Measuring and analyzing the impact of public expenditure on social expenditure in Iraq For (2004 - 2019)

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Abstract

Social expenditure is an important part of public expenditure. Therefore, any change in the volume of public expenditure Actual is reflected positively towards increased expenditure on education, education and health, as well as expenditure on care. social, and Iraq is one of the countries striving to achieve the goals of sustainable development embodied in expenditure Social, and in order to achieve the objectives of the research, it seeks to indicate the volume of social expenditure when the volume of expenditure changes General, and for that, the ARDL methodology was used to estimate the expected results and test them according to the logic of the theory Economic, the research reached a set of conclusions, it was important that public expenditure.

Keywords: Iraq, public expenditure, social expenditure, sustainable development

Introduction

Social expenditure is part of public expenditure as transfers and sums of money directed towards sectors Generalization, health and social care, as any change in public expenditure leads to a change in the volume of expenditure social, and aims to achieve social purposes, so it has been built with increasing interest by many States due to its importance in achieving the well-being of society, and the promotion of social values, and there are often repercussions This type of expenditure can contribute to reducing poverty and inequality, and coping with shocks. economic, as well as its role in reducing the size of unemployment, and Iraq is one of the developing countries that seek To increase social expenditure in order to raise the level of health and education and achieve some kind of care Social by allocating social expenditure to social development sectors.

The importance of research

The importance of the research lies in knowing the role that public expenditure rises to in achieving growth levels to increase expenditure. Social expenditure on social development

sectors and Asia by reducing the poor and unemployment in Iraq and investing Social financial allocations to increase human capital and increase social benefits.

The aim of research

The research aims to show the impact of public expenditure on social expenditure and its repercussions on sustainable development. During the measurement and analysis of changes in the trends of social expenditure and their impact on achieving a certain growth rate The social situation in Iraq during the period (2004-2020).

The problem of research

That social expenditure in Iraq did not restore a balance between the social and non-qualitative sectors Who is the person responsible for unemployment, and he will not be interested in developing the sectors of education and health, and therefore his role in achieving this is weak sustainable development goals.

The Hypothesis of research

The research is based on the hypothesis that (actual public expenditure does not lead to the achievement of a relationship Long-term equilibrium with blind social expenditure in Iraq during the period 2004-2020

Research Methodology

For the purpose of standing on the relationship that connects between the variables of research and access to results, the researcher used the research Quantitative method in measuring and loading research variables using the ARDL model for a period (2004-2020).

Search structure:

For the purpose of the investigation, who is required to search and the possibility of reaching it for the intended goals, the search section was closed to me. Two decades, as follows:

The first topic: public expenditure and social expenditure (general concepts)

First: the concept of public expenditure .

Public expenditure is an important tool of the fiscal policy that contributes to the satisfaction of public needs. For public needs, all services and works that satisfy a social benefit[1], and the importance of this increases. The tool comes with the increasing role of the state, expanding its authority, and increasing its interference in economic life.

There have been many definitions about public expenditure, as some people knew that the state spends an amount of money. For the purpose of achieving public benefit [2], as others knew it to represent all payments and purchases that you make There are various

benefits from the state that the private sector cannot provide, but which have become important for the public benefit As a whole, such as expenditure on infrastructure and expenditure on defense, health, education and social protection [3]. There is another definition of expenditure on the construction of how much is subject to monetary valuation ordered by a person of the law In order to satisfy a general need, this definition is considered complementary to the previous definitions, because they took into account all Elements of public expenditures incurred by a public body in response to satisfying a public need, whether the form of expenditure is cash or non-cash.

