

Growth, Inequality and Governance: A case of MENA countries

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ABSTRACT: *This article aims at defining the nature of the relationship between economic growth, income inequality and governance in the region of Middle East and North Africa (MENA). To do this, we will start first by reviewing the literature. Then, we will try to analyze the relationship mentioned before using the Generalized Method of Moments (GMM). The sample of the study consists of 22 countries from the MENA region during the period 1996-2010 i.e. the years just before the outbreak of the "Arab Spring". The results show that the nature of the relationship between, on the one hand, growth and income inequality and on the other, growth and governance explains the outbreak of the "Arab Spring" in most countries of the region.*

Keywords: *Growth, inequality, Governance, GMM, MENA, Arab Spring.*

1. Introduction:

The relationship between growth, income inequality and good governance has been witnessing a renewed interest recently. The links between these variables are well established. Good governance is of paramount importance in reducing income inequality, i.e. reducing income inequalities stem from the growth process. On the other hand, countries' institutional features explain much of how income is distributed to the population. Those features have therefore an undeniable role in the process of understanding the initial levels of inequality and their variations.

A large number of writings prove that a governance gap hinders growth and therefore leads to increase in income inequality. In fact, if growth is a driving force in reducing inequality, good governance and economic policies' choices are of paramount importance in reducing inequality as well.

Several countries, particularly the MENA countries, have engaged in institutional reforms of infrastructure improvement and foreign investment

attractiveness in order to fight effectively against inequalities. This subsequently leads to a higher growth rate.

In fact, good governance can help a country to achieve a high and sustainable level of economic growth through providing a favorable environment for investment and savings and through reducing the obstacles that face international trade. This actually helps for reducing inequality.

This article aims at determining the role played by growth variables, income inequality and governance in explaining the initiation of the "Arab Spring". In fact, despite the economic growth of around 5%, the countries of the region suffer from an unfair redistribution of income and poor quality of institutions.

2. Review of the Literature

In recent years, writings on development economics have sought to define the complexity of the relationships between growth, income inequality and governance. The relationship between growth and income inequality was based on Kuznets (1955) [1].

The work of Kuznets led to the trickle-down development theory. He states that income inequality generated by growth tends to increase in the early stages of development due to changes in economic structures and to inequality. This inequality is likely to decrease thereafter. Therefore, we can say that this relationship takes the form of an Inverted U-shaped relationship. Observation of the facts shows that in several countries around the world, particularly developing countries, this form is still not demonstrated.

Deininger and Squire (1998) [2] showed in a study by country, that growth does not affect inequality in the form of an inverted U-shaped curve. They found that, in some countries, growth and inequalities interact in the form of a normal U-shaped curve and not reversed.

Persson and Tabellini (1994) [3] illustrated that the relationship between growth and income inequality is negative. The authors had conducted a study on the relationship between inequality and growth with a sample of 56 countries, nine of which were developed during the postwar period. They reached the conclusion that an increase of 0.07 in the share of income of 20% of the population reduces the average annual growth rate.

Similarly, Alesina and Rodrik (1994) [4] concluded, through a study of 70 countries studied from 1960 to 1985, that there is a negative impact of inequality on growth income per inhabitant. The authors suggested that the increase in the Gini coefficient has caused a decrease of 0.8 percentage points per inhabitant in the average growth rate. They further explained that increased inequality causes more conflict on redistribution issues which leads to a more extensive government intervention in the economy, to higher taxes, and as a result to a weaker growth.

Benabou (1996) [5] and Perotti (1996) [6] added that inequality's negative impact on growth is at around 0.8%. Facchini (2008) [7] showed, through Baumol's hypothesis (1986) [8] that the income distribution, equal or unequal, does not in itself affect economic growth. Barro (2001) [9] showed that inequality's negative effect on growth is only present in poor countries while this relationship is positive in rich countries.

Contrary to these studies, Forbes (2000) [10] has identified a positive relationship between inequality and growth. This study, however, has been severely criticized. Forbes insists on the fact that results estimations depend on the used methodology and on statistical data. It is important to note that the argument raised by Forbes, which suggests that long-term growth positively affects inequality, was then validated by Chambers (2005) [11],

Recently, Lopez (2006) [12] proved that growth has not been accompanied by increasing inequality till 1990 and that the relationship became positive only after this date.

Only recently, some economic studies on the relationship between the trio: Growth, Inequality and Governance emerged. Thorsten et al (2007) [13] showed that there is a relationship between Growth, Inequality and Governance through the role played by the institutions.

