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Performance économique et qualité institutionnelle en Côte d'Ivoire : une application au DOLS

Economic Performance and Institutional Quality in Côte d'Ivoire: An Application to DOLS

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Abstract: This research proposes as a goal to evaluate the role of institutional quality on economic performance and the conduct of economic and social development in Côte d'Ivoire in order to improve the macroeconomic governance of the Ivorian state. Estimates using a methodology based on the DOLS model with WDI and ICRG data for the period 1985-2019, show that corruption and socio-economic conditions hinder the performance of the Ivorian economy, while democracy significantly improves it. Therefore, the authorities in charge of managing the development of this state should clean up macroeconomic governance. In addition, the business climate must be the subject of particular attention on the part of these authorities, with a view to improving it. It is also necessary to criminalize corruption-related offences by strengthening the legislation in force, strengthening the prerogatives of the High Authority for Good Governance. Moreover, democracy must be real, and it must involve strengthening the strength of institutions of whatever nature.

Keys word: DOLS; Economic Performance; Economic Growth; Institutional quality; Côte d'Ivoire.

JEL: C22; A10; E66

RESUME : Cette recherche se propose comme objectif, d'évaluer le rôle de la qualité institutionnelle sur la performance économique et la conduite du développement économique et social en Côte d'Ivoire afin d'améliorer la gouvernance macroéconomique de l'Etat ivoirien. Les estimations utilisant une méthodologie basée sur le modèle DOLS avec les données de WDI et ICRG pour la période 1985-2019, montrent que la corruption et les conditions socio-économiques freinent les performances de l'économie ivoirienne, tandis que la démocratie l'améliore significativement. Par conséquent, les autorités en charge de la gestion du développement de cet État devraient assainir la gouvernance macroéconomique. En outre le climat des affaires doit faire l'objet d'une attention particulière de la part desdites autorités, dans le sens de son amélioration. Il convient par ailleurs de criminaliser les délits liés à la corruption par le renforcement de la législation en vigueur, en renforçant les prérogatives de la haute autorité à la bonne gouvernance. Par ailleurs la démocratie doit être réelle et elle devra passer par le renforcement de la force des institutions de quelle que nature qu'elles soient.

Mots Clés : DOLS ; Performance Economique ; Croissance Economique ; Qualité Institutionnelle ; Côte d'Ivoire.

JEL: C22; A10; E66

INTRODUCTION

First of all, it should be noted that this study falls within the framework of growth theory. The theory of growth is as much about exogenous growth as it is about endogenous growth. If the theory of exogenous growth refers to the set of theories of economic growth that have sought to explain economic growth by exogenous variables, i.e. external to the model, to the economic system itself, the theory of endogenous growth, which is our fundamental theoretical reference, emphasizes four factors that influence the rate of economic growth, the most important of which for us is the judicious intervention of the State, particularly through investment in infrastructure. Endogenous growth theory, in contrast to neoclassical theories, are in favor of state intervention in the development process. It thus makes it possible to assess and report on the effect of the institutional characteristics intrinsic to Côte d'Ivoire (fixed effects) on the country's level of development. The theory of endogenous growth should ultimately allow us to confirm or refute the hypothesis that the quality of institutions is or is not a key factor in Côte d'Ivoire's economic growth. The question of how to define wealth in Côte d'Ivoire and the soundness of its sources has given rise to divergent views in the early economic literature since Smith (1776). A plethora of answers has been formulated by authors, each approaching a very specific angle of the wealth creation process and making economic growth one of the most important topics of research in modern economics (Botchuin, 2021a).

In the late 1980s, however, a compromise was reached in Côte d'Ivoire regarding the redefinition of the desirable macroeconomic framework for boosting growth and promoting development. The institutional arrangements to be put in place, according to the Washington Consensus, should include strict fiscal discipline, broadening of the tax base, privatization, deregulation, protection of private property, and trade and financial liberalization, in line with the concept of the self-regulating and efficient market (Williamson, 1990). This consensus in Washington suggested that free markets, openness to the outside world and fiscal discipline were sufficient to ensure the prosperity of states. In a fundamentalist view, the market was considered to be the only one capable of solving all economic problems.

Recent economic studies have shown that institutions are indispensable for a country's economic performance. Also, the literature suggests that the quality of governance in a country is particularly important and influences its development (Kaufmann and al., 2000; Knack, 2003). However, two major problems arise in identifying the role of institutions. First, all

