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Effects of the Quality of Public Policies and Institutions on Labour Productivity in ECOWAS

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Abstract

Like East and Central African sub-regions, West Africa performs modestly both in terms of productivity and governance. Low labour productivity in West Africa as well as the resulting lack of competitiveness, poverty and insecurity, increases the probability for this sub-region to not achieve the SDGs by 2030. It is therefore necessary to find ways to improve this. This study is part of this perspective. Beyond the traditional determinants of labour productivity, such as, physical capital stock, human capital and technical progress, it examines whether the quality of public policies and the institutional environment are likely to explain the performances recorded in terms of productivity in ECOWAS countries. Relying upon a neoclassical framework of reference, an econometric analysis is used for this purpose. The results confirm that improvement in the quality of public policies and institutions are overall associated with higher levels of productivity in these countries. However, some specificity is observed at the sectorial levels. Furthermore, the econometric analysis highlights a positive effect of investment and human capital on this productivity. The study recommends that the ECOWAS member states should improve their institutional quality and public policies. This could enable them to derive greater benefit from the implementation of the African Continental Free Trade Area agreement (ACFTA).

Keywords

Public policy • Productivity • Institutional quality • ECOWAS • African continental free trade area agreement

Introduction

The ability of countries to generate strong and inclusive growth depends, among other things, on the productive capacity of their labour force. Increasing labour productivity lowers production costs, increases the competitiveness of economies and improves people's welfare by raising incomes and giving initially excluded groups easier access to goods whose prices have fallen relatively. Many studies rightly show that increasing labour productivity in developing countries, particularly in agriculture, can substantially reduce poverty [1]. Others point to the extent to which sectorial changes in labour productivity reduce income inequalities between workers in the primary sector and those in other sectors [2,3]. Some studies also highlight the contribution of productivity growth in improving the competitiveness of economies in international markets [4].

On the African continent, the performance of countries in terms of labour productivity appears quite heterogeneous. While countries in the West, East and Central African sub-regions perform modestly, those in North and Southern Africa perform better. For example, in 2016, labour productivities were 11,408.8 and 10,577.7 US dollars per worker per year in North and Southern Africa respectively, while they were much lower in East, Central and West Africa, at 1,512.8; 5,019.8 and 5,355.9 US dollars per worker per year respectively.

Given the crucial role of productivity growth in contributing to the achievement of the Sustainable Development Goals (SDGs) and those of the African Union (AU) Agenda 2063, development partners and African states are constantly working together to find a way to improve productivity, particularly in the agricultural sector, which generally employs the highest proportions of the working poor in developing countries [5]. In most of their interventions, the focus is mainly on traditional inputs (such as physical capital, human capital, technology, etc.) whose deficits have often been analysed as the main causes of the low levels of productivity achieved by the states [5]. However, it has been highlighted in recent years that without adequate institutions and good governance, the impact of such interventions might be modest (Figure 1).

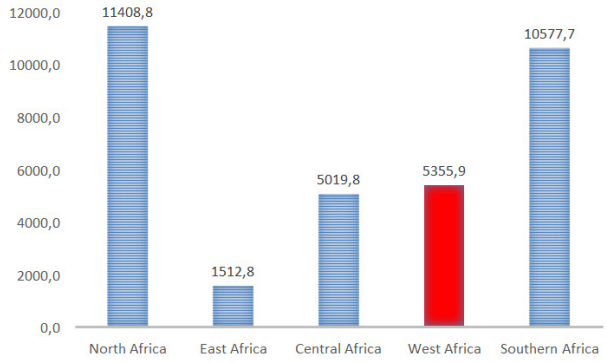

Figure 1. Comparison of regional labour productivities in Africa. (Authors' calculations based on World Bank data (World Development Indicators, 2018) and International Labor Organization (ILO) data (2018)).

This study attempts to examine whether, beyond the factors traditionally mentioned in the literature, the quality of public policies and institutions contributes playing a role in explaining the performance of countries in the West African sub-region concerning labour productivity.

Raising the level of labour productivity in Economic Community of West African States (ECOWAS) is necessary both to reduce the high proportions of vulnerable employment and high poverty rates in this part of the African continent and to enable the West African sub-region to improve its competitiveness in order to take full advantage of the forthcoming implementation of the African Continental Free Trade Area (ACFTA) agreements [6].