Deininger and al (2000) [14] and Engerman and al (2002) [15] claimed that when markets are incomplete, inequality in the distribution of productive resources can be damaging to growth.

Similarly, Hassan (2002) [16], Dollar and Kraay (2002) [17] confirmed that good governance guarantees the equitable distribution of national wealth. Kaufmann and Aart (2002) [18] showed that the per capita income and the governance policies are strongly and positively correlated.

Several studies have attempted to provide a micro-economic foundation for explaining the relationship between growth, inequality and governance. These explanations are based on the market imperfection.

Theoretical models examined capital accumulation in the presence of imperfect capital markets. This imperfection is reflected in credit rationing which affirms that only those who have already reached a high income can receive a loan. And since the credit market imperfection affects the income distribution, this rationing, then, is negatively affecting economic growth (Banerjee and Newman (1993) [19] and Lloyd and Bernhardt (2000) [20]).

More recent studies have sought the relationship between the trios: Growth, Inequality and Governance. Rajan (2010) [21] highlighted how inequality intensifies the effect of leverage through sowing the seeds of the crisis, while Stiglitz (2012) [22] emphasized the role of political and economic factors in explaining the relationship between growth, inequality and governance. Finally Berg and Ostry (2011) [23] showed that equality can help sustain growth.

In conclusion the relationship between growth, inequality and governance can be explained by:

Regional disparities and strengthening of social stratification.

Imperfect capital markets that reduce investment opportunities and therefore growth.

Increased poverty that requires the adoption of an income redistribution policy which in turn helps to raise taxes.

Political instability which reinforces uncertainty about investment and thus negatively affects growth.

The entire work validates the existence of a relationship between growth, income inequality and governance. However, is this relationship in the various MENA countries confirmed especially in the countries where inequality and poor governance, despite the sufficiently high growth rates, are the reasons behind social fragmentation?

Thus, we propose to determine the nature of the relationship between growth, inequality income and corporate governance through panel estimation of MENA countries between 1996 and 2010, i.e. the years just before the outbreak of the "Arab Spring".

3. Growth, Inequality and Governance:

In this chapter, we will try to find and validate the nature of the relationship between economic growth, income inequality and governance for the 22 MENA countries between the years 1996-2010.

We will use the GMM method (Generalized Method of Moments) of the dynamic panel. The database of the study is extracted from the World Bank, World Development Indicators and Worldwide Governance Indicators (the World Bank Group).

3.1. Model Description:

The study adopted growth equation, used in the works of Borenztein and al., (1998) [24]. This equation represents the growth of per capita income based on income inequality. This latter is where indicators are the Gini coefficient and the different variables specific to economic growth. Our equation is as follows:

$$Y_{i,t} = \beta_0 + \beta_1 GINI_{i,t} + \beta_2 X_{i,t} + \varepsilon_{i,t}$$

With GINI representing Gini index. Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution.

The vector of the specific growth variables is represented by "X" through which we have used Foreign Direct Investment "FDI" and the Gross Capital Formation "GCF" which was previously called gross domestic investment. This latter consists of the expenditure of the additional capital assets of the economy plus net changes in inventories. The trade openness "TRAOPEN" is an indicator which is measured by the sum of imports and exports relative to GDP, and gross national expenditure "EXP NAT". Expenditures are represented in cash paying for the governmental operating activities in order to provide goods and services.

Due to the problem of endogeneity arising in the elimination of the provincial effects both fixed effect estimator and random effect estimator; we will estimate the equation using the GMM technique developed by Arellano and Bond (1991) [25]. This Generalized Method of Moments estimator (GMM) that treats the model as a system of equations, one for each time period, will be used to minimize a certain norm of each country and to implement the lagged explanatory variables. The lagged variable in our model is "Y" and the model is as follows:

equation 2

$$Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 GINI_{i,t} + \beta_3 X_{i,t} + \varepsilon_{i,t}$$

Along with

$Y_{i,t}$: The real GDP per capita growth

$Y_{i,t-1}$: The real GDP per capita instead of growth

GINI: Gini coefficient

FDI: Foreign Direct Investment

GCF: Gross capital formation, % of GDP

TRAOPEN: Trade Openness

EXP NAT: Gross national expenditure, % of GDP

3.2. Results and Discussions

Results obtained using the GMM dynamic method along with the STATA 11.0 software, are presented in the table below:

Table I. DYNAMIQUE PANEL REGRESSION (System GMM)
DEPENDENT VARIABLE (Y)

