# The impact of the action of public power on economic development: Application to the education sector in the MENA region

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# The impact of the action of public power on economic development: Application to the education sector in the MENA region

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*Abstract:*  The interest of this paper is to show the effect of the action of the public power over the management of public expenditure on education. Our empirical attempt tries to clarify the direct and indirect effects of the efficiency of the government on the development of public spending for the education sector during the 1984-2012 period in the MENA region while using the model of simultaneous equations.

*Keywords:* Public Spending, Economic Growth, Government Effectiveness, Public expenditure on education, model of simultaneous equations.

*JEL Classification:* H50, C13, K0, C22, C33.

*Résumé :* L'intérêt de cet article est de montrer l'effet de  l'action du pouvoir public sur la gestion des dépenses publiques de l'éducation. Notre tentative empirique essaye de clarifier les effets directs et indirects  de l'efficacité du gouvernement  sur le développement  des dépenses publiques pour le secteur éducatif  au cours de la période 1984-2012 dans la région MENA tout en utilisant le modèle à des équations simultanées.

*Mots clés :* Dépenses publiques, Croissance économique,  Efficacité du gouvernement, Dépenses  publiques  de l'éducation,   modèle à des équations simultanées.

**Classification JEL:**   H50 **,** C13 **,** K0, C22 , C33.

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# 1. INTRODUCTION

Governance is more than ever under the eyes of all stakeholders from public life. It is clear that it is increasingly recognized that governance of public spending is essential for the implementation of the goals and strategic directions of the state. The governance of public spending, especially spending on the education sector, remains at the heart of controversy regarding national development policies.

Indeed, in public administration, governance is the process by which "government run public resources." Public finance is the most important mechanism available to governments for the performance of their public policy objectives, good governance of public finances is therefore essential for the success of these public actions. In addition, public health spending have increased in some countries and decreased in others lead logically to question the determinants of public resources that a government allocates to education.

This invites us to consider, very pragmatically, the actions to begin to increase public spending on education. Countries with adverse health situations do not spend, on average, proportionally more than other countries. "The more the total financing need, the less spending on education will be compared to the total public expenditure[3]." The study by Gupta and Davoodi (2000)[4] show, in the same context as the most corrupt countries spend less on education. P. Mauro (1997) shows that public expenditure on education as a percentage of GDP are highly correlated negatively with corruption (over corruption is high less is spent on education).

S.Rajkumar and V.Swaroop (2002)[5] studied the effect of quality of governance on the results of public spending. A number of previous studies have examined the effect of corruption on the performance of the public sector in infrastructure education, etc. (Gray-Molina et al. (1999), Gupta et al. (2002), Reinikka and Svensson (2001)).

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[3] *S.Gupta, H.Davoodi et E.Tiongson (2000)* examined" *the effect of corruption on the provision of education services and public health".*

[4] *Gupta, Davoodi and M.Alonso-Terme (1998); "Does Corruption Affect Income inequality and Poverty?"* International Monetary Fund Working Paper, No.98/76, May.

[5] *Rajkumar ET V.Swaroop (2002); "Public Spending and Outcome : Does Governance Matters ?",* Public Policy Institute, Georgetown University.

# 2. LITERATURE REVIEW

## 2.1. Relationship between governance, public expenditure and economic growth

Trying to define a concept of governance and analyze its relationship with educational expenditure presents a clear challenge to researchers. Of course, we are aware that we are neither the only nor the first to have tried such research.

Indeed, we use throughout this article publications and contributions of researchers from different fields and disciplines. However, we believe we can make a significant contribution in the incorporation of practical reality and academic reality related causal relation between governance and educational public spending. Modest intake, but perhaps will contribute to the emergence of achievements carriers questions.

The concept of governance was given to honor the early 1990s by the Anglo-Saxon economists and international institutions (UN, World Bank and IMF), to designate new "*art or manner of governing*". Moreover, it is the act of managing public spending to achieve the proper allocation of resources available to governments.

In this context, there is a broad consensus that public spending on education is often lacking in developing countries like the MENA countries. This is not in contrast with the fact that it would be a side usually possible to improve the educational status with the same volume of public resources, and on the other hand, the available research shows that public expenditure education often do not have significant influences on the health status of the population in question.

According Ablo and Reinikka (1998)[6] in Uganda, only 13% of allocated funds actually reached schools, the remaining 87% have disappeared or have been used for other purposes by officials. These facts help explain why a government can spend a very large share of its budget to education without the performance is good.

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[6] *Ablo et Reinikka (1998);* "Do Budgets Really Matter? Evidence from Public Spending on Education and Health Paper No 192.in Uganda", World Bank Policy Research Working.

