
	Result	**	***i	***	***	***	***	***	***
Without Constant & Trend	t-Statistic	-4.5680	-2.5775	-6.6844	-6.4536	-4.5423	-5.3914	-4.8805	-5.3883
	Prob.	0.0001	0.0126	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000
	Result	***	**	***	***	***	***	***	***
Rank		I (1)	I (1)	I (1)	I (1)	I (1)	I (1)	I (1)	I (1)

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

Third: Choosing the appropriate model:

After completing the time-series static tests for the variables in question through graphs, autocorrelation function (ACF) and partial parameters (PACF), and unit root tests, it became possible to use the participant integration methodology according to the (ARDL) model and estimate the equilibrium relationship in the short and long term. Because the methodology of the (ARDL) model is used for static data at the level or for the first difference or a mixture between the two, and it is more efficient in the case of small samples such as the research sample, so this model will be used in the measurement to obtain the most efficient estimate of the equilibrium relationship in the short term and for the long haul.

Fourth: Cointegration- test using Autoregressive Distributed Lag Model (ARDL)

This model is one of the models used in time series analysis, because it combines the slowdown variables in a time series as internal variables with another external variable that is affected by it in the general self-regression model, so it is called the autoregressive of the slow distributed gaps (ARDL), and in which it is the slower time series. A function of slowing its values and the values of the current explanatory variables, and slowing them down for one or more times (Habib & Hassan, 2019: 515; Sheikh al eslami et al, 2020).

As previous tests such as (Johansson-Angel and Granger) require that the variables for the study be integrated of the same degree, and these tests give inaccurate results in the case of small sample size, which imposes a condition on using these two methods in the analysis of long-term relationships between the variables, and the result. Therefore, the methodology of the self-regressive model of slow distributed gaps (ARDL) for co-integration has become predominant in recent years.

The ARDL has several advantages, including:

A- His ability to distinguish between explanatory variables and dependent variables in the model.

B - The possibility of estimating the parameters in both the short and long terms, as well as its ability

to deal with explanatory variables for different periods of time slowdown.

C- It gives accurate results in the event that the sample size is small, as well as the simplicity of the model in estimating the joint integration by the usual least squares method (OLS). (Pesaran & et.al, 2001: 293).

D- The (ARDL) model is applied in the event that the integral time series are of the same order I (0) or of the (1) class I or a mixture between them, while it does not apply in the case of integral time series of the second order (2) or higher. .

C- The ARDL gives good results for long-term parameters, and the diagnostic tests obtained through this model are highly reliable. (Narayan, 2004: 205)

H- It contributes to eliminating the problems associated with deleting the variables as well as the problems of self-correlation, and thus the resulting capabilities are efficient and unbiased.

G- Through the self-regressive model of slow time gaps (ARDL), it is possible to determine the relationship between the dependent variable and the independent variables, as well as the effect of each of the independent variables on the dependent variable, and its parameters for the short and long terms are more consistent than those of other methods of joint integration.

Formulation of the form:

After selecting the linear formula for the model, the following variables were relied upon as explanatory variables: This basis can be measured for the relationship in the short and long terms according to the Autoregressive Distributed Lag Model (ARDL) according to the following formula:

$$\begin{aligned} \Delta \text{POV}_t = & C + B_1 \text{POV}_{t-1} + B_2 \text{AGDP}_{t-1} \\ & + B_3 \text{GINI}_{t-1} + B_4 \text{HS}_{t-1} \\ & + B_5 \text{INF}_{t-1} + B_6 \text{LA}_{t-1} \\ & + B_7 \text{PD}_{t-1} + B_8 \text{UE}_{t-1} \\ & + \sum_{i=1}^{q_1} \lambda_1 \Delta \text{POV}_{t-i} \\ & + \sum_{i=1}^{q_2} \lambda_2 \Delta \text{AGDP}_{t-i} \\ & + \sum_{i=1}^{q_3} \lambda_3 \Delta \text{GINI}_{t-i} \end{aligned}$$

$$+ \sum_{i=1}^{q_6} \lambda_6 \Delta \text{LA}_{t-i} + \sum_{i=1}^{q_5} \lambda_7 \Delta \text{PD}_{t-i}$$

i=1

$$\begin{aligned} & + \sum_{i=1}^{q_7} \lambda_8 \Delta \text{UE}_{t-i} \\ & + \varepsilon_t \dots \dots \dots (2) \end{aligned}$$

POV: Absolute Poverty Line:

AGDP: Average per capita GDP, at constant prices, for the year (2007).

