

Trade openness and Economic Growth in Algeria

Empirical test (1985-2015)

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Abstract:

This study sought to search for the relationship between trade openness and economic growth in Algeria during the period (1985-2015), using the autoregressive co-integration model for distributed time gaps (ARDL).

The results showed the absence of a relationship in the long and short terms between trade openness and economic growth in Algeria, due to the inflexibility of exports and the high volume of imports that negatively affected the position of the trade balance during the study period.

key words: commercial openness; Economic growth, Algeria, ARDL model.

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Introduction :

Numerous quantitative and qualitative literature and research in international trade point to a relationship between trade liberalization and economic growth. One of the leading examples in this area is the experience of emerging countries that relied on non-restrictive trade policies, which allowed them to achieve much improvement in most economic indicators. The opening up of these countries' markets has dealt with the most important imbalances in their markets, achieving high rates of growth and thus achieving prosperity and eliminating unemployment. In this context, Algeria sought to maximize the benefits of this openness through the enactment of many reforms and many of the institutions have been created and several legislations adopted to provide an appropriate atmosphere in the field of foreign trade. To analyze and clarify all this, I will attempt to ask the following question: What is the impact of liberalizing foreign trade on economic growth in Algeria

Literature review:

Trade liberalization is a debatable topic, where there are several studies that touched on the effects of trade liberalization, and provided clear evidence about the positive effects of trade liberalization on growth in developing countries. Among them (Dollar D. , 1992) who discussed in his study 95 developing countries for the period 1976-85, and he came to result that there is a positive relationship between trade liberalization and exchange rate possibly will improve growth performance in the developing countries. Another study for (Dollar, 2001) who discussed about Trade, Growth and Poverty in the post-1980 era which has seen a wide expansion in trade, and substantial drops in tariffs; they concluded that there is a strong relationship between trade liberalization and growth.

In an analytical study about the relationship between trade liberalization and growth; (Wacziarg, 2008) have concluded according to data collected from 141 developing countries during 1950's till 1998

that there were positive effects of trade liberalization, where countries gained improvement in their annual growth rates as well as in their investment rates. Furthermore, other countries faced a negative or no impact due to political instability, restriction macroeconomic policies, or through protectionism policies. The same result was achieved by (Frankel, 1999) in their work which was in a way of question “does trade cause growth?” where they argued the connection between trade and income, and went further to claim that geographic features have significant influence on trade, and are credibly unconnected with other factors of revenue.

I. Trade openness and economic growth in Algeria:

Trade openness:

The oil crisis of 1986 is considered as a turning point in the Algerian economy, where the collapse of oil prices, has given a sign of the continued stagnation. what exacerbated the situation is a result of the pattern of the economy and its management. By increasing the burden of foreign indebtedness and the pressure of international organizations; Algeria decided to reform the foreign trade sector. The main characteristic of this reform is that it was transitional, and the trade liberalization process went through four stages:

1. Phase of the restricted liberalization of trade 1990:

It is highlighted by a formal action represented in the issuance of the Money and Loan Law in April 1990 - Law 90-10 - which includes the liberalization of foreign investment in Algeria, followed in the same year by the promulgation of Law No. 90-16 of the supplementary finance law 1990, which in Article 41, for the first time since the establishment and application of the State's monopoly on foreign trade, it is decided that the importation of goods for re-sale shall be permitted to commercial traders. However, this openness has been partially restrictive.

2. Phase of full liberalization of foreign trade 1990-1991:

As a result of constrained liberalization, and under the previous legislations; the foreign trade faced several problems that do not achieve any progress but helps to create monopolistic practices. Algerian authorities have decided to issue an executive decree 91-37 on 13 February 1991 which emphasize on the abolition of the foreign trade monopoly and permits the foreign trade liberalization which has been pursued since 1990. It also emphasizes the complete liberalization of foreign trade transactions as well as the cancellation of import and export certificates.

3. Phase of the return to the restriction and control of foreign trade 1992:

Due to the many problems that have emerged in this sector after the issuance of Decree No. 91-37 of 13 February 1991 to abolish the state monopoly of foreign trade, where chaos has prevailed in the conduction of transactions and the sovereignty of the bureaucratic types. In 1992 the government intervened to issue the Note No. 625 to the prime minister, which returned back to the administration its privileges in the field of foreign trade without retreating from its liberation.

