Economic Development, Institutional Quality and Regional integration: Evidence from Africa Countries

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Abstract

The aim of this paper is to provide new empirical evidence about the determinants of per capita income in African countries, with particular attention to the affects of governance institutional quality and sub regional integration on income level. We use a sample of 49 countries from the period 1996-2004 and the *Generalized Method of Moments Estimation* model for dynamic panel, proposed by Arellano and Bond (1991). The results show that African regional groups with better institutions, higher degrees of regional integration cooperation, higher rates of investment in human capital and lower rates of population growth, show a higher level of per capita income.

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1.0 Introduction

One of the main concerns of economists has been that of analyzing the factors that determine the economic growth of countries and explaining the differences in *per capita* income between them. The literature on this has been abundant but the empirical research has only been relatively successful at showing what is behind the growth processes and the inequalities observed. For this reason, more and more explanatory variables have been incorporated into growth models until, at the end of the 20th century, institutional factors were included, complementing the more traditional variables, such as labor, physical and human capital and technology, used in the neoclassical and endogenous growth models.

This inclusion of institutional variables has its theoretical basis in North (1990) who proposed that property rights were the key to permitting resources to be channelled towards investment and taking them away from unproductive activities like rent-seeking. The indirect effect of promoting growth through higher investment is complemented, according to North, by a direct effect that is explained by the changes in the total factor productivity in a context of greater efficiency derived from the reduction of positive transaction costs. On the basis of this perception, the "new growth theory" has identified a series of obstacles to growth such as judicial insecurity in property rights, the inefficiency of bureaucracy and of the legal system, political instability, and corruption.

As far as empirical work, a series of circumstances have favoured the integration of institutional factors in the explanations of economic growth. On the one hand, the studies of Easterly and Levine (1997) and Hall and Jones (1999), among others, have reopened the debate by pointing out that a significant fraction of the process of economic growth due to changes in total factor productivity, so that the arguments focused on the factors accumulation are unsatisfactory in explaining this process. Easterly and Levine (1997) conclude that political instability has a negative correlation with the significant and long-term economic growth in African countries. Hall and Jones (1999), using a more global sample of countries, point out that differences in the accumulation of physical and human capital, productivity and hence in output per worker across countries, is given by the differences in the institutional framework.

On the other hand, in recent years there has been a major development of institutional indicators by risk agencies, multilateral agencies, research centres and other Non-

Governmental Organizations, which has helped demonstrate convincingly causality relations between institutional quality and economic development. Until the nineties the availability of indicators was very limited, since most of the institutional dimensions were considered non-quantifiable. Thus tending empirical work to emphasize those elements is easy to quantify, such as labour and capital, to the detriment of institutional aspects.

Thus, in recent years, the incorporation of institutions into growth models has become a habitual practice among researchers (Mauro, 1995; Knack and Keefer, 1995; Barro, 1996; Rigobon and Rodrik, 2005; Alesina and La Ferrara, 2005; Stroup, 2007). Most of them have found a positive and significant effect of institutional quality on economic growth.

Along with the above study of Easterly and Levine (1997), it should be noted that other more recent studies have also focused their attention on the impact that institutions exert on the growth of Africa. Thus, Fosu (2001) concluded that political instability adversely affects the economic growth of sub-Saharan Africa, through the negative impact that has on the marginal product of capital. Easterly and Levine (2003) found, from a sample of 72 former colonies, a strong positive impact of institutional development on the level of per capita income. Faruk et al. (2006), focusing their study in the Middle East and North Africa, conclude that institutional quality encourages a positive and significant private investment. Fosu (2008) finds that democracy exhibits in Africa U-shape relationships with GDP growth.

Nowadays governance institutional quality might be one of the most significant determinants of differences in the economic performances across countries especially in continents such as Africa in which many observers have pointed out that the fragmentations of their political economy, including their institution of governances, as one of the main weaknesses for the continent to be able to afford their development strategies. A large majority of their population, which are in the rural areas, continue to mainly follow traditional institutions while the post-colonial statesessentially emulate western institutions of governance, which is often contrary to the traditional African cultural values. The fragmentation of the institutions of governance, along with economic and social fragmentation, has contributed to Africa's crisis of state-building, governance and economic development. Institutional development is now recognized as an integral part of successful developmental strategies and from the experiences of the European Union it is evident that it is important for regional integration. This paper attempts to empirically investigate the link between governance institutional quality and sub regional integration

on income level, for the period spanning from 1996-2004 on groups of 49 African countries.

