

## The impact of trade openness on Algeria and Tunisia.

أثر الإنفتاح التجاري على الجزائر وتونس.

Mellal Charaf Eddine, Faculty of Economic, Commercial and Management Sciences, Khenchela University, Algeria, [charefeddinemellal@yahoo.fr](mailto:charefeddinemellal@yahoo.fr)

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**Abstract:** This study aims to identify the impact of the trade openness of the countries of Algeria and Tunisia, which was characterized by increased interest due to its impact on economic activity, so that this impact appears in the balance of payments, and this interest has increased in recent decades coinciding with the emergence of the World Trade Organization, which was able to include Almost all the world's countries have imposed their conditions on them, which are centered on the inevitability of trade opening.

Therefore, this study extends from 2000 to 2013 for the two countries using the "eviews" program. One of the results of the research is that trade openness affects the balance of payments, so that there is a positive impact of trade openness on the balance of payments of Algeria during the study period and almost no impact of trade openness on the Tunisian balance of payments.

**keyword:** Trade openness; the balance of payments; Algeria; Tunisia;

**JEL classification code :** F41, F21 , N17

**ملخص:** تهدف هذه الدراسة إلى الوقوف على أثر الإنفتاح التجاري لدولتي الجزائر وتونس، والذي تميز بزيادة الاهتمام به نتيجة تأثيره على النشاط الاقتصادي، بحيث يظهر هذا الأثر في ميزان المدفوعات، وقد ازداد هذا الاهتمام في العقود الأخيرة تزامنا مع ظهور المنظمة العالمية للتجارة، والتي استطاعت أن تضم معظم دول العالم تقريبا وفرض شروطها عليهم، والتي تتمحور في حتمية الإنفتاح التجاري.

لذلك امتدت هذه الدراسة من سنة 2000 إلى غاية 2013 بالنسبة للدولتين باستعمال برنامج "eviews" ومن بين نتائج البحث هو أن الإنفتاح التجاري يؤثر على ميزان المدفوعات، بحيث يوجد تأثير إيجابي للإنفتاح التجاري على ميزان مدفوعات الجزائر خلال فترة الدراسة ويكاد ينعقد أثر الإنفتاح التجاري على وضعية ميزان المدفوعات التونسي.

الكلمات المفتاحية : الإنفتاح التجاري ؛ ميزان المدفوعات ؛ الجزائر ؛ تونس ؛

تصنيف JEL : F41 ، F13 ، N17

Corresponding author Mellal Charaf Eddine, E-Mail: [charefeddinemellal@yahoo.fr](mailto:charefeddinemellal@yahoo.fr)

### 1. Introduction :

In the years of 1970's, there were many transition as the emergence of the international trading système in order to release the

flow of good, services and capital between the countries without any boundries.

The International organisations aims to help the developing countries to be in touch with the word outside as (Algeria, Tunisia,...), these countries attempt to evolve their situation to be close to the international standard.

This study aims to identify the effect of trade openness on the national economic.

**The problematic is :** what is the effect of trade openness on balance payement for both Algeria and Tunisia ?

**The Motives :**

This subject keeps abreast of current developments by creating an international trade system.

**The objectives of study :**

Identifying the effect of trade openness and its role to improve the performance of balance payement in both Algeria and tunisia.

**The importance of the study :**

Since Algeria is going to face so many challenges such as joining world trade organisation and making contract deals recently.

**The frame of the study :**

- From (2000-2013), In 2000, the emergence of the procedures to release the internaional trade for both Algeria and Tunisia.
- Algeria and Tunisia are the most important economy in north Africa and having some special characteristic about international trade, be sides both of them have some issues that allow them to be in touch with the international monetary.

## **2. Literature review :**

- The study of "**Abdus Abdelaziz 2011**" : the policy of trade openness and its role in raising competition - Algeria as a case study- Doctorat in Development Economics University of Telemcen- Algeria.

The reasearcher deal with the role of trade openness in Algeria by developing and raising competition.

The problematic : how well does trade openness policy affect competition in Algeria (2000-2009) ?

The reasearcher attennpts to evaluate trade openness on the Algerian economics according to competition.

### **The results of the study :**

- The greater the economy's out ward orientation, the higher the rate of growth
- Releasing trade allows to decrease costs by decreasing low tariff
- Raising customs duties on imported products
- Exporting products to the international markets in order to improve the establishment's performance.

