The Impact of Institutional Quality on Promoting Economic Growth in Selected Maghreb Countries

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***Abstract**: This study examines the impact of institutional quality on economic growth in three selected Maghreb countries namely Algeria, Morocco and Tunisia over the period 1996-2011, through the use of panel data analysis. The initial findings indicate that the institutional quality, as measured by the mean of six governance indicators, has a positive impact on economic growth in selected Maghreb countries. Also, there is a significant positive relationship between economic freedom and economic growthat the 1% significance level, hence this factor seems to be the key determinant of economic growth in the sample of countries under study. Moreover, the empirical results show that among the six components of institutional quality, Regulatory Quality (RQ) and Government Effectiveness (GE) have a positive and highly significant effect on annual GDP growth.*

These findings support the view that good institutions spur faster economic growth. Therefore, these countries should improve their institutional quality depending on local knowledge, and experimentation, because the sound institutional environment can face any potential political and economic problems, thus it is able to realize the economic prosperity.

***Keywords:** Institutional Quality, Economic Growth, Maghreb Countries, Panel Data Analysis.*

***Résumé :** Cette étude examine l'impact de la qualité des institutions sur la croissance économique dans trois pays maghrébins, a savoir le Maroc, l'Algérie et la Tunisie sur une période de 1996 à 2011 et cela en utilisant les données en panel. Les premiers résultats montrent que la qualité institutionnelle mesurée par six facteurs de bonne gouvernance a un impact positif sur la croissance économique dans les pays en question. En plus, nous avons trouvés un effet significatif positif entre la liberté économique et la croissance économique. Ainsi, ce facteur semble un élément déterminant de la croissance économique. En outre, les principaux résultats montrent que pour les six composantes de la qualité institutionnelle, la qualité de la réglementation et l'efficacité gouvernementale ont un effet positif très significatif sur la croissance annuelle du PIB.*

Ces résultats appuient l'idée que les bonnes institutions favorisent plus rapidement la croissance économique. Par conséquent, ces pays devraient améliorer leur qualité institutionnelle en fonction des connaissances locales, et de l'expérimentation puisque l'environnement institutionnel peut à tout moment faire face à des problèmes politiques et économiques, il est donc en mesure de réaliser la prospérité économique.

***Mots clés :** qualité institutionnelle, croissance économique, pays maghrébins, analyse des panels*

1. Introduction

The impact of institutional quality on economic growth has occupied the attention of researchers especially in last decades; according to North (1990) institutions are "*the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction*".

Economists stated that each of capital accumulation, total factor productivity, technological innovation stands behind high economic growth, but recently, many experts have argued that institutions affect economic growth through providing several incentives to accumulate and innovate. The economic growth in any country is influenced by the main components of institutional quality such as: rule of law, absence of corruption and violence, the protection of property rights (Sebastian Dellepiane Avellaneda, 2006).

The quality of institutions raises the productivity by enforcing property rights, implementing the appropriate laws, ensuring the effective use of resources as well as reducing

the transaction costs and uncertainty; and hence promotes economic growth (Shalendra D. Sharma, 2007).

Ahmed Zidi, Saïd Miloud Dhifallah (2013) stated that good institutions characterized by relevant structures and laws can decrease uncertainty and ensure the efficacy and all that is necessary for improving the economic performance. As well as, the institutional quality in a country can fight corruption which has a detrimental impact on economic growth; also it can improve the living standards. Moreover, the property rights protection explains the differences in growth rates *across* countries.

Therefore, Good governance or high institutional quality is considered as an essential factor in exploiting the market advantages (Philip Keefer, 2006).

Furthermore, the absence of good institutions causes high levels of corruption and uncertainty, the abuse of property rights, the unexpected change of rules, the misallocation of resources, thus it affects negatively the market functions (Panicos Demetriades, Siong Hook Law, 2004).

As it seems the institutional quality remains weak across the Maghreb region, moreover it is associated with modest economic growth rates. It is therefore essential to investigate the impact of institutional quality on economic growth by shedding light on three Maghreb countries: Algeria, Morocco and Tunisia over the period 1996-2011, through the use of panel data analysis. For this purpose, the remainder of this paper is organized as follows:

Section 2 presents a theoretical and empirical *review* on institutional quality and economic freedom and the links with economic growth, section 3 discusses economic growth, institutional quality and economic freedom in selected Maghreb countries, section 4 introduces the data and analyses the empirical results and finally section 5 concludes the paper.