Through this, public expenditure is represented by three elements, the first element being the monetary form of expenditure by the public During the state or one of its public bodies paying a sum of money for the purpose of obtaining production resources from Goods and services, while the second element is the obligation to issue expenditures from an official body, and this is an essential pillar of The pillars of public expenditure are subject to the general law[4] ,While the third element is the goal that alimony seeks It is the satisfaction of the public need, and then the realization of the public benefit.[5]

. It can be said that public expenditure is all expenditure, whether in cash or in kind, and subject to monetary scale, carried out by a person. A general represented by the government or one of its bodies for the purpose of satisfying a public need According to the economic criterion in dividing public expenditure, it is divided according to the actual expenditures that the state implements in return Obtaining goods and services, which leads directly to an increase in the national product, and in turn, is divided into current and investment expenses.

Second: social expenditure:

Social expenditure is one of the basic components of public expenditure, and it is a necessity and a basic requirement to achieve The goals of sustainable development, especially the eradication of poverty and unemployment, and raising the level of education and health, and making it available to their members of society, and social expenditure has been built with increasing interest by many countries, due to its importance In increasing the welfare of individuals, enhancing social cohesion, and providing financial security, therefore, it is an important operational means. In order to achieve the goals of sustainable development.In order to achieve the goals of sustainable development[6].

The importance of social expenditure also stems from the presence of many challenges facing societies and their environment More retirees, less workers, and the effects of technology on work, barriers to women's participation in the economy. Consequently, the decline in social expenditure restricts the distribution of income from the higher income groups to the lower income groups. Thus, this type of expenditure contributes to reducing poverty and inequality, and helps low families Income from economic shocks, including shocks arising from demographic developments technology and climate, and public investment in education and health boosts productivity and growth and limits Inequality of opportunity and income. Some have defined it as all expenditures related to the social

purposes of a state, which are directed from behind Redistribution of income among individuals [7] , is distributed according to the principle of social security and health care from Through the payment of these expenses to the individuals covered by them in the form of cash. While others knew that (Expenditures that are predominantly social in nature, where its main objective is to increase the level of well-being of individuals society in general and the poor in particular)) [8] .And there are those who knew that (the tunnel that goes into Achieving social effects among individuals through a degree of culture, generalization and health care for individuals. In addition to a measure of social solidarity by helping some groups that suffer from conditions Certain and need support, such as providing aid and subsidies to people with limited income and the unemployed...,so on. The most important items of these expenditures are related to education, health, culture and housing facilities.[9]

The second topic: measuring and analyzing the impact of public expenditure on social expenditure.

First: The Standard characterization and formulation of a model.

The data was adopted on a quarterly basis during the period (4002-4002) in Iraq, at a rate of (42) An observation of the variables through which to identify the effect of changes in the independent variable represented in actual public expenditure. And the dependent variable represented by social expenditure, which includes expenditure on (education, education, health, and care 4 social), and the standard model can be formulated with the following equation expressing the nature and direction of the relationship between The independent variable represented by actual public expenditure (EX) and the dependent variable represented by social expenditure (SOC).

SOC = B0+ B1EX +U1……..(1)

Based on what came in the economic literature, the logic of economic theory, and the objectives of economic development According to the expectations of various studies in this field, economic logic refers to the assumption of a relationship Positive (direct) between total public expenditure and social expenditure indicators represented by expenditure on sectors (Education, higher education, and health), and social care, and it is expected that the value of the generalizations referred to in Actual public expenditure or the previous equation (1) will be positive on the basis that the issue of positive changes in Their increases will contribute positively to the increase in social expenditure on the aforementioned sectors.

Second: Stability results.

In order to identify the time-series static of the surveyed variables, a (unit root) test must be conducted. Accordingly, it is required to ascertain the stability of this feature and the extent of its complementarity by doing the following two tests:

1. **Augmented Dickey - Fuller Test.**

For the purpose of verifying the equilibrium tangency of the two variables (EX, SOC), it is necessary to follow the Dickey test - Expanded Fuller (ADF), and from table (1) it is clear that the time quotient for each of the public expenditures (EX) And Social Expenditure (SOC) was unstable in the level, whether when there is a fixed limit or when there is a limit Constant and general direction or in the case without a fixed term and general direction, and when calculating the first difference of these two variables, The value of (prob) was less than (0.05) for the independent variable (EX) when there is a fixed term and no fixed term and direction General and at a significant level (0%), and therefore we reject the null hypothesis and accept the alternative hypothesis towards seismic stillness. The time of the two variables above, or it is considered to be an integral of the first order (0)~I and does not contain a root problem.

table (1)

Extended Dickey Fuller Test Results.

