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Africa: An Empirical Analysis of the
Correlation between the Rule of Law,
Property Rights, and Economic Output**

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The Impact of the Rule of Law and Property Rights On Economic Output in Africa

*An Empirical Analysis of the Correlation between the Rule of
Law, Property Rights, and Economic Output*

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The Impact of the Rule of Law and Property Rights on Economic Output in Africa

Abstract

The purpose of this paper is to analyze the impact that the rule of law and property rights exert on the economic output of Africa. In this paper, we seek to demonstrate that economic output occurs steadily and sustainably when the rule of law and access to property rights are highly valued and ensconced. The objective of our analysis is thus to establish a positive correlation in which the rule of law and property rights do contribute to the augmentation of the economic output of a country, especially that of African countries. To validate our hypothesis, we aim to test our postulations with raw empirical data by running a multiple regression model.

Keywords: Econometrics, Macroeconomics, Economic Growth, Mathematical Modeling, Quantitative Analysis, Economic Development

1. INTRODUCTION

The economic prosperity of developed countries is no accident. There are important factors that have contributed, and which continue to contribute up to this day to the development and production of these countries. There are two common factors that developed countries have always relied on to increase economic production and to improve the living standard of their people. These two factors are the rule of law and property rights. Developed countries do generally have a well-established legal system in which the laws which govern society uphold political power and the citizenry to the same standard. The establishment of the rule of law does improve the access to property rights. The legal system of developed countries has enabled them to expand access to property to their citizens. It is one of the reasons why economic output in those countries is astoundingly high.

We believe that one of the reasons why Africa is mainly lagging economically, especially Sub-Saharan Africa, is because the rule of law and access to property rights are neither well-defined nor well-established. Since the rule of law in African countries is not an essential feature implemented within African societies, it is difficult for the countries which lack the rule of law and access to property rights to increase their economic production, especially when the economic system is market-based. Although the African continent is still lagging overall compared to the other continents on the planet, significant progress has been made recently in African countries. As a matter of fact, economic output has considerably increased for the whole continent during the last two decades as it could be seen in figure 1.

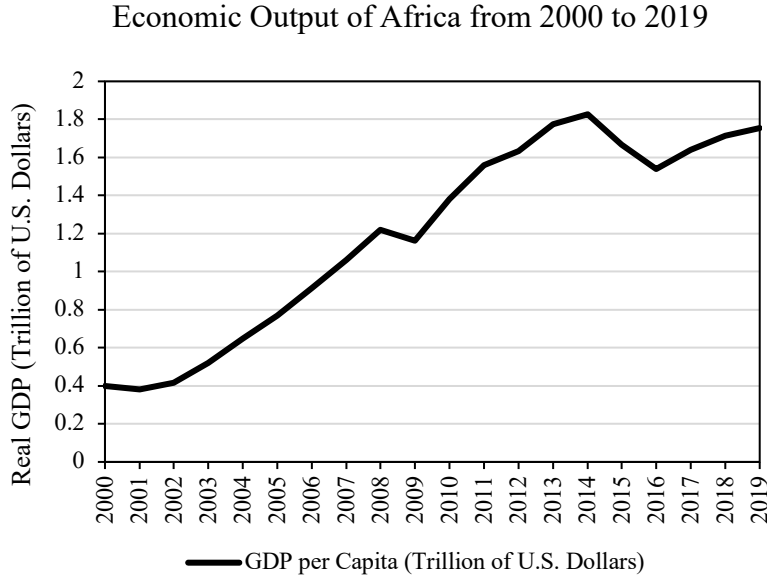


Figure 1. Source: The World Bank

There are obviously many reasons for which economic output augmented considerably in Africa. It could possibly be because of a higher human development, a higher level of education which makes people more productive; it could be also because of a reduction in income tax, which incremented the purchasing power of ordinary African citizens, it could be because of free-trade,

or it could also be because of the low unemployment rate. Indeed, there are many factors that could explain the staggering economic production of Africa in the last two decades. We hypothesize in this paper that the rule of law and property rights are the two factors responsible for the increase of economic output in Africa as it has been the case for many centuries for developed countries.

To demonstrate that our hypothesis is correct, we aimed to test it by running a multiple regression on an observational study. We will be testing the impact of the rule of law and property rights on economic output in Africa from 2010 to 2019.

