




## **PRIVATE SECTOR, GOVERNANCE AND ECONOMIC GROWTH: EMPIRICAL VALIDATION FOR DCs**

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### **Abstract**

*The aim of this study is to examine the effect of the interaction between governance and the private sector on economic growth. We apply a static panel model, using the Generalized least squares (GLS) system for 56 developing countries during the period 1996-2016. The empirical results reveal a positive effect of institutions, through private sector efficiency, on economic performance in developing countries. The estimation of a static panel model by the GLS method allowed us to observe that the governance play a significant determinant role in economic growth, measured by GDP per capita. By studying the indirect impact of political institutions on economic growth in DCs through the private sector, the results show that the coefficients of the interaction terms are better than those of the direct effect. We also find that the quality of the private sector (GFCFp) becomes statistically significant when we add the interaction terms between the governance indicators (regulatory quality and government efficiency) and the private sector.*

*Keywords: Governance, Institutions, private sector, Generalized Least Squares, GLS*



## INTRODUCTION

The private sector is the main engine of a market economy, with the state playing a minimal role in economic activity except as a regulator and facilitator, and only intervening where there are clear market failures (World Bank, 2005f.). Indeed, the private sector is seen as a driving force in accelerating growth, reducing poverty and improving the quality of life of the population (EAC, 2006a, b).

The aim of this work is to test whether the interaction between governance and the private sector has a positive effect on the performance of the economy in developing countries. In other words, a developed private sector alone cannot guarantee a positive effect on the performance of the economy and good governance is always needed to guarantee this effect. To this end, we introduce gross fixed capital formation by the private sector as a proxy for the private sector.

This paper will be organised around three sections: the first will be a review of the literature on private sector development. In the second section we will try to present a review of the empirical literature on private sector development. Finally, the last section will be devoted to the interpretation of the recurrent empirical results of the estimation of our model and to the study of the interaction between the institutional variables and the private sector.

## LITERATURE REVIEW

In the literature, various studies have focused on sustainable economic growth through private sector development. A large number of political and economic factors have been used: the democracy indicator in Barro (1996), the consideration of property rights in Clague, Keefer and Olson (1996), political instability in Alesina and Perotti (1994).

Indeed, Barro's (1991) study looked at the results between governance and growth as well as private sector investment where regime instability is used as an indicator of property rights instability. Thus, this indicator takes into account civil wars, coups, strikes, political assassinations. Barro (1991) finds that these variables are negatively and significantly correlated with the growth rate and the share of private investment in GDP over the period 1960-1985.

Similarly, Knack and Keefer (1997) studied the relationship between security of private property and contract enforcement on the one hand, and growth as well as private investment on the other. The results of this study are similar to those of Barro.

Rodrik (1999) states that good governance is a fundamental condition for successful market economies. Furthermore, Hall and Jones (1999) show that differences in the strength of

physical capital and the level of education achieved explain a small portion of the differences in the output achieved by a worker.

Also, international financial institutions such as the World Bank, the European Bank for Reconstruction and Development and the European Investment Bank have emphasised in their reports the crucial role of the private sector in the economic growth process. Indeed, the 2005 and 2013 World Development Reports, published by the World Bank, provide an in-depth study of the link between the private sector and employment as a catalyst for economic growth.

Indeed, the 2005 report draws attention to the need to improve the investment climate in order to fight poverty and create jobs. According to the report, hundreds of millions of poor people earn their living as micro-entrepreneurs, so they see employment as a way out of poverty.

The 2013 report highlights the importance of the private sector as the main driver of job creation, accounting for 90% of all jobs in developing countries. In the same context, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB) and the World Bank published a report in 2016 on the importance of the role played by the private sector in the growth process of MENA countries. Indeed, the report concludes that "MENA countries should put forward measures to foster business productivity and reallocate resources to the most productive firms".