Many studies have pointed to the key role of institutions, including the regulatory capacity of government, in explaining the proper functioning of markets and in generating positive incentives for producer behaviour, particularly in the rural sphere [7-9]. Other work has highlighted the positive effect of the ability of the judiciary to enforce contracts, resolve

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commercial disputes or secure property rights (over assets such as land) on productive investment and output [10]. Several other studies have similarly found the influence of state policies, including its ability to create a stable macroeconomic environment, on attracting investment and its effects on economic growth [11-13]. But few studies, to our knowledge, have examined the link between the quality of public policies and institutions and labour productivity, particularly in the West African sub-region.

This study is in line with this perspective. Using the World Bank's CPIA indicators for the panel of 15 countries of the ECOWAS over the period 2005-2017, it examines whether the efforts made by states to improve the quality of public policies and institutions in the sub-region help explain the productivity levels they record. To this end, the relationship between the quality of public policies and institutions and productivity will be examined at both the aggregate and sectoral levels. The rest of the paper is organised as follows. The second section is devoted to a literature review. This is followed by a presentation of the methodology used for the data analysis in section 3. The fourth section is devoted to stylized facts. The results of the econometric estimations and related discussions are presented in Section 5, and Section 6 concludes and provides some recommendations.

Literature review

Finding ways to increase labour productivity is a major concern in economics as it is important for fostering economic growth, improving people's living conditions, and the profitability and competitiveness of firms and countries [4,14-16].

In the literature, several factors have been identified as likely to contribute to its upward trend.

One of them concerns human capital. Becker argues that investments in human capital, i.e., in education, health, nutrition, affect people by equipping them with skills and cognitive abilities that contribute to labour productivity growth [17]. This theory has given rise to several attempts at empirical verification. In this regard, Olayemi finds on the basis of Nigerian data, that public expenditure on education has a positive and highly significant effect on the level and growth of labour productivity in that country [18]. Similar conclusions are in the same country [19]. Oketch also concludes that the secrets of labour productivity growth on the African continent seem to lie in investments in physical and human capital [20]. The results of Fleisher also illustrate the existence in China of a strong and positive correlation between the average length of schooling and the labour productivity of employees [21]. Indeed, the most educated employees, i.e., with a level of education above the average length of schooling, have a much higher marginal contribution and wages than those who are less educated or below this average. As a key element in the formation of human capital, some authors have also examined the contribution of investments in health to the upward influence of labour productivity. In this regard, that people's use of health services is associated with improved labour productivity in the agricultural sector in Burkina Faso [22].

Other studies have also highlighted the influence of investment in capital, research and development and technology on labour productivity shows that capital investment reduces the cost of entry of Ghanaian and Tanzanian small firms into export markets and contributes to a significant increase in their productivity [23,24]. That investment in research and development is an important source of productivity growth in the UK [25]. Pieri also conclude that investment in Information and Communication Technology (ICT) and research and development are important determinants of productivity growth in industrialised economies between 1973 and 2007 [26].

In recent years, researchers have also realised that the institutional environment influences the economic performance of countries beyond traditional factors such as the stock of human or physical capital. One of the works that have explained such an effect is that of Acemoglu which builds on the effect of institutions on growth and development [27]. This study allowed these authors to show that differences in economic institutions are the fundamental causes of differences in the level of development of countries. This causal relationship is explained by the fact that levels of labour or capital productivity result from economic structures and resource allocation. Furthermore, the work of Hall and Jones suggests that disparities in productivity and capital accumulation can be explained by differences in government institutions and policies, including social infrastructure [28]. Again, economic institutions and policies may also be an obstacle to job creation, which could boost labour productivity. The socio-political context and the ability of a country's authorities to initiate and implement good economic policies can be very conducive to increasing private sector productivity [29-31]. These policies include, among others, trade, fiscal, industrial, environmental, competition policy, as well as privatization, intellectual property, regulatory and foreign ownership policies [32,33]. These results thus highlight the role of public policy interventions and orientations in increasing labour productivity. They lead us to question the existence of plausible links between governance and the performance of countries in the West African sub-region, for which little work is available, in terms of labour productivity.