2. A THEORETICAL UNDERSTANDING OF THE RELATIONSHIP BETWEEN RULE OF LAW AND PROPERTY RIGHTS

The rule of law is, by essence, the restriction of arbitrary exercise of power by subordinating it to well-defined and established laws.¹ Arbitrariness is typical of various forms of despotism, absolutism, authoritarianism, and totalitarianism.² Despotic governments include even highly institutionalized forms of rule in which the entity at the apex of the power structure is capable of acting without the constraint of law when it wishes to do so.³ The rule of law insists that the government should operate within a framework of law in everything it does and that it should be accountable through the law when there is a suggestion of unauthorized action by those in power.⁴ However, the rule of law is not just about constraining the arbitrary power of the government. It also requires that citizens should respect and comply with legal norms, even when they disagree with them.⁵ Since the concept of the rule of law is designed to be accessible to everyone, the requirement of access is particularly important, in two senses.⁶ First, the law should be epistemically accessible: it should be a body of norms promulgated as public knowledge so that people can study, internalize it, figure out what it requires of them, and use it as a framework for their plans and exceptions and for settling their disputes with others.⁷ Secondly, legal institutions and their procedures should be available to ordinary people to uphold their rights, settle their disputes, and protect them against abuses of public and private power.⁸ All of this in turn requires the independence of the judiciary, the accountability of government officials, the transparency of public business, and the integrity of legal procedures.⁹ It is clear that political power, which is the public body that is responsible to ensure the sustenance of the law, is the one that determines access to property rights.

A property right, on the other hand, is exclusively the authority to determine how a resource is used, whether that resource is owned by the government or by individuals.¹⁰ Society approves the uses selected by the holder of the property right with governmental administered force and with

¹ Choi, Naomi, "Rule of Law" *Encyclopedia Britannica*. (2019).

² Ibid.

³ Ibid.

⁴ "The Rule of Law: 2. The Constestedness of the Rule of Law." *Stanford Encyclopedia of Philosophy*. First published on Jun 2016.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ Alchian, Armen, A. "Property Rights." *The Library of Economics and Liberty*. (2019).

social ostracism.¹¹ If the resource is owned by the government, the agent who determines its use has to operate under a set of rules determined whether by the legislative branch or the agencies of the executive branch.¹² Private property rights have two other attributes in addition to determining the use of the resource.¹³ One is the exclusive right to the services of the resource.¹⁴ Thus, for example, the owner of an apartment with complete property rights to the apartments has the right to determine whether to rent it out and, if so, which tenant to rent to; to live in it himself, or to use it in any other peaceful way.¹⁵ The last attribute of private property includes the right to delegate, rent, or sell any portion of the rights by exchange or gift at whatever price the owner determines.¹⁶ In short, the three basic elements of private property are (1) the exclusivity of rights to choose the use of a resource, (2) exclusivity of rights to the services of a resource, and (3) rights to exchange the resource at mutually agreeable terms.¹⁷

Is the rule of law intimately linked to property rights and vice versa? Can one operate without the other? The answer to this question depends on the political and economic system of the society being discussed. If we are dealing with an open economy, then the two factors are linked to one other to some extent. If we are dealing with a closed economy, the two factors have no relationship to one other. We argued in the introduction of our analysis that developed countries are mainly economically advanced because they have given great emphasis to the rule of law and access to property rights. Most developed countries, including China, are market-based economies. In that case, there is certainly a relationship between the rule of law and property rights. Spain, for example, has made considerable progress regarding the value given to the rule of law and property rights. Figure 2 shows a comparison between the rule of law index and the property rights index for Spain from the last six years. Our observation of the graph shows that there is a correlation between the rule of law and property rights. But does this correlation necessarily lead to an increase in the economic output of Spain during that very same period? As we observe figure 3, the economic output of Spain from 2015 to 2019 considerably increased. Let us not forget that the economic production of Spain noticeably decreased in 2020 because of the impact of the coronavirus. Spain then is one important example of the correlation we aim to demonstrate in our analysis. However, the reality is that Spain is not Africa and Africa is not Spain. We are aware that there are some social, cultural, and political characteristics that play an important role in the economic production of Africa. We, nonetheless, believe that these patterns (rule of law and property rights) are applicable in Africa because these patterns are elements of economic laws.

The rule of law and property rights are essentially linked to another because a well-established legal system enables the protection and regulation of private property. If people are secured in their property thank to implementation of the rule of law, economic production logically increases because voluntary exchange takes place under a set of legal rules which both protect the buyer and the seller and ensures fair competition between firms. Without the rule of law, fair competition cannot occur in a market-based economy.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Ibid.