UNIT ROOT TEST RESULTS TABLE (ADF)			
Null Hypothesis: the variable has a unit root			
	At Level		
		SOC	EX
With Constant	t-Statistic	-1.0926	-1.7113
	Prob.	***0.7132***	***0.4204***
		n0	n0
With Constant & Trend	t-Statistic	-3.1532	-2.7406
	Prob.	***0.1040***	***0.2249***
		n0	n0
Without Constant & Trend	t-Statistic	0.7615	0.3989
	Prob.	***0.8757***	***0.7956***
		n0	n0
	At First Difference		
		d(SOC)	d(EX)
With Constant	t-Statistic	-2.8556	-2.2223
	Prob.	***0.0568***	***0.2008***
		*	n0
With Constant & Trend	t-Statistic	-2.8199	-2.1931
	Prob.	***0.1962***	***0.4844***
		n0	n0
Without Constant & Trend	t-Statistic	-2.4465	-1.9954
	Prob.	***0.0151***	***0.0448***
		**	**

Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

2. Phillips-Perron Test

Test As for using the Phillips-Perron Test, the results are shown in the table. (4) indicates that the two variables (EX, SOC) are not stable in the level in all cases (fixed limit, A fixed term and a general trend, and without a fixed term and a general trend), and are stable at the first difference, and therefore we reject the hypothesis The null hypothesis and we accept the alternative hypothesis towards the quiescence of the seismic time for the above

two variables, or consider an integral of the order The first (0)~I does not contain the unit root problem.

table (2)

Extended Dickey Fuller Test Results.