Methodology

Theoretical framework

The neoclassical framework of reference is used as the theoretical basis for this study. The examination of the effect of the quality of public policies and institutions on labour productivity is carried out using an augmented neoclassical production function. The traditional neoclassical production function models value added as a function of the stock of physical capital, the number of workers involved in the production process and the stock of human capital available in the economy. Formally, it is expressed as:

$$Y = (\mathrm{K}, \mathrm{L}, \mathrm{H}) \quad (1)$$

Where Y is value added, A is technical progress, K is physical capital stock, L is labour and H is human capital stock.

Assuming decreasing factor returns and constant returns to scale, it is possible to write:

$$\frac{Y}{L} = AF\left(\frac{K}{L}, \frac{H}{L}\right) (2)$$

Equation (2) suggests that labour productivity can be expressed as a function of technical progress, the per capita stock of physical capital and human capital.

Estimation strategy

Considering a Cobb-Douglas function for the previous production function and taking the logarithm of the latter, the following econometric specification is given for the panel of ECOWAS countries:

$$log\left(\frac{Y}{L}\right)_{it} = \alpha_0 + \alpha_1 log\left(\frac{K}{L}\right)_{it} + \alpha_2 log\left(\frac{H}{L}\right)_{it} + \varepsilon_{it} (3)$$

With $i \in$ [1, 15] the sample of 15 ECOWAS countries and [2005; 2017], the period covered by the analysis.

As a growing body of research points to the influence of the institutional environment in explaining countries' economic performance, the econometric model is augmented to take into account the potential influence of governance performance in ECOWAS countries in explaining their productivity levels [34,35].

On this basis, the previous econometric specification (3) becomes:

$$log\left(\frac{Y}{L}\right)_{it} = \alpha_0 + \alpha_1 log\left(\frac{K}{L}\right)_{it} + \alpha_2 log\left(\frac{H}{L}\right)_{it} + \alpha_3 \left(Qualité\ PP \text{ and } I\right)_{it} + u_i + v_{it} (4)$$

Where $\frac{Y}{L}$ is labour productivity, $\frac{K}{L}$ is capital intensity, $\frac{H}{L}$ is the level of human capital, and (Quality I and PP), the ECOWAS member states' performances regarding the quality of public policies and institutions.

Since there are, at least in theory, potential sources of endogeneity in the empirical relationship to be estimated, an econometric estimation

method that mitigates the potential endogeneity bias they may generate is employed.

It is indeed possible that some countries' specific characteristics (such as culture or traditional social norms) explain both their economic performance and the progress made in improving the quality of public policies and institutions, or that their economic performance (in terms of productivity in particular) influences the progress made in improving the quality of public policies and institutions and vice versa (reverse causality).

Therefore, an econometric model (i.e., a fixed-effect model) that allows controlling for the country-specific effects likely to be correlated with the explanatory variables of interest is employed to take account of the first potential source of endogeneity.

The potential problem of reverse causality between the explanatory variables and productivity is also corrected by lagging the former variables by one period relative to the dependent variable.

Thus, the model we finally estimate is:

$$log\left(\frac{Y}{L}\right)_{it} = \alpha_0 + \alpha_1 log\left(\frac{K}{L}\right)_{it-1} + \alpha_2 log\left(\frac{H}{L}\right)_{it-1} + \alpha_3 \left(qualité\ PP \text{ and } I\right)_{it-1} + u_i + v_{it} (5)$$

Since the progress made by a country in the sub-region (especially in technology) is likely to influence its productivity, as well as those of other countries through diffusion effects, it may be quite inappropriate to consider that there are no links between the productivity levels achieved by countries in the West African sub-region. Neglecting this situation could undermine the efficiency of the estimators of interest. This issue is solved using the approach to calculate the standard deviations of the estimators [19,36].

In addition, as the individual dimension of the panel (N=15 countries) is larger than the time dimension (T=13), the stationarity test step is not conducted [7].

Data

Four main sources of data collection are used for this research: ECOWAS data (on multilateral surveillance), World Bank data (on world development indicators), International Labour Organisation data (on employment) and UNDP data (used for the calculation of the HDI). These databases will allow calculating the indicators used in the study. These are presented below:

Labour productivity: As suggested by the neoclassical framework presented in the section 3, the measure of labour productivity employed in this research is the ratio of total or sectoral value added to the corresponding total or sectoral level of employment. This measure is widely used in the literature [37,38]. It can potentially be influenced in the right direction by the right public policies (good tax policy, good labour market policy, good education policy, good health policy, etc.)