indicators of institutional quality are error-prone (Bardhan, 2005) and fuzzy (Weiss, 2000) due to their subjective nature. Second, because institutions are endogenous (Chong & Calderon 2000), countries are responsible for mobilizing time and resources to build good institutions; put differently, rich countries are more likely to have good institutions. Empirical analysis must therefore be careful not to capture a causal link in the opposite direction, i.e., that improve economic performance is likely to contribute to improve institutions. In view of these persistent problems, the validity of the proposition that institutions are significantly important for growth and, by implication, the policy prescription that developing countries should invest in reforms to improve governance if they are to foster economic development, must be questioned. In this paper, we provide a critical overview of the literature on the role of institutional quality on economic performance in Côte d'Ivoire, with a focus on discussing its analytical and policy implications. Econometrically, the aim is to assess the role of institutional quality on Côte d'Ivoire's economic performance using Dynamic Ordinary Least Squares (DOLS) model and to discuss how research in the fields of new institutionalism, analytical political science and international political economy can benefit future econometric work. That said, what is the role of the quality of institutions on the observed level of economic growth in Côte d'Ivoire? in other words, does the quality of institutions explain the economic performance of the Ivorian state? To answer these questions, in accordance with the nature of the observed data and their characteristics as revealed by descriptive statistics, the methodology based on the dynamic ordinary least squares model will be used. This paper will proceed as follows: Section 1 will focus on the literature review. Section 2 deals with the methodological framework. Section 3 will focus on the results and the underlying discussions. Section 4 will be devoted to the conclusion and policy recommendations.

1: LITERATURE REVIEW

This first section of the paper will focus on a critical theoretical and empirical review of the economic literature related to the subject matter. There are several studies on the relationship between governance and growth. First, let us look at the theoretical background.

1.1. Theoretical Literature Review

The link between institutional quality and economic performance has been the subject of divergent views and conceptions since the 1990s. The importance of improving the quality of

institutions to boost economic performance has become an imperative for donors, given the scarcity of funding sources and the need for economies to be competitive in the context of globalization. Furthermore, governance's role is to establish a certain stable structure of human relations or interactions. Therefore, governance is a complex process, mainly due to the change of rules that should make them dynamic relationships over time.

This dynamic in Africa is confronted with traditions and codes of conduct that have remained more or less active and closed in on themselves. Thus, numerous theoretical works have been carried out to show the relationship between the quality of governance and economic growth. Among the most widespread works are those carried out by the World Bank, in particular by (Kaufman,1996) and (Mauro, 1995). These different investigations have examined how governance (political, economic and institutional) can explain the success or failure of development policies.

For example, (Kaufmann & Kraay, 2002; 2003) have explored the governance-growth interrelationship across several domains grouped into six broad indicators. They found that per capita income and the quality of governance are significantly, strongly and positively correlated across countries. Thus, stronger governance leads to higher per capita income and the opposite is observed when the level of governance is weak, followed by a stagnation of the economy as a result of negative growth rates.

(North, 1990) similarly looked at democracy, political stability and corruption to analyze the causality between governance and economic growth. According to this author and others such as (Rodrick et al., 2002) and (Ouidade, 2010), although an increase of capital and labor have a positive impact on growth, this increase will be much higher if the economy under consideration has a good quality of governance. In parallel to these authors, (Pellegrini & Gerlagh, 2004) conduct a study that looks at several factors including investment, human capital, political stability and corruption. Their link with economic performance concludes that corruption negatively affects economic performance.

On another level, economic development is important because of its implication on the well-being of populations (Kaufmann & Kraay, 2002). Indeed, the level of economic development and the quality of governance lead to better education, good health and, therefore, high productivity. It also affects the rate of crime and political stability. This is true for developed

nations, which have a lower crime rate than developing countries. Moreover, the international organisations are relying on good governance as a means to human development and economic growth (Mimicopoulos et al., 2007). In the same sense, human development needs dynamic economic growth and the practice of good governance on the part of governments (Alkiren, 2010).

1.2. Empirical Literature Review

An empirical link between governance and economic performance has been established. Indeed, authors are increasingly referring to governance as the main control of the political game and economic life of any nation when explaining growth.

The institutional quality is measured by different components. (Mauro, 1995) and (Vernard, 2013) used the index of corruption to evaluate the quality of institutions and examined the links between institutional quality and the level of corruption on economic development. From the results of their study, it appears that the level of corruption and poor quality of institutions have a negative effect on economic development. On the other hand, (Knack & Keefer, 1995) employed secure property rights as a measurement of institutional quality to test economic performance and found that secure property rights positively affect economic performance. Likewise, (Edison, 2003) used a proxy for governance to measure the impact of institutional quality on economic performance, economic development and growth volatility. Edison's results showed that quality institutions positively affect economic performance and growth volatility.

In their studies, (Fernandes & Kraay, 2005) used a range of measures of institutional quality, including property rights and contractual institutions, and analyzed the impact of these institutions in South Asia. The results of their study indicate that both Pakistan and India have lower-performing contractual institutions and that Pakistan is a poor performer in both types of institutions.

Within Pakistan, a number of studies have been conducted to determine the relationship between institutional quality, good governance, and economic well-being. Specifically, (Shafiq & Haq, 2006) have analyzed the effects of governance instruments on economic welfare and income distribution. According to the results of the analysis made by these authors, good governance has a positive impact on increasing output, which contributes to increasing the

welfare of the population, and predicts a positive relationship between output growth and the distribution of income generated in the economy. (Siddiqui & Ahmed, 2009) investigated the long-run relationship between institutional quality and economic growth and (Serwar et al., 2013) examined this relationship in Asian countries. Both studies' results indicate that institutions have a significant role in economic growth and that there is a long-run relationship between institutional quality and economic performance.