2. Theoretical and Empirical *Review* on Institutional Quality and Economic Freedom and the Links with Economic Growth

The positive effects of institutional quality have been intensively discussed among economists, who called attention to the essential role played by good institutions that are considered as a pre-requisite for sustainable economic growth (Bharatee Bhusana Dash & Sami Angara V. Raja, 2009), they create incentives for doing business through providing transparent policies and reducing violence (Will Bartlett et al, 2013). *Conversely*, the *absence* of *such institutions* raises transaction costs and undermines the protection of *property rights*, also it generates *uncertainty* in human exchange and unpredictability (Hadhek Zouhaier, 2012). Moreover, the quality of institutions can explain *the differences* in *income levels between countries (James D., Randall G. Holcombe, and Robert A. Lawson, 2004), and it's important* to point out that the institutional building during the transition phase has a strong impact on economic growth (Will Bartlett et al, 2013).

A good illustration of institutions' importance in promoting economic growth requires scrutinizing the finer aspects of institutional quality including good governance and economic freedom to determine their impact on accelerating growth rates.

Kaufmann, D., Kraay, A. and Mastruzzi, M. (2010) define governance as "*The traditions and institutions by which the authority in a country is exercised*". This includes three areas each contain two dimensions as follows :

A-The process by hich governments are selected, monitored and replaced :

***Voice and Accountability :** which measures the *citizen's participation* in selecting their governments. As well as freedom of expression, freedom of association and a free media.

Political Stability : which measures the possibility of destabilizing or overthrowing the government stability through unconstitutional or violent means including politically-motivated violence and terrorism.

B-The capacity of the government to effectively formulate and implement sound policies :

Government Effectiveness : which reflects the quality of government services and the extent of their freedom from potential pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

Regulatory Quality *:* which denotes *the government's ability* to formulate and implement sound policies and regulations that allow and encourage private sector development.

C-The respect of citizens and the state for the institutions that govern economic and social interactions among them :

Rule of Law : which evaluates the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

Control of Corruption : which assesses the *levels* of both *petty and grand corruption* within a country, as well as "capture" of the state by elites and private interests.

These indicators are scaled between -2.5 and +2.5, where a higher score means better quality of institutions.

The average of *Worldwide Governance Indicators is a widely used measure* of institutional quality in the literature. Moreover, it can be considered as the best available proxy for institutional quality (Andrew Williams, Abu Siddique, 2008 ; Anoop Singh, Sonali Jain-Chandra, and Adil Mohommad, 2012; José Antonio Alonso, Carlos Garcimartín, 2013)

Good governance can affect positively the economic growth through its comprising elements as follows: Control of government actions that can *reduce the risk* of *future rights violations ;* the absence of political instability and violence which threaten the continuation of projects ; reducing *the number of procedures* and the *overall time* it *takes* for *any* agent to *complete them in order to decrease their negative impact on business costs and revenue* (Inter American Development Bank, 2001). *Boost*ing *productive activities* through the reduction of *market-unfriendly policies that can lead to a misallocation of resources* (Giorgio Fazio and G.M Chiara Talamo, 2008). *Ensuring the rule of law to stimulate current decision making that maximizes the long-term value of assets, because the future returns will be protected* (Karla Hoff, Joseph E.Stiglitz, 2005). *The fight against corruption which causes inefficient planning due* to *uncertainty* and *ambiguity* (Nidal Rachid Sabri, 2008).

In 1995, Heritage Foundation and Wall Street Journal introduced the Index of Economic Freedom with a comprehensive definition of Economic Freedom as follows : " *All liberties and rights of production, distribution, or consumption of goods and services. The highest forms of economic freedom should provide an absolute right of property ownership; full freedom of movement for labor, capital, and goods; and an absolute absence of coercion or constraint of economic liberty beyond that which is necessary for the protection and maintenance of liberty itself*" (Heritage Foundation , 2013) .

This Index is based on ten economic freedoms grouped into four broad categories:

- ***Rule of Law*** (property rights, freedom from corruption)
- ***Limited government*** (fiscal freedom, government spending)
- ***Regulatory efficiency*** (business freedom, labor freedom, monetary freedom)
- ***Open markets*** (trade freedom, investment freedom, financial freedom)

The Economic Freedom Index is a simple average of these 10 freedoms, each one is scored on a scale of 0 to 100, *where 100 represents the maximum freedom.*

The economic freedom *accelerates economic growth* through *its ten component* freedoms, as follows :