UNIT ROOT TEST RESULTS TABLE (PP)
Null Hypothesis: the variable has a unit root

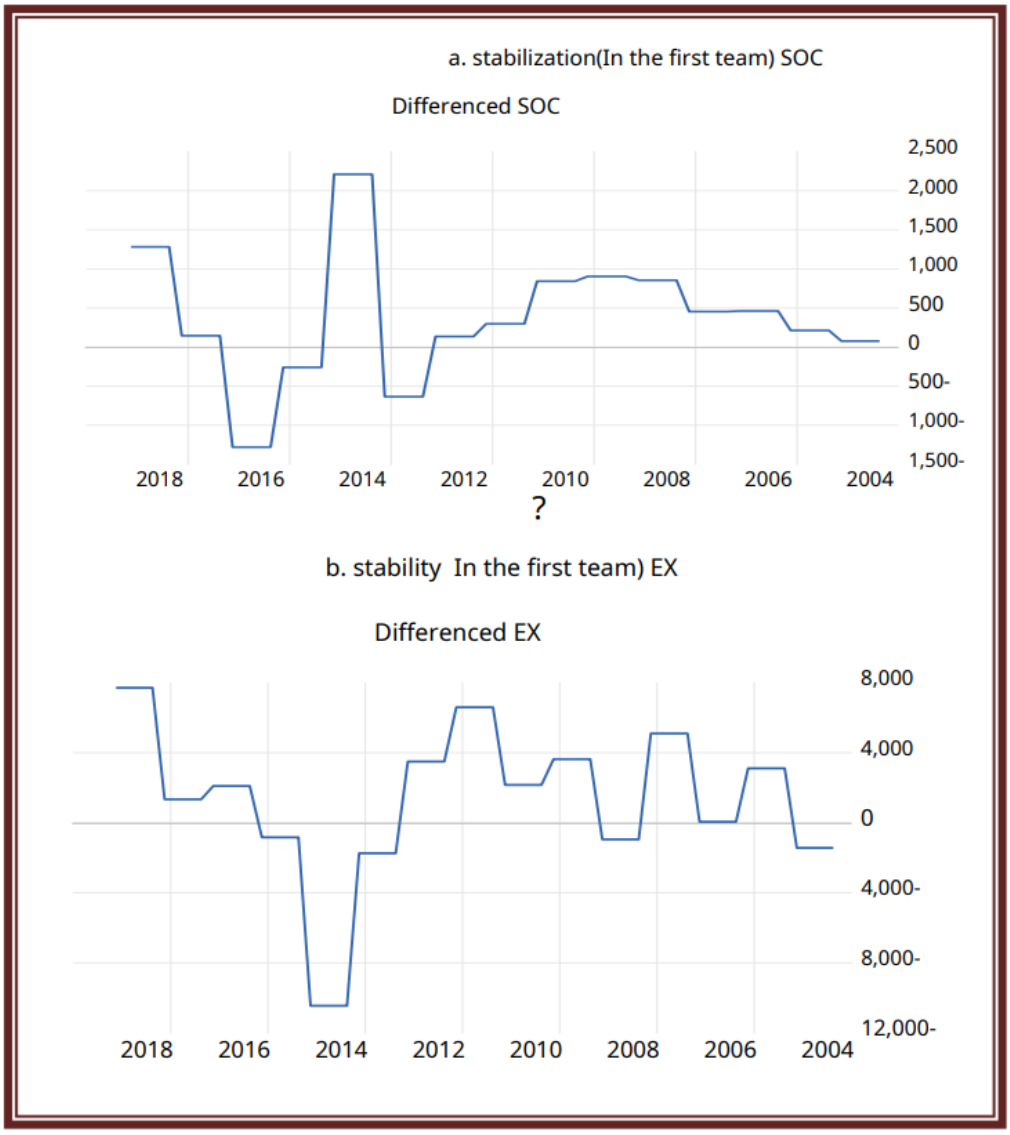
		SOC	EX
	At Level		
With Constant	t-Statistic	-0.9211	-1.1247
	Prob.	***0.7749***	***0.7006***
		n0	n0
With Constant & Trend	t-Statistic	-1.8317	-1.6394
	Prob.	***0.6769***	***0.7653***
		n0	n0
Without Constant & Trend	t-Statistic	1.3836	0.7582
	Prob.	***0.9569***	***0.8751***
		n0	n0
	At First Difference		
		d(SOC)	d(EX)
With Constant	t-Statistic	-3.0872	-2.3914
	Prob.	***0.0330***	***0.1485***
		**	n0
With Constant & Trend	t-Statistic	-3.0572	-2.3624
	Prob.	***0.1261***	***0.3949***
		n0	n0
Without Constant & Trend	t-Statistic	-2.6534	-2.1666
	Prob.	***0.0088***	***0.0302***
		***	**

Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

Figure (1) shows the static of the dependent and independent variables under study in the first difference.

Figure (1)

The static of the dependent and independent variables under study in the first difference.



Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

In the next step, we adopt the ARDL method to estimate parameters, whether in the long-term or in the long-run. short.

Third: The estimation of the autoregressive model for the distributed slowdown ARDL.

In order to reveal the extent to which there are short or long-term relationships between the mentioned variables, it is necessary to Examining the data in Table (3) for the results of the estimation of the autoregressive model of the distributed slowdown ARDLof the model and its dependence, as it is clear that it was identical to the statistical and standard tests, and then The quality of the model, the value of the parameter has been exaggerated)2Which is about 22.4%, which means that the straight variables (R In the model, the interpretation of 22.4% of the change in the dependent variable and that the value of F-Statistic was about 4402.002, and with a level of significance less than 0.00, so that the value of Prob is 0.004, as well as The value of Dorbin Watson (DW) is about (1.816091), to confirm that the model is free from the problem of autocorrelation.