(Nawaz, 2015) conducted a disaggregated analysis on the effect of institutions on growth. A sample data analysis for 56 countries over the period 1981-2010 was conducted for this purpose. This study finds out that institutions play an important role in determining the level of growth in developed economies compared to developing economies. In addition, several empirical studies exist that use theoretical models based on environmental institutions. (Bernauer, 1995) with his study focused on international environmental institutions and (Tiwari & Joshi, 2015) explored the linkages and role of regional and local institutions in the Hindu Kush Himalaya. from their investigations, it appears from their investigations that the main reason for environmental protection, the second aspect of sustainable development, is because environmental institutions formulate international regulations that are imposed to regulate the negative externalities that affect the natural environment.

The relationship between political institutions and environmental quality is analyzed in (Congleton's, 1992) study through their effects on environmental policies; they found different policies under different political regimes. Their analyses suggest that in authoritarian regimes, policymakers opt for higher incomes and lower environmental standards than in democratic regimes. (Gallagher & Thacker, 2008) studied the impact of democracy on environmental quality and showed that the level of democracy did not have a significant impact on environmental quality, but that the stock of democracy in the country under consideration did have a significant impact on environmental quality and emissions of sulfur dioxide and carbon dioxide. In an empirical examination of the theories of public good provision, (Bernauer & Koubi, 2009) examined this relationship with the political variable of democracy. The effect of democracy on air quality was positive and the result of the different interest groups hypothesis showed that it had a different impact on air quality: goods and services producer unions increase air pollution and green parties reduce it. Similarly, a study by (Castiglutione et al., 2009) explored the relationship between institutional enforcement and economic development. Their results indicate that stronger institutions increase environmental awareness and opt for

environmental protection policies and that there is no causal relationship between pollution and income.

In his review, (Pellegrini, 2003) analyzed the cause-and-effect relationship between corruption, economic development and environmental policy. Economic development leads to stricter environmental policy. As for the institutions, they have substantial effects on environmental policies, and corruption in the country leads to less stringent environmental policies. (Rehman et al., 2007) studied the relationship between corruption, trade openness and environmental quality from a sustainable development perspective. The findings suggest that trade openness has a positive impact on environmental protection through strict environmental policies. In contrast, corruption has a negative impact on environmental protection and income has a positive impact on environmental quality. The social development component of sustainable development has received less attention in the literature; some studies have examined the links between human capital, institutions and economic growth.

For the case of Cote d'Ivoire, (Ouattara, 2011) uses a simultaneous equation model and concludes that the quality of governance, notably corruption, has a negative impact on the country's economic growth. The research of (Esso, 2008) complements this research and relates to the influence of international aid on economic growth in the post-crisis period in Côte d'Ivoire. The author constructs a vector partial adjustment model linking GDP per capita to international aid. He finds that aid has a significant positive influence on economic growth. (Keho, 2012), in order to usefully determine the role of institutional factors in the financial and economic development of WAEMU countries, applies the Pool Mean Group method to estimate a non-linear model in panel data over the period 1984-2005. The results conclude that the quality of certain institutions conditions the level of deepening of the financial system and its capacity to contribute significantly to growth.

In many cases, good governance has been identified in the literature as the main function of guaranteeing first-order economic principles. However, the implementation of good governance may show deviations from traditionally applied practices without including the quality factor of governance. The Chinese case is the most convincing, which, with unorthodox practices, has achieved the desired economic results.

(Alouka et al, 2023) examined the effect of ICT diffusion on economic growth in WAEMU by highlighting the role of the quality of institutions. Using a sample of 07 countries over the period 2002-2021, they estimated an Autoregressive Distributed Lag (ARDL) model through the Pooled Mean Group (PMG) estimator. Their results show that, in the long term, the diffusion of ICTs and the quality of institutions have positive and significant effects on the economic growth of WAEMU countries. Nevertheless, the interaction between the diffusion of ICTs and the quality of institutions has a negative and significant effect on economic growth.

(Eugène et al., 2024) attempted to show the impact of extractive foreign direct investment flows on the quality of institutions in sub-Saharan Africa. Using a panel VAR model, and after estimating data from the WDI and WGI databases covering the period 1996 and 2021, and after analyzing the robustness of their results by impulse response functions based on Monte Carlo simulations, they arrive at the result that extractive foreign direct investment flows have a negative and significant impact on the quality of institutions in sub-Saharan African countries.

(Youbi & Cabral, 2023) attempted to examine the role of institutional quality on the link between FDI and economic growth in Africa. Using a sample of 30 countries, they estimate a Pool-Mean Group (PMG) model for the period 2002-2020. Their results show that, in the long run, the quality of institutions has a positive and significant influence on the FDI-economic growth relationship.

(Thiam & Biwole, 2023) use a mixed methodology to assess WAEMU attractiveness policies. (analysis of attractiveness components and econometric analysis of attractiveness policies using the fixed-effect model), over the period 2009 to 2019. The results of their work indicate that political stability, effective government, the rule of law, freedom of expression, and trade openness have a positive and significant effect on FDI, while the quality of institutions and the fight against corruption have a non-significant effect.