Reducing legislations that could hamper business productivity and profitability, as well as the burdensome bankruptcy procedures ; freedom of dealing with the outside world in terms of international trade ; the tax burden which decreases the profits amount, the degree of government spending which reflects on the one hand the extent of crowding out effect and the misallocation of resources and on the other hand it contributes to the improvement of infrastructure and human capital ; monetary policies that make economic agents be able to rely on market prices in the future besides doing long-term plans such as saving and investing with greater confidence ; investment freedom which encourages innovation and competition and raises productivity ; financial freedom that stimulates competition to introduce the most efficient financial intermediation as well as it is responsible for providing real-time prices and informations ; the constitutional protection of property rights that guarantees the full compensation in cases of expropriation also the absence of *restrictions* on *profit transfer* or capital repatriation ; the elimination of corruption which reduces the efficiency and raises the cost of starting and running a business ; labour freedom which eases contracting with workers and it is required like the freedom in goods and services market (Heritage Foundation , 2013).

The impact of institutional quality on promoting economic growth has been a subject of intense debate over the past two decades, numerous studies have suggested that good institutions are positively correlated with economic growth; some of these studies are as follow:

Niyongabo Gilbert (2004) investigated the impact of institutional quality on enhancing economic growth by using 2SLS estimation with a panel of about 102 countries during the period (1970-2000). Voice and accountability, regulatory quality and the government effectiveness have been in particular shown to be associated with *high growth rates*. In addition, Marijana Badjun (2005) found that the rule of law has a positive impact on economic growth through applying a GLS (weighted least squares method) for a sample of 14 EU countries and 11 transition countries from 1995 to 2002. Moreover, she stated that the institutional quality has a strong influence on economic growth in the transition economies as compared to the old member states of the EU. Justifying this point of view, *Polterovich , Victor* and *Popov, Vladimir* (2007) assessed the importance of rule of law and government effectiveness in promoting economic growth in 180 countries by formulating a panel least squares model for the period1975-2000, initial findings indicated that both indicators have positive and significant effects on economic growth .

Moreover, Kimlong Chheng (2005) used White's heteroscedasticity-consistent matrix tests in order to study the impact of economic freedom on economic growth in 50 countries over the period 1981-2000, he found that the *Heritage Foundation's Index* of *Economic Freedom* is positively associated with economic growth. As well as, Vidmantas Jankauskas, Janina Šeputienė (2009) revealed that there is a strong and positive relationship between institutional variables (*Worldwide Governance Indicators and Heritage Foundation's Index* of *Economic Freedom) and economic growth* across 41 *Good Institutional Environment* (GIE) countries, *through using panel data analysis over the period* 1996–2006. On a similar line, Richard J. Cebula, Marcus Ekstrom (2009) analyzed the effect of various forms of economic freedom and various dimensions of governance on economic growth across OECD countries over the period 2004-2007 using Panel least squares method. Initial findings indicated that business freedom, monetary freedom, trade freedom, property rights, control of corruption and political instability are the most important determinants and have a significant positive relationship with economic growth in all OECD member *countries*.

Cooray, A (2009) studied the effect of institutional quality on economic growth in a section of 71 developed, developing and transition countries by using panel data analysis between 1996-2003 , the main results indicated that high institutional quality has a positive impact on promoting economic growth in these countries. Also, Bichaka Fayissa, Christian

Nsiah (2010) employed a quantile regression analysis for testing the relationship between the quality of institutions and economic growth in 28 sub-Saharan African countries over the period 1990 - 2004. Findings suggested that the institutional quality has a positive and significant impact on economic growth.

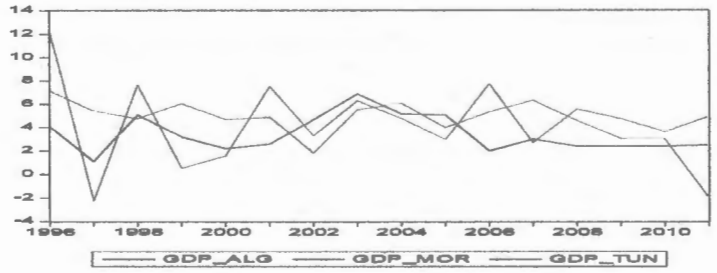
Furthermore, Godwin E. Akpan- Ekpeno L. Effiong (2012) examined the relative impact of three out of six governance indicators (rule of law, regulatory quality and absence of political violence and instability) on economic growth from 1998 to 2007 in a sample of 21 Sub-Saharan African countries by running a Pooled OLS regression, they found that these institutional variables have a positive impact on GDP growth. Similarly, Hadhek Zouhaier (2012) explored the interrelations between the institutional quality and economic growth through using a model of dynamic panel data for a set of 11 countries in the MENA region during the period 2000-2009, he found that corruption and political instability affect negatively the economic growth but the impact of corruption is insignificant according to the empirical results. As well as, Jamal Bouoiyour, Djékondé Naimbayel (2012) investigated the impact of institutional quality on accelerating economic growth in *all 27 African countries south* of the *Sahara* for the period 2002-2009 by using the generalized method of moments (GMM) dynamic in a panel framework. Their analysis revealed that there is a positive and highly significant relationship between all governance indicators and economic growth rate except the variable political stability and absence of violence which appears with an insignificant value.