Quality of public policies and institutions: The availability of reliable data on the quality of public policies and institutions is an important constraint in identifying a valid association between public policies and institutions and outcomes of interest - economic growth, productivity growth, foreign direct investment, etc [39]. The quality of public policies and institutions is measured through some dimensions of the CPIA, whose indicator definitions are similar to the World Governance Indicators, and to those of the doing business [40] (Table 1). These are:

Table 1. Descriptive table of variables. (Authors' calculations based on ECOWAS (2018), ILO (2018), UNDP (2017) and the World Bank (World Development Indicators, 2017) data).

Indicator	Observations	Mean	Sd. error
Primary sector productivity (log)	195	7.019	0.598
Secondary sector productivity (log)	195	8.281	1.003
Tertiary sector productivity (log)	195	7.879	0.975
Overall productivity (log)	195	7.571	0.705
Business regulatory environment	191	3.274	0.443
Property rights and rule-based governance	191	2.926	0.582
Transparency, accountability and corruption in the public sector	191	2.992	0.673
Debt policy	191	3.374	0.841
Investissement per capita (log)	195	6.201	0.893
Average level of education	195	3.473	1.563

The business regulatory environment dimension, which assesses the extent to which the legal, regulatory and policy environments promote or hinder private investment, create jobs and stimulate business productivity. The regulatory environment influences the choices investors and entrepreneurs make in locating, operating and expanding their businesses. Their ability to access credit, buy property, collaborate in good understanding with custom services, pay taxes and conduct other everyday activities efficiently depends on the appropriate regulation of business environment. Onerous regulations can thwart their activities.

The property rights and rules-based governance dimension assesses the extent to which private economic activity is facilitated by an effective legal system and a rules-based governance structure in which property rights and contracts are respected. The existence in countries of efficient property rights security systems can help facilitate people's access to credit, increase people's incentives to invest and their work effort.

The transparency, accountability and corruption in the public sector dimension, which assesses the extent to which the executive can be held accountable for its use of funds and the results of its actions by the electorate and the legislature and judiciary, and the extent to which officials in the executive are held accountable for administrative decisions, the use of resources and the results achieved. Efforts to improve this dimension of the CPIA indicator can result in greater social peace and stability, which is conducive to investment and thus stimulates productivity growth.

The debt policy dimension, which assesses the extent to which the increasing debt burden poses risks of unsustainable public debt in the long run. Unsustainability of debt is likely to jeopardise people's future, especially when it forces governments to devote the bulk of budget revenues to the payment of debt service at the expense of investments in key sectors such as health, education, infrastructures, etc. that improve labour efficiency and promote progress. Also, an unsustainable level of debt is likely to engender reluctance to investments due to the anticipation of tax increases for debt repayment.

Control variables (physical capital per capita, human capital): As suggested by the theoretical model in section 3, the effects of physical capital and human capital on labour productivity are controlled. The data on physical capital are extracted from the 2018 ECOWAS Multilateral Surveillance Database. More precisely, this variable is approximated by private investment (or private gross fixed capital formation) [41,42]. Investment per capita is then obtained by relating private gross fixed capital formation to the corresponding volume of employment extracted from the 2018 ILO database.

As human capital is an intangible asset, its measurement remains particularly complex. However, it is approached by the average level of education of the populations in the countries of the sub-region. Overall, a marginal increase in each of these variables is expected to have a positive effect on aggregate and sectorial productivity growth [43,44].

Stylized facts

Labour productivity: Generally speaking, the economies of the ECOWAS show poor performance in terms of labour productivity. Cabo Verde, Nigeria and, to a lesser extent, Côte d'Ivoire, Senegal and Ghana are the ECOWAS countries with the best performance between 2005 and 2017, with productivity levels of US$ 8,059.44; 7,727.71; 3,567.47; 3,087.99 and 2,877.49 per worker per year respectively (Figure 2).

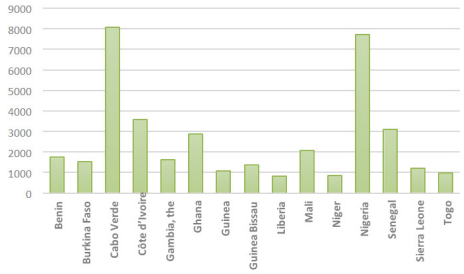

Figure 2. Average labour productivity in ECOWAS countries over the period 2005-2017. (Authors' calculations based on ECOWAS data and ILO data (2018)).