These studies include that of Gupta et al (1999)[7] and that of McMahon, 1999, which establish that spending on primary education but not total education spending affects the rate of holding up 4th and 5th grades.

Pritchett (1996)[8] and Swaroop (2002)[9] offer an explanation: all negative or non-significant effects of public spending on school performance could be explained by the inefficiency of public spending associated with high levels of corruption. Swaroop (2002) found that governance, as measured by the level of corruption and bureaucratic quality, affects the relationship between public spending and educational outcomes.

In addition, Mauro (1997)[10] shows that the most corrupt countries spend less on education. The author also shows that in the country where the position of the index of corruption perception improved by 6 to 8, the expenditure on education increased by 0.5 percent of GDP. These findings are confirmed by Gupta, Davoodi and Tiongson (2000).

In total, he reports of UNESCO and several empirical studies on education expenditure reveal inadequate in most of these countries, between financial resources and educational outcomes. The increase in education spending has not resulted in any country by academic progress. What is lacking in these countries, it is good governance in the education sector, measured here by the efficiency of the government.

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[7] **Gupta, S., M. Verhoeven et E. R. Tiongson (2002) ;** "*The effectiveness of government spending on education and health care in developing and transition economies*"; European Journal of Political Economy ; vol.18, n° 4 : pp. 717-737.

[8] **Pritchett, Lant, Mind Your P s and Qs (1996);** "*The Cost of Public Investment is Not the Value of Public Capital*", Policy Research Working Paper 1660, Development Research Group, Washington, DC: World Bank.

[9] **Swaroop (2002);** "*Public Spending and Outcomes: Does Governance Matter?*"; World Bank Policy Research Working Paper No. 2840. Available at SSRN: http://ssrn.com/abstract=636188.

[10] **Mauro (1997);** " *The Effects of Corruption on Growth, Investment and Public Expenditure: A cross-country Analysis*", in Corruption and the Global Economy: Institute for Urban Economics (Washington).

## 2.2.    Educational expenditure in recent models of growth

In 1990, Barro shows that public expenditure is directly productive and should be considered as a factor in the production function. The public sector contribution to growth includes spending on education (to increase human capital), research and development, but also the infrastructure for transport and communication. Like other accumulations, these expenses have a cumulative effect: it increases the growth, broadening the tax base, led to an increase in government revenue and therefore public spending growth.

The recent growth models (models of endogenous growth) estimate for most and outside the consideration of externalities, the state has a direct influence on the efficiency of the public sector. It is in this light that Barro (1990, 1991)[11] presented a growth model where public spending are a driving force (Agenor, 2000).

Indeed, total public expenditure does not have a positive effect on the growth of the economies of the WAEMU. This result is consistent with those obtained by Ojo and Oshikoya (1995) and Tanzi and Zee (1997)[12].

In addition,    the direct and indirect effects of public spending on growth of the economies of the   UEMOA,  following the approach of Tanzi and Zee (1997). The question of the actual destination of expenses incurred by public officials should be asked in connection with the mixed impact in the short term, although positive, public investment on growth. Or public investments were used to finance unproductive projects in terms of contribution to economic growth, or they were diverted from their original purpose, which raises in any case, the question of good governance the economies of the EU.

Besides, Rajkumar and  Swaroop (2002) showed, from an international comparison and an estimate panel data for the period 1990-1997 that good governance (measured by the degree of corruption and quality bureaucracy) has a positive impact on the efficiency of public investment spending. This efficiency is measured by the gain on the GDP growth, the increase in public spending for education.

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[11] *Barro, R. J. et X. Sala-I-Martin (1992) ;"Public Finance in Models of Economic Growth";* The Review of Economic Studies, vol.59, n° 4, pp. 645-661.
[12] *Tanzi, V. et H. Zee (1997); "Fiscal Policy and Long–Run Growth",* IMF Staff Papers, 44, 179–209.

## 2.3.    The determinants of educational expenditure: Macroeconomic Approach

The links between public spending and overall educational performance are studied by Gurgand, (2005)[13]. This relationship now a major problem and also the question of the allocation of resources allotted to the education system. Resources allocated to the education system in recent years have experienced a dramatic increase.

Since the Addis Ababa Conference (1961) to Dakar (2000) or the Millennium Development Goals (MDGs), Education for All (UNESCO BREDA, 2005)[14] has emerged as a priority. International organizations and governments in many developing countries have decided to make education and health of global public goods whose development and increasing need of international mobilization.

