Editor's Comment:

My editorial decision is to publish as is with minor corrections.

I suggest revised title: "Econometric study: Do Effectiveness of Alternative Governance Channels Depend on Level of Human Development in African Countries ? "

The article is an impressive research article. The article is well-written, most interesting and important. The authors' main conclusions make good common sense to me.

Governance channels significantly and positively explain the level of development (human development and environmental quality) in the groups of countries under consideration. The negative effect of certain governance indicators allows us to understand that government has not yet reached an acceptable level that could positively influence the development of some African countries.

1. Abstract. Good. This paper studied the impact of governance on sustainable development. We use a dynamic panel estimation model, incorporating the PCA technique, to group the governance indicators of Kaufmann et al. (2010) into three main composite indicators: economic, institutional and political gov- ernance. The Pooled Mean Group (PMG) estimate shows that the development level of African countries is strongly influenced by established institutions. In the short- and long-term, various governance indicators (political, economic, and institutional) have a significant impact on human development and the ecological footprint of countries with high levels of development. On the other hand, they can only significantly stimulate development in countries with a medium level of development in the long term. 2. Keywords: Good. Maybe add: human capital. 3. 1. INTRODUCTION. Good. Based on the current literature on the need to disclose governance measures to ensure robustness, we consider six measures of good governance in three categories: economic governance (government effectiveness and regulatory quality); political governance (political stability and voice and accountability); and institutional governance (corruption control and rule of law). A recent study on governance and sustainable development show the effectiveness of governance in realigning the economic, environmental, and social components of sustainable development (Omria and Mabroukc, 2020). Unlike most previous empirical studies, in our work, we consider the level (high, medium, and low) of human development in the analysis. Based on econometric modeling of panel data, we will assess the impact of different governance channels (political, economic, and institutional) on sustainable development indicators (human development and ecological footprint) in Africa. 4. 2. LITERATURE REVIEW. Good. Since the 1990s, governance has been the subject of a great deal of work that provides both convergent and contradictory results, thus prompting reflection on the real impact that its improvement can have. 5. 2.1. Relationship between Governance and Human Development. Good. At the global level, the debate on governance and human development, although fragmented, has intensified. While governance refers to how power is exercised in the management of a nation's affairs and its relations with other nations (ADB, 1999), human development is the expansion of people's choices. Various studies on governance and human development suggest that human development is almost impossible without good governance. 6. 2.2. Relationship between Governance and Environmental Quality. Good. Under the Kuznets environmental curve hypothesis (CEK), the econometric model is inspired by the work of Grossman and Krueger (1991, 1995) and is estimated successively by generalized least squares (GCM) and double least squares with instrumental variables (DMC-IV). Two major results emerge from their work. Firstly, there is a "Pseudo CEK" like an "N" be2 tween economic growth and the different types of pollutants. Greenhouse gas (GHG) emissions would then follow a sinusoidal or cyclical trend in ECCAS. Secondly, improved governance would significantly mitigate pollutant emissions in the countries under consideration. Therefore, strengthening governance and improving the quality of institutions will contribute globally to reducing greenhouse gas (GHG) emission levels in ECCAS countries. 7. 3. DATA AND METHODOLOGY. Good. 8. 3.1. Data. Good. The empirical study focuses on African countries, grouped into three groups [footnote: Group1: High HDI (09 countries); Group2: Medium HDI (13 countries) and Group3: Low HDI (30 countries)]