Studies on the causes of these low productivity levels observed in the economies of the sub region show that the lack of skills in the labour force, the lack of infrastructure (energy, transport, etc.), the narrowness of the financial system and limited access to credit (or more generally the difficulty of these countries to improve the business environment) are all constraints to raising productivity in the subregion (Economic Commission for Africa, 2017; 2019).

At the sectoral level, ECOWAS countries also perform poorly in terms of labour productivity in the primary sector. Nigeria is the country in the region with the highest performance regarding this indicator over the period 2005-2017 (an average of US$ 4,748.2 per worker per year). Côte d'Ivoire comes after Nigeria as the second country in the sub-region with the highest labour productivity in the primary sector over the same period with an average of US$2,070.4 per worker per year. With the exception of these two countries, the other countries in the subregion had labour productivities below US$2,000 per worker per year between 2005 and 2017 (Figure 3).

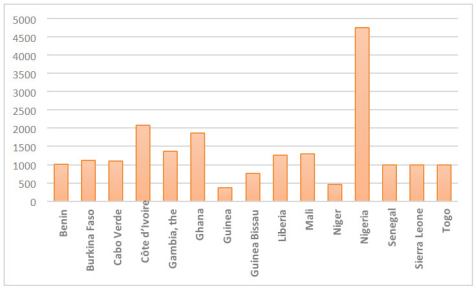

Figure 3. Average labour productivity in the primary sector in ECOWAS countries over the period 2005-2017. (Authors' calculations based on ECOWAS data and ILO data (2018)).

In the secondary sector, Cabo Verde, Côte d'Ivoire and Nigeria are the best performing economies in the West Africa sub-region in terms of labour productivity, with average productivities of US$24,373.84; US$16,667.7 and US$18,735.6 per worker per year respectively (Figure 4).

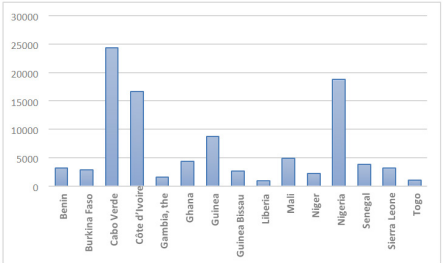

Figure 4. Average labour productivity in the secondary sector in ECOWAS countries over the period 2005-2017. (Authors' calculations based on ECOWAS data and ILO data (2018)).

With the exception of these countries, all other countries have average labour productivities of less than US$10,000 per worker per year. Liberia emerges as the country in the sub-region with the lowest labour productivity in the secondary sector (less than US$1,000 per worker per year) over the period 2005-2017.

In the tertiary sector, Cabo Verde stands out from the rest of the economies in the sub-region with an average labour productivity of US$24,048.9 over the period 2005-2017 (Figure 5). Apart from Cabo Verde, all other economies have average labour productivities of less than USD 8,000. The high productivity recorded by this country in this sector is linked to the dynamism of the tourism sector, which is the main driver of its economy.

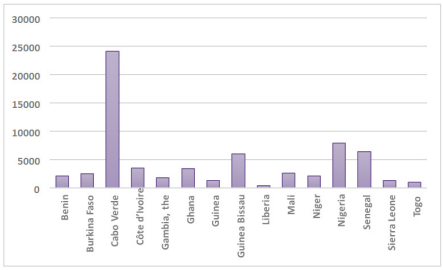

Figure 5. Average labour productivity in the service sector in ECOWAS countries over the period 2005-2017. (Authors' calculations based on ECOWAS data and ILO data (2018)).

In 2014, for example, the ratio of international tourists per capita was estimated at 1.04 in Cabo Verde, suggesting that the country receives more international tourists each year than the total population of the country (Economic Commission for Africa, 2016).

Performance of ECOWAS countries in terms of the quality of public policies and institutions: Overall, the countries of the sub-region perform averagely on the dimensions of the CPIA indicator selected for this study. Indeed, Ghana is the ECOWAS country that obtained the highest average score over the period 2005-2017 in terms of improving the "business regulatory environment" (with a score of 4.11, above the sub-regional average of 3.27) when, in contrast, Guinea (2.84), Guinea Bissau (2.53), Sierra Leone (2.88) and Togo (2.96) emerged as the ECOWAS countries with the lowest relative average performance on this indicator at the sub-regional level (Figure 6).