A number of studies on the determinants of factors affecting private investment have found that variables such as wage bill, real exchange rate, lending rate, openness, public debt stock as a percentage of GDP, inflation, access to credit, debt, public investment, GDP growth are all variables that affect private investment performance in developing countries. These studies show that a high exchange rate, inflation, public expenditure and credit to the private sector would positively influence the private sector while GDP growth, wage bill, lending rate, public investment and high debt would have a negative impact on private investment.

However, in the African region, some variables such as debt, inflation, public investment and the real exchange rate have more impact on private investment in middle income countries such as Tunisia, Morocco, Cameroon and Mauritania. Other variables such as GDP growth rate, inflation, credit to the private sector and debt service have more impact on private investment in low-income countries such as Malawi, Kenya, Tanzania, Zimbabwe (Oshikoya, 1994; Mlambo and Oshikoya 2001).

Still using an econometric model, derived from a Cobb-Douglas type production function, Ghura, Dhaneshwar and Michel T. Hadjimichael (1995) demonstrated that there is a long-run link between economic policies and growth using cross-sectional data on 29 Sub-

Saharan African countries from 1981 to 1992. They draw the following conclusions: - an increase in private investment has a positive and significant effect on economic growth; - macroeconomic policies affect economic growth, through their effects on the volume and efficiency of investment; - growth is stimulated by state policies, which aim, to reduce the budget deficit relative to GDP without reducing investment. Growth is stimulated by government policies, which aim at reducing the budget deficit relative to GDP without reducing public investment, reducing the inflation rate, maintaining external competitiveness, promoting structural reforms, promoting human capital development, slowing down demographic growth; droughts and the deterioration of the terms of trade negatively affect growth.

Moreover, a large number of empirical studies show that privatisation of failed state-owned enterprises would have a favourable impact on private sector development. Indeed, these studies on the state of the art of private sector development policies have emphasized the importance of privatization and justify the use of this "privatization" process by examining the investment policy and assessing the investment climate by emphasizing the various constraints to private sector development such as the informal sector, corruption, difficulties in accessing credit.

Easterly and Rebelo (1993), supported the idea that the state should ensure a favourable environment for private sector development through the provision of public infrastructure likely to attract private entrepreneurs. Indeed, in a sample of one hundred countries, these authors emphasised the role that infrastructure, particularly transport and communication, plays in the production process of a country through the improvement of the productivity of private enterprises.

In the same context, J-C Dumont and S. Mesple-Soms (2000) studied the impact of public infrastructure on economic growth in Senegal using a general equilibrium model. They showed that the expansion of public infrastructure has significant effects on the trade performance of manufacturing sectors.

In a macroeconomic approach, Emilio Sacerdoti (2009) chooses to analyse the problems of private sector financing in Sub-Saharan Africa. The conclusions of this analysis state that "in terms of the volume of credit granted to the private sector, Sub-Saharan Africa remains far behind other developing regions. With the exception of South Africa and Mauritius, the share of credit to the private sector was around 20% and 25% maximum of GDP in 2007. This can be explained by the high interest rates and the complexity of the procedures involved.

## RESEARCH METHOD

### The sample

This study used panel data estimation for the period 1996-2016 on economic variables and institutional variables. It refers to developing countries, i.e. 1176 observations. The choice of the time horizon is justified by the availability of data on economic and institutional variables. We used macroeconomic variables set by the World Bank namely, percapita GDP taking as reference the constant US dollar of the year 2005 (GDPC), represented as dependent variable, the private gross fixed capital formation (GFCFp), the human capital (KH), the physical capital (K) and Domestic credit to the private sector as a % of GDP (DCBS).

In addition, we used the six governance indicators of Kaufmann, Kray and Mastruzzi namely, voice and accountability (VO), political stability and absence of violence (PV), government effectiveness (GE), regulatory quality (QR), rule of law (RL) and control of corruption (CC).

### Definition of variables

#### *Dependent variable*

GDP per capita (GDPC): This is the growth rate of gross domestic product. The study of the impact of macroeconomic variables on private sector performance is generally highlighted in the literature.