2.0 The African Economic Growth Pattern.

After a long period of economic stagnation and collapse that started in the mid '70s, the African economies seem to have turned the page during the last decade (1996-2006). The economic performance shows that African economies are growing at the same rate as other world economies , with a 2.2% of annual average growth. During this decade (1996- 2006), the average annual GDP growth rate has been more than 5%, having a significant rise in the real income *per capita* of 2%, after a prolonged period of decline between 1975-1995 (see table 5). Some African economies have started to emerge as high performers, since the late 1990s, 14 African countries have obtained a GDP growth rate of more than 5 % per year, and almost 20 countries are currently achieving more than 5% GDP growth (Busari et al, 2008).

The disappointing growth rate of African countries was unexpected by many economists (Easterly and Levine 1997), because around the early '60s, when many African countries obtained their independence, their growth rate was higher than that of many other developing nations - especially their Asian counterparts, as evidenced by the World Bank (1990). The relative growth collapse of 1975-1994 was a shock to many observers, because during the first decade of post-independence many African countries were growing consistently. Some of them indicated that they could have a growth rate of 7% annually (Enke, 1963 and Kamarck, 1967). When we look acutely at the situation of African countries and other developing regions, it's unbelievable that there has been such a radical change witnessed by Africa in losing position compared to other developing regions.

There are some characteristics that differentiate the African growth record. Most African countries' growth has been more episodic than in other developing regions, with numerous periods of growth acceleration over the last 30 years, but also with a comparable number of some growth collapses (Arbache and Page, 2007). Ten African countries[3] have had growth disasters, because during the period 1965-04 they obtained an average growth

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[3] Central African Republic -0,9 percent, Congo Dem. -3,3 percent, Cote d'Ivoire -0,4 percent, Liberia -4,3 percent, Madagascar -1,3 percent, Niger -2 percent, Sierra Leone -1,4 percent, Togo -0,2 percent, Zambia -1,5 percent and Zimbabwe -0,1 percent

rate below 0 percent. Among these countries, Cote d'Ivoire is a model case for the collapse that the continent experienced. In 1965 it was considered an example for development in Africa and had the highest *per capita* income in 1965, it has now regressed due to political instability, which is the main characteristic of these disastrous growth performances. Out of the ten countries, six were affected by wars of different nature, while the others, although generally peaceful, are well known for persistently poor economic policies because of poor macroeconomic environments and socialism (Collier and Gunning, 1999).

In 1965, the ten countries with the highest GDP *per capita* were natural resource[4] and oil producing countries. This trend persists up until now with most of these countries still having the highest *per capita* income - with the exception of Liberia and Cote d'Ivoire that can be considered as having negative growth. *(growth collapses is not good grammar)*[5] .We find that only six nations have growth rates above 2 percent and they are located in the Northern and Southern extremities of the continent[6] .The best economic performance in Africa is Botswana, despite the fact that it had the lowest GDP per capita in 1965 (255US$), with an annual average growth rate above 5 percent for four decades. It's income *per capita* has increased by 14.3 times. Tunisia can also be consider as one of the continent's growth successes, with an annual growth rate of 3 percent, it saw its GDP *per capita* increasing a lot from 730 to 2336 dollars, considering that it is not a natural resource country. Whilst in the groups of countries with a growth rate of GDP *per capita* between 2 and 0 percent, we find 17 countries that can be considered as growth stagnations[7]. Some of them had a period of accelerated growth, but even though it was the period of their take–off, it lasted only for a short amount of time.

