Natural Resource Governance: Does Social Media Matter?

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Abstract

In this paper we study the relationship between communication and "transparency of information" and governance by exploring the link between social media and natural resource governance. Using a cross-country analysis, we document a robust and statistically significant positive relationship between Facebook penetration (a proxy for social media) and natural resource governance. It follows that countries with higher facebook penetration levels enjoy natural resource governance of better quality than countries with low levels of facebook penetration. The positive effect of facebook is robust to controlling for other determinants of institutional quality, additional controls, outliers, *inter alia*.

Keywords: Natural Resources, Rents, Institutions, Governance, Social Media, Facebook, Internet, Transparency of information

JEL classification: D73, D83, O1, H11, P48, Q34, G14, P26, Z13

1. Introduction

The effects of natural resources are a major concern in the scientific literature (Stevens, 2003; Van der Ploeg, 2011; Frankel, 2012; Van der Ploeg & Poelhekke, 2016). Some have conveyed even the idea of a curse of natural resources (e.g. Sachs & Warner, 2001). However, this so-called curse or policy syndrome is conditioned by the presence of poor quality institutions (e.g. Mehlum et al., 2006; Tcheta-Bampa & Kodila-Tedika, 2018a, b)[1]. This literature did not dissociate governance in the natural resources sector from all other sectors or dimensions.

Recently, the Natural Resource Governance Institute has established specific governance indicators for the natural resources sector. The objective of this research is therefore to focus on the specific governance of this sector using this specific indicator. More concretely, we try to understand in this paper how to improve the governance of this sector. As a result, we test the hypothesis that social media (social network) can improve the quality of governance in the natural resources sector. To this end, we mobilize the arguments of the literature which suggest that informed citizens and/or the circulation of information discipline politicians, but also improve governance (e.g. Besley & Burgess 2002; Besley & Prat, 2006; Stromberg, 2004; Reinikka & Svensson 2004; Eisensee & Stromberg 2007; Ferraz & Finan 2008, Snyder & Strömberg, 2010; Strömberg, 2016). This information includes the internet and its corollaries (Andersen *et al*., 2011).

Social (media) networks should positively impact the quality of governance in the natural resources sector through several channels. Social networks (media) can naturally be expected to discipline managers and inform citizens of bad

[1] Asongu and Nwachukwu (2017a) understand policy syndrome in the perspective of non-inclusive development whereas according to Asongu (2017), it as a gap knowledge economy. Within the framework of this paper a policy syndrome is poor governance.

governance. For example, cases of corruption (which is a characteristic of bad governance) can be quickly relayed via social media to the population in the light of the speed of information flow via social networks. Networks not only serve to punish bad practices but also generate incentives to put social gain above private gain (Snyder & Strömberg, 2010). They can also improve governance by disseminating best practices in this area. Kodila-Tedika (2014) suggests, for example that governance also improves because of imitation. Another channel is that of the political selection (Strömberg, 1999; Prat & Strömberg, 2013). In this case, social networks (media) can help place competent people for the better governance of natural resources.

To test this hypothesis, we examine the link between the governance variable of the Natural Resource Governance Institute and Facebook penetration. The latter has recently been used in the literature as a social media proxy (eg Jha & Sarangi, 2017; Jha & Kodila-Tedika, 2018). Our econometric exercise leads us to validate our hypothesis. Countries with strong Facebook penetration also show better governance in natural resources. This conclusion is robust to changes in estimation techniques, outliers, the decomposition of the indicator of governance in natural resources, the addition of other control variables and even the bias of inverted causality or endogeneity.

The present research is related to the literature which studies the determinants of governance. Contributions within this strand of literature include Chong and Zanforlin (2000), Potrafke (2012), Kelejian *et al*. (2013), Alonso & Garcimartín (2013), Kodila-Tedika & Tcheta-Bampa (2014), Rindermann *et al*. (2015) and Asongu & Kodila-Tedika (2016). It is also relevant to note that the positioning of the study departs from a recent strand of literature that defines governance

exclusively from political (political stability/no violence and voice & accountability), economic (regulation quality and government effectiveness) and institutional (rule of law and corruption-control) perspectives (Oluwatobi *et al*., 2015; Asongu & Nwachukwu, 2016a, b; Asongu *et al*., 2017a).