Recently, José Antonio Alonso, Carlos Garcimartín (2013) tested whether economic growth has been influenced by good institutions in East Asia countries, using panel data analysis for the period1998-2006, research findings indicated that the institutional quality has a significant positive impact on GDP per capita. Also, Jude Cristina , Levieuge Gregory (2013) stated that the institutional quality influences the FDI growth effect by carrying out a Panel Smooth Transition Regression (PSTR) in a sample of 94 developing countries during the period 1984-2009.

3. Economic Growth, Institutional Quality and Economic Freedom in Selected Maghreb Countries

Economic Growth

Figure n°01: Economic Growth (*the annual percentage growth rate of GDP per capita*) in in Three Selected Maghreb Countries, 1996-2011.



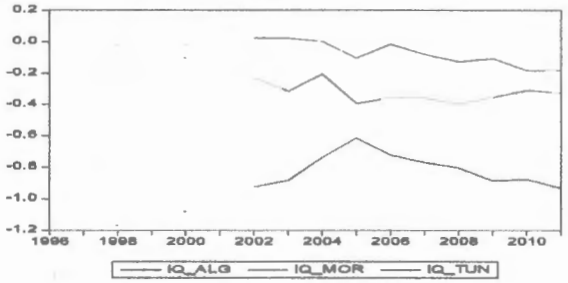
Source : World Bank, World Development Indicators, the data are available online at : http://data.worldbank.org (accessed 01/09/2013).

According to the graph above, the *Maghreb's economic growth has witnessed considerable fluctuations* and the last two years have revealed new ranking change in terms of growth rate. Morocco has achieved the highest *economic growth* in the Maghreb region *due to its* sound macroeconomic management, domestic demand and sustained growth in non-

agricultural sectors besides the following major contributors to this growth : tourism, telecoms, and textiles. *Algeria's economic growth had* the second rapid *economic growth in the region* as a result of high hydrocarbons revenues, services, construction and industrial activities, *it should also be referred to the essential role played by* public investment programs. While *Tunisia* had the *lowest GDP growth* because of the increasing political and social instability that is slowing down economic decisions and weakening the recovery efforts.

Institutional Quality

Figure n°02: Institutional Quality (The *simple average* of six *Worldwide Governance Indicators)* in Three Selected Maghreb Countries, 1996-2011.



Source : World Bank Governance Indicators, the data are available online at : http://info.worldbank.org/governance/wgi/index.asp (accessed 01/09/2013).

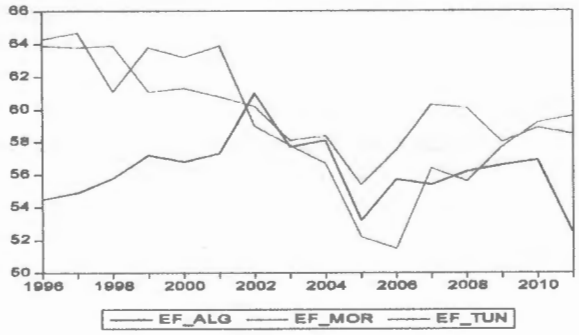
This graph clearly shows the unchangeable ranking of Maghreb countries in terms of institutional quality over the study period, Tunisia received a *first-place ranking for its* multi-party democracy, the growing recognition of women's rights, the peaceful reflected image through the vital tourism sector, as well as the small non-muslim groups have generally been free to practice their faiths. But unfortunately, the large protests in 2011 have reaveled many pre-existing problems such as : the former government's repressive measures, combined with high youth unemployment, the dependence of the judiciary on the executive branch. Since 2012, some institutional improvements have been made for example : the ratification of new constitution, the removal of Ben Ali's government which was the first step to root out corruption and finish the *polltical monopoly of the elite group,* also the academic discussion of sensitive topics has been allowed.