#### *Independent variables*

Private gross fixed capital formation (GFCFp): Private investment proxied by private gross fixed capital formation (excluding households)

Human capital (KH): This is the stock of human capital, measured by the secondary education enrolment ratio (as a % of GDP)

Physical capital (K): This is the stock of physical capital ( $K_t$ ) in each year  $t$ , measured by the sum of the stock of physical capital in year  $t-1$ , corrected by a rate of depreciation ( $\delta$ ) plus investment in year  $t$  ( $I_t$ ).

Domestic credit to the private sector as a % of GDP (DCBS): "Domestic credit to the private sector refers to financial resources provided to the private sector, including loans, purchases of securities other than shares, trade credits and other accounts receivable, which constitute claims on the government. In some countries, these claims include credits to public enterprises.

We use the six (6) governance indicators developed by Kaufman, Kraay and Mastruzzi. These indicators range from approximately -2.5 (poor) to 2.5 (good) governance performance.)

Voice and Accountability (VA): Democratic accountability defines the situation in which the citizens of a country can express themselves freely. In addition, citizens in this case are able to express themselves and associate freely without forgetting the freedom of the press.

Political stability and absence of violence (PV): Political stability measures the perception of the likelihood that government will be confronted with acts of political violence, including terrorist acts.

Government effectiveness (GE): measures the quality of public services, the ability of the civil service to formulate and implement policies, and the ability of government to commit to such policies.

Regulatory Quality (RQ): measures the perceived ability of the government to put in place policies and regulations to foster private sector development. Rule of Law (RL): The rule of law reflects the perceived extent to which economic agents are subject to the law. This indicator is based on the principle of compliance with legal norms, in particular the quality of contract enforcement and property rights.

Control of corruption (CC): Control of corruption reflects the perception of the extent to which public goods and powers are used for personal gain.

### Presentation of the model

In order to verify the impact of interaction between the institutional factors and the private sector on economic growth via the Gross Fixed Capital Formation by the private sector, we develop the following regression:

$$\ln(GDPC_{it}) = \beta_{0+} + \beta_1 \ln(K_{it}) + \beta_2 \ln(HK_{it}) + \beta_3 \ln(DCBS_{it}) + \beta_4 \ln(GFCFp_{it}) + \ln\beta_5(Gov_{it}) + \varepsilon_{it} \quad (1)$$

Where,

T : presents the year, 1996, .....2016

GDPC : The gross domestic product is divided by the midyear population (constant 2005US\$).

DCBS: Banking Sector Domestic Credit

HK : human capital as measured by secondary school enrolment (as % of GDP)

GFCFp : gross fixed capital formation by the private sector (as % of GDP)

K = physical capital

$\mu_i$  = individual specific effect

$\varepsilon_{it}$  = the error term

Gov : a vector that represents the political institutional variables namely voice and accountability (VR), political stability and absence of violence (PV), government effectiveness (EG), regulatory quality (QR), rule of law (RL) and control of corruption (CC).

Since we are trying to assess the effect of the interaction between institutional quality and the private sector via GFCF on economic growth, the equation (1) can be extended to include the interaction term as follows:

$$\ln(GDPC_{it}) = \beta_{0+} + \beta_1 \ln(k_{it}) + \beta_2 \ln(DCBS_{it}) + \beta_3 \ln(HK_{it}) + \beta_4 \ln(GFCFp_{it}) + \beta_5 \ln(Gov_{it}) + \beta_6 \ln(GFCF_{it} * Gov_{it}) + \varepsilon_{it}$$

## ANALYSIS AND FINDINGS

### Descriptive analysis

First, data was subjected to descriptive analysis. In Table 1, we present a descriptive analysis of the different variables associated with economic growth obtained using the STATA software. In fact, in this study we considered real GDP/capita to be a dependent variable (Y) expressed as a function of macroeconomic and institutional variables such as: human capital (HK), physical capital (PC), gross fixed capital formation by the private sector (GFCF), Banking Sector Domestic Credit (DCBS), and a vector that represents the political institutional variables (Gov).