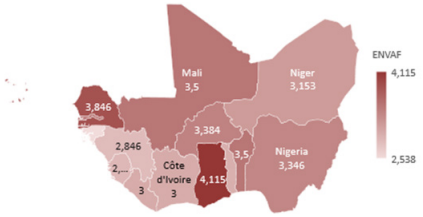

Figure 6. Average performance of ECOWAS countries in the business regulatory environment indicator. (Authors' calculations based on World Bank data (World) Development Indicators, 2017)).

However, Ghana's performance has been eroding since 2013. With regard to "property rights and rules-based governance", Cabo Verde stands out from other countries in the sub-region with a score of 4 compared to a sub-regional average of 2.96 over the period 2005-2017 (Figure 7).

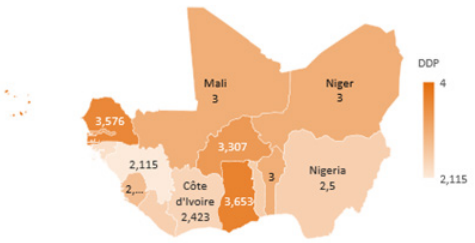

Figure 7. Average performances of ECOWAS countries in the property rights and rule-based governance indicator.(Authors' calculations based on World Bank (World Development Indicators, 2017)).

The same trend is observed for the indicator on "transparency, accountability and corruption in the public sector" (Figure 8). For this indicator too, Cabo Verde achieves the best performance in the sub-region with a score of 4.42 (Against a sub-regional average of 2.99).

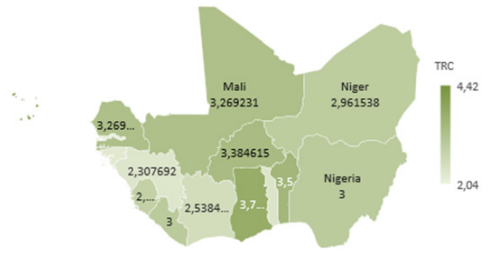

Figure 8. Average performances of ECOWAS countries in the transparen--cy, accountability and corruption in the public sector indicator. (Authors' calcu--lation based on World Bank data (World Development Indicators, 2017)).

It remains, however, along with the indicator on "property rights and rule-based governance", the one in which many countries in the sub-region (Côte d'Ivoire, Gambia, Guinea, Guinea Bissau, Niger, Sierra Leone and Togo) performed poorly, although Côte d'Ivoire's performance improved somewhat from 2011.

With regard to "debt policy", Côte d'Ivoire (with a score of 2.46), Gambia (with a score of 2.69), Guinea (with a score of 2.65), Guinea Bissau (with a score of 2.08) and Togo (with a score of 2.23) are the countries in the sub-region that obtained the lowest average performance over the period 2005-2017 (Figure 9).

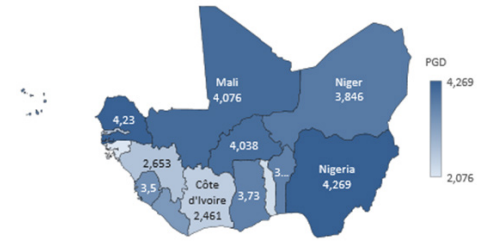

Figure 9. Average performances of ECOWAS countries in the debt policy indicat--or (Authors' calculations based on World Bank data (World Development Indic--ators 2017)).

However, it is worth noting here again that Côte d'Ivoire's performance on this indicator has gradually improved since 2005 (with a score of 3.5 in 2017 compared to 1.5 in 2005), while countries such as Cabo Verde (with a score of 2.5 in 2017 compared to 4.0 in 2005) and the Gambia (with a score of 2.5 in 2017 compared to 3.0 in 2008), which initially performed much better, have regressed. The performance of other countries in the sub-region on this dimension of the indicator has generally stagnated.

Results and Discussion

Econometric model estimations

In this section, the influence of the quality of public policies and institutions on labour productivity is examined for the ECOWAS sub-region by estimating the econometric model presented. More specifically, the effects of the four variables described in section 4 on labour productivity in ECOWAS are assessed.

