

## Social Welfare and Social Policies

### - Standard Study-

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#### Abstract

*The article focuses on the study of the relationship between social policies and social welfare on the economic growth in Algeria in the long term. After discussing the experimental and applied studies in the theoretical thesis on this subject, to achieve this goal we relied on a standard study using the test of the relationship of joint integration and correction model (ARDL) model, which was developed by Pesaran et al (2001), by studying a range of variables for Algeria for the period from 1970 to 2016. The results obtained in the model of estimating the relationship between social policies and welfare on GDP per capita indicate the negative impact of expenditure on education and expenditure on employment on GDP per capita in the long run. The effect of the other variables was positive, such as spending on the housing sector and Expenditure on the health sector.*

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## **1. Introduction**

Social policy is part of the basic function of the state. It is a fundamental part of the national development strategies. It aims to achieve growth, social development and social welfare. The term of the modern state is based on a social contract between the state and the citizen, Through which rights and duties are determined to exchange common interests. Within the framework of this contract,, all citizens have the right to enjoy a decent life by making use of clothing and adequate housing, education, employment, access to health services and social security.

Social policies have a prominent role in establishing and guiding social welfare and welfare in society, enabling target groups to achieve general societal goals, social justice, equality, freedom, democracy, citizenship and improving the quality of life. In the replacement of social welfare policies directed to plans, programs and projects to meet the humanitarian needs and improve the quality and quality of life in society

## **2. Literature review:**

By studying how social policies influence economic growth and improve quality of life and standard of living, many theoretical approaches and empirical studies show the scope of this impact, (**Midjley, 1995**) argues that governments must achieve economic growth and thus development (**Midjley J., 1996**). According to (**Midjley & Kwong-leung; 2001**), in a study on social policies, economic growth and welfare development, he argues that " The availability of integrated welfare opportunities leads to development Of social and sustainable economic and social expenditures that require state intervention to achieve welfare.

When economists talk about the subject of **Well-Being**, they use old terms of the famous economist **Arthur Cecil Pigou**, who is **Keynes'** father in his book *The Economies of Welfare*, published in 1908 (**Stiglitz & CE, 2009**). Welfare theory is no less than a general theory of economic policy. (**Davoine, 2007**) He who wanted to study the great principles of science had it Focuses mainly on the large amounts of social problems, such as the existence of rich and poor, and although the rate of change in economic development is significant in the past 20 years, so this Conceptual development owes much to the work of **Amartya Sen**, whose work defines Development as Freedom, published in 1999, since these multidimensional dimensions are not only the ones that make up luxury but also the knowledge of the causes of development and prosperity Socialization on the one hand and to multidimensional deprivation on the other (**Angus, 2011**).

In the same vein (**midjley, 1994**) the idea of social well-being is linked to the contribution of social progress and access to social improvement. The society must be built on social foundations to achieve social progress, and community programs seek productive development projects to increase income And meet social needs (**Amartya & Reboud, 2008**). Social welfare is therefore a positive contribution to economic development. As for

(Streenten & Burki, 1981) which gave a new expression to the idea of economic development and considered it the basis of social development through the process of redistribution of economic growth model, this is what most economists of the World Bank and the Institute for International Development Studies in England have reached.

(Midjley & Sherraden, 2000) believe that the individual's positive participation in the economy contributes to economic development, which is the core of the social welfare theory, and the adoption of social development policies that encourage the accumulation of human capital and the enhancement of social capital in addition to increasing employment opportunities for low-income people and ensuring the effectiveness of social services. (Grefe, 1997).

(Alvin, 2006) concluded that the provision of housing reflects the state of welfare and the role of the state in organizing because it is a factor of social development (Stiglitz & Amartya, 2008).