Table 1. Descriptive Statistics for variables (STATA12 output)

Variables	Moyenne	Écart-type	Minimum	Maximum
L.GDPC	7.613308	1.548101	4.811014	21.64692
L.HK	4.412297	3.007844	0.1536173	25.94723
L.Kt	21.97863	3.060148	5.391315	29.05461
L.DCBS	5.052417	5.902396	-0.8907295	27.27187
L.GFCFp	20.53851	6.878828	0.2070142	25.3272
CC	-0.4698291	0.6006568	1.72225	1.28084
GE	-0.4187274	0.6225517	-2.23165	1.50987
PV	-0.4053788	0.8082128	-2.74917	1.28339
RQ	-0.3724625	0.6020573	-2.10963	1.12727
RL	-0.4085979	0.645183	-2.0393	1.01562
VA	-0.5125025	.611565	-2.00851	1.07713

The descriptive statistics of research data gives us several pieces of information such as means, the lowest value, the highest value, and standard deviations. Table shows that Commonly, the developing countries still have a high level of corruption and a low level of regulatory quality.

In addition, according to the descriptive statistics, the DCs have a GDP per capita greater than 8% throughout the period from 1996 to 2016. The difference between minimum and maximum clearly shows that there are large differences in profitability between developing countries justified by the existence of different countries with the different level of GDPC.

### Examination of the correlations

Table 2. Correlation matrix (STATA12 output)

	LGDPC	LHK	Lkt	LGFCFp	LDCBS	CC	GE	PV	RQ	RL	VA
<b>L.GDPC</b>	1										
<b>L.HK</b>	0.049	1									
<b>L.Kt</b>	-0.063	-0.046	1								
<b>L.GFCFp</b>	0.209	0.121	0.095	1							
<b>L.DCBS</b>	0.275	0.159	-0.096	0.757	1						
<b>CC</b>	0.312	0.055	0.004	0.003	0.079	1					
<b>GE</b>	0.360	0.119	0.077	0.012	0.100	0.812	1				
<b>PV</b>	0.179	0.151	-0.029	0.146	0.179	0.019	0.668	1			
<b>RQ</b>	0.310	0.199	0.074	0.052	0.075	0.658	0.826	0.560	1		
<b>RL</b>	0.056	0.237	0.049	-0.056	0.143	0.419	0.465	0.431	0.537	1	
<b>PV</b>	0.297	0.109	0.059	0.052	0.081	0.857	0.855	0.716	0.751	0.537	1

According to the table, there is a positive correlation between the dependent variable (GDP per capita) and the explanatory variables such as private gross fixed capital formation (0.209), domestic credit to the private sector (0.275), government efficiency (0.360), regulatory quality (0.310). Other institutional explanatory variables are highly correlated with each other, namely regulatory quality and government efficiency (0.826), political stability and control of corruption (0.857) and the variables political stability and government efficiency (0.855).

Correlations between some of the explanatory variables are very high, which may impose problems of multi-collinearity. To check the absence of this problem we perform the live test on stata. All calculations done we found a meanvif value = 1,88 < 2. This means that there is no multi-collinearity problem.