In total, in many countries, education is the largest budget item of public expenditure of the state. According Gravot (1993)[15], the economics of education is to analyze the acquisition, retention and use of knowledge tied to individuals.

Consequently, it is for this expenditure or consumption educational progress over time. According to the question proposed by Gurgand. M (2005) The level of public expenditure, they increase their distribution are they desirable? Remains valid even in this work.

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[13] *Gurgand, M. (2005) ; '' Economie de l'éducation''*, éd. La découverte, Paris.
[14] *UNESCO, (2005)*; ''*Teacher policies for underserved populations: a synthesis of lessons learned and best practices*, (Background paper for the Education for all global monitoring report 2008: Education for all by 2015: will we make it?) (en anglais)  Education pour tous: l'exigence de qualité; rapport mondial de suivi sur l'EPT.
[15] *Gravot, P(1993) ;* Economie de l'éducation, Economica, Paris.

**Table N°1:** *Summary of studies on the interactions between institutional indicator (government effectiveness) and macroeconomic indicators (public expenditure for health, economic growth...).*

| Author (s) | Examples | Sources of the work | Main results |
|---|---|---|---|
| **Globerman and Shapiro (2002**) | 144 country | The index of governance, the rule of law, regulatory quality, political instability, government effectiveness, graft and corruption, voice and accountability; Kaufmann et al., 1999 | The overall governance index is more important than his sub-component and the human development index and the index of infrastructure. |
| **Alendro Quijada (2004)** | Venezuela | Institutional quality and economic growth: the case of Venezuela | Institutional deterioration and growth rate of reduction. |
| **Ouattara (2007)** | 8 country | Public expenditure, corruption and growth in the countries of the Economic and Monetary Union of West Africa (UEMOA) | The author shows that there is a long-term relationship between public spending, corruption and growth in the WAEMU countries, but the level of corruption is not induced by economic growth. |
| **Seka (2013)** | 38 country | Corruption, growth and human capital: what relationship? Africa Development, Vol. XXXVIII, Nos 1 & 2, 2013, pp. 133-150 | The importance of human capital in the process of growth and development must appeal to governments, especially those in low-income developing countries. |

**Source:** *the summary is done by the author*

# 3. SELECTION OF VARIABLES AND ESTIMATION METHODOLOGY
## 3.1. The estimation method: Simultaneous Equations in panel data

Empirical studies have examined very simple models is limited to an equation, generally linear where there is an endogenous variable or explain. We assumed (**Y**) that is explained by a set of exogenous variables and a random perturbation (residue).

Indeed, the economic events that have some completed are described by a set of variables, but require their modeling by equations linking these economic variables, we are talking of simultaneous equation models.

We specify the endogenous variables, which are determined by the exogenous variables in the model. While modeling is done through three phases namely:

* The design, ie writing or model specification.

* Estimation of the model equations, using suitable techniques.

Overall, the vast majority of recent work on simultaneous equation models developed under the benevolence of the Cowles Commission; Koopmans (1950) and Koopmans and Hood (1953) are known references.

This work has greatly influenced the direction followed by econometric theory for many years. For a story on the recent development of econometrics, see Morgan (1990)[16]. Because the literature on simultaneous equation models is extensive, we will process a small part of it. There are a large number of studies on this theoretical field, and many works that are at different levels.

Two interesting review articles are those of Hausman (1983)[17], which deals with the traditional literature, and Phillips (1983)[18] which deals with the more specific field of the small sample theory in models of simultaneous equations, a topic we n 'not deal at all.

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[16] *Morgan (1990);'The history of econometric ideas Historical perspectives on modern economics'* Cambridge University Press, Cambridge, UK. ISBN 0521373980

[17] *Hausman (1983); "Stochastic Problems in the Simulation of Labor Supply,"* NBER Chapters, in: Behavioral Simulation Methods in Tax Policy Analysis, pages 47-82 National Bureau of Economic Research, Inc.

[18] *Phillips (1983); "The Role of the International Monetary Fund in the Post-Bretton Woods Era,"* Review of Radical Political Economics, Union for Radical Political Economics, vol. 15(2), pages 59-81, June.

### 3.1.1. Endogeneity problem

The study of several economic models such as growth, corruption and human capital require the consideration of the problem of endogeneity as the tested variables interact simultaneously.

Indeed, there are strong reciprocal causality between these factors which brings us to endogeneity and simultaneity. Estimation methods that can be used in the context of simultaneous equation models are functions of the model identification criteria to estimate and endogeneity problem.

### 3.1.2. Method SUR (Seemingly Unrelated Regression)

In our case, the model presented is over-identified. The econometric method adopted was the SUR method (Seemingly Unrelated Regression). This method is adequate to deal with this kind of model.