It is therefore true that a fairly strong institutional set-up is needed to achieve the growth objectives that nations have set for themselves. Moreover, such practices will to some extent have to consider the informal aspect of institutions, namely ancestral laws, rules and norms of behavior enacted by tradition. Indeed, a Nigerian study has shown that failure to consider informal systems of land tenure allocation could have negative consequences, making informal rules a bulwark against the enforcement of formal rules.

2: METHODOLOGICAL FRAMEWORK

This second part of the paper will present the specification of the econometric model and the estimation method.

2.1 . Descriptive Statistics and variable selection

Annual data are used in this study, covering the period from 1985 to 2019. Indeed, the fact that data on institutional variables are available over this period explains the choice of this period. The variables we selected are: economic growth rate as a proxy for economic performance (Tcroi), growth in gross domestic product per capita (Pibh), final government expenditure (dep), labor force aged 15-64, democratic accountability (demo), control of corruption (Corr) and Socio-economic conditions (socio). Descriptive statistics, as the name implies, are used to Analyze and describe data to obtain a final output. They are mathematical calculations that allow to extract from the data a real positive or negative trend of the results. From these figures, graphs are used to support the statistical analysis. They are also the basis of any data analysis. Indeed, before going into the analysis in detail, it is necessary to start with the overall description using these statistics.

Table 1: *Descriptive Statistics of Variables*

Variables	Symbols	Mean	Max	Min	Standard déviation
Economic growth rate	Tcroi	3,071	10,706	-4,387	3,808
GDP per capita growth	Pibh	0,138	8,042	-6,641	3,742
Labour force 15-64 year old	Popa	5,229	5,465	4,995	0,1408
Household final consumption expenditure	Dep	93,909	99,5	85,237	3,656
Democratic accountability	Demo	2,618	3,17	1	0,5731
Socio-economic condition	Socio	4,491	8	2	1,8428
Corruption	Cor	2,777	4	1	0,670

Source: author's calculations

This table 1 shows a low dispersion around the mean of all variables, as their standard deviation is less than 10 (Ouattara, 2011). The average of the country's institutional indicators on a scale

of 0 to 10 is low overall, at 3.295. Hence, one could easily hypothesis that Côte d'Ivoire did not have a good institutional quality over the entire study period.

Overall, the standard deviations are low, which means that the variances between the values of the variables are minimal. This means that it is not necessary to log-transform the variables, as is often done to normalize the series. However, GDP per capita (0.138%) and the growth rate (3.071%) show low averages throughout the period. That clearly explains why the amount that each Ivorian should receive as a result of the distribution of the fruits of growth has not been equitably distributed. Moreover, these different statistics do not augur well for the achievement of economic performance in the long term. Taken in isolation, household final consumption expenditure shows a very high average of around 93.9 percent of GDP.) In effect, consumer spending consists of all expenditures on final goods and services for current personal and household use. The possible explanation for this increase in spending is nothing other than the high cost of living.

2.2 : Estimation Methodology Selection

2.2.1 : Matrix of Correlations between variables

The matrix of correlations reports the correlation values, which are measurements of the degree of linear relationship between each pair of variables. The values of the correlations can be between -1 and +1. If both variables tend to increase and decrease at the same time, the correlation value is positive. A matrix of correlations is also used to evaluate the dependency between several variables at the same time. The output is a table containing the correlation coefficients between each variable and the others. It should be noted that examining the correlation will help us determine the relationship between the variables.

Table 2 : *Matrix of Correlation*

	Tcroi	PIBh	Popa	Dep	demo	Socio	Cor
Tcroi	1,000						
PIBh	0.9873	1,000					
Popa	-0.153	-0,002	1,000				
Dep	0.356	0.335	-0.197	1,000			
Demo	0,311	0,189	-0,721	0,271	1,000		
Socio	-0,083	-0,201	-0,727	-0,016	0,481	1,000	

Cor	0,301	0,206	-0,603	0,338	0,858	0,358	1,000

Source: *Author's calculations using data from WDI and ICRG*

This table 2 shows a strong positive correlation between GDP per capita and the growth rate and between corruption and democracy. Indeed, a positive correlation between two variables means that they follow the same direction, unlike a negative correlation where one increases whenever the other decreases. That relationship may or may not represent causality between the two variables, as other factors may influence their direction.

On the other hand, negative correlations are observed between several variables, notably between Socio-economic condition and the growth rate, corruption and the labor force. In effect, a perfect negative correlation means that a direct relationship always exists, with a decrease in one variable always meeting a corresponding increase in the other. Statisticians assign a negative value to negative correlations and a positive value whenever a positive correlation exists. If two variables are correlated, the cause may be similar or identical. An increase in one variable, in a positive correlation, may represent an increase in one factor that directly causes an increase in another factor. These correlations should be looked for to determine a cause. Correlation coefficients are standardized. Thus, a perfect linear relationship corresponds to a coefficient of 1. Correlation measures the strength and direction of the linear relationship between two variables. Covariance values are not normalized.