4. Phase of full liberalization of foreign trade since 1994:

In this phase Algeria was preparing to contract with the International Monetary Fund (IMF) as part of the reforms of the agreement between them; and the debt rescheduling was carried out. Foreign trade liberalization was a pre-condition to debt rescheduling. As well Algeria's bid to join the WTO will be the impetus to move forward in removing obstacles and speeding up the process of trade openness. Through several reforms, including liberalization of the foreign exchange system, rationalization and reduction of customs duties on imports. In addition to the establishment of several national institutions in charge of foreign trade sector upgrade (CAGEX, SAFAX, CASI, PROMEX)

Overview of The Economic Growth and Government Policies in Algeria:

Algeria is considered as a large country in the MENA region and rich with natural resources, but it could not gain from these benefits to ensure a better living condition of its population and an economic rise.

1. The period from 1989 till 1994: The New Economic Crisis and the Adoption of the Second Economic Reform Program:

The economic crisis has continued regardless the improvement accomplished in fulfillment of the amendment. As a result of weak economic growth, the per capita consumption has been reduced and exacerbated unemployment. During the period 1985-1992, aggregate GDP growth marked weak levels annually. This recession continued in 1993 and 1994 (table 1).

Table 1: economic growth and unemployment 1985/2015

years	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
GDP growth%	3.70	0.40	-0.70	-1.00	4.40	0.80	-1.20	1.80	-2.10	-0.90	3.80
unemployment	..	..	..	..	16.9	19.8	20.6	23	23.2	24.4	27.9
years	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
GDP growth%	4.10	1.10	5.10	3.20	3.82	3.01	5.61	7.20	4.30	5.91	1.68
unemployment	..	25.43	..	..	29.77	27.3	25.9	23.72	17.65	15.27	12.27
years	2007	2008	2009	2010	2011	2012	2013	2014	2015		
GDP growth%	3.37	2.36	1.63	3.63	2.89	3.37	2.77	3.79	3.76		
unemployment	13.79	11.33	10.16	9.96	9.96	10.97	9.82	10.6	..		

Source: world bank

In terms of oil prices for 1986 has fallen to half compared to prices in 1985, and therefore the Algerian economy has continued suffering to get out of this crisis, where the government had to borrow heavily to cover the deficit due to low oil prices. Real GDP growth averaged less than 1% per year in 1986-1998, compared to 5.4% per year in 1978-1985. The implementation of the structural amendment program

become essential and was introduced in Algeria in 1987. In order to achieve sustainable long-term growth; it was a necessary to deepen the initiated program of 1987 which is concerned with macroeconomic and stabilization structural reform. The fundamental objectives of the macroeconomic stabilization program are to retrieve growth, rectify macroeconomic imbalances, and price distortions and restrain inflation (Chemingui 2003). The primacy purposes of structural reform according to Chemingui (2003) included (1) Encouraging private sector development; (2) Improving and rearranging public enterprises; (3) Extending agricultural reform; (4) Evolving a competitive financial sector, and a well-functioning labor market; (5) Reinforcement the social safety net, and adapting it to the needs of a market economy; and (6) Integrating the economy into world markets.

2. Period from 1995 till 2000: The New Departure of Economic Growth in Algeria:

In 1994, the Algerian government launched in support from International Monetary Fund (IMF) and World Bank (WB) the reform program which has been quite effective in fetching about macroeconomic stability. Therefore, Inflation declined from 29% in 1994 to around 5% by the end of the 1990's and is currently at about 4.7%. The fiscal deficit dropped from 8.7% of GDP in 1993 and turned to a surplus of around 2.5% in 1997. The drop in oil prices in 1998 caused to weakening the fiscal performance (decline in oil revenues) which cause a deficit of 4% of GDP. In the following year and due to the oil price revival and expenditure limitation in 1999; the fiscal performance was reversed leading to a close-to-balanced budget. However, the supply reaction has not achieved, and the economy is still exposed to oil prices and climate changes (Chemingui, 2003)

Despite the achievement of the reform program to reverse the long drop in GDP growth is still slow and subject to large fluctuations (weather and oil price changes). Real GDP growth rate in 1995-1996 averaged 4% (mostly driven by the hydrocarbons sector), followed by a sharp fall in 1997 to around 1%, caused by the drop in agricultural production due to the dryness, and a continued decrease in the State-owned industrial sector. Manufacturing value added fell continuously

by 2% in 1995, 13% in 1996, and 7% in 1997, implying a cumulative loss between 1990-1997 of around 40% in real terms, and prompted some industrial to be restructured.