according to the level of human development. The data mobilized in this study are from secondary sources and cover the period 1996 - 2018. We can explain this relatively short study period because data on governance indicators have only been available in the database (WGI) since 1996. The choice of countries selected by group depends on the level of human development as distributed by the UNDP (2019), and the availability of data on certain variables. 9. 3.2. Methodology. Good. 10. Table 1: Group of countries with a high level of human development. Good. 11. Table 2: Group of countries with average human development level. Good. 12. Table 3: Group of countries with a low level of human development. Good. 13. Table 4: Descriptive statistics for variables in model 1. Good. 14. Table 5: Descriptive statistics for variables in model 2. Good. 15. Table 6 : Correlation table between the variables of model 1. Good. 16. Table 7: Correlation table between the variables of model 2. Good. An analysis of the coefficient of variation shows an overall low dispersion of the variables. The correlation between the different governance channels and sustainable development in Africa is positive. In Table 6, it is 0.3574 for political governance, 0.2632 for economic governance and 0.3597 for institutional governance; while in Table 7, it is 0.3415 for political governance, 0.3588 for economic governance and 0.3421 for institutional governance. This correlation coefficient in itself only explains the dependence between two variables. The coefficient of determination, on the other hand, measures the proportion of variability in Y (respectively X) that is linearly explained by X (respectively Y). In this way, in Table 6, 12.77% of the variability of sustainable development is explained by political governance, 6.92% by economic governance and 12.93% by institutional governance. However, in Table 7, 11.66% of the variability in governance is explained by political governance, 12.87% by economic governance and 11.70% by 3 institutional governance. 17. Figure 1: Average evolution by country of HDI, GDP per capita and ecological footprint. Good. GDP and ecological footprint are indicators of well-being. In other words, the higher the GDP per capita, the higher the consumption and thus the ecological footprint. A high ecological footprint would therefore be a sign of development, of well-being, of “happiness”. The graph above also shows the evolution of GDP and ecological footprint on a sample of 52 African countries. We can see that these indicators are evolving in the same direction, but the ecological footprint is below the GDP, because it is an exclusively monetary indicator. Its equivalent is the sum of monetary income distributed to individuals in return for production. Moreover, the GDP cannot be an ecological measure of production. On the other hand, the ecological footprint measures the ecological impact of this production. The ecological footprint allows us to indicate whether the GDP is sustainable or not. 18. 4. RESULTS AND DISCUSSION. Good 19. 4.1. Analysis of the relationship between the variables. Good. There is a positive correlation between different governance channels, human development, and environmental quality at all levels of development (see figures 2, 3, and 4). This correlation is much more significant in group 1 countries than in group 2 and 3 countries. The figures below show the linear intensity of the relationship between the different modes of governance, human development, and the ecological footprint through the cloud points and the linear adjustment line. 20. Figure 2: Relationship between governance and sustainable development in Group 1. Good. 21. Figure 3: Relationship between governance and sustainable development in Group 2. Good. 22. Figure 4: Relationship between governance and sustainable development in Group 3. Good. 23. 4.2. Effect of different modes of governance on sustainable development. Good. Generally, in countries with a high level of development, all governance indicators (political, economic, and institutional) have significant effects on sustainable development in the short and long term, measured in terms of human development and the ecological footprint. Contrarily, in countries with medium and low development levels. Indeed, governance indicators only have a significant impact on their sustainable development in the long term. 4 24. Table 8: Analysis of the impact of different modes of governance on human development and the ecological footprint. Good. 25. Table 9: Analysis of the impact of different modes of governance on human development and the ecological footprint. Good. 26. Table 10 : Analysis of the impact of the different modes of governance on human development and the ecological footprint. Good. 27. 5. CONCLUSION. Good. The result of the econometric analysis based on the Pooled Mean Group is that in highly developed countries all governance indicators (political, economic, and institutional)

have an overall significant impact on sustainable development, measured in terms of human development, short- and long-term ecological footprint. Contrary to countries with medium and low development levels. In Group 1 countries, economic and institutional governance significantly stimulates human development (columns 2 and 3) and the ecological footprint. On the other hand, political governance has a negative and significant impact on human development and the ecological footprint. In the long term, however, the trends are reversed as political governance becomes positive and meaningful for human development. Economic and institutional governance is negative and significant for this indicator. But the same indicators have positive and significant long-term effects on the ecological footprint. However, the impact of economic and institutional governance remains minimal or weak. 28. REFERENCES. Good.

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