2.2.2 : Unit Roots Tests

We first submit all the variables mentioned in this paper to the tests of (Dickey-Fuller, 1981) augmented and (Philip Perron, 1988) to verify their stationarity. Indeed, the choice of model to adopt depends on whether a process is stationary or not. In general, if the series under study is the result of a stationary process, then we look for the best model among the class of stationary processes to represent it, and then we estimate this model. The first step in modeling a time series is to determine whether it can be considered stationary or not. The alternative is that it is integrated.

Table 3 : *Stationary test*

	level		Difference	
Variables	ADF	PP	ADF	PP
Economic growth rates	-2,865**	-2,906**	-7,640***	-8,009***
	(0,060)	(0,055)	(0,000)	(0000)
Growth in GDP per capita	-2,805*	-2,823 *	-7,721***	-8,235***
	(0,068)	(0,065)	(0,000)	(0,000)
Labour force Age 15 to 64	1,181	1,699	-3,848***	-2,396
	(0,935)	(0,422)	(0,006)	(0,150)
Household final consumption expenditure	-3,781***	-3,837	-7,713***	-8,419***
	(0,007)	(0,006)	(0,000)	(0,000)
Democratic Accountability	-2,410	-1,768	-4,877***	-4,662***
	(0,146)	(0,389)	(0,000)	(0,000)
Socio-économique condition	-1,073	-1,398	-2,685*	-5,022***
	(0,715)	(0,571)	(0,087)	(0,000)
Corruption	-2,020	-2,059	-6,347***	-6,843***
	(0,277)	(0,261)	(0,000)	(0,000)

Source: Author's calculations

Note: *ADF and PP stand for Augmented Dickey Fuller (1981) and Philips-Perron (1988) tests respectively. The choice of lags is based on the Schwarz information criterion with a max lag = 4. The values in parentheses are the p-values. * (**) Mean the rejection of the unit root Hypothesis at the 1% and 5% (10%) threshold.*

These test results as reported in Table 3, suggest that the economic growth rate, GDP per capita growth, consumer spending, democratic accountability, socioeconomic status, and control of corruption are stationary in first difference in the Philip-Peron and Augmented Dickey Fuller

tests, except for the labor force, which is not stationary in the Philip-Peron test. When all variables are considered in first difference, they all appear stationary.

2.2.3 . Causality Test of Variables (Toda-Yamamoto test)

When non-stationary variables are not cointegrated or are integrated at different orders, the traditional Granger causality test becomes ineffective. In such cases, (Toda-Yamamoto, 1995) causality test is used, and is based the null hypothesis states that there is no causality between variables (probability > 5%).

Table 4: *Toda-Yamamoto Causality test*

K	Max	Variables	Causal Variables/VC (probability)						
			Tcroi	Pibh	Popa	Dep	Demo	Socio	Corr
		Tcroi	-	13,855***	13,678***	12,998***	8,309**	9,993***	2,472
				(0,001)	(0,001)	(0,001)	(0,015)	(0,006)	(0,290)
		Pibh	14,626***	-	12,995	13,472***	8,038**	9,3553**	2,240
			(0,000)		(0,001)	(0,000)	(0,018)	(0,009)	(0,332)
2	2	Popa	5,800**	5,721**	-	0,523	2,485	1,641	6,193**
			(0,055)	(0,057)		(0,769)	(0,288)	(0,44)	(0,045)
		Dep	9,371***	9,653***	11,471***	-	10,001***	4,088*	3,379*
			(0,009)	(0,008)	(0,003)		(0,006)	(0,129)	(0,175)
		Demo	10.183***	9.828***	3.939	2.303	-	0.137	1.534
			(0.006)	(0.007)	(0.139)	(0.316)		(0.935)	(0.464)

Socio	2.364	2.104	1.400	2.547632	7.821**	-	6.428**
	(0.306)	(0.349)	(0.496)	(0.279)	(0.020)		(0.040)
Corr	2.187	1.882	0.297	1.244	4.539	0.127	-
	(0.335)	(0.390)	(0.861)	(0.536)	(0.103)	(0.938)	

Source: Author's calculations

***note**: (.): Probability (p-value); *: significant at 1%; ** significant at 5%: significant at 10%; and values = k-statistics: optimal Lag of the level VAR (SIC); dmax: maximum order of integration of variables*.

The purpose of the administration of the Toda yamamoto test is to investigate the existence or not of an integration relationship between our study variables. The analysis of this table shows that the majority of our variables are integrated, thus justifying the use of DOLS to overcome such a difficulty.

2.3. Dynamics Ordinary Least Squares (DOLS) Model Specification

The principal reason for searching for new institutional variables is not due to the weak correlation between the old and new variables, but rather to the additional information that can be obtained on the sources of economic growth. As mentioned in macroeconomic theory, economic performance is a dynamic phenomenon, that is, it varies over time. Accordingly, to assess the role of institutional quality in Ivorian economic performance, we specify an exogenous growth model that operates within the framework of neoclassical economists and that can be applied in the dynamic ordinary least squares estimation method.