3.0 Regional Economic Integration in Africa

In Africa, Regional integration has been a very important process in the development of the continent, this started in the early 20th century. The evolution can be divided into various stages, with two significant parts. One of the early stages had a strong political motivation, characterized by the struggle for liberation from the colonization and research

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[4] Resource countries as South Africa, Liberia ,Seychelles Gabon, Algeria, Republic of Congo, and Cote d'Ivoire.
[5] Liberia that has a percentage change of -81.5 while Cote d'Ivoire had a decline of -15 of their GDP *per capita* (1965-2004),
[6] Botswana, Egypt, Tunisia, Morocco, Seychelles and Lesotho
[7] Algeria (1973-1985), Cameroon (1977-1987), Kenya (1965-1976) and South Africa (1960-1974).

of the continent identity: "Pan Africanism"[8]. The most recent stage culminated with the signing of the Abuja Treaty in 1991 establishing the creation of the African Economic Community with the main focus on economic integration and cooperation, in order to foster growth and the development of the continent.

After the Second World War, Africa was built of small states which were economically insignificant. The fragmentation[9] of Africa has been mentioned as one of the constraints to development (Easterly and Levine, 1997 and Sach and Warner, 1998). The community of regional integration is seen as a solution for the continent. If developed countries with large economics, like Germany, Japan and the United States, find it important to engage in regional integration and a collective security arrangement, then the case of Africa's underdeveloped, mini economies must be compelling, indeed, in order to survive. This unfolding mega trend of the world system has transformed the African cooperation from a regional necessity into an imperative of the continent[10]. The spread of regionalism on a global scale indicates clearly that individual states outside the major economic blocks will find themselves marginalized. The European Economic integration was created for strength and prosperity, while Africa needs it for survival. Without integration Africa cannot face the many challenges posed by the process of globalization, and it cannot seize the opportunity to reduce its weaknesses or even overcome them completely, in order to become a possible player within the current globalised world. It is now widely recognized that regional integration and cooperation will have to play a crucial role to improve the economic outlook in Africa (European Commission, 1999). Despite the fact that they recognized the failure affecting regional integration in Africa, they believed that a well-designed and implemented regionalism would contribute significantly and positively to the development of the continent and that it would follow the tendency of the world going toward the creation of regional blocks.

African leader and the continent important Economic institution(United Nation Economic Commission for Africa) had recognize the importance regional integration and choosing it as one of their main development strategy.   Many African countries are now members of one or more sub-regional groups, which have the objective of promoting economic cooperation, integration and coordination among member countries. So far, the African

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[8] it distinguishes regional integration in Africa from other regions in the developing world (McCarthy, 1995)
[9] Africa has 53 small economies with an average gross domestic product, which is equal to that of Belgium or to 50% of that of Spain, as indicated by the World Bank.

Economic Community (AEC) has established direct working relations with the Economic Community of West African States (ECOWAS) in the West African region and with the Economic Community of Central African States (ECCAS) in the central region. In the Southern African region the AEC has been dealing with the Southern African Development Community (SADC) and in East Africa with the East African Community (EAC), as well as with the Common Market for East and Southern Africa (COMESA). In North Africa there is the Arab Maghreb Union (UMA), which for now has no direct contact with the AEC. Apart from these regional economic communities (RECs) there are other groupings like the Economic and Monetary Union of West Africa (UEMOA) and the Customs and Economic Union of Central Africa (UDEAC); all of them are engaged in the promotion of integration. Each organization was already existing and operating when the AEC treaty was signed in Abuja in June 1991.

The problem of multiple memberships of regional integration groups is a particular feature of African regionalism, as indicated by the African Economic Commission 1999; 95% of the African countries are members of more than two regional communities. It's in the nature of regionalism that there are conflicting policies concerning the treatment of third countries and sometimes, different regulations and technical standards are governing the import of the same commodity from different sources. The overlapping memberships in the different regional groupings and hence at a different commitment, have resulted in a duplication of effort and in occasional and inconsistent aims in African regional integration initiatives (Masson and Pattillo, 2004). Despite that, most of these regional economic communities seem less satisfactory in achieving their own objectives, as pointed out by Johnson, 1995 and Lyakurwa, 1997, but there have been progresses which cannot be neglected, as those that some of the RECs have made in trade liberalization and facilitation (COMESA), the free movement of people (ECOWAS), in infrastructure (SADC), peace and security (ECOWAS and SADC).