The rest of the paper is structured as follows. Section 2 overviews the literature on the consequences of social media while the data and methodology are disclosed in Section 3. The empirical results and corresponding sensitivity checks are disclosed in Section 4. Section 5 concludes.

2. Related Literature

Our paper is recorded in the recent empirical literature on the consequences of new media or social networks (media)[2]. This literature has taken at least three directions. First, the studies have focused on election process events such as campaigns, campaign contributions, and so on (Hong & Nadler, 2011, Metaxas & Eni 2012, Petrova *et al.*, 2016). Second, other works have considered specific political events. Enikolopo et al. (2017) provide evidence that penetration of VK, the dominant Russian online social network, affected protest activity during a wave of protests in Russia in 2011. Also, they provide suggestive evidence that cities with higher fractionalization of network users between VK and Facebook experienced fewer protests. In the same sense, other empirical papers have found the same conclusion in the context of Egypt (Adamic & Glance, 2005; Halberstam & Knight, 2016; Acemoglu *et al.,* 2018).

[2]For a theoretical introduction to this literature, the interested reader can refer to Prat & Strömberg (2013).

The third direction is that of our research. It focuses on governance issues. Enikolopov *et al*. (2018) suggest that social media can discipline corruption even in a country with limited political competition and heavily censored traditional media. Also, they show that blog posts, which exposed corruption in Russian state-controlled companies, had a negative causal impact on their market returns. Qin *et al*. (2016, 2017) find that a large number of real-world protests can be predicted by social media data one day before their occurrence and that corruption charges on specific individuals can be predicted one year in advance. These findings support the view that social media can be effective surveillance tools for autocratic governments. These findings suggest that the Chinese government regulates social media to balance threats to regime stability against the benefits of utilizing bottom-up information. Jha and Sarangi (2017) found a causal relationship between Facebook penetration and corruption. Our research is closely linked to this last direction. The positioning of the study departs from a growing stream of literature on the use of information technology for social, entrepreneurial and environmental outcomes (Bongomin *et al*., 2018 ; Gosavi, 2017; Asongu & Nwachukwu, 2016c; Hubani & Wiese, 2017 ; Issahaku *et al*., 2017; Minkoua Nzie *et al*., 2017 ; Muthinja & Chipeta, 2017 ; Asongu & Le Roux, 2017 ; Afutu-Kotey *et al*., 2017; Asongu *et al*., 2017a, 2018).

3. Data and Methodology

3.1. Data

To measure Natural Resource Governance, we use data from the Natural Resource Governance Institute. This variable is a composite indicator that is based on four dimensions, notably: institutional and legal setting, reporting practices, safeguards

and quality controls and enabling environment. This indicator moves in the range of 0 to 100, the best situation.

To measure social networks or social media, we use the share of the population using Facebook. Facebook penetration data comes from 'Quintly', a social media benchmarking and analytics Solution Company.[3] The latter has recently been used in the literature as a social media proxy (e.g. Jha & Sarangi, 2017; Jha & Kodila-Tedika, 2018).

The choice of control variables is also motivated by institutional development literature. They include: open, GDP per capita rights, Minerals rents and legal origins (British, German, French and Scandinavian). Natural resources exports is measured by Mineral rents (% of GDP) to account for the effect of the rent-seeking opportunities due to the presence of natural resources. Finally, openness to trade is measured by the GDP share of the value of total exports and imports. Dummy variables for legal origins come from La Porta et al. (1999). The data on GDP per capita and trade come from Pen World Tables.

3.2. Methodology

In order to investigate the relationship between Facebook penetration and natural resource governance, we estimate the following equation:

$$NaturalRessourceGovernance_i = \alpha + \beta Facebook_i + \delta_1 LegalOrigin_i + \delta_2 \log(GDPpercapita_i) + \delta_3 Open_i + \delta_4 MineralRent_i + \mu_i \quad (1)$$

where subscript i denotes the country. Note that we use the negative of the corruption index so that a higher value means higher corruption implying that

[3] The data was accessed from its website (http://www.quintly.com/facebook-country-statistics?period=1year)

estimated parameters corresponding to β and δ are expected display negative signs. Finally, α is the intercept, β captures the effect of average Facebook penetration on natural resource governance while $\beta = (\delta_1; \delta_2 \; ; .\delta_k)$ is the parameter for the control variables. Our parameter of interest is thus β. Table 1 lists the countries that are included in our baseline specification.