(Medvedev, 2016) also links the priorities of sustainable economic policy and economic growth in Russia with budgetary efficiency, structural reforms and encouragement of entrepreneurship, efficiency of public administration, and modernization of the welfare state. (Torres & Agustín, 2015) consider social welfare indicators to increase poverty and inequality. While social policy has sought to compensate for the deterioration of the living conditions of the population to the extent that economic policy itself imposes limits that force the targeting of public expenditure. (Mujica-Riveros, 1994) argues that the government must ensure minimum living conditions to meet basic needs and achieve social well-being and development.

### *3. Model and data study*

#### *3.1 Relationship between social policies, social welfare and gross domestic product per capita*

The study of the relationship between social wellbeing and social policies in Algeria will be conducted through the interpretation of GDP per capita in Algeria, and the expenditure on the social variables, namely expenditure on health, education, housing and employment. Previous studies taking into account the Algerian reality.

PIBh variable is the dependent variable in the applied study and the other variables are independent. As for the estimation method, we used the self-regression method of the distributed time gaps (ARDL) to study the relationship in the long term. The ARDL method allows us to study the relationship in the long term, taking into account the effect of the decimal values of the independent variables and the dependent variable on the current values of the dependent variable. The application of a common integration technique to analyze long-term growth is to test whether the dependent variable and independent variables follow a common long-term trend.

Variables for models and their sources are summarized in the following table:

**Table 01. Study Variables**

Source Series	The name of the string	String Code
World Bank Database	GDP per capita	<b>TPIBH</b>
ONS	Expenditure on primary and secondary education	<b>Educpsf</b>
ONS	Spending Spending Sector Housing(	<b>Logf</b>
ONS	spending on health sector	<b>Santf</b>
ONS	Expending on the labor sector	<b>Travf</b>

Determining the impact of social policies and welfare on GDP per capita in the long run will be based on estimating a standard model that explains economic growth by the following independent variables: GDP per capita, expenditure on health sector, education, housing and labor sector.

To estimate the above-mentioned relationship in the long run we will use the Auto Regressive Distributive Lags (ARDL) model developed by Pesaran et al (2001). This model is considered as a substitute for well-known integration tests. This test, developed by Pesaran et al (2001), is different from the rest of the tests because it does not require that the time series are all of the same class I (0) or I (1). The only condition for applying this test is that the degree of integration of any of the variables I (2) is not. Also, ARDL can be applied if the sample size is small and this is the reverse of most traditional integration tests that require that the size of the sample be large so that the results are more efficient.

The ARDL model enables us to separate the effects of the short term from the long term. In this method, we can determine the integrative relationship of the dependent variable and the independent variables in the long and short term in the same equation. Also in this methodology we can estimate parameters of independent variables in the short and long term. His estimated parameters in the short and long term are more consistent than those in other ways, such as Engel-Gringer (1987), Johansson (1988) and Johanssen-Gilles (1990). To determine the length of the distributed deceleration periods, two criteria (AIK) and (SC) are usually used, where the length of the period for which AIK and SC are low is chosen. «

The first step of the ARDL methodology is to test the existence of a common integration relationship, so that the joint integration according to Pesaran and al (2001) in ARDL models is based on the following hypothesis test:

$$\begin{cases} H_0 : & \pi_1 = \pi_2 = \pi_3 = \pi_4 = \pi_5 = 0. \\ H_1 : & \pi_1 \neq 0, \pi_2 \neq 0, \pi_3 \neq 0, \pi_4 \neq 0, \pi_5 \neq 0. \end{cases}$$

The test statistic is F-statistics (Wald test), and the decision is as follows: If F-stat is greater than the upper limit of critical values, we reject the null hypothesis that there is no

common integration relationship. If F-stat is less than the minimum critical value, we accept the null hypothesis that there is no common integration relationship. If the calculated value of F is between the upper limit and the minimum values proposed by Pesaran and al (2001), then we can not decide.

The minimum value assumes that all variables are static in their original values (at their level), meaning that they are complementary from the rank I (0). The value of the upper limit assumes that the variables are static in the first differences of their values, in the sense that they are integrated from the correct I(1).