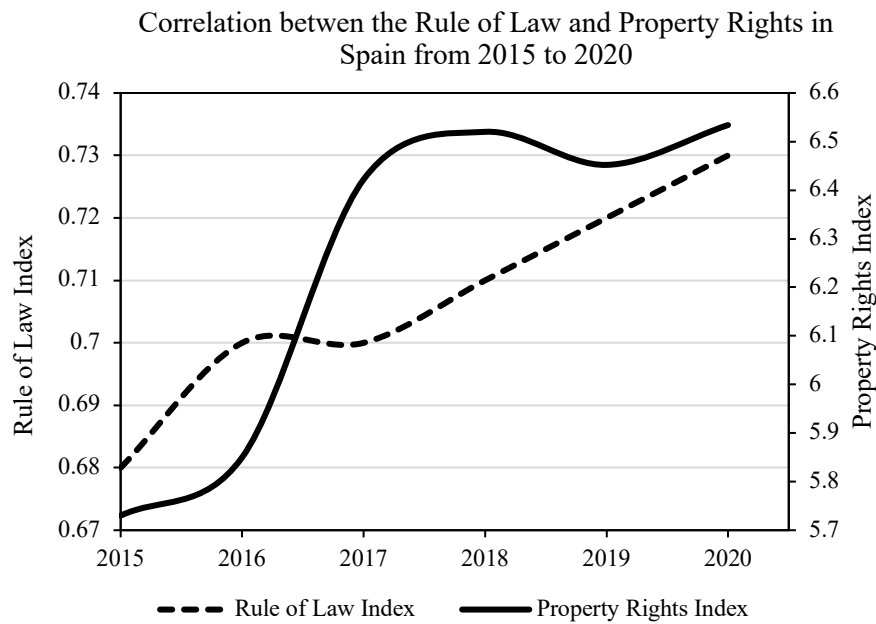


Figure 2. Source: World Justice Project Rule of Law Index, International Property Rights Index, Author's computation

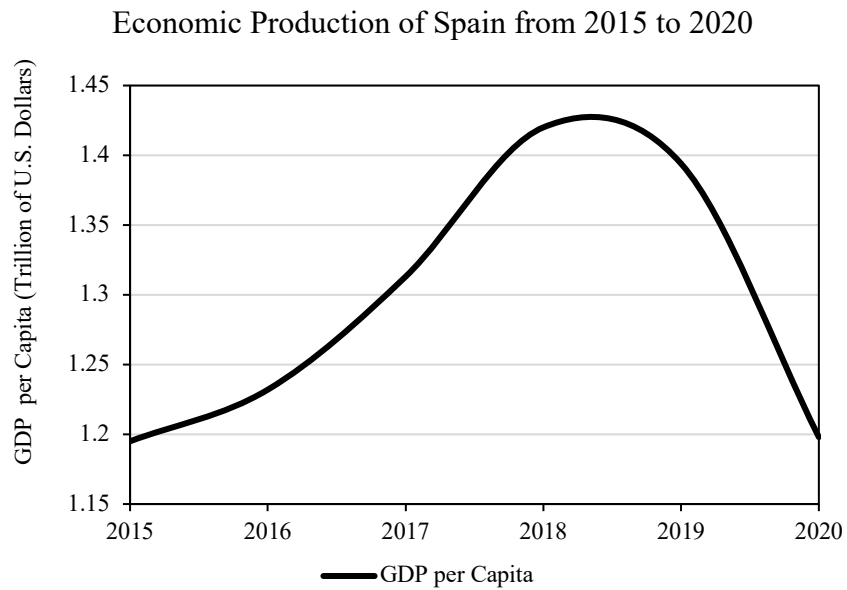


Figure 3. Source: World Bank

3. METHODOLOGY

We axiomatically asserted that the correlation between the rule of law and property rights does lead to higher economic output. We did even use Spain as one example to support our main point. However, we also emphasized that there are different features that contribute to some important differences between Spain and Africa in terms of economic output. Our axiomatic statement,

although logical, does not necessarily prove that our hypothesis is indeed valid unless it is subjected to empirical test.

In this part of our analysis, we seek to empirically demonstrate that our hypothesis is valid by using a multiple regression model. Our regression model will consist of creating an observational study by selecting thirteen African countries, and testing their rule of law index and property rights index to their economic production within the last decade (2010-2019). Consequently, our model will be built into four datasets. The first dataset will represent the average of the rule of law index of each of the thirteen African countries. The second dataset will represent the average of property rights index of each of the thirteen African countries. The third dataset will represent the average economic output produced by each of the thirteen African countries during the last decade. The fourth and last dataset will represent the main dataset that we will be using to test our hypothesis throughout this analysis.