4.0 Empirical application and data

To develop the empirical application, first we built an aggregate index of institutional quality, using the statistical procedure "factor analysis". Specifically, the methodology has been "principal component", which aims to find the combinations of p variable $X1, X2 ,...,$

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[10] This encouragement for creating an integrated block came from institutions of influence like the European Commission: "Regionalism is a must for Africa."

Xp, to build rates *Z1, Z2 ,..... ZP*, who are incorrelates. The aim is that the largest possible proportion of the original *p Xi* variable can be described with fewer major components *Zi*. The aggregate indicator constructed has the advantage of collecting the effect of the different dimensions included in the concept of institutional quality.

To elaborate the aggregate index of institutional quality, we have used the *Worldwide Governance Research Indicators* of Kaufmann *et al.* (2007). These indicators are measured in units that range from –2.5 to 2.5, and they describe the following:

- "Voice and Accountability" measures various aspects of the political process, civil liberties and political rights.

- "Political Stability and Absence of Violence" measures perceptions of the likelihood that the government will be destabilised by unconstitutional means.

- "Government Effectiveness" combines perceptions of the quality of public service provision and bureaucracy, the independence of the civil service from political pressure, and the credibility of the government's commitment.

- "Regulatory Quality" includes measures of the incidence of market-unfriendly policies such as price controls or inadequate bank supervision, as well as perceptions of the burdens imposed by excessive regulation in areas such as foreign trade and business development.

- "Rule of Law" measures the extent to which agents have confidence in and abide by the rules of society. These include perceptions of the incidence of both violent and non-violent crime, the effectiveness and predictability of the judiciary and the enforceability of contracts.

- "Control of Corruption" measures perceptions about the exercise of public power for private gain.

As regards to the choice of indicators employees have chosen the World Bank since its careful methodology aggregation as well as publications that accompany such indicators explaining in detail its construction and sources of origin, are a guarantee of reliability[11]. Once developed the index, we have used as main database World Development Indicators (2007), data from La Porta et al. (1999) and Easterly and Levine (1997).

We propose the following empirical model to identify those factors that explain the level of per capita income that is currently present in the countries of the African continent:

$$GDP_{pc} = \alpha + \beta_1 * Lag. \ GDP_{pc.} + \beta_2 * School + \beta_3 * Pop. \ grow + \beta_4 * Investment +$$

$$\beta_5 * IQ + \beta_6 * Dum.reg + \mu$$

This is a general formulation of the neoclassical model augmented with institutions and sub-regional dummies. *GDPpc* is the per capita GDP. *Lag. GDPpc* is the lagged GDP. *School* is the rate of secondary school enrolment as proxy of investment in human capital. *Pop-grow* is the annual growth of the population. *Investment* is the gross fixed capital formation as a percentage of GDP, as proxy of investment in physical capital. *IQ* is institutional quality using as proxies both the aggregate indicator as different individual dimensions used in their construction, with the aim of determining the significance and explanatory capacity of each of the dimensions of institutional quality. Finally, *Dum.reg* are dummies for the main areas of regional integration in Africa.

Specifically, the dummies introduced have been the following: (Arab Maghreb Union (*amu*); Southern African Development Community (*sadc*); Common Market For Eastern And Southern Africa (*comesa*); The Economic Community of West African States (*ecowas*); Central African Economic And Monetary Community (*cemac*); West African Economic And Monetary Union (*uemoa*); (vii) Economic Community Of Central African States (*eccas*). All variables are expressed in logarithms, except *IQ* and regional dummies.

The relationship between institutional quality and economic growth can present inverse causality because countries with higher per capita incomes can devote more resources to create and sustain more efficient institutions. Furthermore, aspects of institutional quality, such as political stability or liberties, are affected by income levels. To eliminate this problem of endogeneity while, at the same time, control the unobserved heterogeneity, we employ the Generalized Method of Moments Estimation models for dynamic panel, proposed by Arellano and Bond (1991), for a sample of 49 countries and a temporary period of 9 years (1996-2004). Controlling the endogeneity succeeds in using "internal instruments", i.e. lagged values of the explanatory variables.

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[11] These indicators have been widely used in empirical papers on growth and institutional quality (Easterly and Levine, 2003; Rodrik et al., 2004; Rigobon y Rodrik, 2005; Faruk et. al, 2006, among others).