The second step is to estimate the parameters of the model in the short and long term. This should be done after ensuring that there is a common integration relationship between the study variables.

Before estimating the equation, the statistical characteristics of the variables should be examined, in particular the study of stability. The goal is to detect the relationship in the long run and to avoid the false estimates that may result if the series used in the estimation are unstable.

The unit root of the model variables was tested by the Augmented Dickey Fuller Test. For the degree of delay, it was determined based on the lowest value for the **Akayek and Schwarz** parameters (max p = 4).

**Table 02.The degree of integration of time series**

Variables	Logf	santf	travf	Tpibh
Degree of integration	I (1)	I (1)	I (1)	I (0)

**The source:** Prepared by the researcher depending on Eviews 10

If the critical value (according to Mackinnon 1996) is 5% above the calculated value of the ADF (absolute value), this means acceptance of the null hypothesis, ie, the variable contains a unit root, thus the series is unstable. If the calculated value of the DCI is greater than the critical value, the chain is stable.

By making the first differences on the unstable time series, we get stable time series.

Determining the impact of social policies and well-being on GDP per capita in the long term will be determined by estimating a standard model that explains economic growth by the following independent variables: expenditure on health, education, housing and employment. These variables were expressed in the processing expenses and the management expenses from the general budget of the State.

The model takes the following linear form:

$$PIBH = f ( \text{Logf, Santf, Travf, Educpsf,} ) \dots\dots\dots(1)$$

To estimate the above-mentioned relationship in the long run, we will use the Auto Regressive Distributive Lags (ARDL) model developed by **Pesaran et al (2001)**

The ARDL model of equation (1) is written as follows: (Pesaran, Shin, & Smith, 2001)

$$\Delta PIBH_t = a_0 + \sum_{j=1}^{p_1} \beta_j \Delta PIBH_{t-j} + \sum_{j=0}^{p_2} \theta_j \Delta TRAVF_{t-j} + \sum_{j=0}^{p_4} \delta_j \Delta EDUCPSF_{t-j} + \sum_{j=0}^{p_5} \lambda_j \Delta SANTF_{t-j} + \sum_{j=0}^{p_6} \theta_j \Delta LOGF_{t-j} + \pi_1 PIBH_{t-1} + \pi_2 TRAVF_{t-1} + \pi_4 EDUCPSF_{t-1} + \pi_5 SANTF_{t-1} + \pi_6 LOGF_{t-1} + \varepsilon_t \dots\dots\dots (1)$$

Model (1) shows that GDP per capita can be explained by its lagging values and the lagging values of independent variables.

The first step of the ARDL methodology is to test the existence of a common integration relationship, so that the joint integration according to **Pesaran and al (2001)** in ARDL models is based on the following hypothesis test:

$$\begin{cases} H_0 : & \pi_1 = \pi_2 = \pi_3 = \pi_4 = \pi_5 = 0. \\ H_1 : & \pi_1 \neq 0, \pi_2 \neq 0, \pi_3 \neq 0, \pi_4 \neq 0, \pi_5 \neq 0. \end{cases}$$

The test statistic is F-statistics (Wald test), and the decision is as follows: If F-stat is greater than the upper limit of critical values, we reject the null hypothesis that there is no common integration relationship. If F-stat is less than the minimum critical value, we accept the null hypothesis that there is no common integration relationship. If the calculated value of F is between the upper limit and the minimum values proposed by **Pesaran and al (2001)**, then we can not decide.

The minimum value assumes that all variables are static in their original values (at their level), meaning that they are complementary from the rank I (0). The value of the upper limit assumes that the variables are static in the first differences of their values, in the sense that they are integrated from the correct I(1).

The second step is to estimate the parameters of the model in the short and long term. This should be done after ensuring that there is a common integration relationship between the study variables.