Fiscal imbalances with caution monetary and fiscal policies rescheduling of external debt, and introduction of structural reforms, these included trade liberalization, a two-step devaluation of the Algerian dinar (in total 70 percent) between April and September 1994; a managed float regime in 1995 supported by an interbank foreign exchange market; and the restructuring of public enterprises. (Region, 2007) Furthermore, a price stability was accomplished, but with substantial social influence. Between 1994 and 2000, macroeconomic performance did actually progress; as inflation dropped from 29 to 0.3 percent (Appendix A); the fiscal deficit went from -4.4 percent of GDP to a surplus of 7.8 percent of GDP; the spread between the parallel market and official exchange rates declined by about 100 percent; and growth returned to a moderate rate of 3.2 percent. so far the inescapable shutting down of more than 900 nonviable public enterprises lowered the public labor force by 320,000 (about 40 percent)—a considerable social cost. Unemployment increased from 24 percent in 1994 to 30 percent in 2000 (Table 1).

3- Period from 2001-2010, Public Spending Plan, (2001-2004), Complementary Growth Support Plan (2005-2009):

The efforts to strengthen the results of the Public Expenditure Plan 2001-2004; Algeria invested heavily to improve the business environment through President Abdelaziz Bouteflika's "Supplemental Growth Support Plan" of \$ 55 billion to develop spending between 2005 and 2009, with the aim of improving Living conditions, upgrading the country's infrastructure, improving the business environment, and rebalancing regional development. The main projects to be implemented for that period are 1 million housing units to be constructed, an east-west highway for 1260 km, and the capital underground metro, in addition to the capital new airport. Roughly a

comparable Development Program was initiated in the South and the Highlands region.

Over the period 2001-2010, Algeria has recorded noteworthy economic performance, fulfilling in the strengthening of the macroeconomic framework. The GDP growth rate averaged 3.87%, due to the oil and gas sector performance, as well as the other sector contribution's (services, construction and public works, and the agricultural). Inflation stayed under control, basically due to the reasonable monetary policy followed by the Central Bank of Algeria, and was around 3.6% annually. As a consequence of the high food prices pressure, the rate reached 4.86% in 2008, 5.7% in 2009 and 3.9% in 2010 and it was expected to rise more in 2011.

4- Period after 2010, Public Investment Plan (2010-2014):

A five-year public investment plan was announced to be launched involves a 286 billion dollar as financial commitments (council of ministers). This investment plan will be centered on both the completion of previous and the launching of new projects. It is considered to allocate more than 40% of these resources to human development, (1) Nearly 5,000 national education establishments, (2) more than 1,500 health facilities including 172 hospitals, and (3) more than 5,000 infrastructures for youth and sports including 80 stadiums. Job creation continues to be promoted by the government, which plans to reduce the unemployment rate in the country below 10% in view of the 3.2 Billion dollar that were earmarked for it in the five-year program 2010-2014.

In general, the plan has set to focus on the qualitative aspects of progress and growth. Consequently, its prime primacy is to support sustainable growth and human development. Moreover, two million housing units, of which 1.2 million units will be delivered during the five-year period, and the rest is already under construction will be delivered before the end of 2014. One million households would be connected to the natural gas network and supply of 220,000 rural households with electricity. In addition, improve drinking water supply,

in particular with the construction of 35 dams and 25 water transfer systems, and the completion of all the seawater desalination stations under construction.

In addition, this public investment program also reserves nearly 40% of its resources for the further development of basic infrastructure and improvement of the public sector, including: (1) more than 28.6 billion dollars for the public works sector to continue the extension and modernization of the road network, and the increase in port capacity; (2) more than 25.8 billion dollars reserved for the transport sector to modernize and expand the railway network, improve urban transport, and modernize airport infrastructure. In an attempt to encourage further job creation and private sector growth, Algeria sticks to support the development and SMEs financing, where it provides around 1.4 billion dollars for that purpose. According to macroeconomic data, the unemployment rate has declined and reach 10% in 2010, where it was 10.2% in 2009. The growth rate reached at 2.9% in 2011 and 3.4% in 2012.

II. Data sources, Model and Methodology:

Data sources:

In order to analyse the relationship between trade openness and economic growth in Algeria, this study employs annual time series data covering a thirty-one period from 1985–2015. The data was obtained from the World Bank and Central Bank of Algeria.