GINI: a Gini coefficient, to measure the disparity in an income distribution.

HS: Percentage of spending on health services.

LA: Percentage of education spending.

INF: Inflation rate as measured by the Consumer Price Index (CPI) (2007).

PD: For population density. UE: unemployment rate.

$$+ \sum \lambda_4 \Delta \text{HS}_{t-i} + \sum \lambda_5 \Delta \text{INF}_{t-i}$$

Bi: long-term parameters. λ_i the short term parameters. Δ : the first differences for the values of the variable. q : number of periods of optimal slowdown. ε_t : Random Error Limit.

In order to implement the cointegration test in the context of the ARDL model, the following steps are required:

C: Fixed line.

Step one: Determine the rank of the model:

The rank of the model that was chosen according to the (ARDL) methodology is (1,0,1,1,1,1,1) according to the criteria for the duration of the

optimal slowdown (HQ, AIC, BIC). AIC) which represents the lowest value for this standard. Figure (1) shows the optimum rank of the (ARDL) model.

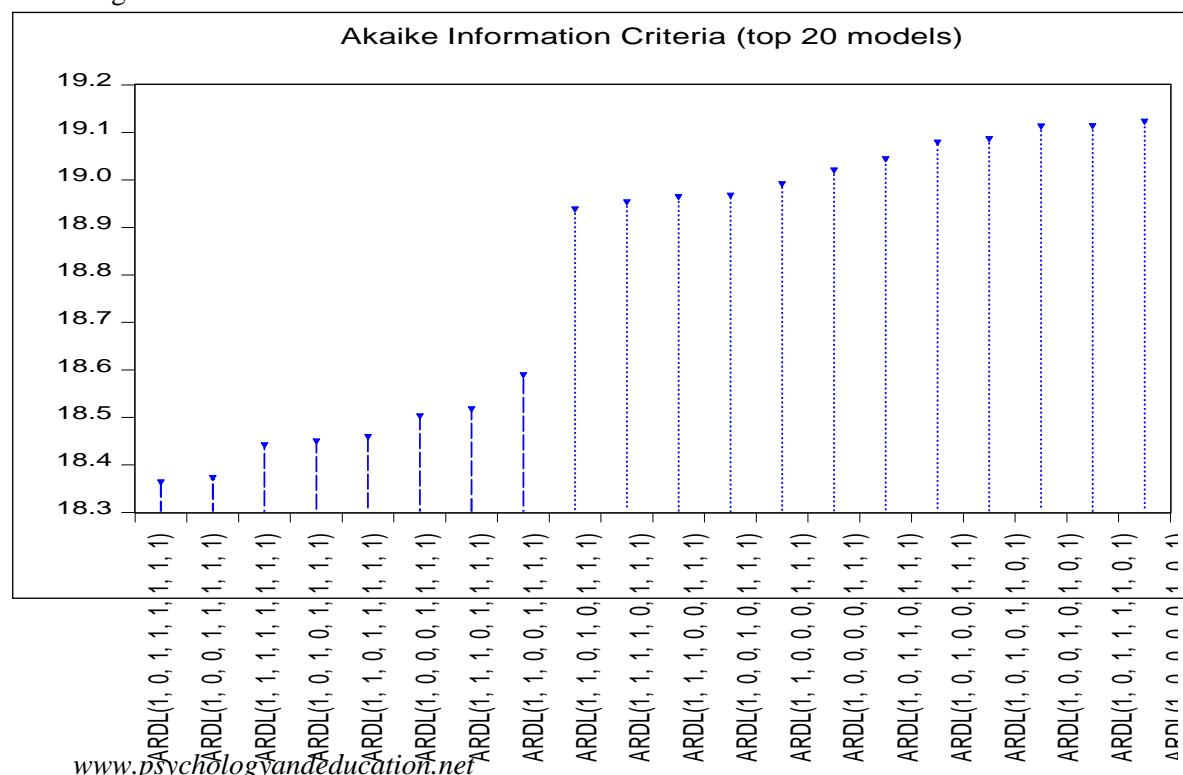


Figure (1) determining the optimum order of the (ARDL) model according to the (Akaike) standard.