However, our model is characterized by the presence of an endogeneity problem of order two, by its definition, which is why the estimate by the least squares method triples would be recommended.

The estimation method is **SUR** based on the principle of applying the ordinary least squares method in three steps. A technique to solve endogeneity problems is to introduce the origin of these problems variables as instrumental variables.

However, the version used in our study is that of *STATA 11*. Using SLS method 3, treatment with *Stata11* software allows us to complete resolution of the results to criticize.

### 3.1.3. The variables used in the estimation

***Table N°2:*** *Summary measures of the variables used in this estimate.*

| Variables | Formulas | Measure adopted and Data Source |
|---|---|---|
| Economic Gowth | **GDP** | The annual growth rate of GDP per capita.(WDI) |
| Humain Capital | **HK** | Tertiary  enrollment rate.(WDI) |
| Domestic Investment | **IN** | The gross fixed capital formation to GDP. ( WDI) |
| Demographic Variable | **POP** | The population Growth rate .(WDI) |
| Foreign Drect Investment | **DFI** | Net flows of foreign direct investment.(WDI) |
| Tade  Openness | **TRAD** | The sum of exports and imports to GDP.(WDI) |
| Government  Consumption. | **GC** | The level of government consumption as a percentage of GDP.(WDI) |
| Quality of public services | **GE** | The effectiveness of government.(WGI) |
| Education | **PEE** | Public expenditure on education  (WDI) |
|  | **ERD** | Expenditure on research and development as a percentage of GDP. |

***Source:*** *The author summarized from the empirical work.*

### 3.2. Model specification

#### 3.2.1. The equation of economic growth

We use the endogenous variable in the first equation the annual growth rate of **GDP** per capita (**GDP**).

Indeed, Andersen (2003) argues that the per capita **GDP** growth rate is a good indicator for measuring economic growth and a variable is justified by the extensive literature which states that **FDI** has a positive impact on economic growth as Ikiara, Moses M. (2003) and N.Fosto which prove that technological transfers from **(DFI)** positively affect growth. A variable **(POP)** is the growth rate of the population. On the second variable that shows trade openness indicator denoted by **(TRAD)** which is measured by the ratio of the sum of exports and imports to **GDP**, it is included in our model as an explanatory variable in growth rate. Like Berthélemy and Varoudakis (1995)[19], we introduce the increased trade openness indicator accelerates economic growth and hence the expected sign of this variable is positive.

In addition, the assessment of the effect of public spending on welfare will be using the approach "*benefits impact analysis*" Lionel Demery (2003), which takes into account the cost of public expenditure. This approach is complementary to the analysis of the progressivity of the use of public services and aims to assess the distributional impact of public spending **(GC)**. That's what there Kaufmann et al. have created a variable is government effectiveness **(GE)** reflects the perception of the quality of public services, the quality of the civil service and the degree of independence from political pressures, the quality of the formulation and policy implementation, and the credibility of the government's commitment to such policies. We will regress and the annual growth rate of per capita **GDP** on these predictors whose objective is to verify the effect of government effectiveness **(GE)** and the indicator of public spending **(GC)** on the growth rate. The model is specified in Equation **(A)**:

**\* The equation of economic growth:** $Y_{i,t} = \alpha_0 + \alpha_1 GC_{i,t} + \alpha_2 GE_{i,t} + \sum_{i=3}^{5} \alpha_i X_{i,t} + \varepsilon_{i,t}$

The equation becomes as follows:

$$GDP_{i,t} = \alpha_0 + \alpha_1 GC + \alpha_2 GE_{i,t} + \alpha_3 DFI_{i,t} + \alpha_4 POP + \alpha_5 TRAD_{i,t} + \varepsilon_{i,t}$$

With $X_{i,t}$ is the vector of economic indicators (**DFI, POP, TRAD**) determinants of growth and specific equation **(A)** where ($i = 1 \dots 17$; $N = 493$; $t = 1 \dots 29$).

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[19] **Berthélemy J.C. et Varoudakis A. (1995) ;** *"Convergence Clubs and Growth: The Role of Financial Development and Human Capital "*; Economic Review, 46, 2; pp. 217-235.

### 3.2.2. The equation of public spending

The second variable is endogenous public spending (**GC**). The largest share of national wealth devoted to basic social sectors.

In fact, global governance indicators do not reflect the official position of the World Bank, its Executive Directors or the countries they represent. They are not used by the World Bank Group to allocate resources. The impact of government efficiency (**GE**) on public expenditure management quality (**GC**) is a scientific diagram (**ERD**) in the promotion of human capital (**HK**)[20] occur at the level of detail allocations of total public resources.