Table 1. Countries included in the baseline specification (Table 3. Column 3)

Australia	Kazakhstan
Azerbaijan	Kuwait
Bahrain	Morocco
Bolivia	Mexico
Brazil	Mongolia
Botswana	Mozambique
Canada	Malaysia
Chile	Nigeria
China	Norway
Cameroon	Peru
Colombia	Philippines
Algeria	Russian Federation
Ecuador	Trinidad and Tobago
Egypt	United Republic of Tanzania
Gabon	United States
United Kingdom	Venezuela
Ghana	Vietnam
Indonesia	South Africa
India	Zambia

We perform our analysis on the empirical model specified in Equation (1) above using essentially ordinary least square (OLS) regression model. To correct for likely heteroscedasticity, we present white-corrected standard errors.

Reverse causality is a concern in this study. Indeed, Facebook penetration is a variable that is not entirely exogenous. Given that the estimations by the OLS technique may be weak in the endogeneity issue, we verify the robustness of corresponding estimates by employing an estimation technique that corrects the presence of such endogeneity. For this purpose of robustness we employ Two-stage-least squares (2SLS) estimation technique.

Table 2 provides the summary statistics for all the variables used in this study and Table 3 provides the resulting correlation matrix.

Table 2. Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Composite	59	50.47	20.12	4.28	98.018
Institutional and legal setting	59	58.80	21.05	8.33	100
Reporting practices	59	49.90	22.80	4.17	97.44
Safeguards and quality controls	59	54.03	22.84	0	98.26
Enabling environment	59	39.72	26.00	2.25	97.54
Facebook	180	20.95	18.40	.038	97.64
British Legal origin	141	.28	.452	0	1
French Legal origin	141	.45	.50	0	1
Socialist legal origin.	141	.19	.39	0	1
German legal origin	141	.04	.20	0	1
Scandinavian Legal origin	141	.04	.19	0	1
GDP per capita (log)	140	8.87	1.19	5.90	11.17
Open	140	95.42	57.16	26.65	446.06
Internet penetration	192	35.53	27.56	.7	94.82
Minerals	128	9.13	14.83	.01	79.85
IQ	177	84.30	10.93	61.2	106.90
Ethnicity	124	.363	.32	0	1
Oecd	137	.21	.41	0	1

Table 3. Correlation matrix

	1	2	3	4	5	6	7	8	9
Composite (1)	1.000								
Facebook (2)	0.704	1.000							
legal origin British (3)	0.222	0.140	1.000						
French Legal origin (4)	-0.151	0.041	-0.687	1.000					
Socialist legal origin (5)	-0.259	-0.385	-0.331	-0.390	1.000				
Scandinavian Legal origin (6)	0.390	0.324	-0.126	-0.148	-0.071	1.000			
GDP per capita (7)	0.528	0.792	0.108	-0.125	-0.101	0.292	1.000		
Open (8)	-0.388	0.009	0.072	-0.260	0.268	-0.020	0.080	1.000	
Mineral rents (9)	0.039	-0.085	0.003	0.009	0.009	-0.058	-0.258	-0.064	1.000

4. Empirical results

4.1. OLS Estimation

We present the OLS results in Table 4. In the baseline specification reported in Column 1, we find that the coefficient of media social index is positive and highly statistically significant suggesting a positive relationship between media social and natural resource governance. In the next columns, we control for a number of variables to check the robustness of our results and to minimize the possibility of omitted variable bias. We find that the probable variable bias omitted does not affect our results.

Table 4. The Effect of Social Media on Natural Resource Governance : OLS Estimates

	I	II	III
Facebook	0.756***	0.619***	0.747***
	(0.115)	(0.108)	(0.162)
Dummy legal origin British		2.092	-12.356
		(5.647)	(9.827)
Dummy legal origin French		-3.631	-21.593**
		(5.481)	(9.838)
Dummy legal origin: Socialist.		(dropped)	-9.400
			(11.085)
Dummy legal origin: Scandinavian		17.094	
		(13.303)	
GDP per capita (log)			-2.082
			(2.713)
Open			-0.202***
			(0.041)
Minerals rents			0.042
			(0.075)
_cons	39.457***	46.113***	92.785***
	(2.743)	(4.613)	(24.475)
Number of observations	53	42	38
R2	0.459	0.587	0.762

note: .01 - ***; .05 - **; .1 - *;

4.2. Robustness checks

Results with sub-indexes

The natural resource governance variable used is a composite index that has four components, notably: institutional and legal setting, reporting practices, safeguards and quality controls, and enabling environment. One way to consider the strength of the effect of Facebook penetration on natural resource governance is related to the variable of interest in its sub-dimensions. Figures 1 portrays the relationship between each of the four sub-indexes of natural ressource governance (y-axis) and facebook penetration (x-axis) for the countries included in our sample.