## Analysis of the estimation results

Table 3: Estimation result, direct effect of governance on GDP per capita (STATA12 output)

	M.1	M.2	M.3	M.4	M.5	M.6	M.7
<b>L.K</b>	0.04072 (0.000)*	0.0007 (0.905)	-0.0189 (0.006)*	0.0011 (0.883)	0.0243 (0.007)*	0.03653 (0.004)*	-0.0229 (0.000)*
<b>LHK</b>	0.00375 (0.003)*	0.0029 (0.012)**	0.0017 (0.138)	0.0026 (0.019)*	0.0013 (0.246)	0.00511 (0.004)*	0.0029 (0.012)**
<b>L.GFCFp</b>	0.00212 (0.412)	-0.0055 (0.046)**	-0.0045 (0.164)	0.0016 (0.585)	-0.00089 (0.764)	0.00077 (0.812)	-0.0049 (0.057)***
<b>L.DCBS</b>	0.06683 (0.000)*	0.07514 (0.000)*	0.07324 (0.000)*	0.07103 (0.000)*	0.07195 (0.000)*	0.0733 (0.000)*	0.06809 (0.000)*
<b>CC</b>		0.0886 (0.000)*					
<b>GE</b>			0.10154 (0.000)*				
<b>PV</b>				0.01056 (0.240)			
<b>RQ</b>					0.09018 (0.000)*		
<b>RL</b>						0.0385 (0.094)***	
<b>VA</b>							0.0592 (0.000)*
<b>cons</b>	6.6933 (0.000)*	7.8400 (0.000)*	7.8616 (0.000)*	7.5004 (0.000)*	7.0482 (0.000)*	6.8509 (0.000)*	8.1423 (0.000)*
<b>N</b>	1176	1176	1176	1176	1176	1176	1176
<b>t-</b>	101.28	117.72	10.94	112.44	134.52	96.36	120.84
<b>Hausman</b>	(0.000)	(0.000)	(0.0416)	(0.000)	(0.000)	(0.000)	(0.000)
<b>Wald chi2</b>	173.39 (0.000)	144.09 (0.000)	207.72 (0.000)	173.60 (0.000)	127.57 (0.000)	368.76 (0.000)	207.43 (0.000)

Significant value at a threshold of: (\*) 10%; (\*\*) 5% and (\*\*\*) 1%

The results from the Hausman statistics of each model show that the statistics are significantly lower than 5%, so the null hypothesis is rejected. Therefore, the null hypothesis is rejected. The errors depend on the explanatory variables. This means that all countries have the same individual effects, hence we will consider the fixed effects model.

Column M.1 reports the results of the estimations without any governance indicators. The results of this column show that, when governance is not taken into account, GDP per capita depends positively on investment in physical capital (Kt), human capital (HK) and Banking Sector Domestic Credit (DCBS). Indeed, a 10% increase in gross fixed capital formation leads to a 0.21% increase in GDP per capita, and a 10% improvement in human capital, as measured by secondary school enrolment, leads to a 0.37% increase in GDP per capita. These results confirm those of Levine and Renelt (1992) that physical investment is positively and significantly correlated with the growth rate for different sample types. These results were also reaffirmed by Easterly, Loayza and Montiel (1997) who stated that investment in education and human capital leads to the acquisition of skills and encourages technological advances. With regard to Banking Sector Domestic Credit (DCBS), this variable positively and significantly affects economic growth. However, private gross fixed capital formation (GFCF) has a positive but insignificant impact on GDP per capita.

The inclusion of the quality of governance in the estimates (columns M.2 to M.7) leads to the significance of other variables.

Columns M.2 to M.7 report the results of estimates that use the Worldwide Governance Indicators (WGI) indices as indicators of institutions. These indices reflect respectively control of corruption (CC), effectiveness of public governance (GE), political stability and absence of violence (PV), administrative regulation (RQ), rule of law (RL), voice and accountability (VA). All these indicators are statistically significant and the signs of their coefficients are positive except for the indicator relating to political stability and absence of violence (PV). This can be explained by the political situation of the countries in question. Nevertheless, the positive sign of this indicator indicates the need to strengthen this component of governance in order to promote economic growth through the private sector.