- The study of "**Mona Rajab 2009**" :

The impact of trade openness on the establishment's performance in " Tunisia ", Doctorate in economics, paris's university 2009.

In this study, the openness is considered as a great principle of growth over the past twenty years based on the growth and the productivity of the establishment in tunisian companies because :

Tunisian companies become more productive that lead to exporting

A negative effect on growth and productivity due to the participation in exporting market in the early of 1998.

To answer this problem, the research is devided in 4 chapters :

- An analysis study in trade opennes.
- Trade openness in Algeria and Tunisia.

- The development of balance payment in Algeria and Tunisia.
- The effect of trade balance payment's performance in both Algeria and Tunisia (2000-2013).

### **I. A study analysis of trade openness :**

Trade openness has a great role on economy and its participation in increasing fortune especially by emergence of World Organisation that impose for the trade openness so that, we are going to determine trade openness and its effect

**3. First definition of Trade openness** : it is considered as a part of economic openness so that its better to know economic openness first in order to understand trade openness verywell .

1. Economic openness is opening the doors of foreign capital, importing and exchanging with outsiders (Niyongabo, 2007, p. 09).
2. Economic openness is decreasing borders on Importing Foreign Funds, Foreign Investements, Salary and Taxes (Salama, 2006, p. 06).
3. It is an operation aims to open the national market with foreign economic exchanges either investements or trade based on the rules of international work, for others trade openness is releasing economic for growing countries that are applying the policy of Market economy (Figini & Enrico, 2006, pp. 133-134).

### **4. Second definition of Trade openness :**

- Is abandoning the trade's borders and exchange rates.
- It is some procedures to transfer international trade without the interfiering the authority at the level of importing and exporting (Bourdages, 2000, p. 14).

We can consider the company as an open if it is willing to do the following : (Benabdallah Y. , 2007, pp. 2-4)

- Abandoning the policies against exporting.
- Following a policy as balance between importing and exporting

So, we can say, **that Trade openness is removing all the boundaries on exchange rates and external trade according to some procedures used World Organisation.**

### **4. The Forms of Trade openness :**

Currently, World Trade system has a great reputation, and it is supported by a large, powerful capitalism whether Politically, Economically and Financially, This System is based on encouraging economic Market in order to release the flow of goods and funds to establish an International Market, Here some forms (Benabdallah, 2018) :

### **1. Trade openness through the geographic Frame and Multilateral Frame Work:**

Although the objective of Trade openness is releasing International trade from boundaries.

There are two focal points to reach to the objectives :

→ The Arrangement of Regional Trade : also known as international economic Integration.

" some countries create and develop some Regional trade arrangement by having some advantages in commercial exchange

- ✓ Free trade region.
- ✓ Customs union.
- ✓ Common market.
- ✓ Economic integration.

→ Multilateral frame work : also known as international trade, some rules signed in a Multilateral frame work in order to organise the activities of international trade at the level of industrial goods and services and releasing investment procedures, anti-subsidy measures, security procedures, An Integrated system for settling commercial disputes between the members.

### **2. Voluntary openness and compulsory openness :**

The countries aim to release their trade voluntarily in order to achieve the highest level of Membership in the International Economy for the sake of acquiring some advantages via economy openness.

Whereas compulsory openness by using some conditions of the international economy like the international trade, International

monetary funds and the international bank. By adapting some economical programs in order to support these organisation including repairing the commercial trade, exchange-rates system and the flow of capital (Niyongabo, 2007, p. 68).

### **3. The progressive openness and the selective openness:**

The progressive openness according to a method should be accomplished in a certain period of time, Moving from quota protection to tariff protection then eliminate it.

Whereas Selective openness is releasing some products by keeping enrolment as agriculture products.

### **4. Trade openness (surface and deep) :**

Surface trade openness focus on removing the classical borders like tariff but it is not enough to acquire the advantage of trade openness.

Whereas Deep trade openness is in addition to remove the classical borders, allowing the movement of people and Making some United rules that is relevant to trade especially that is relevant to tariff.

## **5. The effect of Trade openness :**

The emergence of standard analysis in order to identify the nature of the relationship of the economical variables.

And the relationship between the growing economical with trade openness, Here some studies :

### **1. The study of Balassa 1978 :**

This study aims to identify the relationship of the exporting's growing with the national growing.

The study of 11 country (1960-1966) and (1967-1973).