While Morocco's institutional quality was ranked 2nd out of 3 Maghreb countries, as a result of the independent press especially in the economic and social fields, the recognition of other religious sects and cultures, women's rights in local elections, *but there exist other* weaknesses such as :the inefficient judicial system , the *oppressed freedom of assembly*,the widespread corruption that remains a serious problem despite the ongoing anti-corruption *campaigns*.

Algeria *came in last place*, making its institutional quality the worst among these Maghreb countries due to many reasons such as :the past dark decade that has participated in distorting the country's institutional framework, the prevalence of corruption in main public sectors, especially the hydrocarbons sector ,but the 2011protests that were inspired by earlier events in other neighboring countries pushed the government to remove the emergency law for the first time since the *90's* and reduce restrictions on press freedom , moreover the Algerian government has expanded the participation of all political parties and women in parliament.

Economic Freedom

Figure n°03: *Economic Freedom Score in Three Selected Maghreb Countries, 1996-2011.*



Source : Heritage Foundation's *Index of Economic Freedom*, the data are available online at : http://www.heritage.org/index/explore?view=by-region-country-year (accessed 01/09/2013).

As is *clearly* visible in *the graph* above, the *economic freedom ranking* of these Maghreb *countries has changed dramatically.* Since 2010, a *new* ranking *has appeared as follows :*

Morocco's economic freedom come in the first place with a score of 59.6 in 2013 because of its investment freedom, labor freedom and business freedom but the large declines in control of public spending and trade freedom increased the *burden on* this score. Morocco *has taken significant steps for its integration into* the *global economy for example the great interest in attracting more FDI which is welcomed in almost all economic sectors* (Heritage Foundation, 2013).

While, Tunisia's economic freedom score is 57 in 2013, making its economy the 2nd freest in the Maghreb region due to declines in labor freedom, freedom from corruption and freedom from government. Moreover the 2011 revolution had a significant role in detecting some facts that has contributed to the re-evaluation of some freedoms. Despite the tensions that shocked the economic environment, the current government provides targeted solutions for improving trade and fiscal freedom (Heritage Foundation, 2013).

Algeria take *third place* in the Maghreb region based on a score of 49.6 in 2013, there are many reasons for this delay such as : The heavy government spending , low business and trade freedom, weak property rights and financial freedom ,the *inappropriate FDI policies* that *continue to hinder the full integration* of *Algeria into* the *global economy, as well as* the persistence decay for increasing the regulatory efficiency and enhancing *market openness* in order to revive the private sector. But the Algerian government has made few steps to reduce *the tax burden* on its citizens due to *social unrest* in *2011*(Heritage Foundation, 2013).

4. Data and Empirical Results

A. Data

This study examines the impact of institutional quality on economic growth by shedding light on three Maghreb countries: Algeria, Morocco and Tunisia over the period 1996-2011 using the following variables:

GDP: is the GDP per capita growth (annual %) from World Development Indicators representing economic growth.

IQ: Institutional Quality which is calculated as a *simple average* of the following six *Worldwide Governance Indicators.*

VA: Voice and Accountability
PSAV: Political stability and absence of violence
GE: Government Effectiveness
RQ: Regulatory Quality
RL: Rule of Law
CC: Control of Corruption

EF: Economic Freedom introduced by Heritage Foundation.

B. Data Analysis Tools

The panel data estimation is employed in order to test the effect of institutional quality on accelerating the economic growth in the selected countries using Eviews 6.0 software package. Because the panl data controls for both observed and unobserved heterogeneity, also it increases the degree of freedom and reduces the collinearity problems, hence improves the efficiency of econometric estimates (*Cheng Hsiao, 2003*).

C. Analysis of Empirical Results

Table n°01: Regression Results for selected Maghreb Countries

Dependent Variable : GDP
Coefficient Estimates
(P-value)

Independent Variable	**OLS**	**Fixed Effects Model**	**Random Effects Model**
IQ	0.924875	0.998688	0.924875
	(0.4293)	(0.5195)	(0.2565)
EF	0.135284	0.194487	0.135284
	(0.3405)	(0.0012)***	(0.0017)***

Significant at 1% (***) ,5%(**),10% (*).
Source : *Author's Computation Using Eviews 6.0.*

Table 1 summarizes the results of three panel data methods such as : panel least squares, fixed effects and random effects, these methods have been used to control heterogeneity and avoid biased results.

These results reveal that all coefficients have the expected signs. Moreover EF appears to be statistically significant in both fixed and random effects models.