4. DATA

The first dataset represents the average of the Rule of law Index from 2010 to 2019. The dataset is based on the World Justice Project data. The yearly index and average index of each country have been rounded to the nearest hundredth.

Data 1. Average of the Rule of Law Index from 2010 – 2019

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Ghana	0.52	0.59	0.60	0.603	0.608	0.609	0.58	0.59	0.61	0.58	0.59
Rwanda	0.53	0.52	0.53	0.54	0.545	0.60	0.60	0.59	0.60	0.61	0.57
Botswana	0.60	0.61	0.62	0.623	0.637	0.64	0.60	0.58	0.60	0.59	0.61
Nigeria	0.43	0.47	0.48	0.46	0.44	0.41	0.44	0.44	0.45	0.43	0.45
Côte d'Ivoire	0.48	0.46	0.46	0.48	0.47	0.47	0.46	0.47	0.47	0.46	0.47
South Africa	0.57	0.59	0.60	0.62	0.63	0.58	0.59	0.59	0.59	0.58	0.594
Kenya	0.33	0.41	0.43	0.45	0.43	0.45	0.43	0.45	0.46	0.45	0.43
Mauritius	0.60	0.60	0.61	0.64	0.645	0.646	0.64	0.63	0.63	0.60	0.62
Sierra Leone	0.27	0.29	0.40	0.45	0.46	0.44	0.45	0.45	0.45	0.45	0.41
DRC	0.41	0.42	0.44	0.45	0.45	0.46	0.46	0.47	0.48	0.39	0.44
Uganda	0.35	0.37	0.38	0.39	0.39	0.41	0.39	0.40	0.41	0.39	0.39
Morocco	0.48	0.48	0.49	0.51	0.52	0.52	0.53	0.51	0.51	0.50	0.51
Mozambique	0.35	0.36	0.40	0.42	0.43	0.45	0.45	0.45	0.46	0.43	0.42

Table 1. Source: World Justice Project, Author's computation

The second dataset represents the average of the Property Rights Index from that same period. The dataset is based on the International Property Rights Index data. The yearly index and average index of each country have been rounded to the nearest hundredth.

Data 2. Average of the Property Rights Index from 2010 – 2019

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Ghana	5.19	5.6	5.5	5.5	5.8	5.61	5.46	5.64	5.64	5.75	5.57
Rwanda	5.5	5.6	6	6.2	5.90	6.20	6.51	6.56	6.27	6.27	6.10
Botswana	6	6.3	6.3	6.3	6.3	5.92	5.93	6.13	6	5.96	6.15
Nigeria	3.78	3.9	3.9	3.9	3.7	3.38	3.56	3.95	3.92	3.79	3.78
Côte d'Ivoire	3.11	3.7	3.8	3.9	4.1	4.22	4.73	4.59	4.68	4.79	4.16
South Africa	6.83	6.6	6.7	6.8	6.7	6.59	6.59	7	6.35	6.88	6.70
Kenya	4.31	4.4	4.5	4.6	4.6	4.53	4.61	4.86	4.99	5.15	4.66
Mauritius	6.4	7.2	7.1	7.1	7.13	6.86	6.85	7.2	7.09	7	6.99
Sierra Leone	4.7	4.72	4.85	4.8	4.5	4.33	4.22	4.52	4.64	4.86	4.614
DRC	3.54	3.71	3.68	3.6	3.77	3.72	3.79	3.81	3.74	3.55	3.69
Uganda	3.92	4.6	4.9	4.9	4.7	4.34	4.63	5.10	4.85	5.05	4.70
Morocco	5.08	5.3	5.3	5.3	5.2	5.15	5.29	5.5	5.64	5.76	5.352
Mozambique	4.18	4.7	4.7	4.6	4.8	4.21	4.31	4.63	4.49	4.39	4.50

Table 2. Source: International Property Rights Index, Author's computation

The third dataset represents the average of the economic output from that same period. The dataset is based on the World Bank data. The Real GDP is measured in billions of U.S. Dollars. The yearly output and the average of each country are rounded to the nearest hundredth.