Thus, the model is specified in Equation (**B**):

**\* The equation of public spending:** $D_{i,t} = \beta_0 + \beta_1 Y_{i,t} + \beta_2 PEE_{i,t} + \sum_{i=3}^{5} \beta_i V_{i,t} + \mu_{i,t}$

The equation becomes as follows:

$$GC_{i,t} = \beta_0 + \beta_1 GDP_{i,t} + \beta_2 PEE_{i,t} + \beta_3 IN_{i,t} + \beta_4 HK_{i,t} + \beta_5 ERD_{i,t} + \mu_{i,t}$$

With $V_{i,t}$ is the variable vector (**IN**, **HK and ERD**) specific to the equation of corruption where (i = 1… 17; N = 493, t = 1… 29).

### 3.2.3. The equation of public education spending

The share of education expenditures (**PEE**) in gross domestic product can be in all of insufficient spending to the social objective in this side.

The model specified in equation (**C**):

**\* The equation of public education spending:** $E_{i,t} = \delta_0 + \delta_1 Y_{i,t} + \delta_2 D_{i,t} + \sum_{i=3}^{3} \delta_i R_{i,t} + \omega_{i,t}$

The equation becomes as follows:

$$PEE_{i,t} = \delta_0 + \delta_1 GDP_{i,t} + \delta_2 GC_{i,t} + \delta_3 GE_{i,t} + \omega_{i,t}$$

With $R_{i,t}$ is the vector of variables (**GE**) specific to equation (i = 1… 17; N = 493; t = 1…29).

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[20] Economic theory has long recognized a positive relationship between human capital and economic growth (***Adam Smith 1776 ; Gary Becker (1964)***), (***Boccanfuso, Savard et Savy, (2009)***). The concept of human capital advocates consider the "education as an investment and generates spillovers for the community, that is the conclusion that" pulling endogenous growth models with human capital as a factor of production.

### 3.2.4. Presentation of the model

The structural model allows us to test the direct effect of each indicator on the endogenous variable and can observe the feedback effects exerted between the endogenous variables.

In fact, the structural model will later be transformed into a model "reduced" to explain where the variables are substituted by their functions in the equations of the other variables.

The whole relationship of this model is explained in the following diagram:

$$GDP_{i,t} = \alpha_0 + \alpha_1 GC + \alpha_2 GE_{i,t} + \alpha_3 DFI_{i,t} + \alpha_4 POP + \alpha_5 TRAD_{i,t} + \varepsilon_{i,t} \qquad (A)$$

$$GC_{i,t} = \beta_0 + \beta_1 GDP_{i,t} + \beta_2 PEE_{i,t} + \beta_3 IN_{i,t} + \beta_4 HK_{i,t} + \beta_5 ERD_{i,t} + \mu_{i,t} \qquad (B)$$

$$PEE_{i,t} = \delta_0 + \delta_1 GDP_{i,t} + \delta_2 GC_{i,t} + \delta_3 GE_{i,t} + \omega_{i,t} \qquad (C)$$

In the case of a simultaneous equations model, an endogenous variable in an equation may be included as an exogenous variable in another equation. This is the case of variable "economic growth" and "government effectiveness" in our model. The dual status of these variables may cause bias in estimates when using the Ordinary Least Square method (OLS) equation by equation.

To avoid this estimation bias, we will transform our model to be estimated so that we get "a model where the endogenous variables are expressed as a function of exogenous variables."

The variable growth rate is a dependent variable in the first equation and becomes an explanatory variable in the second and the third equation, and vice versa. The dual status of these two variables leads to a bias in the coefficient estimates if the estimate is made, by equation by OLS. The estimate by the simultaneous equations method offers the possibility to overcome this simultaneity bias.

## 3.3. Analysis of model results

### 3.3.1. Effects of the action of public power in the three regressions

The results of the estimation of simultaneous equations using the least squares method of triple government efficiency **(GE)** on growth **(GDP)**, government spending **(GC)**, and educational expenditure **(PEE)** are given by table N° 3.

They allow us to advance interpretations and draw conclusions cautiously. We recall that all estimates were made using the *STATA11* software.