Table (3)

ARDL autoregressive model estimation results

Dependent Variable: SOC
Method: ARDL
Date: 05/16/22 Time: 19:19
Sample (adjusted): 2004Q3 2019Q1
Included observations: 59 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): EX
Fixed regressors: C
Number of models evalulated: 20
Selected Model: ARDL(2, 2)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
SOC(-1)	1.780406	0.090863	19.59437	0.0000
SOC(-2)	-0.797703	0.087426	-9.124338	0.0000
EX	-0.096015	0.029170	-3.291584	0.0018
EX(-1)	0.185326	0.056402	3.285790	0.0018
EX(-2)	-0.086000	0.031338	-2.744300	0.0083
C	147.9076	194.1033	0.762005	0.4494

R-squared	0.996030	Mean dependent var	15580.32
Adjusted R-squared	0.995656	S.D. dependent var	7456.854
S.E. of regression	491.4955	Akaike info criterion	15.32893
Sum squared resid	12803094	Schwarz criterion	15.54020
Log likelihood	-446.2033	Hannan-Quinn criter.	15.41140
F-statistic	2659.517	Durbin-Watson stat	1.816091
Prob(F-statistic)	0.000000		

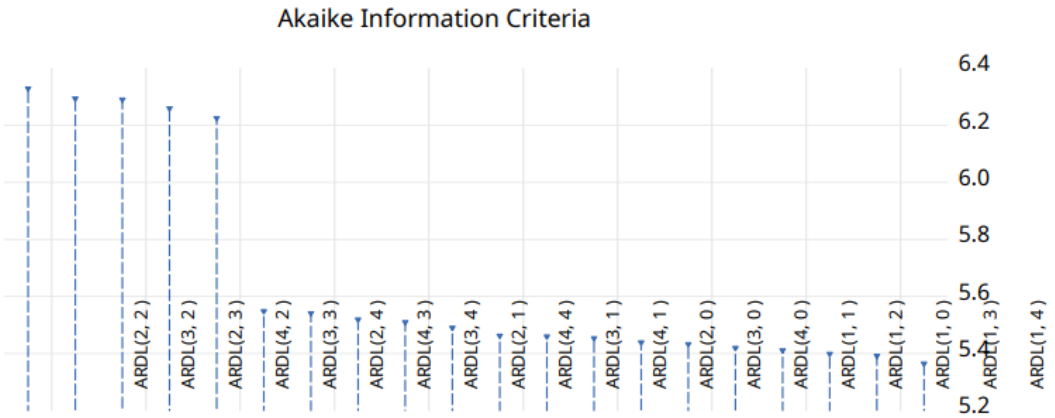
Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

Fourthly: Standard (AIC: Akaike) for the time lag of the estimated model.

It is clear from Figure (2) that the optimal slowdown period is (4,4), which was chosen according to the (ACAIK) criterion, given To give the lowest value for this criterion, and it was determined automatically through the use of a program (12:EViews)

Figure (2)

Criterion (AIC: Akaike) for the estimated model time retardation



Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

Fifth: The Bound Test

It is clear from Table (4) and after obtaining the result of the (F-Statistic) test, which amounted to Calculated about (1.238417), which is less than the upper tabular terms (0)~I and the lower tabular terms (0)~I At the level of significance (10%), and the growth inferred that there is no co-integration between the independent variable (EX) and the variable The function (SOC), which supports the rejection of the alternative hypothesis and the acceptance of the null hypothesis i.e. the assertion that there is no relationship Long-term equilibrium between the two variables mentioned

Table (4)

The Bound Test result

The Bound Test Results for the Joint Integrator

ARDL Long Run Form and Bounds Test
Dependent Variable: D(SOC)
Selected Model: ARDL(2, 2)
Case 2: Restricted Constant and No Trend
Date: 05/16/22 Time: 19:27
Sample: 2004Q1 2019Q4
Included observations: 59

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	1.238417	10%	3.02	3.51
k	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58
Actual Sample Size	59		Finite Sample: n=60	
		10%	3.127	3.65
		5%	3.803	4.363
		1%	5.383	6.033
			Finite Sample: n=55	
		10%	3.143	3.67
		5%	3.79	4.393
		1%	5.377	6.047

Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

Sixth: Error Correction Form (ECM) according to the methodology ARDL.