In order to choose the appropriate model between fixed and random effects models, Hausman test has been applied as follows :

Table n°02: Hausman test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.556747	2	0.2785

Source : *Author's Computation Using Eviews 6.0.*

The P-value=0.2785 is greater than 0.05 and therefore the fixed effects specification can be rejected in favour of the random effects model.

Hausman test selected random effects model as more appropriate than fixed effects model, so we focus on it.

Table n°03: Random Effects Model

Dependent Variable: GDP
Method: Panel EGLS (Cross-section random effects)
Sample: 1996 2011
Periods included: 13
Cross-sections included: 3
Total panel (balanced) observations: 39
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.087711	2.922981	-1.056357	0.2978
IQ	0.924875	0.802083	1.153090	0.2565
EF	0.135284	0.039793	3.399694	0.0017

Effects Specification	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	2.250297	1.0000

Source : *Author's Computation Using Eviews 6.0.*

From the random effect model, the institutional quality (IQ) that is measured as the mean of six governance indicators has a positive impact on economic growth in Maghreb countries, but this effect is insignificant at 5 % level of significance.

Also, the empirical results revealed that there is a positive relationship between economic freedom and economic growth. Moreover, the coefficient of (EF) is statistically significant at high level of 1%. Hence, this factor seems to be the key determinant of GDP in Maghreb countries.

In order to shed light on the most important institutional factors, as well as the indicators that weaken the significance of the overall institutional quality index, another Random Effects Model has been estimated by including the six governance indicators and the table bellow shows the initial results :

Table n°03: Random Effects Model

Dependent Variable: GDP
Method: Panel EGLS (Cross-section random effects)
Sample: 1996 2011
Periods included: 13
Cross-sections included: 3
Total panel (balanced) observations: 39

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.391024	8.504454	-0.163564	0.8711
VA	-0.641068	0.903523	-0.709520	0.4833
RQ	3.195688	0.231561	13.80062	0.0000
RL	0.351583	1.722967	0.204057	0.8396
PSAV	-3.165234	2.343086	-1.350883	0.1865
GE	5.657096	0.919347	6.153385	0.0000
CC	1.580817	3.258542	0.485130	0.6310
EF	0.097888	2.501876	2.261142	0.0309

Source : *Author's Computation Using Eviews 6.0.*

The empirical results indicate that among the six components of institutional quality, Regulatory Quality (RQ) and Government Effectiveness (GE) appear with the expected positive signs. Furthermore, these two variables are highly significant (p-value=0.0000). Also, economic freedom has a *significant positive* impact on economic growth at 5 % level of significance. Hence, these variables are considered as the key factors of enhancing economic growth in selected Maghreb countries. In other words, the reduction of *heavy procedures*, long processing times *and market-unfriendly policies, is a fruitful plan for achieving high* levels of *economic growth.*

In contrast, VA and PSAV have unexpected negative sign. Moreover, these variables are insignificant at 5 % level of significance, therefore they do not play a vital role in explaining economic growth in three selected maghreb countries.

5. Conclusion

In this paper we have analysed the impact of institutional quality on economic growth in in three Maghreb countries (Algeria, Morocco and Tunisia) over the period 1996-2011, through the use of panel data analysis, including Fixed Effects Model, Random Effects Model and Hausman test.

According to Hausman test, the random effects model is considered as the most appropriate model, it revealed the following results :

The institutional quality (IQ) that is measured as the mean of six governance indicators has a positive impact on economic growth in selected Maghreb countries, but this effect is insignificant at 5 % level of significance. Also, there is a significant positive relationship between economic freedom and economic growth *at* the *1% significance level* , hence this factor seems to be the key determinant of economic growth in the sample of countries under study. Moreover, the empirical results indicated that among the six components of institutional quality, Regulatory Quality (RQ) and Government Effectiveness (GE) have a positive and highly significant effect on annual *GDP growth. These findings support the view that* good institutions spur economic growth.

As is shown before, these Maghreb countries suffer from bad institutional quality. Therefore, these countries should improve their institutional framework depending on local

knowledge, and experimentation, because the sound institutional environment can face any potential political and economic problems, thus it is able to realize the economic prosperity.

References

1. **Ahmed Zidi, Saïd Miloud Dhifallah (2013)**, "Corruption, Governance and Economic Growth in Developing Countries: Analysis by Panel Data", *IJMBS*, Vol. 3, Issue 2.

2. **Andrew Williams, Abu Siddique (2008),** " The use (and abuse) of governance indicators in economics: a review", *Economics of Governance* 9:2, 131-175

3. **Anoop Singh, Sonali Jain-Chandra, and Adil Mohommad (2012),** "Inclusive Growth, Institutions, and the Underground Economy", *IMF Working Paper*, WP/12/47, Asia and Pacific Department.