Figure 1. Sub-indexes of natural resource governance and Facebook penetration

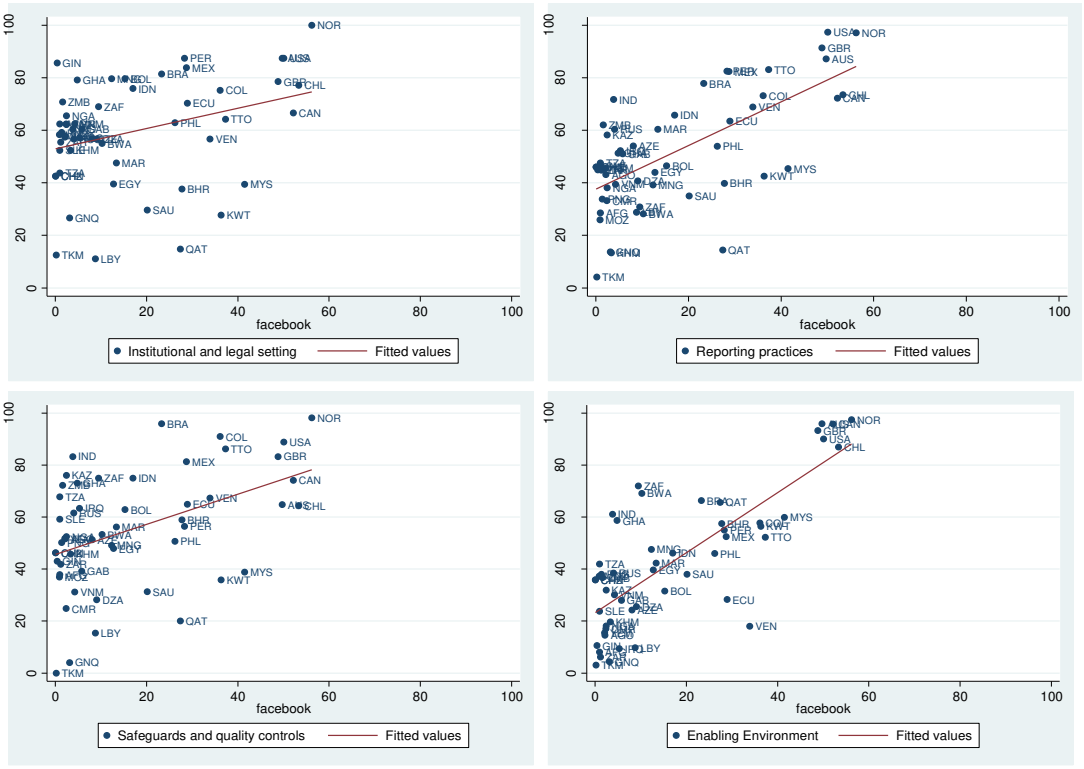

Figure 1 exhibits a positive and significant relationship between each relevant measure of four sub-indexes of natural resource governance and the penetration Facebook. In panel (a), β = .385 (p-value = 0.014) for institutional and legal setting; in panel (b), β = .829 (p-value = 0.000) for reporting practices; in panel (c) β = .579 (p-value= 0.001) for safeguards and quality controls; and in panel (d) β = 1.154 (p-value = 0.000) for the enabling environment. In each of the simple regression models, Facebook penetration explains the variations in the four sub-indexes of natural resource governance: 11.3% of the variations in institutional and legal setting, 43.7% of the variations in reporting practices, 20.5% of the variations in safeguards and quality controls; and 60.% of the variations in the enabling environment.