We begin with the Solow-Swan growth model, which explains long-run economic growth by capital, labor and technological progress. As a results :

$$Y(t) = k(t)^{\alpha} A(t) L(t)^{1-\alpha} \quad (1)$$

Where : t= time,

0<α<1 = Elasticity of output given to capital; Y(t) = total output; A is the labor-favoring technology, and AL is effective labor in the model of the Ivory Coast economy over the period under study. Effective labor (AL) grows at Ɗ+g while capital depreciates at:

$$k'(t) = s * Y(t) - \delta * K(t) \qquad 2$$

La règle d'or du taux d'épargne de Solow-Swan stipule que le ratio capital/production est uniquement fonction de l'épargne à l'équilibre. K' est inversement lié au ratio capital/travail puisque α est inférieur à 1 quel que soit le temps t.

$$MPK = \frac{\partial Y}{\partial K} = \frac{\alpha A^{1-\alpha}}{\left(\frac{K}{L}\right)^{1-\alpha}} \qquad (3)$$

As equation (3) shows, a country with less K/L will have a higher marginal product, which in turn allows for a higher return on capital, i.e., the inflow of investment from rich countries to the latter.

(Stock & Watson, 1993) have proposed adding a seemingly superfluous non-trend variable to the cointegrated regression of interest to obtain a specification that falls within the exception to case 2 - the specification model could be rewritten to make the coefficients β1 and β2 a non-trend variable. If there are truly uncorrelated innovations in Y_t, Z_{1t} and Z_{2t} one need only adds to the cointegrated regression the changes in the random walk explainers.

The OLS estimators of β1 and β2 then asymptotically support our usual t- and F-statistics based on t-distributions and F-distributions. This estimation strategy for β1 and β2 is called dynamic OLS (DOLS).

Our model for this study is the income distribution function using data from the Ivory Coast. To capture the impact of such a factor in certain sectors of the Ivory Coast economy on economic performance, the model is designed.

$$Tcroi = f(Pibh, Dep, Popa, Corr, Demo, Socio) \qquad (4)$$

Where Tcroi = economic growth rate used as a proxy for economic performance; Pibh = GDP growth per capita; Dep = final consumption expenditure as a % of GDP; labor force aged 15-

64; Corr = corruption control; Demo = democratic accountability; and Socio = socioeconomic condition.

The role of institutional quality in Ivorian economic performance is captured in equation (4). For estimation, equation (4) is specified econometrically as follows:

$$Tcroi = \alpha + \beta_1 Pibh_t + \beta_2 Dep_t + \beta_3 Popa_t + \beta_4 Corr_t + \beta_5 Demo_t + \beta_6 Socio_t + \varepsilon_t \quad (5)$$

$\alpha =$ intercept; $\beta_1 - \beta_5 =$ coefficients; $\varepsilon =$ the term of error; $t =$ time to describe the time series.

3: Results and discussions

3.1: Estimation results

DOLS model estimation is first performed by estimating the OLS (ordinary least squares) model.

Table 5: *Ordinary least squares (OLS) estimation results*

Variables	Coefficients	standard deviation	t-Statistics	probability
PIBh	1,002***	0,009	108,855	0,000
Dep	-0,004	0,009	-0,441	0,662
Popa	-3,117***	0,403	-7,723	0,000
Corr	-0,140	0,090	-1,551	0,131
Demo	0,377***	0,120	3,119	0,004
Socio	0,023**	0,025	0,929	0,360
C	18,930***	2,570	7,363	0,000
R-square	0,998	F-statistic		2556,103
Adjusted R-square	0,997	Durbin-Watson Statistics		1,482
		Prob(F-statistic)		0,000

Source: Author's calculations

Note: **(**) Significance at the 1%, 5%, and 10% levels. Tcroi= economic performance; Popa= labor force aged 15-64; Dep= household consumption expenditure as % of GDP; Pibh= growth in GDP per capita; demo= democratic accountability; Corr= corruption control; socio= socioeconomic condition.*

The table 5 analysis reveals that the coefficient (18.93) of the error co-integration term is positive and significant at the 1% level, which does not guarantee an error correction mechanism, and therefore the non-existence of a long term relationship (co-integration) between variables. This means that any exogenous shock to one of the variables will not lead to convergence towards equilibrium. Or, alternatively, an exogenous shock to performance will not lead to a movement towards the initial equilibrium each year, so the equilibrium is unstable. From Table 5, it can be seen that the variables Pibh, Demo, and Socio display the expected sign. Strictly speaking, they have a positive and significant effect on Ivorian economic performance, except for the variables Popa, dep and Corr, which show an unexpected sign. However, both the R-squared (0.997) and the Durbin-Watson (1.482) are less than 2. This confirms the appropriateness of the DOLS model for the phenomenon under study.