4. **Bharatee Bhusana Dash & Sami Angara V. Raja (2009),** "Institutions and the quality of governance: an empirical study on interstate differences in economic development in India", *Asia-Pacific Development Journal*, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), vol. 16(1), pages 1-26.

5. **Bichaka Fayissa, Christian Nsiah (2010),** "The Impact of Governance on Economic Growth: Further Evidence for Africa", *Department of Economics and Finance Working Paper Series*.

6. ***Cheng Hsiao (2003),*** " *Analysis* of *Panel Data*", *2nd edition, Cambridge University Press*, United Kingdom.

7. **Cooray, A (2009)**,"Government expenditure, governance and economic growth", *Comparative Economic Studies*, 51 (3), 401-418.

8. **Giorgio Fazio and G.M Chiara Talamo (2008),** " How Attractive is Good Governance for FDI" in "Institutional Approach to Global Corporate Governance : Business Systems and Beyond", Edited by J.Jay Choi Sandra Dow , *International Finance Review*, Volume 9, Emerald Group Publishing limited ,UK .

9. **Godwin E. Akpan- Ekpeno L. Effiong (2012),** " Governance and Development Performance: A Cross-Country Analysis of Sub-Saharan Africa", *Journal of Economics and Sustainable Development*, Vol.3, No.14.

10. **Hadhek Zouhaier (2012),** "Institutions, Investment and Economic Growth", *International Journal of Economics and Finance*,Vol. 4, No. 2.

11. ***Heritage Foundation (2013),*** *" 2013 Index of Economic Freedom", The Heritage Foundation and Dow Jones & Company, Inc, Washington, DC, USA.*

12. **Inter American Development Bank (2001),** " The Business of Growth : Economic and Social Progress in Latin America 2001 Report ", *The Inter American Development Bank* , Washington D.C , USA .

13. **Jamal Bouoiyour, Djékondé Naïmbayel (2012),** "Economic growth in Sub-Saharan Africa: is governance a source of inequality between countries?", *Economic Development International Conference of GREThA/GRES.*

14. ***James D., Randall G. Holcombe, and Robert A. Lawson(2004),*** *" Economic Freedom, Institutional Quality, and Cross-Country Differences in Income andGrowth", Cato Journal, Vol. 24, No. 3, Washington, DC.*

15. **José Antonio Alonso, Carlos Garcimartín (2013),** " The Determinants of Institutional Quality. More on the Debate", *Journal of International Development* ; 25: 206.

16. **Jude Cristina, Levieuge, Gregory (2013),** "Growth effect of FDI in developing economies: The role of institutional quality", *MPRA Paper 49321*, University Library of Munich, Germany.

17. **Karla Hoff, Joseph E.Stiglitz (2005),** "The creation of the rule of law and the legitimacy of property rights: the political and economic consequences of a corrupt privatization", *Policy Research Working Paper Series 3779*, Washington DC: The World Bank.

18. **Kaufmann, D., Kraay, A. and Mastruzzi, M. (2010),** " The Worldwide Governance Indicators: Methodology and Analytical issues", *Policy Research Working Paper no. 5430*, Washington DC: World Bank.

19. **Kimlong Chheng (2005),** " How Do Economic Freedom and Investment Affect Economic Growth? ", *Macroeconomics 0509021*, EconWPA.

20. **Marijana Badjun (2005),** " The Quality of Governance and Economic Growth in Croatia Financial Theory and Practice", *Financial Theory and Practice*, vol. 29, issue 4, pages 279-308.

21. **Nidal Rachid Sabri (2008),** "Financial Markets and Institutions in The Arab Economy", *NOVA Science Publishers*, USA.

22. **Niyongabo Gilbert (2004),** " Trade openness policy, quality of institutions and economic growth", *Centre d'Etudes et de Recherche sur le Développement International (CERDI), Université d'Auvergne*, Clermont Ferrand, France.

23. **North, D (1990),** "Institutions, Institutional Change and Economic Per-formance", *Cambridge University Press*, Cambridge.

24. **Panicos Demetriades, Siong Hook Law (2004),** "Finance, Institutions and Economic Growth", *Discussion Papers in Economics 04/5*, Department of Economics, University of Leicester.

25. **Philip Keefer (2006),** "Governance and Economic Growth in China and India", *Development Research Group*, The World Bank, Mimeo.