Data 3. Average of the Real GDP from 2010 – 2019 (in billions of U.S. Dollars)

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Ghana	32.19	39.33	41.27	62.4	53.66	48.56	55.01	58.99	65.56	66.98	52.4
Rwanda	6.148	6.912	7.68	7.851	8.279	8.583	8.734	9.253	9.628	10.12	8.32
Botswana	12.78	15.35	14.42	14.90	16.25	14.42	15.65	17.41	18.66	18.34	15.82
Nigeria	363.36	410.33	459.38	514.96	568.5	494.58	404.65	375.74	398.16	448.12	443.78
Côte d'Ivoire	24.91	25.415	26.79	31.27	35.36	45.82	47.96	51.59	57.73	58.79	40.56
South Africa	375.35	416.42	396.33	366.83	350.91	317.62	296.36	349.55	368.29	351.43	358.91
Kenya	40	41.95	50.41	55.10	61.45	64.009	69.19	78.97	87.78	95.50	64.44
Mauritius	10.004	11.52	11.67	12.13	12.80	11.69	12.23	13.26	14.18	14.18	12.37
Sierra Leone	2.58	2.94	3.80	4.92	5.015	4.22	3.68	3.74	4.09	3.941	3.89
DRC	21.56	25.84	29.31	32.68	35.91	37.92	37.14	38.02	46.83	47.32	35.25
Uganda	26.22	27.65	27.09	28.68	32.35	32.13	28.97	30.76	32.77	34.39	30.12
Morocco	93.22	101.37	98.26	106.83	110.08	101.18	103.31	109.71	117.92	118.73	106.06
Mozambique	11.09	14.38	16.35	16.97	17.72	15.95	11.93	13.22	14.71	14.93	14.43

Table 3. Source: World Bank, Author's computation

The fourth dataset represents the data that we are going to rely on to build our model and test our hypothesis. It is the compilation of the three previous data.

Data 4. Correlation Data

Country	GDP (Y)	Rule of Law (X ₁)	Property Rights (X ₂)
Ghana	52.4	0.59	5.57
Rwanda	8.32	0.57	6.10
Botswana	15.82	0.61	6.15
Nigeria	443.78	0.45	3.78
Côte d'Ivoire	40.56	0.47	4.16
South Africa	358.91	0.594	6.70
Kenya	64.44	0.43	4.66
Mauritius	12.37	0.62	6.99
Sierra Leone	3.89	0.41	4.614
DRC	35.25	0.44	3.69
Uganda	30.12	0.38	4.70
Morocco	106.06	0.51	5.352
Mozambique	14.43	0.42	4.50
Means	(\bar{Y}) = 91.26	(\bar{X}_1) = 0.5	(\bar{X}_2) = 5.16

Table 4. Author's computation

5. MODEL

The framework of our analysis is based on a multiple regression model. Therefore, its equation is written as the following:

$$(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

where (Y), which is the dependent variable, represents the economic output measured as the real GDP. (β_0) represents the intercept variable. (β_1) represents the slope of the first independent variable. (X_1), which is the first independent variable, represents the Rule of Law Index. (β_2) represents the slope of the second independent variable. (X_2), which is the second independent variable, represents the property rights index. (ε) represents the standard error.

In order to calculate the slopes (β_1) and (β_2) of the rule of law index (X_1) and property rights index (X_2), we ought to proceed to a set of calculations that would enable us to determine the components of each slope. First, let us find the value of ($\sum x_1^2$).

We know that:
$$\sum x_1^2 = \sum X_1^2 - (\sum X_1)^2 / N \quad (1)$$

Therefore:
$$\begin{aligned} \sum x_1^2 &= 3.3332 - (6.505)^2 / 13 \\ \sum x_1^2 &= 0.0732 \end{aligned}$$

Now that we founded the value of ($\sum x_1^2$), let us find the value of ($\sum x_2^2$).

We know that:
$$\sum x_2^2 = \sum X_2^2 - (\sum X_2)^2 / N \quad (2)$$

Therefore:
$$\begin{aligned} \sum x_2^2 &= 359.0061 - (66.97)^2 / 13 \\ \sum x_2^2 &= 14.0061 \end{aligned}$$

Now that we determined the value of $(\sum x_2^2)$, let us find the value $(\sum x_1 y)$.

We know that:
$$\sum x_1 y = \sum X_1 Y - (\sum X_1) (\sum Y) / N \quad (3)$$

Therefore:
$$\begin{aligned} \sum x_1 y &= 601.7901 - (6.505) (1186.35) / 13 \\ \sum x_1 y &= 8.1601 \end{aligned}$$

Now that we have determined the value $(\sum x_1 y)$, let us find the value of $(\sum x_2 y)$.

We know that:
$$\sum x_2 y = \sum X_2 Y - (\sum X_2) (\sum Y) / N \quad (4)$$

Therefore:
$$\begin{aligned} \sum x_2 y &= 5999.7377 - (66.97) (1186.35) / 13 \\ \sum x_2 y &= - 111.7923 \end{aligned}$$

Now that we calculated $(\sum x_2 y)$ and determined its value, let us determine the value of $(\sum x_1 x_2)$.