Y	Coef.	Std. Err	Z	P> z
Y L1	.9930995	.012139	81.81	0.000
GINI	.0254414	.0110287	2.31	0.021
EXP NAT	.0091308	.0012094	7.55	0.000
TRAOPEN	.0044795	.0014757	3.04	0.002
GCF	-.0144673	.0037249	-3.88	0.000
FDI	-.028903	.00324	-8.92	0.000
CONS	-1.083015	.4433244	-2.44	0.015
Wald chi2(6)		75474.24		
Prob > chi2			0.0000	
Number of instruments			32	

Instruments for differenced equation
GMM-type: L(2/2).pibhrelav
Standard: D.gini D.depgouv D.ouvert D.fbc D.ide

We can deduce from the table above that all variables are statistically significant. First, the variable $Y_{i,t-1}$ is significantly positive which means that the real GDP growth rate per capita during the year (t) depends positively on the year (t-1). Then, the key variable, Gini, is significantly positive as well.

In our study, the GINI coefficient is equal to 0.025. Results show that the relationship between inequality and growth is positive and that inequality increases only when the output per capita increases. Based on these results, growth is positively related to inequality. Inequality, therefore, is proved to be beneficial for economic growth in the MENA region. This could be justified by the fact that there are few formalized policies that do encourage an egalitarian income distribution in most of the MENA countries. The wealth is concentrated in the hands of the minority which means that this minority has the privilege to benefit from many financial advantages. In fact, since this minority is preferred by the state, it makes it easier to accumulate capital for its financial projects, etc.

This finding implies that, during their development process, the countries of the MENA region will reach a very high level of inequality which facilitate for capital owners to generate more profits. However, will the poor ultimately have some benefits as a result of the 'flow' process? On

the other hand, is it acceptable to wait for such a process to occur?

The positive relationship between economic growth and Gini index in the MENA region explains the revolutions experienced by many of the countries there. This inequality led to "the revolution" despite the acceptable level of growth. We will move now to the analysis and we will introduce the "Governance" variable.

3.3. The Impact of Governance on Growth

The variable Governance "GOV" is evaluated through the growth equation. The various governance indicators are as follows: the Control of Corruption (CORR), the Rule of Law (RLAW), Political Stability and Absence of Violence / Terrorism (STAB), voice and Accountability (VACC), the quality of regulation (QUAL) and Government Effectiveness (GOVEFF).

However, we introduced the institutional variables separately in the growth equation since the level of correlation between them is recorded as high. Going through these tests, we found that the variables "control of corruption" and "voice and accountability" were not statistically significant.

The equation to be estimated is:

equation 3

$$Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 GINI_{i,t} + \beta_3 GOV_{i,t} + \beta_4 X_{i,t} + \varepsilon_{i,t}$$

The results of the growth estimates are reported in the following table,

Table 2. DYNAMIQUE PANEL REGRESSION (System GMM)
DEPENDENTE VARIABLE GOVERNANCE (Gov)

Y	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
Y LI.	.9717415	.9248827	.9279719	0.000	.9892264	0.000	.9513823	0.000	.9996022	0.000	.956147	0.000
EXP NAT	.0067232	.0049806	.0067415	0.000	.006991	0.000	.0093329	0.000	.0096849	0.000	.0070052	0.009
TRAOPEN	.0057009	.0030291	.006743	0.000	.0034031	0.047	.0046307	0.000	.0045527	0.040	.0043297	0.000
GCF	-.0120026	-.0167633	-.0088679	0.020	-.010414	0.044	-.0099549	0.019	-.0160517	0.001	-.0057895	0.489
FDI	-.0341586	-.0394362	-.0311816	0.000	-.0134336	0.020	-.0282821	0.000	-.0251259	0.000	-.0292925	0.000
GINI	.0517064	.023141	.0355101	0.002	.0359686	0.000	.0430074	0.000	.0312589	0.005	.0363518	0.000
_Cons	-1.974585	-3.126684	-1.608406	0.002	-1.510993	0.000	-1.811203	0.000	-1.326294	0.008	-1.594746	0.000
VACC	.1843826	.1003738										
STAB			-.2417855	0.000								
GOVEFF					.5315381	0.000						
QUAL							.0957898	0.036				
RLAW									-.2536329	0.005		
CORR											-.067781	-0.319
Prob >chi2		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000

The econometric results show that both the GINI coefficient and all governance variables are significant and positively correlated with growth. That was not the case, however, for the variables "voice and responsibility" (VRES) and "the Control of Corruption" (CORR) since they prove to be not significant and negatively correlated with the growth.