**Table 3:** *Analysis of the results of the regression model on the effects of the action of public authority on growth, public spending and public spending in education.*

| Variables | GDP | GC | PEE |
|---|---|---|---|
| **Constante** | 2.445109 | 0.5727473 | 4.53608 |
| | (1.33)* | (21.22) *** | (8.91)*** |
| **GE** | 0.6831009 | ------- | 0.0959217 |
| | (1.37) | | (0.60) |
| **GDP** | ------- | 0.0017283 | -0.0290657 |
| | | (1.91)* | (-1.89)* |
| **GC** | 3.177895 | -------- | 2.166381 |
| | ( 1.03) | | (-2.46)** |
| **PEE** | --------- | -0.0089019 | -------- |
| | | (-3.18)*** | |
| **DFI** | 0.136786 | -------- | -------- |
| | (1.58)* | | |
| **PRD** | ----- | 0.093512 | |
| | | ( 3.77)*** | |
| **POP** | 0.0922191 | ------- | -------- |
| | (0.73) | | |
| **IN** | ------ | 0.000959 | -------- |
| | | (0.73) | |
| **TRAD** | -0.2390646 | ------ | ------- |
| | (-0.72)* | | |
| **HK** | ------ | -0.0235715 | -------- |
| | | (-1.22) | |
| **Chi2** | 10.67 | 29.01 | 10.48 |
| **Probabilité** | 0.0584 | 0.0000 | 0.0149 |
| **Observations** | 493 | 493 | 493 |
| **R²** | 0.0141 | 0.0370 | 0.0087 |

**Note:** *The terms in parentheses are t-Student and* **\*, \*\*, \*\*\*:** *significant at* **10%, 5%** *and* **1%** *respectively.*

### 3.3.2. The impact of the action of public authority on educational expenditures in the MENA region

We can remember that the purpose of this study is to test the institutional indicator that can promote economic development or not that is the action of the government may encourage the creation of social wealth of a country? The institutional factor in this case, as an element of control that we need to explain its key role in the management and how to govern public spending and especially social expenditure (education) and its effectiveness in stimulating economic growth.

In this context, we can explain the nature of relationship between public spending as an engine of growth and action of public power? Our intuition is to know the weight of government, its ability to keep well and also to steer by applying a control and monitoring strategy.

We analyze the effects of an indicator on the other two variables and the same work will be repeated with the other variable to explain the effects of **(GE)** on **(GDP) (GC)** and **(PEE)** and also on the other variables exogenous.

Indeed, this primarily concerns the direct effect of the government's effectiveness on growth. The results show that the institutional indicator (government effectiveness) is positively colored and non-significant with economic growth. So the action of public power does not explain the growth. This then implies that the action of public power in the MENA region is ineffective. We are talking about poor institutional quality monitoring by poor governance in the presence of an inefficiency of governmental power to stimulate growth in the MENA region.

Then, on the effect of government efficiency in public spending on education. Analysis of the results shows a positive effect *(0.0959217)* not significant. This confirms the absence of the action of public authorities on the control of educational expenditure (**PEE**), so the institutional indicator remains ineffective since the action of the public authorities involved to create social wealth even in a context of economic development and social.

However, Kaufman, Kraay and Mastruzzi (2003) keep the six indicators of good governance and especially government efficiency and quality control within the rules of law and control of corruption. These criteria, in one variant, are identical to those used by Hodges (2005)[21].

After, the analysis of the indirect effect of the government's effectiveness in total public expenditure from the action of public authority on educational expenditures that is ineffective and does not improve the basic social sectors.

Specifically and according Ciocchini et al (2003)[22], it should restructure the public service, to improve financial management and rebuild administrative efficiency.

In addition, the effect between public spending **(GC)** and educational expenditure **(PEE)** is significant **(1%)** but is negatively stained *(-0.008902).* This result does not comply with the findings of Reinika and Svensson (2004) that guided an idea of the socio-economic environment in South Africa. The inefficiency of public interventions in the unproductive public spending reduces **GDP** growth and a limiting factor of social well-being. The inefficiency of public action goes hand in hand with the emergence of a political will through good governance through the proper allocation of financial resources.

Finally, the direct effect of public spending **(GC)** appears mainly to expenditure of Education (EPE), since the latter a negative effect *(-0.0089019)* and significant *(1%).* So the expenses are still needed to improve basic social sectors and especially the education sector and also these expenses, which are expenses for the majority of countries in the MENA region can develop the quality of teaching from human capital. So public investment actions *(IN)* in human capital *(HK)*, education and particularly its funding strategies going to be an important part of the investment in human capital (Baldacci et al., 2005 )[23].

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[21] *Hodges (2005); "Ammonia Abatement Strategies in Livestock Production: A Case Study of a Poultry Installation,"* Environmental Economy and Policy Research Working Papers 01.2005, University of Cambridge, Department of Land Economics.