5.0 Results and Conclusions

The estimation of the model gives the following results, shown in tables 1 to 4.Firstly, institutional quality is a fundamental factor in explaining the economic growth of African countries. Thus, both the overall index and the different individual dimensions of institutional quality, with the exception of "Voice and Accountability", show a highly significant and positive coefficient (table 1 and 2). Moreover the explanatory capacity of the model is high, with an adjusted R^2 that exceeds in all estimates the 81%.

With respect to the result for "Voice and Accountability", that is not robust to the method of estimation, it is worth noting that democracy is the institutional aspect that has generated major discrepancies. Thus, the available empirical studies do not reach a consensus about the role that democracy plays in growth, highlighting the conflict between costs and benefits identified by the theoretical literature[12] (Scully, 1988; Barro 1996; Rodrik, 1999; and Rigobon Rodrik, 2005; Fosu, 2008).

Secondly, if regional economic integration promotes economic growth in African countries. Thus, the dummies introduced to the countries belonging to the Arab Maghreb Union (*amu*) and Central African Economic and Monetary Community (*cemac*), show a highly significant and positive coefficient (table 3 and 4) and the explanatory power of the model improves so that the adjusted R^2 is located at 85% (table 3, model 10).

As mentioned earlier, countries belonging to the *Arab Maghreb Union* signed a trade agreement in 1989 with the goal of achieving political and economic unity in North Africa, promoting economic and cultural cooperation. It aims to be a precursor of *North Africa Common Market*. For its part, the *Central African Economic and Monetary Community* is an organization of states of Central Africa which was established to promote economic

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[12] We find diverse theoretical positions. The "Conflict Perspective" (Huntigton, 1968; Olson, 1982) considers that democracy hinders economic growth because of the appearance of certain pressure groups which make it difficult to carry out some reforms and policies that are necessary for economic growth. The "Comparability Perspective" (Przeworski and Limongi, 1993; Clague *et al.* 1996) states that only a democratic system can give complete credibility

integration among countries sharing a common currency, the CFA franc. It is the successor of the *Customs and Economic Union of Central Africa*, completely replaced in 1999. Its objectives are the promotion of trade, the establishment of a real common market, and greater solidarity among peoples. Its member countries share structure financial, regulatory and legal, and maintains a common external tariff on imports from third countries of *CEMAC*.

Thirdly, investment in human capital and population growth also help to explain the different levels of per capita income of these countries (tables 1 to 4). Thus, those countries with higher rates of enrolment in secondary education and lower population growth, have higher levels of per capita income. Finally, the sensitivity analysis carried out shows that the significance of the variable investment in physical capital disappears in a number of estimates when in the model is introduced the index of institutional quality, due to the multicollineality between these two variables, with a correlation exceeding 40 %.

5.1 Conclusions

In this paper, evidence is presented on the determinant of growth processes in African countries, using a sample of 49 countries for the period 1996-2004.The empirical application developed has shown that those African countries with better institutions, a high degree of regional economic integration, higher rates of investment in human capital and lower rates of population growth present a higher level of per capita income.

These conclusions have important implications for the agenda of institutional reform to promote growth and make development aid more effective. The old consensus that the natural way to overcome underdevelopment was to offer sufficient financial flows to the least favoured countries seems to have broken down, and institutional questions are being given an increasingly important role. Donor agencies have concluded that development assistance is more effective in countries with good institutional quality. Increasingly, international financial institutions and some bilateral donor agencies, subscribing to evidence-based policy and decision-making, explicitly tie aid transfers to governance outcomes (World Bank, 2007).

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to property rights protection policies, key to economic development. The "Skeptical Perspective" (Hirschman, 1994) considers that political freedom alone does not guarantee growth.

Furthermore, Kauffmann (2006) points out that good governance and the control of corruption are not a luxury that only rich countries can afford. Poor countries, especially those in Africa, can and must improve their governance and reduce corruption in order to complement aid inflows (Aixalá y Fabro, 2008).

Similarly, health and education policies to improve the human capital endowment, as well as policies of birth control, can support the growth of African countries.