### 3.2. Test the relationship of joint integration using the Boundary Approach

$$\begin{cases} H_0 : & \pi_1 = \pi_2 = \pi_3 = \pi_4 = \pi_5 = 0. \\ H_1 : & \pi_1 \neq 0, \pi_2 \neq 0, \pi_3 \neq 0, \pi_4 \neq 0, \pi_5 \neq 0. \end{cases}$$

**Table 03. Boundary Tests**

F-statistic =4.562197		
Critical values		
Upper limit	Bottom border	significatif levels
3.52	2.45	10%
4.01	2.86	5%
4.49	3.25	2.5%
4.06	3.74	1%

**Source:** Prepared by the researcher depending on Eviews 10

The table shows that F-stat is greater than the upper limit of the critical value at different degrees of significance (1%, 5%, 10%) and therefore reject the null hypothesis and accept the alternative hypothesis of a long-term equilibrium relationship.



### 3.3. Estimation of the ARDL Model

We will estimate the parameters of this relationship according to the ARDL methodology. Based on Schwarz Bayesian Criterion, the deceleration periods were determined and the model (1, 0, 3, 2, 4) was the optimal model. The short and long term results are shown in the following table:

**Table 04. Estimation of the Self-Regression Model of Distributed Time Leaps (1, 0, 3, 2, 4)**

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob
D(SANTF)	0.000006	0.000002	2.978761	0.0062
D(TRAUF)	0.000009	0.000003	2.890351	0.0077
D(TRAUF(-1))	-0.000023	0.000004	-5.361272	0.0000
D(TRAUF(-2))	0.000026	0.000006	4.299228	0.0002
D(EDUCPSF)	0.000004	0.000002	2.355528	0.0263
D(EDUCPSF(-1))	-0.000005	0.000002	-2.990216	0.0060
D(LOGF)	-0.000017	0.000006	-3.027946	0.0055
D(LOGF(-1))	0.000031	0.000007	4.425273	0.0002
D(LOGF(-2))	-0.000038	0.000010	-3.896508	0.0006
D(LOGF(-3))	-0.000013	0.000005	-2.739826	0.0110
CointEq(-1)	-0.211797	0.041667	-5.083020	0.0000
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob
SANTF	0.270000	0.000010	2.733625	0.0111
TRAUF	-0.590000	0.000021	-2.856615	0.0083
EDUCPSF	-0.130000	0.000005	-2.671113	0.0129
LOGF	0.179000	0.000058	3.077305	0.0049
C	-7.795590	5.126904	-16.429180	0.0000

$$y = -7.79 + (0.27 \text{ santf} - 0.59 \text{ travf} - 0.13 \text{ educpsf} + 0.17 \text{ logf})$$

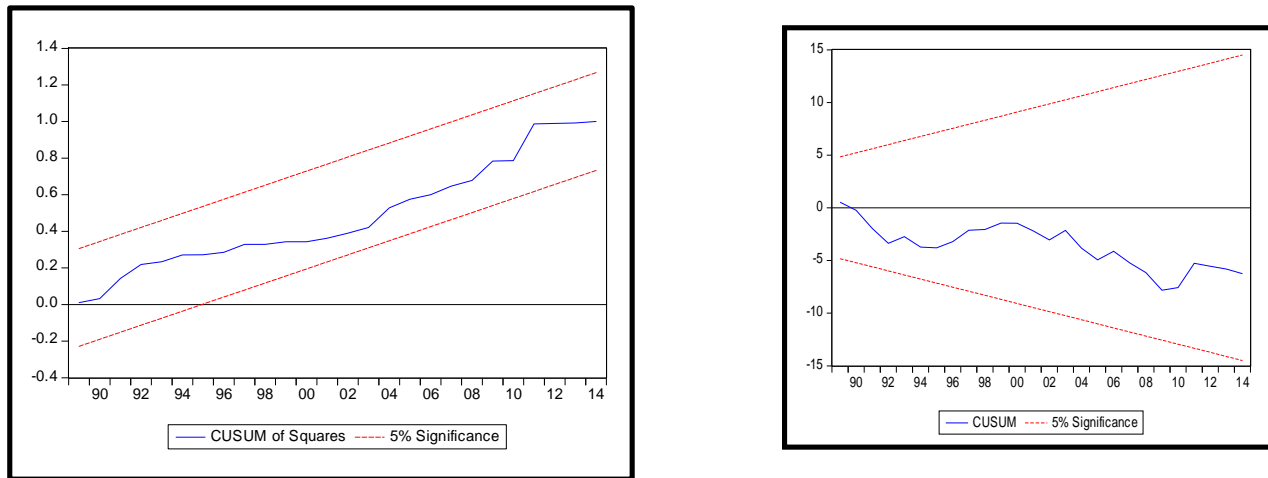
After estimating the ARDL model, we obtained the negative impact of spending on labor and education, GDP per capita in the long run. A 1% increase in labor sector expenditure leads to a 0.59% reduction in per capita GDP, and a 1% increase in expenditure On the education sector leads to a 0.13% decline in GDP per capita.