These statistical conclusions are estimates with simple regressions. They are therefore simple correlations, likely to be fragile once the other variables can affect these controlled dimensions. Table 5 therefore uses the same variables in the last column of Table 4. Facebook penetration is positively and statistically related to the different components of the Natural Resources Governance index. The level of significance is very strong, except for safeguards and quality controls.

Table 5.Regression Results with Sub-Indexes

	Institutional and legal setting	**Reporting practices**	**Safeguards and quality controls**	**Enabling environment**
Facebook	0.688***	0.950***	0.518*	0.629***
	(0.223)	(0.222)	(0.276)	(0.227)
Dummy legal origin British	-25.386*	-8.820	-14.051	-4.701
	(13.519)	(13.459)	(16.757)	(13.792)
Dummy legal origin French	-28.376**	-13.166	-28.816*	-24.441*
	(13.534)	(13.474)	(16.775)	(13.807)
Dummy legal origin: Socialist.	-15.881	2.136	-17.161	-18.229
	(15.250)	(15.181)	(18.901)	(15.557)
GDP per capita (log)	-7.551*	-2.942	-2.470	5.495
	(3.732)	(3.715)	(4.626)	(3.807)
Open	-0.191***	-0.237***	-0.238***	-0.109*
	(0.056)	(0.056)	(0.070)	(0.057)
Minerals rents	0.150	-0.064	-0.041	0.229**
	(0.103)	(0.103)	(0.128)	(0.106)
_cons	155.149***	93.024***	113.275**	9.455
	(33.670)	(33.519)	(41.733)	(34.349)
Number of observations	38	38	38	38
R2	0.531	0.684	0.489	0.763

note: .01 - ***; .05 - **; .1 - *;

Outliers

Table 6 presents results that control for outliers. The empirical approach follows Huber (1973) on the use of Iteratively Reweighted Least Squares (IRWLS). As has been noted by Midi and Talib (2008), in comparison to OLS, the procedure

has the advantage of producing robust estimators because it simultaneously fixes any concern arising from the presence of outliers and/or heteroskedasticity (non-constant error variances). By correcting this problem, we find that the conclusions found remained the same, except for the variable "safeguards and quality controls". In different terms, these conclusions are not influenced by outliers.

Table 6. Controlling from outliers

	Composite	Institutional and legal setting	Reporting practices	Safeguards and quality controls	Enabling environment
Facebook	0.737***	0.708***	0.880***	0.506	0.706***
	(0.177)	(0.235)	(0.272)	(0.313)	(0.211)
Dummy legal origin British	-2.820	-9.281	-9.604	5.399	15.144**
	(5.581)	(7.398)	(8.555)	(9.842)	(6.630)
Dummy legal origin French	-11.904**	-13.256*	-14.265	-9.625	-5.536
	(5.719)	(7.582)	(8.767)	(10.086)	(6.794)
lgdpcap2005	-1.820	-8.557**	-1.664	-3.038	3.694
	(2.971)	(3.939)	(4.555)	(5.240)	(3.530)
GDP per capita (log)	-0.200***	-0.202***	-0.237***	-0.239***	-0.127**
	(0.045)	(0.059)	(0.069)	(0.079)	(0.053)
Open	0.044	0.127	-0.068	-0.051	0.217**
	(0.082)	(0.109)	(0.126)	(0.145)	(0.098)
Minerals rents	80.740***	150.072***	84.322**	99.724**	8.525
	(26.382)	(34.974)	(40.444)	(46.527)	(31.342)
Number of observations	37	37	37	37	37
R2	0.680	0.444	0.547	0.376	0.768

note: .01 - ***; .05 - **; .1 - *;

Additional controls

The results we found may be due to characteristics of unobserved or controlled countries. This can actually support a relationship between our variable to explain and our variable of interest. It is possible that this relationship is due to an omission bias. To mitigate this possibility, we control for additional variables that could be correlated with the unexplained component of Natural Resource Governance. The results of this exercise are summarised in Table 7. To allow for

comparisons, we report the estimated results of the baseline model (these are identical to those presented in column (3) of Table 4).