Model:

Since our purpose is to investigate the empirical relationship between trade openness and economic growth after controlling for various other factors and Following the relative growth literature, the basic function has the following form:

$$Y = f(\text{TO}, \text{Findev}, \text{CV})$$

Where:

- Y: is the economic growth measured by the real Gross Domestic Product (GDP) per capita growth ((Levine, 1998));

- TO: trade openness measured as the sum of imports and exports as a percentage of nominal GDP;
- Findev: indicator of financial development represented by broad money supply M2 to GDP (M2/GDP);
- CV: control variables believed to be linked to economic growth;

In our study, we included two control variables, which are: Inflation rate (INF) and government spending as a ratio of GDP (GOV). The table below shows the statistical summary of the variables used in the model of this study

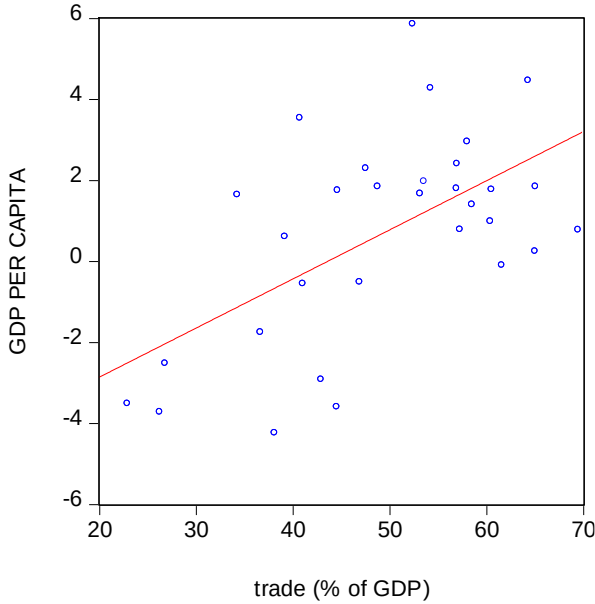
Table 2: Summary statistics

	PGDP	TO	M2	GOV	INF
Mean	0.697858	49.28074	60.21554	16.48491	9.405236
Median	1.405170	52.37459	62.72422	16.71816	4.950162
Std. Dev.	2.554133	12.27737	14.77872	2.612956	9.132059
Minimum	-4.231831	22.87456	33.00584	11.23158	0.339163

Source: Prepared by researchers based on the output of Eviews 09

Figure 1: Correlation between trade openness and GDP per capita:

Trade openness and Economic Growth in Algeria Empirical test (1985-2015)



Source: Prepared by researchers based on the output of Eviews 09

The coefficient of correlation indicates positive linear relationship between trade openness and economic growth of 0.58.

Methodology:

Co-integration analysis is the appropriate technique to investigate the long-run relationship between trade openness and economic growth. To do that, we have first investigated the constancy for each series.

- **Unit Root Test:**

Using the co-integration technique requires a unit root test to test the property of the data, specifically to determine whether the data are stationary. Most studies use ADF and PP (Phillips-Perron) tests for determining the order of integration of variables. A variable is said to be stationary if it does not have unit root, i.e. it is integrated of order zero $I(0)$. Similarly, if a variable is non-stationary on its level form but is stationary in its first difference form, it is integrated of order one $I(1)$.

For our case we used The Augmented-Dickey Fuller (ADF) test and the results are shown in the following table.

Table 3: Unit root test results (non-stationarity test)

Variables		ADF test	First	Result
PGDP	GDP per capita	-2.854*	-8.125	I(0)
TO	Trade openness	-1.259	-5.413*	I(1)
M2	Broad money supply% of GDP	-1.080	-4.064*	I(1)
INF	inflation rate	-1.537	-4.662*	I(1)
GOV	Government expenditure	-2.438	-3.974*	I(1)

Note: * denotes significance level at 1%

Source: Prepared by researchers based on the output of Eviews 09

Comparing the ADF t-value of the level series with 1% and 5% critical value, the results suggest that all variables under study are nonstationary in their levels and stationary in their first difference (they are integrated at I(1)).

- **Choice of Model:**

This study utilizes the autoregressive distributed lag (ARDL) bounds test proposed by (Pesaran, 2001) to examine the co- integration relationship between trade openness and economic growth.