It can be identified from the data in Table (5), and it is clear that (error correction limit) Its coefficients (1_cointEq) were negative and significant, and amounted to about (-0.017226), with a level of significance that was less than 0%, which is a correction equivalent to about (1.72%) of the short-term imbalances in the previous period (1-t) in Social expenditure (SOC) and its correction in the current period (t) to reach a state of equilibrium in the long term. According to the short-term parameters, it becomes clear that the actual public expenditure, if a negative impact onpublic social expenditure At the level of significance (0%), that is, the increase in actual public expenditure will not contribute to an increase in social expenditure (expenditure Public expenditure on education, public expenditure on health, expenditure on higher education, public expenditure on care social), which is contrary to the logic of economic theory, and thus did not appear to have a positive impact on the results Standard Test 11 The error correction factor (1_cointEq) indicates that the adjustment speed is very slow, which means that the adjustment rate is very slow

The error correction factor (1_cointEq) indicates that the adjustment speed is very slow, which means that the adjustment rate is very slow. The existence of a long-term equilibrium relationship, and thus we accept the null hypothesis, and therefore the question of estimating the relationship is long The term through the input variables in the model has no significant effect in the long term on the dependent variable (Social expenditure), and therefore the generalization of error correction indicates the existence of a false cosmic co-integration Negative and moral.

Table (5)

The error correction Model (ECM)

Error Correction Model (ECM) Results According to ARDL Methodology

ARDL Error Correction Regression
Dependent Variable: D(SOC)
Selected Model: ARDL(2, 2)
Case 2: Restricted Constant and No Trend
Date: 05/16/22 Time: 19:55
Sample: 2004Q1 2019Q4
Included observations: 59

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SOC(-1))	0.797703	0.084281	9.464850	0.0000
D(EX)	-0.096015	0.026330	-3.646630	0.0006
D(EX(-1))	0.086000	0.028972	2.968358	0.0045
CointEq(-1)*	-0.017296	0.008809	-1.963530	0.0548

R-squared	0.655573	Mean dependent var	385.1102
Adjusted R-squared	0.636786	S.D. dependent var	800.5615
S.E. of regression	482.4764	Akaike info criterion	15.26113
Sum squared resid	12803094	Schwarz criterion	15.40198
Log likelihood	-446.2033	Hannan-Quinn criter.	15.31611
Durbin-Watson stat	1.816091		

Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

Seventh: Diagnostic tests

It is essential to identify the feasibility of the biological model and its ability to pass standard tests. the following

1. Test the autocorrelation problem (LM) Test

It is clear from the results of the toxicological correlation test between the residuals of the estimator model presented in Table (6), that The model The current model under consideration is free of the autocorrelation problem because the value of (2)-prob. Chi It

amounted to about (0.3240), which is greater than the level of significance (0.00), which indicates that the square . model The estimator does not suffer from the problem of the seismic link between the residuals, and thus we accept the null hypothesis.

Table (6)

Test the autocorrelation problem (LM) Test result

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.873372	Prob. F(2,51)	0.4237
Obs*R-squared	1.953824	Prob. Chi-Square(2)	0.3765

Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

2. The heterogeneity problem test

The table (7) indicate that the value of (prob.Chi-square) is greater than (0.0224), which is greater From (0.00) and therefore non-significant, i.e. accepting the null hypothesis that confirms (homogeneity of residuals) and nullity of the model Current from Mishkmatia.