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

Step two: Results of the Bounds Test.

To test the existence of a long-term equilibrium relationship between the dependent variable and

the pain represented by the absolute poverty line and the explanatory variables, the value of the (F) statistic was calculated to test the limits, and the results were as in Table (3) as follows:

Table (3) Results of the common integration test of the (ARDL) poverty model according to the limits test.

Test Statistic	Value	K
F-statistic	24.07741	7
Critical Value Bounds		
Significance	Lower Bounds	Upper Bounds
10%	1.92	2.89
5%	2.17	3.21
2.5%	2.43	3.51
1%	2.73	3.9

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

It is inferred from Table (3) that the value of the calculated (F) statistic amounted to (24.077), which is greater than the tabular value of the upper and lower limits at a significant level (1%). This means rejecting the null hypothesis (H0), and accepting the alternative hypothesis (H1) which states that The existence of a co-integration relationship between the variables in the model used during the research period, that is, the existence of a long-term equilibrium relationship that moves from the explanatory variables towards the dependent variable (the absolute poverty line), confirming the validity of the research hypothesis, which requires estimating the response for the short and long terms and the parameter of error correction.

Step three: Results of estimating the short and long term parameters and the error correction parameter.

After making sure of the existence of a long-term equilibrium relationship according to the methodology

of selecting the limits (the existence of co-integration) between the dependent variable and the explanatory variables, the short and long term estimates of the estimated model parameters and the error correction parameter (ECM) should be obtained. Between the dependent variable and the explanatory variables, which is confirmed by the error correction vector factor (-1) Coint Eq for this model, which is (-1.25), and the associated probability value (Prob. = 0.000), which means the fulfillment of the two basic conditions in this parameter are its negative value And its statistical significance, which means that (1.25) of the short-term errors are automatically corrected over time to reach the long-term equilibrium, meaning that the absolute poverty line requires about less than a year.

$(1 \div 1.25 = 0.8)$, i.e. approximately (9) and a half months, which is a relatively quick response to reach its equilibrium value in the long term.

Table (4) Results of estimating the short and long term parameters and the error correction parameter (ECM) of the poverty model.

ARDL Long Run Form and Bounds Test Dependent Variable: D(POV) Selected Model: ARDL (1, 0, 1, 1, 1, 1, 1) Case 2: Restricted Constant and No Trend Sample: 1996 2019 Included observations: 23 Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AGDP**	4.098466	1.597331	2.565821	0.0333
GINI(-1)	26321.76	26953.87	0.976548	0.3574
HS(-1)	2491.335	829.3125	3.004097	0.0170
INF(-1)	925.7697	115.4126	8.021394	0.0000
LA(-1)	6471.833	1115.100	5.803812	0.0004
PD(-1)	2.221372	0.363895	6.104436	0.0003
UE(-1)	-1788.868	380.6503	-4.699505	0.0015
D(GINI)	4295.050	21495.74	0.199809	0.8466
D(HS)	1508.619	800.5048	1.884585	0.0962
D(INF)	722.6715	99.24541	7.281662	0.0001
D(LA)	2078.772	861.7411	2.412293	0.0424
D(PD)	0.889153	0.449618	1.977573	0.0834
D(UE)	-461.9398	412.4276	-1.120051	0.2952
Coint Eq(-1)*	-1.258661	0.147912	-8.509557	0.0000
EC = POV - (3.2562*AGDP + 20912.5009*GINI + 1979.3527*HS + 735.5192 *INF + 5141.8379*LA + 1.7649*PD -1421.2462*UE -91076.1127)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AGDP	3.256210	1.135077	2.868713	0.0209
GINI	20912.50	21842.16	0.957437	0.3664
HS	1979.353	709.5672	2.789521	0.0236
INF	735.5192	92.63951	7.939585	0.0000
LA	5141.838	873.8950	5.883817	0.0004
PD	1.764869	0.231303	7.630102	0.0001
UE	-1421.246	236.9533	-5.998002	0.0003
C	-91076.11	20401.29	-4.464233	0.0021

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

Step four: An evaluation of the economically estimated and standardized model.

First: an evaluation of the economically feasible model.