We know that:
$$\sum x_1 x_2 = \sum X_1 X_2 - (\sum X_1) (\sum X_2) / N \quad (5)$$

Therefore:
$$\begin{aligned} \sum x_1 x_2 &= 34.4137 - (6.505) (66.97) / 13 \\ \sum x_1 x_2 &= 0.9037 \end{aligned}$$

Now that we have established the values of the components of our two coefficients, let us then determined the slopes (β_1) and (β_2) . Let us commence with (β_1) .

We know that:

$$\beta_1 = (\sum x_2^2) (\sum x_1 y) - (\sum x_1 x_2) (\sum x_2 y) / (\sum x_1^2) (\sum x_2^2) - (\sum x_1 x_2)^2 \quad (6)$$

Therefore:

$$\begin{aligned} \beta_1 &= (14.0061) (8.1601) - (0.9037) (-111.7923) / (0.0732) (14.0061) - (0.9037)^2 \\ \beta_1 &= 1033.196 \end{aligned}$$

Now we have determined the value of (β_1) , let us find the value of (β_2) .

We know that:

$$\beta_2 = (\sum x_1^2) (\sum x_2 y) - (\sum x_1 x_2) (\sum x_1 y) / (\sum x_1^2) (\sum x_2^2) - (\sum x_1 x_2)^2 \quad (7)$$

Therefore:

$$\beta_2 = (0.0732) (-111.7923) - (0.9037) (8.1601) / (0.0732) (14.0061) - (0.9037)^2$$

$$\beta_2 = -76.401$$

Now that the slopes of our independent variables have been determined, let us now calculate the intercept variable (β_0) of our model.

We know that:
$$\beta_0 = \bar{Y} - b_1\bar{X}_1 - b_2\bar{X}_2 \quad (8)$$

Therefore:
$$\beta_0 = 91.26 - (1033.196) (0.5) - (-76.401) (5.16)$$

$$\beta_0 = -31.108$$

Now that we calculated the values of our independent variables, their coefficients, and intercept; we can subsequently the equation of our model as the following:

$$Y = -31.108 + 1033.196 X_1 + (-76.401) X_2 + \varepsilon \quad (9)$$

$$Y = -31.108 + 1033.196 X_1 - 76.401 X_2 + \varepsilon$$

The calculations of our equation seem complete. However, we acknowledge that our model may contain some errors regarding the distance between the observations and the linear regressions. Consequently, it would be judicious to minimize the errors that may potentially occur within the regression.

We know that the formula of the standard error is:

$$\varepsilon = \frac{s}{\sqrt{N}} \quad (10)$$

However, to calculate the standard error, we must first determine its standard deviation.

We know that:
$$S_d = \sqrt{\frac{\sum(Y-\bar{Y})^2}{N-2}} \quad (11)$$

Therefore:
$$S_d = \frac{\sqrt{(1186.35 - 91.26)^2}}{\sqrt{13-2}}$$

$$S_d = 329.85$$

Now that we calculated the standard deviation, we can now determine the standard error. We have established the formula of the standard error in equation (10). Therefore:

$$\varepsilon = 329.85/\sqrt{13}$$

$$\varepsilon = 91.37$$

6. EMPIRICAL EVIDENCE AND DISCUSSION

Impact of the Rule of Law on Economic Output in Africa from 2010 to 2019

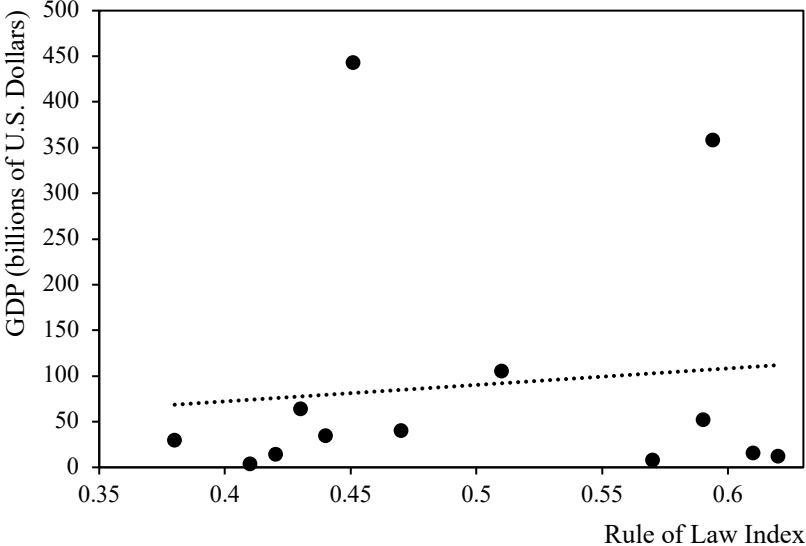


Figure 4

Impact of Property Rights on Economic Output in Africa from 2010 to 2019

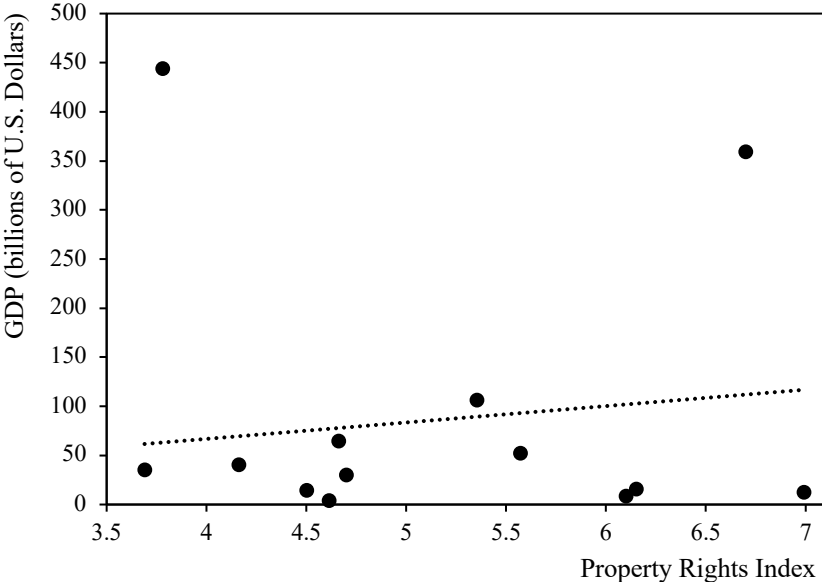


Figure 5

The empirical results of our analysis demonstrate that our hypothesis is indeed valid. However, this validation is not overwhelmingly indisputable. Both linear regressions show a positive correlation of the impact of the rule of law and property rights on economic output in Africa. Nevertheless, this correlation is clearly not self-evident.

The rule of law and property rights do play a role in the economic output of African countries. However, this role is more or less supplementary rather than complementary. And it is because this role is supplementary rather than complementary that economic output in Africa is usually intermittent. If we compare the data that elucidate and compare the correlation between the rule of law and property rules and its economic output in Spain to the economic output of Africa, we can see that the economic output of Spain alone almost matches the economic output of sub-Saharan Africa. Spain has a high degree of rule of law index and property rights index compared to most African countries.

Let us first analyze the impact of the rule of law on economic output. According to the World Justice Project¹⁸, a country is generally considered to be in good standing when its rule of law index is (≤ 0.45) points-index. Spain, over the years, has had a rule of law index exceeding this standard. Its rule of law index is no lower than 0.68. As we could observe the data and the scatterplot, most of the African countries that are part of our study have a rule of law index superior to 0.45. Ghana, Rwanda, Mauritius, South Africa, or Morocco are an example of countries in good standing, but their rule of law index remains considerably inferior to that of Spain. Indeed, the four main principles to determine the rule of law, according to the World Justice Project, are (1) Accountability, (2) Just Laws, (3) Open Government, and (4) Accessible and Impartial Dispute Resolution.¹⁹ For example, if we look at the case of South Africa and we compare its indexes to that of Spain on these four principles just for the year 2019, Spain has a higher index than South Africa on each of these four principles as table 5 shows.

**Comparison of the four principles of the rule of law
between Spain and South Africa in 2019**

Country	South Africa	Spain
Open Government	0.62	0.70
Accountability	0.62	0.72
Just Laws	0.55	0.68
Accessible and Impartial D. R.	0.59	0.67

¹⁸ Ponce, Alejandro; Andersen, Elizabeth; Ghani, Ashraf. “World Justice Project Rule of Law Index 2019.” *World Justice Project*. (2019). Washington, D.C. ISBN 978-0996409407.

¹⁹ *Ibid.* p. 9.

Table 5. Source: Author's computation, World Justice Project.