26. ***Polterovich, Victor* and *Popov, Vladimir* (2007),** " *Democratization, Quality of Institution* and *Economic Growth*", *New Economic Growth, Tiger Working Paper*, 102.

27. **Richard J. Cebula, Marcus Ekstrom (2009),** " Joint Impact of Dimension of Governance and Economic Freedom on Economic Growth in OECD Nations: An Analysis with Controls for Budget Deficits and G8 Status", *Research in Applied Economics*, Vol. 1, No.1.

28. **Sebastian Dellepiane Avelianeda (2006),** "Good Governance, Institutions and Economic Development: Beyond the Conventional Wisdom", *Paper to be presented at the Forum de Recerca*, Departament de Ciencies Politiques i Socials, Universitat Pompeu Fabra, Barcelona3 de Mayo 2006.

29. **Shalendra D. Sharma (2007),** "Democracy, Good Governance, and Economic Development", *Taiwan Journal of Democracy*, Volume 3, No.1: 29-62.

30. **Vidmantas Jankauskas, Janina Šeputienė (2009),** " The Impact of the institutional environment on the economic development", *Ekonomika*, p. 141-153.

31. **Will Bartlett, Nevenka Ǯuĭković, Kre imir Jurlin, Aleksandra Nojković, Vesna Popovski (2013),** "Institutional Quality and Growth in EU Neighbourhood Countries", *WP5/11 Search Working Paper*.

Appendix 1 : *OLS Model*

Dependent Variable: GDP
Method: Panel Least Squares
Sample: 1996 2011
Periods included: 13
Cross-sections included: 3
Total panel (balanced) observations: 39

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.087711	8.370039	-0.368900	0.7144
IQ	0.924875	1.156919	0.799429	0.4293
EF	0.135284	0.140034	0.966078	0.3405

R-squared	0.083257	Mean dependent var	4.379508
Adjusted R-squared	0.032327	S.D. dependent var	2.338552
S.E. of regression	2.300443	Akaike info criterion	4.577884
Sum squared resid	190.5134	Schwarz criterion	4.705850
Log likelihood	-86.26874	Hannan-Quinn criter.	4.623797
F-statistic	1.634723	Durbin-Watson stat	1.082121
Prob(F-statistic)	0.209151		

Appendix 2 : *Fixed Effects Model*

Dependent Variable: GDP
Method: Panel Least Squares
Sample: 1996 2011
Periods included: 13
Cross-sections included: 3
Total panel (balanced) observations: 39
White period standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.487604	3.597673	-1.803278	0.0851
IQ	0.998688	1.525598	0.654621	0.5195
EF	0.194487	0.052101	3.732852	0.0012

Effects Specification

Cross-section fixed (dummy variables)
Period fixed (dummy variables)

R-squared	0.579565	Mean dependent var	4.379508
Adjusted R-squared	0.273794	S.D. dependent var	2.338552
S.E. of regression	1.992861	Akaike info criterion	4.516295
Sum squared resid	87.37289	Schwarz criterion	5.241438
Log likelihood	-71.06776	Hannan-Quinn criter.	4.776470
F-statistic	1.895421	Durbin-Watson stat	1.588371
Prob(F-statistic)	0.081641		

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section and period fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.734758	(2,22)	0.1997
Cross-section Chi-square	5.711155	2	0.0575
Period F	1.779296	(12,22)	0.1164
Period Chi-square	26.453706	12	0.0093
Cross-Section/Period F	1.855014	(14,22)	0.0942
Cross-Section/Period Chi-square	30.401955	14	0.0067

Appendix 3 : *Random Effects Model*

Dependent Variable: GDP
Method: Panel EGLS (Cross-section random effects)
Sample: 1996 2011
Periods included: 13
Cross-sections included: 3
Total panel (balanced) observations: 39
Swamy and Arora estimator of component variances
White period standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.087711	2.922981	-1.056357	0.2978
IQ	0.924875	0.802083	1.153090	0.2565
EF	0.135284	0.039793	3.399694	0.0017

Effects Specification	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	2.250297	1.0000

Weighted Statistics			
R-squared	0.083257	Mean dependent var	4.379508
Adjusted R-squared	0.032327	S.D. dependent var	2.338552
S.E. of regression	2.300443	Sum squared resid	190.5134
F-statistic	1.634723	Durbin-Watson stat	1.082121
Prob(F-statistic)	0.209151		

Unweighted Statistics			
R-squared	0.083257	Mean dependent var	4.379508
Sum squared resid	190.5134	Durbin-Watson stat	1.082121