1- Evaluating the capabilities of the model parameters
From the results of the assessment in Table (4), the following is concluded:

A- The coefficient of average per capita GDP at constant prices (AGDP) indicates a positive and significant impact on the absolute poverty line in both the short and long terms. This means that an increase in the average per capita share of one dinar leads to an increase in the absolute poverty line by (4,098) dinars, while the marginal slope of the absolute poverty line in the long term is (3,256) in relation to the average per capita share of the domestic product (AGDP), which means that an increase in the average per capita share by one dinar leads to an increase in the absolute poverty line by (3.256) dinars, with other factors remaining constant, and this result is inconsistent with the logic of economic theory (contrary to what is expected of it) and the reason lies in the rentier nature of the economy. The Iraqi economy being a unilateral foreign economy, and that the increase in the gross domestic product is not through an increase in its components from other sectors, it is an increase derived from the increase in the production of the oil sector, which contributes more than (92%) of the GDP in return. An increase that does not lead to an improvement in the level of per capita GDP due to the absence of the contribution of other sectors in its formation, such as the agricultural, industrial and service sectors, which has negatively affected the absolute poverty line.

B- The income distribution inequality coefficient (GINI) indicates a positive effect on the absolute poverty line in the short term, as the marginal slope of the absolute poverty line in the short term is relative to the Gini coefficient (054,295), and this means that the increase in the inequality in the income distribution by one unit One leads to an increase in the absolute poverty line by (4295.05) dinars, while the marginal tendency of the poverty line for the long-term Gini coefficient is (20912.50), meaning that an increase in the inequality in the income distribution by one unit leads to an increase in the absolute poverty line by (20912.50) Dinars, with other factors remaining constant, and this result came as expected and is

in the short and long terms.

consistent with the logic of economic theory and the research hypothesis, because an increase in the inequality in income distribution leads to an increase in poverty and the relationship between them is positive.

C- The coefficient of the ratio of spending on health services (HS) indicates a positive and significant impact on the absolute poverty line in the short term, as the marginal tendency of the absolute poverty line in the short term with respect to spending on health services (HS) is (1508.61), and this means that An increase in the percentage of spending on health services by one dinar leads to an increase in the absolute poverty line by (1508.61) dinars, while the marginal tendency of the absolute poverty line in the long-term for spending on health services (HS) is (1979.35), and this means that the percentage of spending on health services (HS) increases (1979.35). On health services by one dinar, it will lead to an increase in the absolute poverty line by (1979.35) dinars, while other factors remain constant, and this result is inconsistent with the logic of economic theory and the research hypothesis (contrary to what is expected of it), which states that any increase in the proportion of spending on Health services will lead to a decrease in the levels of the poverty line. What explains this contradiction is the administrative and financial corruption that Iraq went through during the period of the research and is still and that led to the deviation of these expenditures from their correct destination and not actually spending them in the health sector, which led to the continued rise in the number of individuals Those registered within the poverty line in Iraq, in addition to the lack of health centers in poor and remote areas, weak health services provided by the government, and consequently the deterioration of the health sector in Iraq in general, as well as the decline in government spending on the health sector in recent years as a result of the decline in global oil prices, which is the main source of revenue. Governmental decrees that impose on the government to diversify sources of income and

increase spending on and develop the health sector.

D- The education spending ratio coefficient indicates the existence of a positive and significant impact on the absolute poverty line in the short term, as the marginal tendency of the absolute poverty line in the short term is in relation to spending on education (LA) (2078.77). This means that the increase in the proportion of spending on the absolute poverty line in the short term has reached (LA) (2078.77). Education by one dinar leads to an increase in the absolute poverty line by (2078.77) dinars, while the marginal tendency of the absolute poverty line in the long term is (5141.83). This means that an increase in the percentage of spending on education by one dinar will lead to an increase in the absolute poverty line by (5141.83) dinars, while other factors remain constant, and this result does not agree with the logic of economic theory and the research hypothesis (contrary to what is expected of it) which states that any increase in the proportion of education spending will lead to a decrease in the levels of the poverty line, and what explains this contradiction is administrative and financial corruption Which Iraq went through during the period of research and still led to the deviation of these expenditures from their destination and the lack of actual spending on the education sector, which led to the continued high number of individuals registered within the poverty line in Iraq, as well as the dropout from enrollment in schools, as well as the lack of numbers Schools in poor and remote areas, as well as the government spending on education has decreased dramatically in recent years, because government spending depends in large part on the oil sector, which has been subjected to large fluctuations due to the drop in oil prices in global markets, which greatly affected government imports and thus reduced Government spending on the education sector.