Effect of the quality of public policies and institutions on labour productivity in the primary sector in ECOWAS: The results of the econometric analysis reveal that West Africa countries' performances improvement regarding the "business regulatory environment" or "property rights and rules-based governance" contributes to higher productivity in the primary sector (Table 2). Specifically, a marginal improvement in these performances (ceteris paribus) translates into respective labour productivity accelerations of 17.7% and 11.9% in this sector.

However, improvement in ECOWAS member States' performances of in terms of "transparency, accountability and corruption in the public sector" does not result in an increase in productivity in the primary sector. In the same vein, the estimations results do not allow to conclude that a better performance in "debt policy" translates into increased productivity in the primary sector.

Furthermore, as suggested by numerous empirical studies, a marginal increase in the level of private investment per worker is associated with an improvement of the primary sector productivity of about 0.24% [20,45].

Moreover, a rise in the average level of education in the countries of the sub-region leads to a fall in labour productivity in the primary sector. This counter-intuitive result could be explained by the fact that the improvement of the level of education in the sub-region is accompanied by the mobility of the better educated people, generally younger and vigorous from the primary sector to the secondary and tertiary sectors, where productivity is relatively higher. This mobility contributes to inhibit the rejuvenation of the labour force in the primary sector (dominated by agriculture), which is poorly mechanised and whose production remains highly dependent on the quantity of labour available. So, the negative relationship obtained between education and labour productivity in the primary sector could be explained by the lack of rejuvenation of the labour force in the primary sector due to the mobility of youth to other sectors which creates a shortfall in terms of labour to support the production of the primary sector.

Effect of the quality of public policies and institutions on labour productivity in the secondary sector in ECOWAS: The results suggest that a rise in ECOWAS member States' performances regarding "transparency, accountability and corruption in the public sector" contributes increasing labour productivity in the secondary sector (Table 3).

A marginal increase in this indicator is associated with a labour productivity growth in the secondary sector of around 11.6%. Beyond this variable, no other dimension of the CPIA indicator, analysed in this study, has an influence on labour productivity in the secondary sector.

Finally, the rise in the level of education in the countries of the sub-region contributes to raising labour productivity in the secondary sector. A marginal increase in the average level of education in the ECOWAS zone leads whatever the model considered, to an increase of about 13.0% in labour productivity in the secondary sector. This seems to corroborate the arguments previously put forward to explain the inverse relationship observed between the level of education and labour productivity in the primary sector in the sub-region.

Effect of the quality of public policies and institutions on labour productivity in the tertiary sector in ECOWAS: Only improvement in the performances concerning "debt policy" was found have an impact on the rise in labour productivity in the tertiary sector in the ECOWAS sub-region. A marginal increase of ECOWAS' performances for this institutional indicator is associated with a 5.9% increase in productivity in the tertiary sector. Good debt management policy is associated with good predictability of taxation which is a key element of the business environment considered by investors. In this regard, it can encourage investment and therefore stimulate productivity (Table 4).

Beyond this variable, no other variable was found to influence labour productivity in this sector.

Effect of the quality of public policies and institutions on overall labour productivity in ECOWAS: The results suggest that all the variables examined have an influence on overall labour productivity. More clearly, an improvement in the performances of ECOWAS countries with regard to the "business regulatory environment" is associated with an increase in labour productivity of 9.2%.

Similarly, better performances on "property rights and rules-based governance", "transparency, accountability, corruption in the public sector" and "debt policy" lead to increases in overall labour productivity of 3.3%, 5.7% and 6.3% respectively. Furthermore, the results show that an increase in gross private fixed capital formation per worker has a positive effect on overall labour productivity in the sub-region. More concretely, a 1% increase in investment per worker leads to an 11% increase in labour productivity (Tables 5 and 6).

Table 2. Quality of public institutions and policies and labour productivity in the primary sector in ECOWAS.

Indicator	Model 1: Business regulatory environment	Model 2: Property rights and rule-based governance	Model 3: Transparency, accountability, corruption in the pub. sect.	Model 4: Debt policy
$\log\left(\frac{Private\ GFCF}{L}\right)_{t-1}$	0.235***	0.232***	0.246***	0.246***
	-0.026	-0.028	-0.037	-0.036
$(\text{Average education level})_{t-1}$	-0.024***	-0.045***	-0.020***	-0.023***
	-0.005	-0.012	-0.005	-0.007
$(\text{Quality I \& PP})_{t-1}$	0.177***	0.119***	0.015	0.013
	-0.025	-0.027	-0.029	-0.022
Observations	176	176	176	176
R sq (within)	0,40	0.39	0.35	0.35
Fisher stat	41.8	43.38	5.99	67.46
Note: ***, **, * respectively significant at 1%, 5% and 10%.				