Table 6: *Dynamic Ordinary Least Squares (DOLS) estimation results.*

Variables	Coefficients	Standard deviation	t-Statistics	p-value
PIBh	0,984***	0,011	87,462	0,000
Dep	-0,048**	0,0142	-3,391	0,011
Popa	-4,085***	0,469	-9,698	0,000
Corr	-0,255*	0,121	-2,107	0,073
Demo	0,768**	0,224	3,414	0,011
Socio	-0,180**	0,040	-4,414	0,003
C	28,363***	3,698	7,668	0,000
R-square	0,999			
Adjusted R-square	0,999			

Source: Author's calculations

Note: **(**) Significance at the 1%, 5%, and 10% levels. Tcroi= economic performance; Popa= labor force aged 15-64; Dep= household consumption expenditure as % of GDP; Pibh= growth in GDP per capita; demo= democratic accountability; Corr= corruption control; socio= socioeconomic condition.*

Table 6 analysis highlights the results of the dynamic ordinary least squares (DOLS) model estimation. These findings suggest that all variables are significant at the 1% level for most of them. Except for corruption and democracy, which are respectively significant at the 10% and 5% level. However, GDP and democracy show the expected sign, i.e., positive for Ivorian economic performance. Thus, a 1% increase in these variables improves Côte d'Ivoire's

economic performance by 0.98% and 0.76% respectively. But consumer spending, labor force and Socio-economic status show a surprising sign. Strictly speaking, these factors significantly deteriorate economic performance with a negative coefficient. As for corruption, its negative effect on economic performance is evident. This result is in line with the economic literature which confirms that corruption has perverse effects on economic performance.

3.2. Discussions

- *GDP per capita:* Theoretically, this factor is the amount of money that each individual receives in a given country. This factor positively and significantly affects the economic performance of Côte d'Ivoire. Indeed, GDP per capita growth is a measure that results from the change in gross domestic product divided by the size of the nation's total population. In essence, it refers to the amount of money that each individual in the country receives per year. This indicator allows for a better determination of the standard of living in relation to GDP. Thus, a positive and significant sign for this economic factor reveals that the amount (0.98%) that each individual in Côte d'Ivoire receives is very insignificant and has therefore not contributed to raising the standard of living of the population of this country.

This indicator has only deteriorated over the years with an average of -0.05% from 1984 to 2019. That explains the poor redistribution of income, meaning that the distribution of the fruits of economic performance is not equitable among the different strata of society. Obviously, inequalities of all kinds are constantly increasing in Côte d'Ivoire. This finding accounts for the conditional convergence effect whereby countries with initially low real GDP per capita will tend to grow relatively faster than richer countries (Barro & Salai-Martin, 1995); (Abbe, 2019). Other things being equal, it may be noted that countries whose wealth increases over time, notably Côte d'Ivoire, are more likely to increase their growth inclusiveness.

- *Household final consumption expenditure* has a negative and significant impact on economic performance in Côte d'Ivoire. In fact, household consumption is generally considered to be the ultimate goal of economic activity, and the level of consumption per individual is often seen as a central measure of an economy’s productive success. Consequently, consumption is one of the main determinants of individual well-being at the global level. Therefore, consumption constitutes one of the main determinants of the well-being of individuals at both the national and international global levels (Bonsu & Muzindutsi, 2017). However, this factor which is

supposed to improve economic performance in Côte d'Ivoire, unfortunately deteriorates it. It is commonly recognized that the economic growth experienced by developing countries is mainly consumption driven rather than production and investment driven. This could be explained by the fact that the share of (private) consumption in the gross domestic product (GDP) of these economies is generally between 70 and 75 percent. Because of its dominant share in GDP, consumer spending is expected to contribute the most to real GDP growth.

For economists, identifying whether household consumption expenditures are a consequence of economic activity or whether they are responsible for economic performance, is a key element in the perception of national income around the world. The positions of other economists are based on their critiques of these two views. (Modigliani, 1990), (Ando, 1963), (Friedman, 2008) criticized the simple Keynesian theory of consumption and proposed their own theories while several growth theorists reveal that saving is the main driver of economic growth. Indeed, output is the main concern of any macroeconomic policy and the government needs steering mechanisms for this. In this study, final consumption expenditure is broken down into household consumption expenditure and government consumption expenditure. This study is going to examine the long-run co-integration and causality relationship between consumption expenditure and economic growth in Bangladesh. Thus (Amin, 2011) in a study on Bangladesh shows that consumption is the fruit of growth rather than its cause.

- The ***size of the working population aged 15 to 64*** negatively affects Ivorian economic performance. Indeed, the question of assessing the effects of population growth on the pace and dynamics of economic growth is among the oldest topics in the literature. Over the years, various opinions have emerged concerning the effects of demographic change on economic growth and development. Broadly speaking, this debate is based on three schools of thought: pessimists, optimists and neutrals. The pessimists (Ehrlich & Lui, 1997); (Ehrlich & Ehrlich, 2009) view population change as having a negative impact on economic growth and development. On the other hand, optimists (Simon, 1996) claim that the number of inhabitants causes technological changes that lead to positive growth in the economy. Yet, some research (e.g. Easterly & Levine, 2001, 2002) finds no significant effects of population change on economic growth, resulting in "demographic neutralism." On the other hand, (Young, 2019) empirically analyzed the impact of labor force dynamics on economic growth in Nigeria over the period 1970-2015. The conclusion of this study shows that labor force dynamics in Nigeria has a significant and positive impact on growth in the short and long run.