C- The coefficient of the price index (INF) indicates a positive and significant effect of inflation on the absolute poverty line in the short and long terms, as the marginal slope of the absolute poverty line in relation to inflation reached (722.61), meaning that the increase in the

price index by one unit It leads to an increase in the absolute poverty line by (722.67) dinars, while the marginal tendency of the absolute poverty line in relation to long-term inflation is (735.51). This means that increasing the price index by one unit leads to an increase in the absolute poverty line by (735.51) dinars with Other factors remain constant, and this result is consistent with the logic of economic theory, the reality of the Iraqi economy and the research hypothesis, as increasing the rate of inflation leads to an increase in poverty and the relationship between them is positive.

H - The population density coefficient (PD) indicates a positive and significant impact on poverty in the short and long terms, as the marginal tendency of the absolute poverty line for population density has reached (0.889) dinars, and this means that an increase in population density by one unit leads to an increase in the poverty line. The absolute amount of (0.889) dinars in the short term. Whereas the marginal tendency of the poverty line in relation to the long-term population density reached (1.764), which means that an increase in population density by one unit leads to an increase in the absolute poverty line by (1.764) dinars while other factors remain constant, and this result is consistent with the logic of economic theory And the research hypothesis considering that population density is one of the determining factors of poverty, meaning that increasing population density leads to an increase in poverty levels in Iraq.

G- The unemployment rate coefficient (UE) indicates the existence of a negative and significant response with the absolute poverty line in both the short and long terms, as the marginal slope of the absolute poverty line in relation to the unemployment rate has reached (-461.93), and this means that an increase in the unemployment rate by one unit will lead to A decrease in the absolute poverty line by (461.93) in the short term. Whereas, the marginal slope of the absolute poverty line in relation to the long-term unemployment rate is (-1,421.24), which means that an increase in the unemployment rate by one unit leads to a decrease in the absolute poverty line by (1421.24) dinars while other factors remain

constant, and this result is not in agreement with The logic of economic theory and research hypothesis, and the reason for this is due to the structural imbalances that the Iraqi economy suffers from and its dependence on the oil sector in the formation of the domestic product and the non-activation of other economic sectors that contribute to absorbing a large part of unemployment. The reports of the World Bank also indicate that the problem of poverty is not always a problem. Unemployment, but in most cases it is the problem of low wages in the first place, because it can be easily separated between unemployment and lower wages, and this is due to the high demand for skilled labor, due to the results of globalization and technology, which reduced the focus on unskilled and inflexible workers.

2- Evaluation of estimates of the unrestricted error correction model (ARDL - ECM).

The error correction factor (-1) Coin Eq expresses the speed of adaptation in the short term to the long term, as it achieved a negative and significant condition to confirm the existence of a long-term equilibrium relationship between the variables under study. (-1.25) is negative and significant at a level less than (1%) and this means that (1.25) of the short-term errors are automatically corrected to reach the long-term equilibrium. Moreover, the short-term parameters correspond to a large extent with the long-term parameters in terms of The signal and the level of significance, even if the values of the parameters vary in varying proportions, noting that the estimates of the long-term parameters measure the total effect, whether (direct or indirect) of the change in the explanatory variables (whether external or internal, backward in time). Table (5) shows the ratio between short-term transactions to long-term transactions and the degree of their influence on the dependent variable.

Table (5): The ratio of short-term impact coefficients to long-term impact on the ARDL model capabilities of the phenomenon of poverty.

Ratio of short-term to long-term impact%	Long-term impact transactions	Short-term impact transactions	Illustrative variables
125	3.256210	4.098466	AGDP
20	20912.50	4295.050	GINI
76	1979.353	1508.619	HS
98	735.5192	722.6715	INF
40	5141.838	2078.772	LA
50	1.764869	0.889153	PD
32	-1421.246	-461.9389	UE

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

It is clear from Table (5) that the highest percentage of impact on the variables that occur in the absolute poverty line is the average per capita share of GDP, as it reached in the short term (125%) of the total impact, followed by the impact of both inflation and the percentage of spending on health services. , The population density, and the percentage of spending on education, as the

percentage of their impact on the absolute poverty line in the short term was (98%, 76%, 50%, 40%) respectively from the total impact, while the rate of unemployment on the poverty line reached Absolute in the short term (32%), while the percentage of the influence of the variance coefficient in the distribution of income was (20%), which is the lowest percentage compared to the ratios of the influence of other factors.