Table 3. Quality of public institutions and policies and labour productivity in the secondary sector in ECOWAS.

Indicator	Model 1: Business regulatory environment	Model 2: Property rights and rules-based governance	Model 3: Transparency, accountability, corruption in the pub. sect.	Model 4: Debt policy
$\log\left(\frac{Private\ GFCF}{L}\right)_{t-1}$	-0.01	-0.006	-0.03	-0.012
	-0.029	-0.03	-0.037	-0.03
$(\text{Average education level})_{t-1}$	0.137***	0.139***	0.131***	0.134***
	-0.03	-0.037	-0.025	-0.032
$(\text{Quality I \& PP})_{t-1}$	0.008	-0.038	0.116**	0.014
	-0.039	-0.061	-0.049	-0.014
Observations	176	176	176	176
R carre (within)	0.03	0.03	0.03	0.03
Fisher stat	7.23	6.35	10.04	18.79
Note: ***, **, * respectively significant at 1%, 5% and 10%.				

Table 4. Quality of public institutions and policies and labour productivity in the service sector in ECOWAS.

Indicator	Model 1: Business regulatory environment	Model 2: Property rights and rules-based governance	Model 3: Transparency, accountability, corruption in the pub. sect.	Model 4: Debt policy
$\log\left(\frac{Private\ GFCF}{L}\right)_{t-1}$	-0.026	-0.018	-0.037	-0.039
	-0.017	-0.013	-0.025	-0.022
$(\text{Average education level})_{t-1}$	0.004	0.024	0.001	-0.011
	-0.021	-0.034	-0.02	-0.017
$(\text{Quality I \& PP})_{t-1}$	-0.023	-0.053	0.048	0.059**
	-0.042	-0.047	-0.044	-0.021
Observations	176	176	176	176
R carre (within)	0.03	0.02	0.02	0.05
Fisher stat	4.19	4.86	3.46	5.99
Note: ***, **, * respectively significant at 1%, 5% and 10%.				

Finally, the relationship between the average level of education of the population in ECOWAS countries and overall labour productivity appears positive, reflecting the idea that educational efforts in this sub-region lead to an acceleration of overall labour productivity.

Conclusion

Using documentary, statistical and econometric analyses on panel data, this research attempted to assess the effect of the quality of public policies and institutions on productivity in ECOWAS states. While the study shows that the improvement in the performance of West African countries in all the dimensions of the CPIA indicator considered was found to be relevant for increasing overall labour productivity in the region, specificities are recorded in terms of the influence of these variables on productivity at the sectoral levels.

While increased efforts to improve "business regulatory environment" as well as "property rights and rules-based governance" are relevant to raising labour productivity in the primary sector, less evidence has been found concerning "transparency, accountability and corruption in the public sector" and "debt policy". Similarly, only improvements in the performances of these states in the areas of "transparency, accountability and corruption in the public sector" and "debt policy" were found to be relevant for increasing labour productivity in the secondary and tertiary sectors respectively.

Beyond the strict performance of states in terms of the quality of public policies and institutions, the results show that an increase in private investment per worker and the rise in the level of education of the population in the sub-region contribute respectively to increasing labour productivity in the primary and secondary sectors. Counter-intuitively, however, it is found that the rise in the level of education of the population in the West African sub-region is associated with a reduction in productivity in the primary sector. This can be explained by the low mechanisation of agriculture, and by the mobility of the educated labour force, essentially young, from the primary sector to those with higher productivity as part of the structural

transformation process in which many economies in the West African region are engaged. This mobility toward the secondary and tertiary sectors thwarts the rejuvenation of the workforce needed to support production in the agricultural sector. The results are rich in lessons for the sub-region.

Recommendations

They suggest that ECOWAS countries need to step up their efforts to improve the quality of public policies and institutions. To the extent that these efforts are compatible with increased labour productivity, they can help improving the competitiveness of goods produced by the countries of this sub-region and thus enable them to benefit from the implementation of the African Continental Free Trade Area (ACFTA) agreements. Such efforts can also help reduce poverty and the high proportion of vulnerable employment in West Africa, particularly in the primary sector.

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