- ***Democratic accountability*** has a positive and significant effect on Ivorian economic performance. Indeed, with a score of 2.6 over the entire period, democratic accountability measures how the government interacts with its people and its ability to install a democratic society. Democracy, which is a generally accepted phenomenon, is a factor in protecting citizens and guaranteeing their basic human rights. Several research and academic studies have been devoted to the link between economic performance and democracy in recent decades. They can be divided into two parts: the first part examines the impact of democracy on gross domestic product (GDP). The second part of the study examines the effect of economic growth on democracy. With respect to the first line of thought, advocates of this stream support their arguments with the important question of whether democracy actually helps to promote economic development or not. In fact, there have been several controversial findings on the effects of democracy on economic performance.

In a recent analysis by (Salahodjaev, 2015), he set out to examine the impact of democracy on economic growth in 93 nations during the period from 1970 to 2013. Among the findings is that democracy is likely to have a positive impact on economic growth, and that the link between democracy and economic growth appears to vary depending on the rate of cognitive ability of each nation.

Democracy may also have a beneficial impact on economic growth through its role in limiting and controlling the power of kleptocratic dictators, while reducing social conflict or unrest, which may prevent politically powerful groups from monopolizing the lucrative economic opportunities available (Acemoglu et al., 2013). A study on the Middle East region by (Baklouti & Boujelbene, 2016) shows empirically that there is a bidirectional causal relationship between democracy and economic growth.

-***Socioeconomic conditions*** show a negative sign in the estimation with economic performance, which is an unexpected result. This result does not systematically reflect a negative effect of Socio-economic conditions on Ivorian economic performance. It reveals that improvements in socioeconomic conditions do not translate into improved economic performance in the region. In particular, measures taken to improve the business climate have not been effective in maintaining the confidence of economic operators and financial institutions and in stimulating supply and demand in the financial sector. In general, foreign investors perceive reforms in

African countries as transitory. They only change their behavior when they believe that the reforms will be sustainable.

This assessment focuses on the Socio-economic constraints in society that could limit the government's ability to act or lead to social dissatisfaction. The risk score assigned is the sum of three sub-components, each with a maximum score of four points and a minimum score of 0 points. A score of 4 points is very low risk and a score of 0 points is very high risk, Employment, Consumer Confidence and Poverty Subcomponents.

- *Corruption* has a negative and significant effect on economic performance. This result is consistent with the economic literature that suggests that corruption has perverse effects on economic performance. Indeed, many studies have examined the relationship between corruption and economic growth. However, no consensus seems to exist on the mechanisms by which corruption should reduce growth. Our analysis, in line with the work of (Mohamed, 2013) suggests that corruption has a negative effect on economic performance that is manifested mainly through its impact on human capital and political instability. At the same time, in line with the work of (Gründler & Potrafke, 2019) who suggest that corruption has a particularly strong effect on economic growth in autocratic countries and it impacts growth by reducing foreign direct investment and increasing inflation. In contrast, (Bitterhout & Simo-Kengne, 2020) provide evidence of a positive effect of the corruption index on economic performance by controlling for heterogeneity and endogeneity in the GMM model specification.

The scholars also examined the corruption-growth relationship across continents and regions. On the African continent, corruption was negatively correlated with economic growth (Agostino et al. 2016b). Corruption was hardly associated with economic growth in Asia. But in South Korea, corruption and economic growth were positively correlated (Huang, 2016). On the other hand, in Europe, corruption was negatively (positively) correlated with economic growth in established (new) EU member countries (Tsanana et al., 2016).

CONCLUSION AND RECOMMENDATIONS

The final objective of this study was to assess the role of institutional quality in economic performance in Côte d'Ivoire. In order to achieve this, Dynamic Ordinary Least Squares (DOLS) model was applied over the period 1985-2019. The study found that the quality of institutions, including corruption and socio-economic conditions, do not promote economic

performance in Côte d'Ivoire. However, democracy significantly and positively affects performance. Ivorian authorities should therefore implement a series of measures to strengthen the dynamics of improving the business climate combined with a bold fight against corruption in all its forms. In addition, Ivorian authorities should work to ensure political alternation, pursue the decentralization of the administration and ensure that the population has full access to public services, a guarantee of social cohesion and enthusiasm of the Ivorian population for the socio-economic development policies of Côte d'Ivoire, which will thus be moving resolutely towards achieving its critical mass. In particular, this study recommends

The Ivorian authorities and generally the political decision-makers of West African countries that are pursuing programs to improve their public management should pay particular attention to economic development indicators and the institutional factors that influence them. However, the article focuses on a rather short period of analysis due to lack of data, thus limiting itself to the period as described in the introduction. In addition, our analysis was unable to determine the economic performance threshold beyond which institutional quality changes regime. A study that will explore a threshold regression, would be very interesting.

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