Second: The evaluation of the estimated model is standard.

In order to ensure the quality of the model used in measuring and analyzing the determining factors of poverty in the Iraqi economy and that it is free from standard problems, the following diagnostic tests must be performed:

1- Autocorrelation

It is done through the BGLM test. It is noticed from Table (6) that the value of the (F) statistic was (0.509) with a probability value (Prod: 0.8279), which is greater than (5%), and the probability value of the chi-square statistic was (0.6836). Estimated from the hierarchical correlation problem between residuals ($H_0: P = 0$).

Table (6): BGLM test for the (ARDL) poverty model in the Iraqi economy.

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.050934	Prob. F(1,7)	0.8279
Obs*R-squared	0.166144	Prob. Chi-Square(1)	0.6836

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

2- The autoregressive conditional variance instability test (ARCH):

Table (7) shows that the model of factors determining poverty in the Iraqi economy under discussion does not suffer from a problem of

heterogeneity because the value of the (F) statistic calculated reached (1.2104) at a probability level (Prod: 0.2843), and this means accepting the null hypothesis that states that The constancy of the variance of the random error limit in the estimated model.

Table (7): ARCH test for (ARDL) poverty model in the Iraqi economy.

Heteroskedasticity Test: ARCH			
F-statistic	1.210446	Prob. F(1,20)	0.2843
Obs*R-squared	1.255505	Prob. Chi-Square(1)	0.2625

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

3- The normal distribution test for random errors (JB) Jarque - Bera:

Figure (2) shows that random errors are distributed naturally in the estimated model, as the value of

the (JB) test was (0.1986) with a probability value (Prod: 0.9054), which means the possibility of accepting the null hypothesis that states that random errors are normally distributed.

Fig. (2): A normal distribution test for the remainder of the estimated model.

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

4- Test of the appropriateness of the validity of the semantic form (Ramsey - RESET):

It is evident from Table (8) that the value of the (F) statistic reached (0.08108) and the associated probability value (Prod: 0.7841), as well as

through the value of the (t) statistic for adults (0.2847), and the associated probability value (Prod: 0.7841). They were greater than (5%), which means accepting the null hypothesis that states the validity of the semantic (linear) form used in the estimated model.

Table (8): Ramsey - RESET for the (ARDL) model of poverty in the Iraqi economy.

Ramsey RESET Test Equation: UNTITLED Omitted Variables: Squares of fitted values			
Test	Value	df	Probability
t-statistic	0.284746	7	0.7841
F-statistic	0.081080	1,7	0.7841

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

5- Multicollinearity Test:

The analysis of the capabilities of any standard model includes more than one explanatory variable. It is necessary to test that the model is free from the problem of linear multiplication (multiple linear duplication). Therefore, there are several tests, the most important of which is the Variance Inflation Factor (VIF) test. If the values of the test parameters are confined between zero

and (10), then there is no problem of linear multiplicity between the explanatory variables of the model and acceptance of the null hypothesis, and on the contrary, the null hypothesis is rejected and accepted. The alternative hypothesis that states the existence of the problem of linear multiplicity, and it is inferred from the results of the linear multiplicity test using the variance amplification factor (VIF) in Table (9) that there is no linear multiplicity problem between the explanatory variables of the (ARDL) model of poverty in the estimated Iraqi economy.

Table (9): Results of multicollinearity test using contrast amplification factor (VIF).

Variance Inflation Factors Sample: 1996 201 Included observations: 24			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
AGDP	12.40709	165.5334	8.789655
GINI	1.26E+09	148.9257	9.554355
HS	908078.0	16.24083	5.454742
INF	10313.82	7.853820	1.698260
LA	1660592	6.565680	1.457239
PI	0.207386	762.4849	7.8382
UE	146395.4	32.93582	3.185487
C	1.12E+09	840.8952	NA

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

Step five: Results of the Structural Stability Test of (ARDL) Poverty Model Transactions in the Iraqi Economy

In order to ensure that the data used in estimating the model is free from any structural changes in it, as well as the stability and consistency of the

estimates for the short and long term parameters, the following two tests were performed:

A- The cumulative sum of recursion residues (CUSUM) test & the cumulative sum of recursive residual squares (CUSUM SQ) test.