The result of study that there is a strong relationship between Exporting and the real national productivity.

### **2. The study of the national Bank 1987 :**

This study is about some growing countries with an analysis by designing 36 methods of trade openness in 19 country (1946-1986), by

deviding to 4 groups according to the external trade according to some quantitative and qualitative standards : the average of protection and the direct controle by importing through the use of export incentives and the evaluation of exchange rates in its highest degrees. (Siroen, 2006, pp. 12-14)

- Economics highly oriented to externe.
- Economics weakly oriented to externe.
- Economics weakly oriented to interne.
- Economics highly oriented to interne.

The result of study is the growing of exports and the productivity of the national that lead to trade openness.

**3. the study " Ouail Miloud" 2013 :** doctorate in economic science, Algeria's University 3.

The New standards for growing in Arab World case study (Algeria, Egypt, Saudi Arabia) a comparaison 1990-2010.

Among the new standards for Economic growing, Trade openness motivates Economic growing through External trade's.

The Extension in Exports allows the country in producing and exporting goods and services that lead to distribute the best Economic resources and increasing the growing average as well.

Trade openness allows to support Importing the capital goods Which helps to More the technology and Imporving the levels of productivity that reflects the national production, in addition participation in external Trade by Foreign Investement in order to Create a competition between Establishements (Increasing the national Productivity that lead to growing Economically).

Literature Review :

- The Extension in Exports helps the country in Production and Exporting goods and Services that leads to distribute the best resources for a better productivity and a better growing.
- The Extension in Exports helps to find solution in payment balance.

## **II. Trade openness in both Algeria and Tunisia :**

### **1. Trade openness in Algeria :**

The Algerian economy had some changes in the 1980's due to some issues as : the low average of growing, Inflation Unemployment, decreasing the Petroleum rates, debts services.

The International Institutions Support the Algerian changes by Making some contrats with International Monetary fund and World Bank :

The Intentions speech : The Financial Ministre sent to the chief executive office of World Monetary fund in Mars 1989 :

The Algerian Governement made a commitement to be part in Market economy and the attempt to rely on Apply and demand in Making the price of Interest exchange rates. (Riadh, 2011, p. 02)

So, It's better to create an environnement that help to take the vight decisions based on the financial responsibility in addition to the policy of exchange rates.

The second contrat with world Monetary fund and the International Bank was in June 1991 to complete the Modifications such the total establishment independance in order to take decisions based on the Market's rules and the freedom of edrosing the price.

Since 1994, the authority made some procedures that is relevant to the external trade in order to release the external trade according to the conditions of world monetary fund, in order to acquine goods and services, the governement (94-13) in 12 Avril 1994, the Algerian Policy in external trade. (Kadid, 2015, p. 02)

The Release of the commercial contracts, every one who is maned in commercial register (37-91) Algeria crease the average of cust ons fees in 1995 for conseling the borders of goods, health care, Education and other services, but for the goods decrease to 60% in 1994 then 45 % in 1997.

This Policy helps to make anaggrement with Europe and Mideteranean countries in the early 1995 : Barcelona Euro-



Mideteranean aggrement (Algeria as a member), the first aggrement in December, 13<sup>th</sup>, 2001 in Brussel (Belgium).

Anaggrement in Avril 22<sup>nd</sup>, 2002, this help Algeria to be close to Europe in the 1990's in September, 1<sup>st</sup>, 2005.

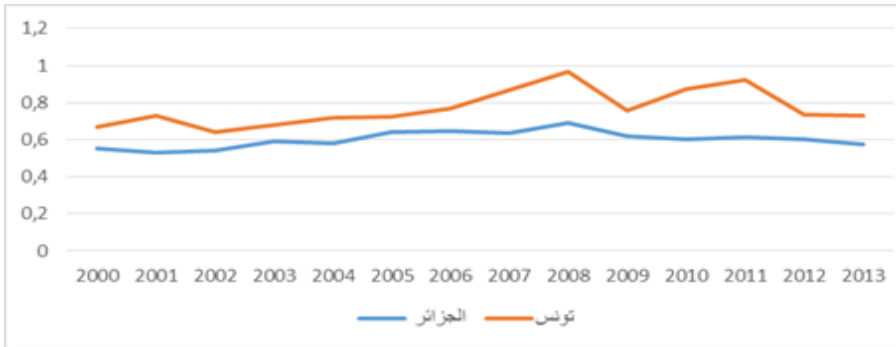
The steps of openness, Algeria joins the free Arab trade openness, and joning the area of free exchange commercial of Arab world under anaggrement of commercial exchange with Arab world in 1981 TUNIS that aims to release the commercial exchange in Arab world to ease trade services. (Abbate, 2001, p. 26)

## **2. Trade openness in TUNISIA :**

In the early of 1970's, Tunisia made a program that lead to economic stability. The of Imports to make an acceptable balance.