Indeed, our results clearly illustrate a strong dependence between GDP per capita and the different governance indicators. The variable (CC) has a highly significant coefficient at the 1% level. This means that corruption control affects GDP per capita in developing countries. Indeed, a 10% increase in this indicator leads to an 8.86% increase in GDP per capita. Similarly for the GE variable measuring government effectiveness, it positively affects economic growth by 10%. A 10% increase in the quality of administrative regulation (QR) leads to a 9.018% increase in GDP per capita. The rule of law indicator is positively correlated with GDP per capita, i.e. a developing country with a good rule of law will see its GDP per capita increase. In our case, a 10% increase in this indicator leads to a 3.85% increase in GDP per capita. The latter depends, according to our results, positively and significantly on the voice and accountability (VA) indicator with a coefficient of 0.0592.

The results therefore show that the quality of institutions positively and significantly affects economic growth. An improvement in the quality of institutions translates into an increase in GDP per capita. These results confirm the hypotheses of (North, 1990), Knack and Keefer (1995), Chong and Calderon (2000a), Acemoglu et al (2001a and 2001b) and Assane and Grammy (2003). These results have been reaffirmed by the earlier empirical findings of Djankov et al (2006) and Jallilian et al (2007), who found that efficient institutions have a positive impact on growth. However, the weakness of their coefficients reflects the small magnitude of the quality of political institutions on economic growth in DCs.

These results, although relevant, do not reflect the relationship between governance and growth in an exhaustive manner, as they only reflect direct effects. Indeed, institutions can also affect economic performance indirectly. We test the indirect effect of the interaction between governance indices and the private sector presented by gross fixed capital formation on economic growth in this paper. Table 4 reports the results of the estimates of the indirect effects of institutions through gross fixed capital formation by the private sector.

Table 4: Indirect effect of governance on GDP per capita through the private sector:

Private gross fixed capital formation (STATA12 output)

	M.1	M.2	M.3	M.4	M.5	M.6
<b>L.Kt</b>	0.01829 (0.014)**	0.04091 (0.000)*	0.0343 (0.000)*	0.0433 (0.000)*	0.03966 (0.000)*	-0.0070 (0.246)
<b>L.HK</b>	0.0037 (0.008)*	0.00173 (0.152)	0.0026 (0.052) ***	0.00092 (0.390)	0.00319 (0.008)*	0.00248 (0.093) ***
<b>L.CFGF</b>	0.0791 (0.000)*	0.10046 (0.000)*	0.0765 (0.000)*	0.09078 (0.000)*	0.0714 (0.000)*	0.08599 (0.000)*
<b>L.DCBS</b>	0.0033 (0.267)	0.00767 <b>(0.047) **</b>	0.0032 (0.258)	0.0073 <b>(0.052) ***</b>	0.00415 (0.119)	0.00393 (0.214)
<b>CC*GFCFp</b>	0.005968 (0.000)*					
<b>GE*GFCFp</b>		0.01311 (0.000)*				
<b>PV*GFCFp</b>			0.00138 (0.002)*			
<b>RQ*GFCFp</b>				0.01347 (0.000)*		

<b>RL*GFCFp</b>					0.00329 (0.004)*	
<b>VA*GFCFp</b>						0.00692 (0.000) *
<b>_cons</b>	7.2275 (0.000)*	6.8236 (0.000)*	6.5776 (0.000)*	6.5827 (0.000)*	6.6305 (0.000)*	7.4121 (0.000)
<b>N</b>	1176	1176	1176	1176	1176	1176
<b>t-Hausman</b>	123.28 (0.000)	146.42 (0.000)	119.16 (0.000)	139.02 (0.000)	100.93 (0.000)	125.01 (0.000)
<b>Prob &gt; F</b>	200.85 (0.000)	414.67 (0.000)	200.09 (0.000)	379.13 (0.000)	215.02 (0.000)	211.66 (0.000)

Table 4...

We find that the coefficients of the cross-tabulated variables between private gross fixed capital formation and the six governance indicators are all positive and significant. This result corroborates the basic hypothesis of this work that economic growth in DCs is conditioned by the interaction between the private sector and the institutional environment.