[22] *Ciocchini et al., (2003) ; ''Does Corruption Increase Emerging Market Bond Spreads?" Journal of Economics and Business, vol. 55, 503- 28.*

[23] *Baldacci et al., (2010); "Public Expenditure on Social Programs and Household Consumption in China'', IMF Working Papers, WP 10/69.*

# 4. Conclusion

This work focuses on assessing the weight of public power in the context of the quality of governance and economic growth and to answer some questions related to empirical data reported in the new literature, it is interesting, therefore, to know to what extent the action of public power is effective at the decisions taken in the allocation of resources especially the allocation of expenditures in the education sector.

Indeed, the analysis takes as an example the MENA region consists of 17 countries during the period from 1984 to 2012. According to the main results of this paper, we first note, institutional indicator (government effectiveness) plays an important role in the economic development of nations, because the action of public power seems to have an effect on public expenditure management that remain in this case a catalyst for growth and which were explained by the journal the existing literature.

The results show that the action of the public authority does not explain the growth. This then implies that the action of public power in the MENA region is ineffective. This is the result of poor institutional quality in the presence of an inefficiency of governmental authority to avoid waste of public spending, especially in public spending of education and to direct public resources well in the right pattern of growth in MENA.

In total, we studied the weight of power and efficiency of application within the MENA countries to know the action of public authorities in the health sector and we proved that the effect government effectiveness on public education spending and economic growth as conceived by the economic literature and we tried to verify empirically the interaction between the action of public authorities and economic development. To fight against waste and improved by an action of public power, it must update the legal standards and must also create new legislation regarding the reality of the citizens of this area. This is one of the economic policy goals most prominent today for the possibility of increasing the country's wealth while reducing corruption and implementing the laws

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# *ANNEXES*

| Nombre | La Zone MENA |
|:---:|:---:|
| 1 | Algeria |
| 2 | Bahrain |
| 3 | Egypt, Arab Rep. |
| 4 | Iran, Islamic Rep. |
| 5 | Iraq |
| 6 | Israel |
| 7 | Kuwait |
| 8 | Lebanon |
| 9 | Libya |
| 10 | Mauritania |
| 11 | Qatar |
| 12 | Saudi Arabia |
| 13 | Syrian Arab Republic |
| 14 | Tunisia |
| 15 | Turkey |
| 16 | United Arab Emirates |
| 17 | Yemen, Rep. |

*sum gdp gc  pee ge rd fdi pop  inv trad hk*

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|----------|-----|------|-----------|-----|-----|
| gdp | 493 | 4.682586 | 6.523964 | -42.45112 | 46.5 |
| gc | 493 | .5446687 | .1324617 | .1666667 | .8733797 |
| pee | 493 | 3.204447 | 2.234166 | .00011 | 12.02893 |
| ge | 493 | -.1623128 | .7350647 | -1.947088 | 1.91651 |
| prd | 493 | .2015047 | .2483775 | .000029 | 1.10218 |
| fdi | 493 | 2.023846 | 3.407211 | -5.288191 | 33.56602 |
| pop | 493 | 2.914263 | 2.503662 | -2.96236 | 17.48324 |
| in | 493 | 1.456008 | 5.00497 | .0002134 | 26.61561 |
| trad | 493 | -.3006174 | 1.181017 | -4.670521 | 1.763391 |
| hk | 493 | 1.183021 | .3073372 | -1.100672 | 1.783071. |

*sum gdp gc  pee ge rd fdi pop  inv trad hk*

_cor gdp gc  pee ge rd fdi pop  inv trad hk_ (**obs=493**)

| | gdp | gc | pee | ge | prd | fdi | pop | inv | louv | lkh |
|---|---|---|---|---|---|---|---|---|---|---|
| gdp | 1.0000 | | | | | | | | | |
| gc | 0.0435 | 1.0000 | | | | | | | | |
| pee | -0.0897 | -0.0605 | 1.0000 | | | | | | | |
| ge | 0.0944 | 0.5160 | -0.0173 | 1.0000 | | | | | | |
| prd | -0.0860 | 0.1700 | 0.1235 | 0.3029 | 1.0000 | | | | | |
| fdi | 0.0783 | 0.0612 | 0.0451 | 0.1178 | -0.1313 | 1.0000 | | | | |
| pop | 0.0720 | 0.1317 | -0.0119 | 0.3563 | -0.1450 | 0.0938 | 1.0000 | | | |
| in | 0.0014 | 0.0525 | 0.3268 | 0.0769 | 0.3101 | -0.0746 | -0.1325 | 1.0000 | | |
| trad | 0.0122 | 0.6466 | -0.0054 | 0.4098 | 0.2321 | 0.1175 | -0.0019 | 0.4123 | 1.0000 | |
| hk | -0.0341 | -0.0377 | -0.0858 | -0.2196 | 0.0369 | 0.2523 | -0.2527 | 0.1274 | 0.1199 | 1.0000 |