The effect of other variables on GDP per capita was positive, with a 1% increase in expenditure on housing and expenditure on the health sector leading to an increase in GDP per capita in the long term by 0.27% and 0.17%, respectively. In which the constant is statistically significant at 5%.

### 3.4. Test the stability of the model

The structural stability test for short- and long-term transactions will be conducted through two tests proposed by Brown, Durbin, and Evans (1975): the CUSUM cumulative test and the CUSUM of Squares.

**Figure 01. The graph for the test of the cumulative total of the repeated condensate and the cumulative sum test of the repeated residue boxes**



**Source: Prepared by the researcher depending on Eviews 10**

Both models show that the model's estimated coefficients are structurally stable during the study period, because the CUSUM and CUSUM of Squares are within the critical limits of 5%.

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#### **4. Results of the study.**

For the results of this standard study from 1970 to 2016, we found that after estimating the ARDL model to influence social policies and welfare on GDP per capita to the negative impact of spending on labor and education, GDP per capita in the long term, The increase of 1% in expenditure on the labor sector leads to a decrease of 0.59% per capita GDP. The increase of 1% in expenditure on the education sector leads to a decrease of 0.13% in GDP per capita. The effect of the other variables on GDP per capita Positive came, so uniforms Dah 1% in spending on the housing sector, spending on the health sector, leading to the increase in GDP per capita in the long term by 0.27% and 0.17% respectively.

This may be explained by the fact that expenditure on the education sector is consumption rather than investment, and spending on this sector is only taking into consideration the quantitative aspect, without taking into consideration or interest in the qualitative aspect.

As for the housing sector, the efforts exerted by the state by giving importance to the housing sector and through reforms and rely on different mechanisms in the financing of housing projects. Support programs are also affecting almost all layers of society, especially those target groups that need support to improve their level



And improve their quality of life. In addition to good guidance for social support policy to achieve the goals of social policy and thus improve the quality of life and access to social welfare.

### **5. Conclusion**

In this paper, we attempted to examine the relationship between social policies, welfare and per capita GDP using a range of variables, namely, expenditure on the various social sectors represented in the health, education, housing and employment sectors between 1970 and 2016.

After estimating the ARDL model, we obtained the negative impact of spending on education, operating expenditure on GDP per capita in the long run. This result, if statistically acceptable, may take a conservative approach on the economic side. The effect of the other variables on economic growth was positive, with an increase in spending on the housing sector and expenditure on the health sector leading to an increase in the GDP per capita in the long term.

But it is not necessarily that spending on all social sectors leads to higher economic growth rates. Therefore, it is necessary to increase the effective government spending on activities that stimulate economic growth such as spending on the labor force to increase productivity in terms of education and training, The latter is one of the most efficient outputs to be used in the economic and social field.

In addition to the good guidance of the social spending policy to achieve the goals of social policy and social welfare, which aims to distribute fair income among the groups of society, especially the low income and avoid all forms of deprivation and poverty multidimensional in society.

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