Tunisia a big Movement a Way better than Algeria, after modifying the economic situations with a support from world Monetary fund with an aggrement in 1986 for four years that help to take a big Movement of growing then Export in the 1990's the release of trade by : Joining "GATT", and Joining "OMC" in 1995 with anaggrement with European Union in 1995 that is about to establish a free commercial organisation for Industrial Products for 12 years. (Bousseelmi, 2000, p. 10)

*Fig.1 : A shape about trade openness for either Algeria and Tunisia (2000-2013).*



*Source: Prepared by the researcher based on the output of Excel and Arab Monetary Fund, Economic Statistics Bulletin of Arab Countries, (2000-2013)*

From this shape, it appears that there is a little difference in the average of trade openness for either Algeria and Tunisia, Tunisia is first and Algeria second.

The rise of trade openness in Tunisia due to the economic policy that ease the procedures of trade openness in addition to the foreign investment, where as in Algeria there are a huge effect of Petroleum exports on trade openness which is not trade openness as it should be.

### **III. The Improvement of balance payment for either Algeria and Tunisia.**

#### **1. The Improvement of balance payment in Algeria (2000-2013) :**

Based on the analysis of (Table 01) starting from 2000, there were a huge benefits in balance payment about 9.020 M \$ but this number decreased in 2003 and it raised over 5 times to reach the top 37.030 M\$ in 2008 due to the large number of profits until 2008 (35.180 M\$) because of the rise of the price of Petrol (100 \$ for barrel in 2008), then it went down to be 3.6 M\$ due to the world crisis and the decreasing of capital (11.22 M\$) which cause many debts about (12.9 M\$) in 2006.

Whereas (2010-2011) a profits about (15.303 M\$) and (20.230 M\$), then it went down in (2012- 2013) to (12.322 and 0.920 M\$).

We can say that the position of balance payment is not stable in (2000- 2013) due to external reasons, the rise and the fall of petrol in

addition to exchange rates, So that, the economic policy is not capable to keep balance.

## 2. The development of payment balance in Tunisia (2000-2013) :

It appears that the Tunisian balance payment (2000-2013) was weak (0.205 M\$) in 2000 but it rise positively to (1 M\$) from (2001-2009) (Table 01) due to the rise of capital thanks to foreign investments not to payment balance, but starting from (2010- 2013) the payment balance was weak and the hard one in 2013 (3.970 M\$) because of political and social events in 2011 which cause the lose of capital.

According to the economic analysis from 2000-2013, capital has a positive effect on balance payment, on the other hand service payment was very positive due to tourism.

## IV- The effect of trade openness on the performance of payment balance in Algeria and Tunisia in 2000-2013.

### 1. Measuring trade openness in both Algeria and Tunisia :

Measuring trade openness in the three countries in (2000-2013) by relying the indice of trade of the result of the national  $\Rightarrow$  The total of export and import, and it takes the form of :

$$T = \frac{\sum(X+M)}{PIB} \left\{ \begin{array}{l} T: \text{the Medium trade openness} \\ X: \text{Exports} \\ M: \text{Imports} \\ PIB: \text{The total national result} \end{array} \right\}$$

Back to (01).

It appears that openness in Algeria is so high by increasing external trade (Exports and Imports) total national result over than 50 % in (2000-2013).

Since Algeria's economy based in petrol, petrol's exports more 97 % of Total which affect trade openness.

Where as Tunisian Economy based in liberal economy in 1986, (2000-2007) openness was high through the economical policy, In 2000 trade openness was 67 % (back to 01) Until 2007 to reach 87 %.

In 2008 the average of trade openness reached the highest level in 2008 (96,7 %) by Making an agreement with European Union especially in Industrial level.

The Measuring Analysis of the effect of trade openness on the balance payment of both countries.

Studying the effect of trade openness on balance's payment by relying on this program (EView 8) by counting trade openness and payment balance.

The nature of the subordinate variable (Y) and the Independant variables (X1).