Table (7)

The heterogeneity problem tes result

Heteroskedasticity Test: ARCH

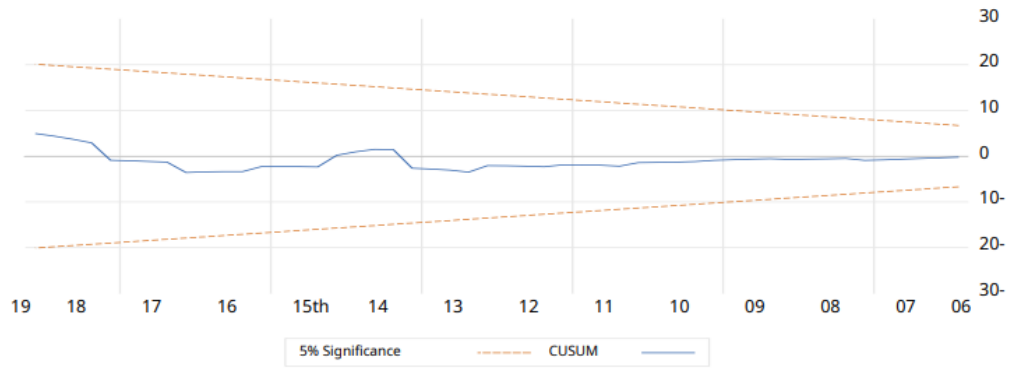
F-statistic	0.301662	Prob. F(1,56)	0.5850
Obs*R-squared	0.310762	Prob. Chi-Square(1)	0.5772

Eighth : stability test Stability for model coefficients ARDL

It is clear from Figure (3) of (the cumulative sum of my components: Cusum) that the estimated coefficients The unconstrained error correction model used is structurally stable during the period under study, and the occurrence of the graph within the critical limits and changes around the zero value at the 0% level of significance, which confirms the significance of the relationship between Public expenditure and social expenditure during the research period.

Figure (3)

The cumulative sum of my components: Cusum

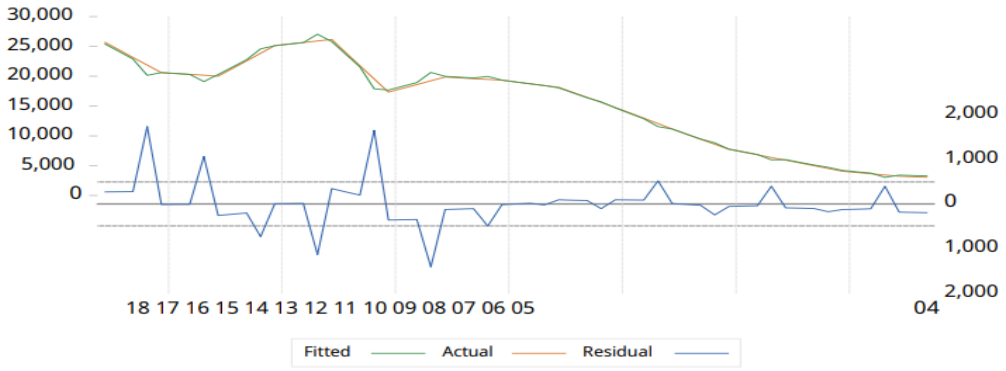


Source: Prepared by the researcher based on the statistical program (12:EVIEWS)

Nine: Estimated and actual residuals of the model

Clarification of the illusion of the structure graph (4) and the improvement of its application to the specifications of the standard model and its operation in terms of accuracy and quality. The evaluation model of the medical system using the ARDL method, as it shows that the evaluation standards are constant in all times. The importance of cultural or indoor forests, which means that they are 0% and not directed at much, and therefore, the changes that change It is important to note that the ARDL form is the only analogue of the human health record in the two forms. The results of a written correction are in the short and long term, and that they are applied in the restricted form. The practicality reflects the accuracy and quality of the model estimated according to the ARDL methodology.

Figure (4)



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