We controlled Internet penetration, human capital measured by the IQ, ethnicity and the dummy of the OECD. The data for internet penetration have been taken from the World Bank. Internet penetration data is defined as the percentage of population with an internet connection. IQ is measured by National average intelligence. The intelligence data are sourced from Meisenberg & Lynn (2011). Ethnicity is an index of ethnic diversity (Easterly & Levine, 1997). The effects of ethnic diversity especially on institutions and natural resources are documented in the literature (Alesina et al., 2016; Fenske & Zurimendi, 2017). Kodila-Tedika (2014) and Kodila-Tedika & Kalonda-Kanyama (2012) have showed that there is a link between governance/institution and IQ. The effect of internet penetration on governance is known (Andersen *et al*., 2011). The dummy consideration for the OECD is justified by the fact that these countries have the most elaborate economic and even political structures. Given the small size of the sample, we do not know how to break down the sample in two: on the one hand, the sample of developed economies and the other on developing economies. As a result, we did not want to lose more or less this information.

Table 7 shows that despite the inclusion of new control variables, the results remain the same. A strong Facebook penetration is accompanied by an improvement in the governance of natural resources, except for the last two columns which take up two components of the governance of natural resources.

Table 7. OLS regressions with additional controls

	Composite	Institutional and legal setting	Reporting practices	Safeguards and quality controls	Enabling environment
Facebook	0.714**	0.792*	0.824**	0.586	0.542
	(0.285)	(0.386)	(0.385)	(0.473)	(0.414)
Internet penetration	-0.179	-0.199	-0.168	-0.113	-0.248
	(0.191)	(0.258)	(0.257)	(0.316)	(0.277)
IQ	0.455	-0.205	0.821	0.511	0.328
	(0.462)	(0.624)	(0.624)	(0.765)	(0.670)
Ethnicity	-4.538	6.478	-4.790	-17.193	-2.396
	(9.274)	(12.533)	(12.517)	(15.353)	(13.450)
OECD	4.172	16.809	3.031	-8.403	6.394
	(7.890)	(10.663)	(10.649)	(13.062)	(11.443)
_cons	46.011	142.881*	27.905	84.557	-53.194
	(52.488)	(70.936)	(70.848)	(86.899)	(76.129)
Number of observations	32	32	32	32	32
R2	0.739	0.541	0.689	0.531	0.719

note: .01 - ***; .05 - **; .1 - *;

A Fractional Response Model Approach

The variable we are trying to explain is a bounded variable. In this case, the MCO-type model may be inefficient at capturing the nonlinear effects that the control variables may have on the dependent variable. In addition, the inclusion of non-linear functions of control variables in such models to address this problem can lead to predicted values that lie outside the bounded range (Wooldridge, 2010). Nevertheless, we test the robustness of our results using an alternative empirical model that might be appropriate when the dependent variable is bounded.

As a result, the fractional response model is an appropriate response. It is a quasi-likelihood estimation method that models the average of the dependent variable as a function of the independent variables. This model is an appropriate estimation method if the values of the dependent variable are between 0 and 1 (Papke &

Wooldridge 1996, Wooldridge, 2010). As a result, we are transforming our natural resource governance index so that they take values in the range of 0 and 1 with a higher value implying a better situation. In this estimation method, we use a probit model for the conditional mean. These results are presented in Table 8. Column 1 summarizes the estimates for the composite variable of natural resource governance. The rest of the columns show the different components of the index, except for institutional and legal setting. For this dimension of the composite index, the econometric results do not converge. Thus, we cannot include these results. The estimated coefficient of social media index (Facebook) is positive and statistically significant at the conventional levels in each column. These results reaffirm the positive relationship between social media and natural resource governance.

Table 8. The Effect of Social Media on Natural Ressource Governance : A Fractional Response Model

	Composite	Reporting practices	Safeguards and quality controls	Enabling environment
Facebook	0.021***	0.027***	0.015**	0.019***
	(0.003)	(0.006)	(0.006)	(0.005)
Dummy legal origin British	-1.032***	-0.772***	-1.142***	-0.673***
	(0.090)	(0.160)	(0.187)	(0.159)
Dummy legal origin French	-1.307***	-0.933***	-1.559***	-1.255***
	(0.113)	(0.148)	(0.171)	(0.176)
Dummy legal origin: Socialist.	-0.950***	-0.483**	-1.224***	-1.015***
	(0.129)	(0.218)	(0.244)	(0.212)
GDP per capita (log)	-0.049	-0.072	-0.062	0.146*
	(0.070)	(0.096)	(0.105)	(0.080)
Open	-0.006***	-0.007***	-0.007***	-0.004***
	(0.001)	(0.001)	(0.002)	(0.001)
Minerals rents	0.001	-0.002	-0.001	0.006*
	(0.001)	(0.003)	(0.002)	(0.003)
_cons	1.813***	1.672**	2.435***	-0.475
	(0.636)	(0.786)	(0.926)	(0.727)
Number of observations	38	38	38	38
Pseudo-R2	0.0710	0.0886	0.0638	0.1314

note: .01 - ***; .05 - **; .1 - *;