Figure (3): Structural Stability Test of (ARDL) Poverty Model Transactions in the Iraqi Economy.

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

structurally stable over the time period in question, the

It is noticed from Figure (3) that the graph of the test for the cumulative sum of the residuals is repeated (CUSUM) falls within the critical limits (maximum and minimum) at a significant level (5%), and this means that the estimated coefficients of the CUSUM unrestricted error correction model, the user are

same is the case for the CUSUM test. The cumulative total of CUSUM-SQ squares is also structurally stable as it occurred within the critical boundaries at a significant level (5%). Iraqi.

B - Chow Breakpoint Test.

Table (10): Gao's test for the (ARDL) poverty model in the Iraqi economy.

Chow Breakpoint Test: 2004			
Null Hypothesis: No breaks at specified breakpoints			
Varying regressors: All equation variables			
Equation Sample: 1996 2019			
F-statistic	0.727105	Prod. F (8,8)	0.6686
Log likelihood ratio	13.11472	Prod. Chi-Square (8)	0.1080
Wald Statistic	5.816841	Prod. Chi-Square (8)	0.667

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

It is noted from Table (10) that the value of the (F) statistic for adults is (0.727) with a probability value

(Prob. = 0.668) is greater than (5%), and this means accepting the null hypothesis which states that the parameters of the estimated model were

not affected by the events of (2003) and economic liberalization policies are structurally stable.

Step six: Predictive performance test results for the error correction model.

After making sure that there were no structural changes in the capabilities of the model, the Inequality Coefficient (Theil) was used to ensure

that the (ARDL) poverty model in the Iraqi economy has a high predictability during the research period, as in Figure (4) as follows:

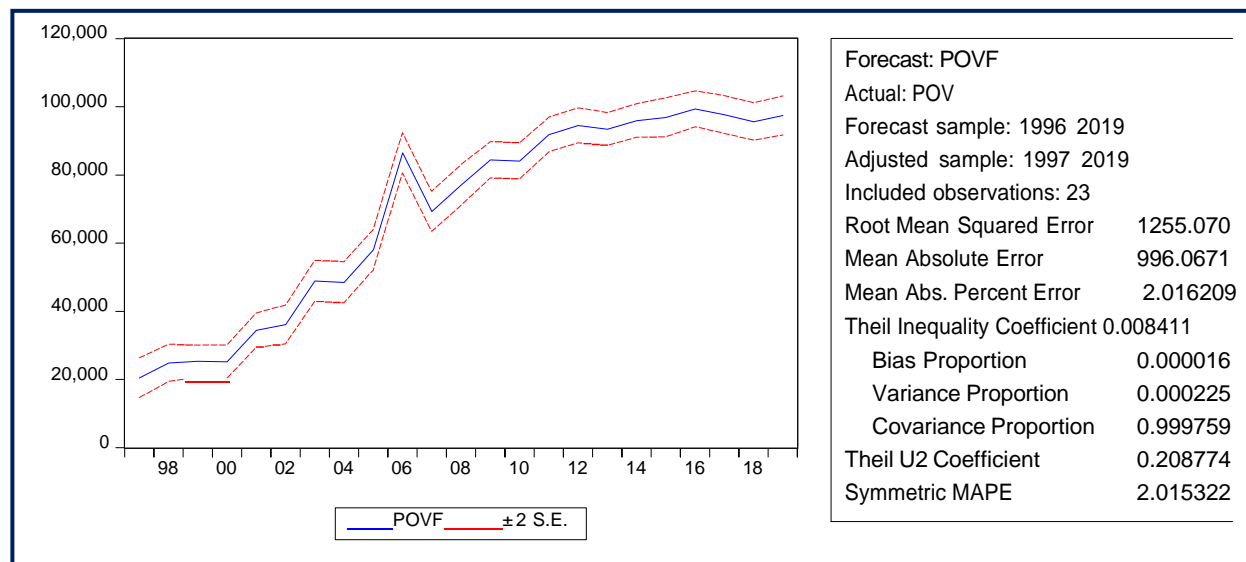


Figure (4): Actual and projected values of the absolute poverty line in the Iraqi economy For the duration (1996-2019).

Source: prepared by researchers depending on the outputs of the statistical program (Eviews10).