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Table 1: **Per capita income and institutional quality (global index and individual indicators) [OLS]**

OLS	Model1	Model2	Model3	Model4	Model5	Model6	Model7
Variable dependent:	**GDP$_{pc}$**						
Lag. GDP$_{pc}$	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
School	0.449*** (0.111)	0.487*** (0.113)	0.468*** (0.113)	0.377*** (0.110)	0.531*** (0.110)	0.460*** (0.113)	0.478*** (0.111)
Pop-grow	-0.132*** (0.032)	-0.139*** (0.033)	-0.141*** (0.032)	-0.120*** (0.031)	-0.137*** (0.032)	-0.139*** (0.032)	-0.145*** (0.032)
Investment	0.200** (0.079)	0.287*** (0.077)	0.257*** (0.078)	0.160** (0.076)	0.313*** (0.071)	0.233*** (0.081)	0.221*** (0.077)
Index IQ	0.098*** (0.028)						
Voice		0.066 (0.047)					
Pol. stability			0.089** (0.040)				
Gov. Effectiveness				0.325*** (0.064)			
Reg. Quality					0.111*** (0.029)		
Rule of Law						0.154** (0.064)	
Control corruption							0.220*** (0.066)
Constant	3.533*** (0.542)	3.007*** (0.528)	3.202*** (0.537)	4.001*** (0.542)	2.869*** (0.501)	3.356*** (0.553)	3.352*** (0.527)
Observations	245	245	245	245	245	245	245
R-squared	0,822	0,814	0,817	0,831	0,824	0,817	0,821

Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 2: **Per capita income and institutional quality (global index and individual indicators)** [GMM]

GMM Dynamic estimation	Model1	Model2	Model3	Model4	Model5	Model6	Model7
Variable dependent:	**GDP$_{pc}$**						
Lag. GDP$_{pc}$	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
School	0.514* (0.274)	0.594** (0.269)	0.458* (0.246)	0.424* (0.253)	0.699** (0.289)	0.483* (0.263)	0.435* (0.262)
Pop-grow	-0.142** (0.063)	-0.133** (0.064)	-0.132 (0.086)	-0.131** (0.052)	-0.160** (0.065)	-0.152** (0.062)	-0.180*** (0.068)
Investment	0,115 (0.195)	0,177 (0.175)	0.025 (0.151)	0,134 (0.177)	0.436*** (0.128)	0,150 (0.209)	0,168 (0.216)
Index IQ	0.178** (0.078)						
Voice		0.321* (0.173)					
Pol. stability			0.434** (0.218)				
Gov. Effectiveness				0.423*** (0.155)			
Reg. Quality					0.308** (0.120)		
Rule of Law						0.345** (0.153)	
Control corruption							0.340** (0.164)
Constant	3.524*** (-1.173)	2.825*** (-1.076)	4.167*** (-1.457)	3.793*** (-1.049)	2.211* (-1.189)	3.503*** (0.964)	3.692*** (-1.362)
Observations	192	192	192	192	192	192	192
Number of ID	46	46	46	46	46	46	46
Instruments	45	45	26	45	45	45	36
Arellano-Bond Test (AR2)	0,32	0,74	0,42	0,54	0,9	0,43	0,32
Hansen test	0,36	0,55	0,58	0,41	0,26	0,62	0,47

Standard errors in parentheses: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 3: Per capita income, institutional quality and economic integration **[OLS]**