The choice of this approach is based on its various advantages, more of the recent studies indicate that ARDL approach to co-integration is a more reliable method than other conventional co-integration approaches and it is applicable irrespective of whether the underlying regressors are purely I(0) , purely I(1) or mutually co-integrated. Moreover, the ARDL approach is more robust and performs well for small sample sizes. By using the ARDL approach, we can estimate the long-run and the short-run components of the model simultaneously.

The general model used to analyse the relationship between economic growth and trade openness in Algeria, is given by:

$$PGDP_t = b_0 + b_1 M2_t + b_2 GOV_t + b_3 TO_t + b_4 INF_t + \varepsilon_t \quad (1)$$

Economic growth is represented by GDP per capita as a dependent variable, while the independent variables are domestic M2 as a percentage of GDP (M2/GDP), GOV_t is a measure of government

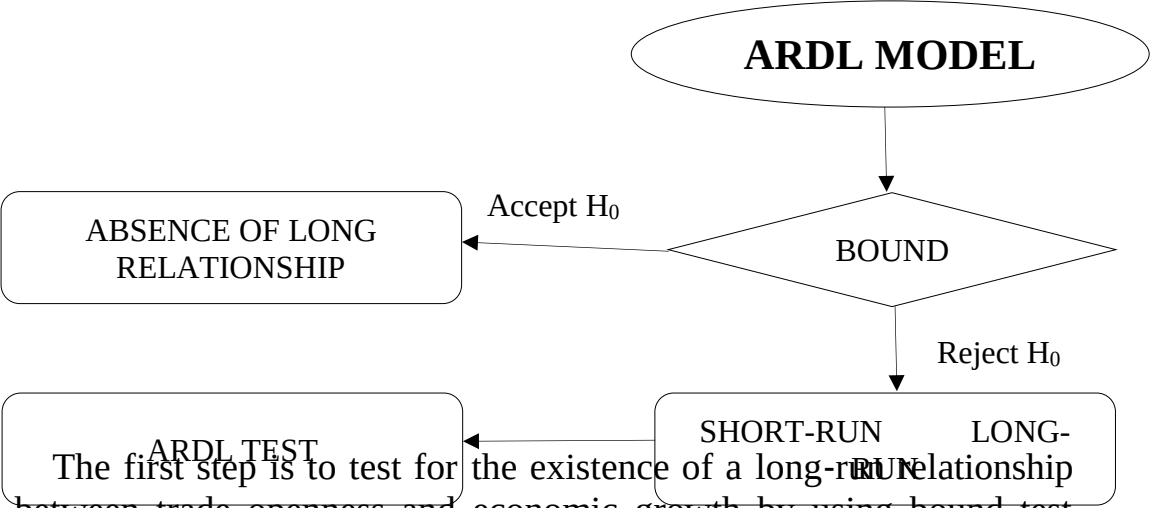
expenditure as a percentage of GDP, TOt is a measure for trade openness as a percentage of GDP, INFt is a measure of inflation.

Based on the above general model, the error correction representation of the ARDL bounds test proposed by (Pesaran, 2001) can be presented as follows:

$$\Delta Y_t = \lambda_0 + \lambda_1 T + \psi_1 Y_{t-1} + \psi_2 X_{1,t-1} + \dots + \psi_k X_{k,t-1} + \sum_{i=1}^{p-1} \beta_i \Delta Y_{t-i} + \sum_{i=1}^{q-1} \psi_{1i} \Delta X_{1,t-i} + \dots + \sum_{i=1}^{k-1} \psi_{ki} \Delta X_{k,t-i} + \varepsilon_{1t}$$

Where Δ is the difference operator, λ_0 is a constant, T is a time trend, Y is the dependent variable, X_i ($i = 1, 2, \dots, k$) are explanatory variables, ε is the error term, p and q are maximum lag orders, and the rest are coefficients.

Figure2: The steps of ARDL analysis illustrate in the following chart



The first step is to test for the existence of a long-run relationship between trade openness and economic growth by using bound test (Pesaran, 2001). The second step, on finding co-integration in the first step, we estimate the coefficients of long term and short term on economic growth by using ARDL approach. Finally, before interpret

the result we should test the validity of our model by using certain number of statistical method.

- **Cointegration test (bound test):**

In the first step of the ARDL analysis, we tested for the presence of long-run relationships in our model by using bound test (Pesaran, 2001)

H₀: non-existence of the long-run relationship

H₁: existence of the long-run relationship.