The findings are very compatible with the economic reality of the MENA countries and especially that of Tunisia before the revolution. The MENA countries suffer from: inequality in the distribution of growth gains, corruption, not having the right to vote and the lack of freedom of expression, of association and of the media.

3.4. Impact of Governance on inequality:

Moving from growth and governance indicators towards income inequality, we conclude our study by examining this reverse causality. The first fundamental work of reverse causality is the Kuznets curve (1955).

We seek to highlight the role of governance and growth in explaining inequality in MENA region. Countries' institutional policies account for much of the way revenues are redistributed. The governance indicators are, then, vital in understanding the levels of inequality in a country.

We continue our study with the same method of estimation. Our equation analyzes two types of effects: (i) the effects of institutional variables; (ii) and the effects of growth on inequality.

The equation estimated to explain inequality (Forbes, 2000; Deininger and Squire, 1998) is:

equation 4

$$GINI_{i,t} = \beta_0 + \beta_1 GINI_{i,t-1} + \beta_2 Y_i + \beta_3 GOV_{i,t} + \beta_4 X_{i,t} + \varepsilon_{i,t}$$

The results of our estimates are presented in the following table:

Table 3. DYNAMIQUE PANEL REGRESSION (System GMM)
DEPENDENTE VARIABLE Gini Coefficient

GINI	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
GINI L1	.9630194	.7859043	.9577014	0.000	.9847113	0.000	.9735504	0.000	.9989441	0.000	.9573428	0.000
Y	-.3869476	-.0388579	.288059	0.330	.4254368	0.082	.4342657	0.050	-.3919215	0.078	.3617146	0.186
EXP NAT	-.0001543	-.0221102	.0121812	0.065	-.0058281	0.482	.0145333	0.121	.006628	0.402	.0076385	0.268
TRAOPEN	-.0057389	-.0159985	-.0071741	0.303	-.0000794	-0.986	-.0020457	-0.761	-.0003238	-0.933	-.0057518	-0.357
GCF	-.0227924	-.0591523	-.0185084	0.048	-.0186301	-0.002	-.0219534	-0.133	-.0156956	-0.049	-.0204147	-0.007
FDI	-.0120232	-.0218511	-.0087791	0.724	-.0092877	-0.610	-.0114293	-0.543	-.0111292	-0.461	.0162178	0.556
_cons	1.93856	-5.632097	1.632032	0.468	(dropped)		.577839	0.888	(dropped)		1.699232	0.463
VACC	.2667302	-.4854414										
STAB			-.3607014	0.342								
GOVEFF					.1160467	0.711						
QUAL							.9161401	0.441				
RLAW									-.0737377	0.860		
CORR											-.1127589	0.786
Prob >chi2		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000

Overall, we can notice, according to the table above, that there are variables that are statistically significant and others that are not. Economic growth, for example, is statistically significant and positively correlated with the dependent variable. The inverse relationship between these two variables was also checked and subsequently shows that the economic growth explains much of the income inequality. Governance variables, on the other hand, are not significant but positively correlated with the dependent variable. These results may reflect the lack of statistical data.

4. Conclusion

We tried through this paper to examine the dynamic relationship between economic growth, income inequality and governance. We used a sample of 22 countries from the MENA region between the years 1996-2010 and adopted the Generalized Method of Moments (GMM) dynamic panel.

The results confirm the positive relationship between growth and income inequality during the period studied. The relationship between growth and governance, however, was not established for both indicators "control of corruption" and "voice

and responsibility". This explains the outbreak of the "Arab Spring" in most countries in the region.

The inverse relationship, which seeks to determine the impact of growth and governance on income inequality of the same sample and during the same period, was only demonstrated through the growth variable which was found to be positively correlated with the inequality income variable. The relationship between inequality and governance, on the other hand, has not been confirmed. The results are not very reliable due to the deficiency of statistical data related to the income inequality variable of the different countries in the MENA region.

This paper attempts to raise the MENA countries' awareness concerning the introduction of policies that promote institutional development and ensure a better distribution of income. Those countries should not only be interested in the economic growth, but on how the fruits of this growth will be distributed. This actually will facilitate the endorsement of growth and the reduction of both poverty and income inequality.

One of the study's limitations is the lack of reliability especially when it comes to the results related to the impact of governance on the Gini index since most of the coefficients related to

governance were not found significant. Therefore, an extension of our study, choosing a larger study sample and a larger study period, is obvious.

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