OLS	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Variable dependent: GDP$_{pc}$										
Lag. GDP$_{pc}$	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
School	0.496*** (0.113)	0.449*** (0.111)	0.403*** (0.107)	0.466*** (0.114)	0.498*** (0.114)	0.456*** (0.117)	0.438*** (0.108)	0.446*** (0.123)	0.442*** (0.112)	0.384*** (0.103)
Pop-grow	-0.147*** (0.033)	-0.132*** (0.032)	-0.129*** (0.031)	-0.139*** (0.034)	-0.146*** (0.033)	-0.133*** (0.033)	-0.134*** (0.031)	-0.132*** (0.033)	-0.134*** (0.032)	-0.130*** (0.030)
Investment	0.322*** (0.073)	0.200** (0.079)	0.207*** (0.076)	0.197** (0.079)	0.175** (0.080)	0.202** (0.080)	0,072 (0.082)	0.199** (0.080)	0.194** (0.080)	0.092 (0.077)
Index IQ		0.098*** (0.028)	0.095*** (0.027)	0.103*** (0.029)	0.088*** (0.029)	0.095*** (0.030)	0.139*** (0.030)	0.098*** (0.030)	0.105*** (0.032)	0.145*** (0.028)
amu			0.435*** (0.096)							0.498*** (0.093)
sadc				-0.059 (0.082)						
comesa					-0.130* (0.069)					
ecowas						0.016 (0.077)				
cemac							0.361*** (0.100)			0.437*** (0.096)
uemoa								-0.005 (0.092)		
eccas									0.045 (0.084)	
Constant	2.842*** (0.515)	3.533*** (0.542)	3.673*** (0.522)	3.501*** (0.544)	3.456*** (0.541)	3.487*** (0.586)	3.900*** (0.538)	3.549*** (0.615)	3.589*** (0.553)	4.136*** (0.512)
Observations	245	245	245	245	245	245	245	245	245	245
R-squared	0,810	0,822	0,826	0,822	0,824	0,822	0,831	0,822	0,822	0,849

Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 4: Per capita income, institutional quality and economic integration [GMM]

GMM Dynamic estimation	Model1	Model2	Model3	Model4	Model5
Variable dependent:	**GDP$_{pc}$**				
Lag. GDP$_{pc}$	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
School	0.557* (0.299)	0.514* (0.274)	0.437* (0.255)	0.482** (0.240)	0,315* (0.326)
Pop-grow	-0.184*** (0.069)	-0.142** (0.063)	-0.164* (0.098)	-0.101 (0.073)	-0.165*** (0.062)
Investment	0.436*** (0.159)	0,115 (0.195)	-0.154 (0.203)	0.024 (0.152)	0.091 (0.195)
Index IQ		0.178** (0.078)	0.355** (0.140)	0.247** (0.105)	0.210** (0.105)
Cemac			0.695* (0.376)		0.634** (0.309)
Amu				0.641** (0.254)	0.635*** (0.203)
Constant	2.358** (-1.157)	3.524*** (-1.173)	5.104*** (-1.390)	4.053*** (-1.169)	4.063*** (-1.420)
Observations	192	192	192	192	192
Number of ID	46	46	46	46	46
Instruments	33	45	26	26	39
Arellano-Bond Test (AR2)	0,83	0,32	0,26	0,25	0,83
Hansen test	0,64	0,36	0,29	0,49	0,58

Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

 *ceman; central africa monetary

Table 5; GDP PER CAPITA OF AFRICAN COUNTRIES AND THEIR SUB REGIONAL GROUPES 1965-2004						
Countries	GDP PER CAPITA		AVERAGE GROWTH OF GDP PER CAPITA			
	1965	2004	1965-1974	1975-1994	1995-2004	1965-2004
Algeria	1183	1982	3,08%	0,09%	2,22%	1,32%
Egypt.	548	1615	0,58%	3,80%	2,68%	2,77%
Morocco	618	1349	2,69%	1,90%	1,57%	2,00%
Tunisia	730	2336	4,34%	2,10%	3,52%	2,98%
Mauritania	340	437	1,39%	-0,29%	1,86%	0,65%
UMA	684	1544	2,41%	1,52%	2,37%	2,09%
Cameroon	471	662	0,69%	0,24%	2,31%	0,88%
Central African Rep.	326	225	0,76%	-1,92%	-0,54%	-0,95%
Chad	235	257	-1,93%	-0,44%	3,51%	0,23%
Congo, Rep.	638	940	3,17%	0,63%	-0,24%	0,99%
Gabon	2380	3860	8,36%	-1,28%	-0,12%	1,24%
CEMAC	810	1189	2,21%	-0,55%	0,98%	0,98%
Gambia	266	337	0,81%	-3,29%	5,23%	0,61%
Ghana	270	278	0,68%	0,59%	3,53%	0,08%
Nigeria	322	402	3,50%	-2,61%	3,63%	0,56%
Sierra Leone	266	156	1,54%	-1,94%	2,98%	-1,37%
Burkina Faso	164	248	0,83%	-1,81%	0,62%	1,06%
Benin	288	328	0,42%	0,69%	-0,55%	0,33%
Cote d'Ivoire	676	574	3,44%	-2,14%	0,12%	-0,42%
Guinea-Bissau	178	137	1,84%	-0,04%	1,18%	-0,64%
Liberia	699	130	1,94%	-25,45%	1,81%	-4,32%
Mali	187	237	-0,77%	-1,77%	-0,84%	0,62%
Niger	347	156	-4,33%	0,72%	-2,47%	-2,05%
Senegal	467	461	-1,28%	0,22%	3,61%	-0,03%
Togo	268	244	1,66%	11,36%	0,37%	-0,24%
ECOWAS	338	284	0,24%	-0,94%	1,68%	-0,66%
Botswana	255	3668	10,96%	6,18%	4,46%	6,84%
Congo, Dem. Rep.	317	88	0,91%	-5,28%	-3,11%	-3,30%
Lesotho	146	540	5,20%	3,02%	2,33%	3,35%
Malawi	109	153	3,27%	-0,84%	2,13%	0,87%
Seychelles	2485	6656	3,15%	3,15%	0,71%	2,53%
Zambia	604	336	-1,02%	-2,86%	0,77%	-1,50%
Zimbabwe	472	457	4,23%	-0,58%	-2,97%	-0,08%
South Africa	2690	3312	2,38%	-0,64%	1,21%	0,53%
SADC	885	1901	3,01%	1,71%	1,51%	1,96%
Mali	187	237	-0,77%	-0,04%	2,77%	0,62%
Niger	347	156	-4,33%	-1,97%	-0,15%	-1,98%
Senegal	467	461	-1,28%	-0,48%	1,98%	-0,03%
Togo	268	244	1,66%	-1,58%	0,71%	-0,43%
Burkina Faso	164	248	0,83%	0,88%	1,63%	0,97%
Benin	288	328	0,42%	-0,38%	1,67%	0,31%
Cote d'Ivoire	676	574	3,44%	-2,32%	-0,09%	-0,86%
Guinea-Bissau	178	137	1,84%	0,07%	-2,80%	-0,64%
UEMOA	322	298	-0,16%	-1,17%	1,11%	-0,35%
Cameroon	471	662	0,69%	0,24%	2,31%	0,88%
Central African	326	225	0,76%	-1,92%	-0,54%	-0,95%
Chad	235	257	-1,93%	-0,44%	3,51%	0,23%
Congo, Rep.	638	940	3,17%	0,63%	-0,24%	0,99%
Gabon	2380	3860	8,36%	-1,28%	-0,12%	1,24%
Rwanda	187	250	1,55%	-1,73%	4,97%	0,74%
Congo, Dem. Rep.	317	88	0,91%	-5,28%	-3,11%	-3,30%
Burundi	91	105	2,75%	0,43%	-1,93%	0,36%
ECCAS	581	798	5,51%	-1,02%	0,27%	0,82%
Rwanda	186	249	0,86%	0,13%	1,98%	0,74%
Congo, Rep	317	87	0,00%	-4,98%	-3,20%	-3,30%
Burundi	91	104	2,42%	0,03%	-1,18%	0,36%
Malawi	109	152	3,22%	-0,28%	0,80%	0,87%
Seychelles	2485	6655	2,96%	2,96%	1,09%	2,53%
Zambia	604	336	-1,50%	-2,84%	1,45%	-1,50%
Zimbabwe	471	456	3,28%	-0,40%	-3,12%	-0,08%
Egypt	547	1614	1,16%	3,62%	2,68%	2,77%
Sudan	278	433	0,25%	0,34%	3,88%	1,13%
Swaziland	722	1356	6,28%	1,41%	0,38%	1,85%
Madagascar	366	228	-0,02%	-2,32%	-0,07%	-1,21%
Kenya	261	426	3,90%	0,42%	0,18%	1,26%
COMESA	537	1009	1,90%	-0,16%	0,41%	0,45%

THE RELATIONSHIP BETWEEN THE INDEX OF THE INSTITUTIONIAL QUALITY OF GOVERNANCE AND INCOME PER CAPITA OF AFRICAN COUNTRIES.

i The pattern of distribution of the GDP per capita during the last decade