These hypotheses are examined using the standard F-statistics. However, if the computed F-statistic is greater than upper bound critical value, then we reject the null hypothesis and conclude that there exists co-integration relationship between variables under study. If the computed value falls within lower and upper bound critical values, then, the result is inconclusive.

Table 3 represents the computed F-value, likelihood ratio and Lagrange multiplier for testing the existence of long run relationship between trade openness, financial development and economic growth.

Table 4: Results of the bound test (Co-integration test)

1% Level		5% Level		F statistics
I(0)	I(1)	I(0)	I(1)	
2.86	4.01	2.45	3.52	4.13

Source: Prepared by researchers based on the output of Eviews 09

The table shows that the F statistic is greater than the upper bound of the critical value, suggesting there is compelling evidence for co-integration between economic growth and its determinants in this model.

- **Short and long run models:**

Having found a long run relationship, we applied the ARDL method to estimate the long run and the short run coefficients. The results of the estimation are reported in the following Table:

Table 5: Estimation results ARDL (1,0,1,0,1)

Regressor	Coefficients	
	Short Term	Long Term
TO	-0.287 (-0.619)	0.512 (2.974)
M2	-0,28 (-0,751)	-0,278 (-0,707)
Gov	-0.687 (-2,101)**	0.096 (0.546)
INF	-0.189 (-0.766)	-0.394 (-2.479)
coineq	-1.08 (-5.203)*	

*, **, denotes significance level at 1% and 5%.

Note: ECM - ARDL (1, 0, 1, 0, 1) selected based on Schwarz Bayesian Criterion.

Source: Prepared by researchers based on the output of Eviews 09

Testing for the goodness and Stability of the Model:

In order to ensure the goodness of fit of the model, we conduct a number of diagnostic tests. Specifically, these tests examined the serial correlation (using LM test), and heterodyne elasticity (using Breusch-Pagan-Godfrey test) associated with the selected model.

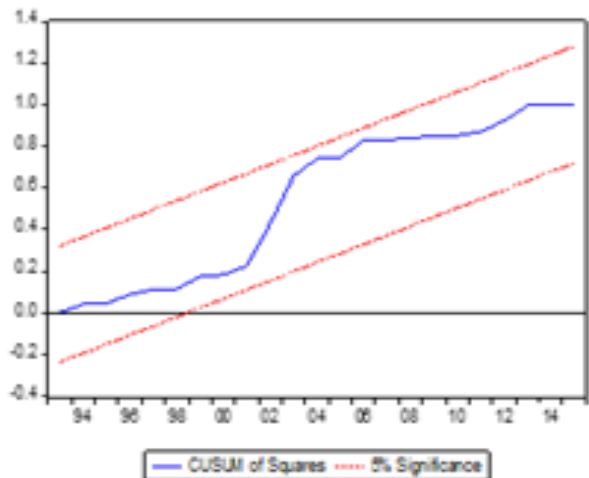
Even, to complete this study it is important to investigate whether the above long run and short run relationships we found are stable for the entire period of study. As noted by (Pesaran, 2001) stability tests (CUSUMQ and CUSUM) are useful in checking the stability of the coefficients of the regression.

As result:

From the Diagnostic test results, there is no evidence of serial correlation and heterodyne elasticity in each of the Autoregressive Distributed Lag (ARDL-Bounds) model specified.

Test for the Stability of the Model is given by the figures below, which show that the cumulative sum of recursive residuals (CUSUM) and the Cumulative Sum of Squares of Recursive Residuals (CUSUMSQ) are within the critical boundaries for the 5% significance level indicating that the coefficients of the ARDL model are stable.

Figure3 : Plot of CUSUM AND CUSUMSQ for coefficient stability of Model



Source: Prepared by researchers based on the output of Eviews 09

Since our model is statistical good, we can pass to the last step and interpret the estimation results:

The lecture of Table (4) which express the results of the short and the long- run relationship between the dependent variable Y and the other regressors, shows:

Trade openness, measured as the sum of exports and imports as a share of GDP, does not seem to have a significant effect on economic growth. The estimated coefficient is positive (0.51) and statistically

insignificant in the long –run and negative (-0.28) and insignificant in the short-run. This can be attributed to the quality of exports, which account for more than 95% of them as petroleum products, which are subject to world prices which are volatile in all cases. In addition, the imports, which are often larger than export, which negatively affects the trade balance, which in turn affects the growth rate.