It is inferred from the above figure that the value of the Theil coefficient (T) reached (0.008411), which is less than the true one and close to zero, while the value of the bias ratio (BP) was (0.000016), which is also less than the true one and close to zero. The variance ratio (VP) (0.000225) is close to zero as well, while the covariance ratio (CP) is (0.999759), which is close to the true one. The results of this model in the analysis and evaluation of policies in order to make the right economic decisions to achieve the set objectives.

Conclusions and recommendations:

First: Conclusions:

1- The results of the standard analysis showed that the phenomenon of poverty in Iraq is determined by the following variables: (average per capita share of gross domestic product at constant prices, variation in income distribution, population density, inflation rate, unemployment rate, percentage of spending on health services, percentage of spending on education. With one optimal slowdown period, which explains about (99%) of the changes that take place in the

absolute poverty line after deducting the value of the credit card.

2- The results of a standard analysis of the capabilities of the (ARDL) model demonstrated the existence of a positive and significant relationship in the short and long term between the absolute poverty line and each of (INF, the population density of PD, and the variation in income distribution). (Average per capita share of gross domestic product at constant prices AGDP, unemployment rate UE, percentage of spending on health services HS, percentage of spending on education LA) as the relationship was positive and significant except for the unemployment rate (UE) as the relationship was inverse and inconsistent with the logic of economic theory and hypotheses. search.

3- It was found that the value of the error correction factor is equal to (-1.25), which is negative and statistically significant at a significant level less than (1%), and this means that (1.25) of the short-term errors are automatically corrected to reach equilibrium in the long term. Absolute poverty after deducting the value of the ration card for less than a year ($1 \div 1.25 = 0.8$) to reach its equilibrium value in the long term, which is a quick response.

4- The degree of influence of each of the variables (average per capita share of GDP at constant prices, variation in income distribution, population density, inflation rate, unemployment rate, percentage of spending on health services, and the percentage of spending on education) on the absolute poverty line after deducting The value of the ration card in the short term (125, 20, 50, 98, 32, 76, 40)%, respectively, of the total effect, as the highest percentage of impact on the changes that occur in the absolute poverty line was due to the average per capita share of the gross domestic product. In the short term, it reached (125%) of the total effect, followed by the effect of the inflation factor, at a rate of (98%).

Second: Recommendations:

1- In light of the developments that Iraq has witnessed in the economic field, especially from 2003 to 2020, the phenomenon of poverty in Iraq is no longer a temporary or transitional social and economic problem, but has turned into a permanent impasse facing the government. Institutions and controls that control the decision-making circles in the country, with the aim of adopting economically and socially feasible solutions to reduce the phenomenon of poverty in Iraq.

2- Establishing governmental institutions concerned with the affairs of poverty and the poor whose mission is to provide financial support to the poor, such as establishing a bank for the poor. The bank's philosophy is based on the principle that loans should be treated as a right for the poor who have nothing, and they have priority in obtaining loans, as well as the establishment of a specialized hospital for the poor to be located The hospital is in the capital, Baghdad, and it has mobile health teams scattered in the governorates, especially in the countryside. The hospital's budget is funded by the government in addition to donations from individuals and institutions and the free health card system for the poor as well as providing data and information on individuals below the poverty line, and providing real studies. In order to prepare strategies that serve the poor, and to enable economic policy makers to track the

impact of the goals of those strategies on poverty through the poverty rates and rates.

3- Supporting small enterprises and securing the appropriate economic environment for their success, because these projects contribute to attracting workers and reduce unemployment and thus lead to a reduction in poverty.

4- Supporting basic commodities for the poor, as the negative impact of high prices is reflected first on the poor. Therefore, the government must work to provide basic commodities to the poor at reasonable prices, in addition to supporting other services such as electricity and others.

5- Supporting the poor in the countryside by developing the infrastructure and supporting projects for the rural sector by providing fertilizers, seeds and modern machinery, as it is an important economic and vital sector that contributes to reducing unemployment and supporting the country's exports and thus reducing the high poverty rates in the countryside by focusing on investments in the countryside and investment. In primary health care and education services.

6- Social protection for the poor through the work of the Government-financed Generations Fund, activating the role of consumer cooperative societies and the role of public and private sector companies for sale by installment system, as well as expanding the inclusion of the poor with transfer payments made to them by the state, reviewing those who deserve it and working to exclude those who are not eligible.

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