. *reg gdp gc pee ge rd fdi pop inv trad hk*

```
  Source |     SS      df      MS              Number of obs =   493
---------+-----------------------------        F(  9,  483) =   2.21
   Model | 826.478465    9  91.8309406         Prob > F     = 0.0206
Residual | 20114.0792  483  41.6440563         R-squared    = 0.0395
---------+-----------------------------        Adj R-squared = 0.0216
   Total | 20940.5577  492  42.5621091         Root MSE     = 6.4532
```

--------------------------------------------------------------------------------

| gdp | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. Interval] | |
|------|-------|-----------|------|-------|----------|----------|
| gc | 1.902686 | 3.242343 | 0.59 | 0.558 | -4.468154 | 8.273526 |
| pee | -.3322311 | .1428778 | -2.33 | 0.020 | -.6129699 | -.0514923 |
| ge | 1.009489 | .547249 | 1.84 | 0.066 | -.0657941 | 2.084772 |
| prd | -3.017891 | 1.356093 | -2.23 | 0.027 | -5.682461 | -.3533207 |
| fdi | .1508965 | .0941779 | 1.60 | 0.110 | -.0341525 | .3359455 |
| pop | .0163866 | .1327895 | 0.12 | 0.902 | -.2445299 | .277303 |
| in | .1420695 | .0751778 | 1.89 | 0.059 | -.0056463 | .2897854 |
| trad | -.4598989 | .387197 | -1.19 | 0.236 | -1.220697 | .3008996 |
| hk | -.7502274 | 1.07953 | -0.69 | 0.487 | -2.871383 | 1.370928 |
| _cons | 5.672122 | 2.411976 | 2.35 | 0.019 | .9328605 | 10.41138 |

--------------------------------------------------------------------------------

*Sureg ( gdp= gc ge fdi pop trad) (cg= gdp pee prd in hk) ( pee= gdp  gc ge)*

| Equation | Obs | Parms | RMSE | "R-sq" | chi2 | P |
|---|---|---|---|---|---|---|
| gdp | 493 | 5 | 6.471192 | 0.0141 | 10.67 | 0.0584 |
| gc | 493 | 5 | .1298589 | 0.0370 | 29.01 | 0.0000 |
| pee | 493 | 3 | 2.222163 | 0.0087 | 10.48 | 0.0149 |

| | Coef. | Std. Err. | z | P>|z| | [95% Conf. Interval] | |
|---|---|---|---|---|---|---|
| gdp | | | | | | |
| gc | 3.177895 | 3.096993 | 1.03 | 0.305 | -2.892099 | 9.247889 |
| ge | .6831009 | .4996073 | 1.37 | 0.172 | -.2961113 | 1.662313 |
| fdi | .1367867 | .0866713 | 1.58 | 0.015 | -.033086 | .3066594 |
| pop | .0922191 | .1268389 | 0.73 | 0.467 | -.1563805 | .3408187 |
| trad | -.2390646 | .3318531 | -0.72 | 0.071 | -.8894848 | .4113556 |
| _cons | 2.445109 | 1.836086 | 1.33 | 0.083 | -1.153553 | 6.043771 |
| gc | | | | | | |
| gdp | .0017283 | .000903 | 1.91 | 0.056 | -.0000415 | .0034982 |
| pee | -.0089019 | .0027992 | -3.18 | 0.001 | -.0143882 | -.0034155 |
| prd | .093512 | .0247811 | 3.77 | 0.000 | .044942 | .1420821 |
| in | .000959 | .0013051 | 0.73 | 0.462 | -.0015989 | .0035169 |
| hk | -.0235715 | .0193149 | -1.22 | 0.222 | -.061428 | .014285 |
| _cons | .5727473 | .0269969 | 21.22 | 0.000 | .5198344 | .6256601 |
| pee | | | | | | |
| gdp | -.0290657 | .0154009 | -1.89 | 0.059 | -.0592509 | .0011195 |
| gc | -2.166381 | .8801401 | -2.46 | 0.014 | -3.891424 | -.4413386 |
| ge | .0959217 | .1591953 | 0.60 | 0.547 | -.2160953 | .4079388 |
| _cons | 4.53608 | .5090606 | 8.91 | 0.000 | 3.538339 | 5.53382 |