We can notice that the relation ship between (Y) and (X) is positive

$$Y_t = B_0 + B_1x_{1t} + \varepsilon_t$$

$$\left\{ \begin{array}{l} Y_t: \text{the value of subordinate variable.} \\ B: \text{the value of Beam form.} \\ x^1_t: \text{the value of independant variable.} \\ \varepsilon: \text{total of the rest.} \end{array} \right\}$$

### **Firt :The stactical explanation :**

#### **1. Student Test :**

It is a test of the significance of the estimated parameters for the linear model. If the scheduled value is greater than the level of significance 0.05.

we say that the estimated value is significant, meaning that the model is statistically acceptable.

**In Algeria:** according to the values of the “student” test and its probability it is shown that  $p=0.0007$  is less than 5% level of significance, this means that the estimated value is not significant.

**In Tunisia :** according to the values of the “student” test and its probability it is shown that  $p= 0.8394$  is greater than 5% level of

significance. This means that the estimated value is significant and hence the model is statistically acceptable.

## **2. Fisher statistic:**

**In Algeria:** Fisher's statistic and its probability show that  $P=0,066,661$  (5%) means that overall model variables affect the dependent variable  $y$ , which is Algeria's balance of payments.

**In Tunisia:** Fisher's statistic and its probability  $P = 0.8393 > (5\%)$  means that the model is influenced by other variables outside the model, ie the Tunisian balance of payments is also influenced by external variables other than trade openness.

What can be said from these tests is that trade openness affects the balance of payments of the two countries.

## **3. Study of explanatory power (correlation force) (coefficient of determination) :**

The correlation coefficient is the square root of the coefficient of determination, which measures the explanatory power of the model, that is, the relative force of the relationship between the two variables.

**In Algeria:** Given the value of the coefficient of determination  $R^2 = 0.63$ , it appears that the correlation is somewhat strong between the independent variable  $x_1$  and the dependent variable  $y$ .

**In Tunisia:** Through the model we found that the coefficient of determination  $R^2 = 0,016$  shows that the correlation between the independent variable  $X_1$  (trade openness) and the dependent variable  $y$  (balance of payments) is very weak.

## **4. Durbin Watson Test:**

**In Algeria:** the value of Durbin Watson  $D.W = 1,97 \approx 2$  This means that there is no subjective correlation of errors, so the residues are independent.

**In Tunisia:** the value of Durbin Watson  $D.W = 1,94 \approx 2$  This means that there is no subjective correlation of errors and is therefore completely independent.

## Second :The economical explanation :

**In algeria** :  $R^2 = 0,63$  is that some change in trade openness 63% there is a relationship between trade openness and payment balance which means that Algeria depends so much on the petroleum's profit and the value of petroleum's export more than imports (2000-2013).

**In Tunisia** : the relationship between trade openness and payment balance, that there were no effect at all 1,6%.

This is because Tunisia is the forerunner of economic openness compared to Algeria, so the effect was not clear during the study period, although Tunisia is largely affected by any global economic developments and changes

## 6. Conclusion :

According to the study, Algeria and Tunisia can't be isolated from the rest of the world due their favorite position in the north of Algeria, so, trade openness was more than necessary to be in touch with the rest of the world.

## Study Results :

1- The effect of trade openness on payment balance could change from one country to another due to the policy and the degree of development :

Algeria reached the first class at the level of trade openness's effect, then Tunisia second.

2-Trade openness could affect payment balance according to the policy of the country at the level of commercial dealing.

3-In Algeria, there is a positive effect of trade openness on payment balance in Algeria thanks to petroleum's export (Export more Import)

4-In Tunisia, trade openness doesn't affect the economy in a positive way.

## Suggestions :

- Both Algeria and Tunisia should evaluate payment balance.
- Both Algeria and Tunisia should adapt trade openness in order to improve the performance of external trade.