The results also show that the introduction of the interactive variables (RQ\*GFCFp) and (GE\*GFCFp) leads to the significance of the variable GFCFp which measures the quality of the private sector. This result implies the need to strengthen these areas. Indeed, the improvement of the quality of the private sector in DCs is more influenced by the interaction with these two components of governance. In other words, the private sector alone is unable to ensure a significant effect on economic performance and a developed institutional environment is needed to ensure a positive and significant impact on growth. Measures of governance generally focus on aggregate data. Thus, it is necessary to take into account country-specific components in the determination of the aggregate indicator of regulatory quality, such as property rights and restrictions on private business formation, in order to limit the costs involved and encourage young entrepreneurs to invest more, as Soto (2002) has shown that business regulation and weak property rights have negative effects on economic growth. Often, in order to start a business, entrepreneurs are subject to high levels of regulation, which can hinder their business and thus move them into the informal sector. To strengthen this area of governance, DCs should create an institutional environment favourable to private initiative through the ease of contract enforcement, the ease of obtaining interest-free credit for young entrepreneurs.

Similarly for the cross variable between gross private fixed capital formation and government efficiency, the strengthening of this governance component leads us to insist on the state's capacity to manage resources efficiently by allocating them to the most productive

sectors and to formulate and implement quality policies and regulations, which largely explains the difference between countries in terms of economic development.

We can conclude at this level that the quality of institutions can influence not only economic growth but also the private sector, through the indirect effects of institutions on private gross fixed capital formation.

The coefficients of these interaction terms are better than those of the direct effect, which means that economic growth is more influenced by the interaction between political institutions and the private sector, a better quality of political institutions will have an impact on economic growth, if and only if these countries are characterised by a more productive private sector.

## CONCLUSION

The quality of political institutions is necessary to determine the economic behaviour of agents and to explain the economic performance of countries. In this paper, we empirically investigate the interaction between the quality of political institutions, the private sector via private gross fixed capital formation and economic growth for a group of 56 developing countries over the period 1996-2016. We discuss the theoretical and empirical literature on the link between governance and private sector development, as well as the main areas of contention regarding this link.

The results of the econometric estimation of the effects of institutional quality show that good institutions directly and indirectly (through private sector efficiency) affect GDP per capita in developing countries.

By studying the direct impact of governance on economic growth, we find that political institutions have a positive and significant impact on economic growth in developing countries. The quality of institutions is therefore important for the development of these countries. Nevertheless, these countries need to strengthen their governance system in terms of political stability. It also shows that the level of institutional quality in the area is low. Reforms need to be strengthened to improve the level of institutions. This can be vital for economic growth and development in developing countries.

Furthermore, it is noted that private gross fixed capital formation has a negative and insignificant effect on GDP per capita. This problem should therefore be addressed through the implementation of reforms in favour of private sector development in developing countries.

In studying the indirect impact of policy institutions on economic growth in DCs through the private sector, the results show that the coefficients of the interaction terms are better than those of the direct effect. We also find that the quality of the private sector (GFCFp) becomes

statistically significant when we add the interaction terms between the governance indicators (regulatory quality and government efficiency) and the private sector.

We can conclude at this level that the interaction between the quality of institutions and the private sector can influence not only economic growth, but also the quality of the private sector, economic growth in DCs is more influenced by the interaction between the quality of political institutions and the private sector. In this context, we can say that DC governments need to design economic policies capable of stimulating private sector-led growth in order to cope with a very high unemployment rate and a predominantly young working population.

Developing countries therefore need to strengthen their international competitiveness and stimulate private investment by carrying out deep structural reforms to improve the business climate and ensure their inclusion in international trade. This transition to more open and competitive economies is only possible with a more effective governance system. Indeed, in countries with strong legal institutions and an adequate degree of protection of property rights, there is a strong correlation between private investment and economic growth.

About limitations of the current study, this study is still limited to estimating institutional factors, but also, it has not estimated more economic factors.

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