The difference between Spain and South Africa indicates that the level of corruption and the constraints on government powers are not the same. As a matter of fact, there are more constraints imposed upon the government in Spain than in South Africa. It implies that the level of government transparency in South Africa is not sufficiently upheld compared to Spain. This insufficiency could be a catalyzer for the expansion of bureaucratic corruption within the South African government. But the real question here is to see how the rule of law directly impacts the economic output of the country? South Africa has the second-highest economic output of the continent after Nigeria. The fundamental reason for which its economic output is so tremendously high is not because of its rule of law index but because of its population size. South Africa has a population of nearly 60 million inhabitants according to Statistics South Africa.²⁰ The more people a country possesses, the higher its economic output will be. Nonetheless, the rule of law impacts the economic output of South Africa in the sense that the regulatory laws ensure fair competition and increase labor productivity. It is surely safe to have a business in South Africa compared to most African countries because the rule of law in South Africa is well enough maintained to create the environment that entrepreneurs need to innovate and to increase economic output. Uganda has the lowest rule of law index in our computed data. Compared to South Africa, the lack of rule of law has a more substantial impact on the economic output of Uganda because the laws to maintain fair competition, to increase labor productivity, and the consumer are not implemented as they should be. As a result, economic output in Uganda remains fragile.

Let us now analyze the impact of property rights on economic output. According to the International Property Rights Index, a country is considered to be in good standing if its index is (≤ 4).²¹ In our computed data, except for Nigeria and the Democratic Republic of Congo, all the other countries have a property rights index superior to 4. It suggests that the idea of private property is taken more seriously by most African governments. Interestingly, there is a significant dichotomy for the case of Uganda between its rule of law index and property rights index. Its rule of law index is significantly inferior to the standard established by the World Justice Project, but its property rights index is above the standard established by the International Property Rights Index. The level of corruption in the Ugandan government is irrefutably preponderant. However, there are well-established laws to protect access to property rights. One plausible reason which could ascertain the protection of private property in Uganda despite its fragile rule of law is that Article 26, Section 1 of the Ugandan Constitution guarantees the right of every person to own property either or in association with others.²² That being said, the right to property is a fundamental right embodied in Ugandan society and within its legal system.

The protection of private property does impact the economic output of the country. Certainly, the more people own, the more they can create a voluntary exchange and the exchange conveyed within the market process increases production. If we closely look at the Democratic Republic of Congo, we can see that its low property rights index does impact its economic output. The Democratic Republic of Congo has a population of 84 million people, which is 20 million more

²⁰ Statistics South Africa. "SA population reaches 58.8 million—Statistics South Africa. February 1, 2020. Retrieved March 7, 2020.

²¹ *International Property Rights Index* (2019).

²² "Article 26: Protection from Deprivation of Property" *The Constitution of The Republic of Uganda*. (2006).

than South Africa, and yet, the DRC has only produced \$35 billion in economic output on average during the last decade while South Africa, which has a population of almost 60 million people, has produced about \$358 billion on average in economic output during the last decade as well. In the case of the DRC, the size of the population is clearly not relevant because, despite the size of the population, economic output remains low. The reason why economic output has been low in the DRC over the last decade is that the laws to protect property rights were neither adequately implemented nor maintained within the boundaries of the rule of law. A higher degree of property rights increases the economic output of society because individuals own enough goods to exchange in the marketplace in order to create new goods. Moreover, it is through the use of private property that the accumulation of capital enables the augmentation of economic production. The lower is the degree of property rights for society, the lower will be its economic output as well.

7. CONCLUSION

Through the results and assessment of our analysis, we can see that the impact of the rule of law and property rights on economic output is of second degree. Indeed, this impact is not the primary catalyst of the economic output of African countries. It signifies that African countries do not give enough emphasis on maintaining the prevalence of the rule of law and that of property rights. There is evidently a correlation between the rule of law and property rights even though there are two independent variables among the many variables that contribute to the economic output of the country. Uganda was illustrated as a perfect example to substantiate that the rule of law and property rights do not inherently depend upon one another. A country can have a decent degree of rule of law established and still have a poor record on the protection of property rights. But a country that has a high record of the protection of property rights generally has a high degree of rule of law.

A satisfactory record of the rule of law and a low record of property rights means that only one of the four principles of the rule of law is adequately maintained while the other three principles are undermined. Developed countries have given great emphasis on these two factors which made them almost dependent on one another. In a country like the United States, for example, it is clear that a person who owns assets feels financially safe because the country has a high degree of rule of law to protect these assets which are privately owned. But in most African countries, it is difficult to own assets in a free and confident way because the African governments do not give enough emphasis on the sustenance of the rule of law and property rights. Overall, the rule of law and property rights do play a role in the economic production of African economies, but this role is relegated to a degree of minor significance rather than making it a priority. If the majority of African countries decide to give more value to the rule of law and property rights, we can confidently assert that their economic output will increase steadier and sustainably.

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