The direction of causality among variables:

Granger causality tests

To investigate the causality relationship between trade openness and economic growth, Granger causality tests is applied. The following indicate the result of testing the null hypothesis: no existence of relation of causality (The Granger test the null hypothesis H_0 : the variable X Doesn't cause the variable Y).

If the probability or F- statistic of Granger causality test is greater than F tabulated, we accept the null hypothesis.

Figure5: Result of Granger causality GDP per capita & Trade openness

Pairwise Granger Causality Tests			
Date: 06/09/17 Time: 19:02			
Sample: 1985 2015			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Probability
PGDP does not Granger Cause TO	27	0.02072	0.97952
TO does not Granger Cause PGDP		1.67888	0.20962

Source: Prepared by researchers based on the output of Eviews 09

According to the Granger causality test:

The results show the absence of causality relationship running from the trade openness to economic growth and vice-versa.

Conclusion:

This paper empirically examines the relationship between trade openness and economic growth in Algeria Using the autoregressive

distributed lag (ARDL) co-integration framework for the period 1985-2015.

The results show the absence of long run relationship between trade openness explained by the sum of imports and exports as a percentage of nominal GDP and economic growth. Even the finding shows also insignificant relationship from trade openness to economic growth in the short run reason could be the fact of the inflexibility of the productive sector, and the quality of exports, which account for more than 95% of them as petroleum products, which are subject to world prices which are volatile in all cases. In addition, the imports, which are often larger than export, which negatively affects the trade balance, which in turn affects the growth rate.

The results also suggest no existence of causality relationship running from the trade openness to economic growth and vice-versa.

Appendix A

Years	PGDP	Government expenditure (% of GDP)	Inflation	Trade Openness (% of GDP)	Broad money (% of GDP)
1985	0.611635515	16.71815843	10.48228704	39.1488346	76.849
1986	-2.517521593	18.99833042	12.37160917	26.78334535	75.798
1987	-3.509094622	19.43157212	7.441260913	22.87455942	79.671
1988	-3.711788477	20.11444846	5.911544964	26.23158763	83.824
1989	1.646423469	18.00141754	9.304361258	34.22522133	72.796
1990	-1.746778045	16.06693062	16.65253439	36.60240792	61.771
1991	-3.58835422	14.71876907	25.88638693	44.49269752	49.111
1992	-0.546951308	16.01793562	31.66966191	40.99718296	51.942
1993	-4.231830854	17.32418591	20.54032612	38.07076983	50.101
1994	-2.912736748	17.87462315	29.04765612	42.89820629	45.319
1995	1.852562047	16.76378984	29.77962649	48.74526968	37.169
1996	2.303619498	15.7743188	18.67907586	47.52724461	33.006
1997	-0.509733779	16.53837856	5.733522754	46.87215004	36.081
1998	3.543909741	17.79190852	4.950161638	40.69291678	42.377
1999	1.758759476	16.78710304	2.645511134	44.58619916	42.208
2000	2.411589872	13.58312168	0.339163189	56.94828534	37.830
2001	1.674081617	14.77507427	4.225988349	53.10649708	56.849
2002	4.279382178	15.48712159	1.418301923	54.20744128	62.724
2003	5.861446353	14.80339426	4.268953958	52.37458622	62.819
2004	2.957718387	13.77264803	3.961800303	57.98136607	59.265
2005	4.465430206	11.45042166	1.382446567	64.30284757	53.828
2006	0.2492289	11.23157734	2.314524087	65.00106974	57.284
2007	1.852882754	11.64349649	3.673827269	65.04375005	64.094
2008	0.78480607	13.20671458	4.862990528	69.45995277	62.986
2009	-0.09534562	16.14528607	5.734333414	61.56068059	73.161
2010	1.776258785	17.22675639	3.913043478	60.49701524	69.055
2011	0.991568761	20.66808587	4.521764663	60.364061	68.062
2012	1.405169711	20.3191619	8.894585294	58.47669288	67.958
2013	0.789804876	19.14047074	3.253684177	57.2245972	71.747
2014	1.805280989	19.43306122	2.916406413	56.88781367	79.418
2015	1.982160386	19.22405877	4.784976963	53.51758554	81.578

Sources: world bank data, Bank of Algeria

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