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**8. Appendices:**

Unit : M.\$      Appendix N°=01

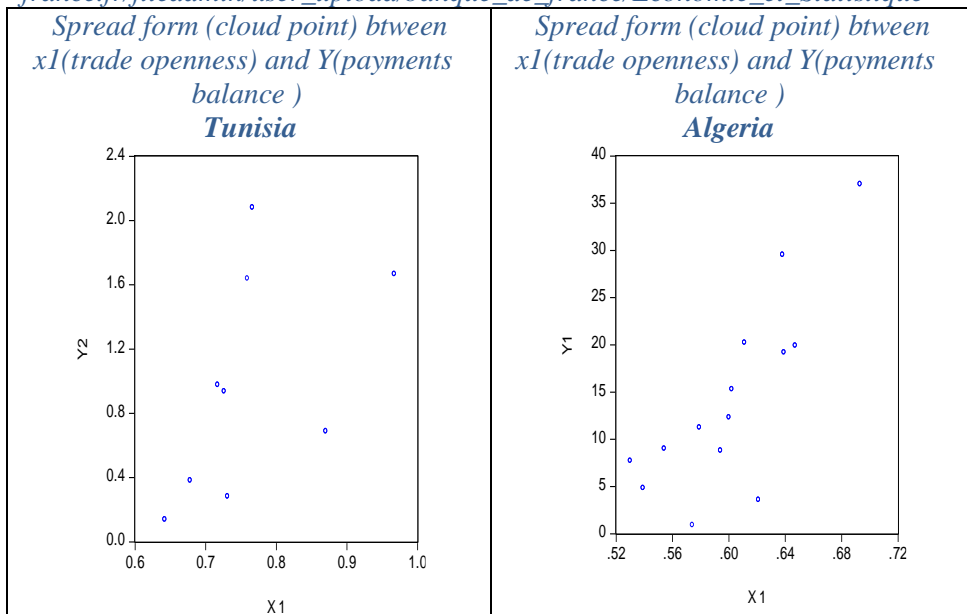
*Table shows the evolution of the rate of trade openness and balance of payments balance in Algeria and Tunisia (2000-2013).*

Tunisia		Algeria		Countries years
Balance of payments Y	Rate of trade openness XI	Balance of payments Y	Rate of trade openness XI	
-0,205	0.670	9.020	0,554	2000
0,283	0.731	7.720	0,530	2001
0,140	0.642	4.840	0,539	2002
0,383	0.678	8.820	0,594	2003
0,977	0.717	11.260	0,579	2004
0,936	0.726	19.210	0,639	2005
2,082	0.766	19.930	0,647	2006
0,689	0.870	29.550	0,638	2007
1.667	0.967	37.030	0,693	2008
1,639	0.759	3.600	0,621	2009
-0,222	0.876	15.303	0,602	2010
-1,709	0.921	20.230	0,611	2011
-3,721	0.736	12.322	0,600	2012
-3,970	0.730	0.920	0,574	2013

*Source: - Arab Monetary Fund, Economic Statistics Bulletin of Arab Countries, 2011, p: 177.*



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**Appendix N°=02**

***A test between both the independent variable x1 and the dependent variable Y in Algeria***

Dependent Variable: Y1  
 Method: Least Squares  
 Date: 09/17/15 Time: 22:51  
 Sample: 2000 2013  
 Included observations: 14

.Prob	t-Statistic	Std. Error	Coefficient	Variable
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0.0020	3.943338-	23.79909	93.84787-	C
0.0007	4.554620	39.46412	179.7441	X1
14.26821	Mean dependent var	0.633527		R-squared
10.14716	S.D. dependent var	0.602988		Adjusted R-squared
6.680040	Akaike info criterion	6.393614		S.E. of regression
6.771334	Schwarz criterion	490.5397		Sum squared resid
6.671589	.Hannan-Quinn criter	44.76028-		Log likelihood
1.979314	Durbin-Watson stat	20.74457		F-statistic
		0.000661		Prob(F-statistic)

*A test between both the independent variable x1 and the dependent variable Y in Tunisia.*

Dependent Variable: Y3

Method: Least Squares

Date: 09/17/15 Time: 23:18

Sample (adjusted): 2002 2007

Included observations: 5 after adjustments

.Prob	t-Statistic	Std. Error	Coefficient	Variable
0.9131	0.118609	1.668078	0.197849	C
0.8394	0.220892	3.147964	0.695361	X1
0.565000	Mean dependent var	0.016004		R-squared
0.274857	S.D. dependent var	0.311994-		Adjusted R-squared
0.815593	Akaike info criterion	0.314828		S.E. of regression
0.659368	Schwarz criterion	0.297350		Sum squared resid
0.396301	.Hannan-Quinn criter	0.038982-		Log likelihood
1.745852	Durbin-Watson stat	0.048793		F-statistic
		0.839356		Prob(F-statistic)