Instrumental Variable Estimation

The observed relationship may suffer from a probable problem of endogeneity, notably on a bias of omission. We correct this potential problem by using a 2SLS model. We mobilize two instruments. First, we use the instrument used by Jha and Sarangi (2017) and Jha and Kodila-Tedika (2018). We use technology adoption in communication in 1500CE as an instrument for Facebook penetration (technology adoption) today. The measure of technology adoption in communication in 1500 CE is consistent with Comin et al. (2010).

The second instrument is historical human capital. The specifications accounts for indicators of human capital accumulation in terms of primary and secondary school enrolments. The variable which is obtained from Mitchell (2003a, b, c)

denotes the number of students per kilometer square in the 1920s. In order to use social networks, a minimum of instruction is required. This variable captures this minimum. It has the advantage of being historical and therefore has a certain precedence with respect to the governance of natural resources, the difference of which has presented itself more in the contemporary or post-colonial period. In the colonial era, it was dictated by the nature of the colony, either extractive or populated (Acemoglu *et al*., 2001, Kodila-Tedika & Tcheta-Bampa, 2018b). This historical human capital variable has already been used as an instrument in studies of governance change (Glaeser *et al*., 2004 ; Tebaldi & Mohan, 2010 ; Asongu & Kodila-Tedika, 2017).

Sargan's over-identification test is valid. The instruments meet the statistical criteria to be considered as sufficiently exogenous to Facebook penetration. As a result, the conclusions derived from the estimates in Table 9 refer to a causality between the natural resource governance variable and Facebook penetration. It can be seen in this table that these two variables have a positive and significant relationship except for the enabling environment dimension of natural resource governance.

Table 9. The Effect of Individualism on Corruption: IV Estimates

	Composite	Institutional and legal setting	Reporting practices	Safeguards and quality controls	Enabling environment
Facebook	1.244***	1.163**	1.055**	2.147***	0.798
	(0.421)	(0.549)	(0.480)	(0.793)	(0.536)
Dummy legal origin British	-10.352	-20.885	-10.158	-12.011	1.452
	(10.827)	(14.124)	(12.336)	(20.396)	(13.787)
Dummy legal origin French	-18.186*	-21.402	-12.663	-23.852	-20.348
	(10.698)	(13.955)	(12.189)	(20.152)	(13.623)
Dummy legal origin: Socialist.	-4.941	-19.279	-3.103	7.880	-7.097
	(17.319)	(22.591)	(19.732)	(32.623)	(22.053)
GDP per capita (log)	-9.721	-13.527	-5.075	-29.711**	4.784
	(7.108)	(9.272)	(8.098)	(13.389)	(9.051)
Open	-0.215***	-0.208***	-0.222***	-0.300***	-0.121
	(0.059)	(0.076)	(0.067)	(0.110)	(0.075)
Minerals rents	-0.003	0.068	-0.033	-0.208	0.190
	(0.093)	(0.121)	(0.106)	(0.175)	(0.118)
_cons	148.039***	194.428***	108.653*	319.668***	8.795
	(55.340)	(72.186)	(63.052)	(104.243)	(70.468)
Overidentification test (p-value)	0.4067	0.2828	0.2828	0.4278	0.1435
Number of observations	27	27	27	27	27
R2	0.680	0.368	0.681	0.146	0.761

note: .01 - ***; .05 - **; .1 - *;

5. Conclusion

The establishment of good institutions is a genuine way of addressing the policy syndrome of natural resources curse. Although this perspective is widely accepted, we do not have the answers clearly documented empirically, at least in transversal terms. Until recently, the level of governance of natural resources could not really be assessed for lack of an ad hoc indicator. This article has focused on providing a cross-cutting response using the Natural Resource Governance Institute's recent natural resource governance indicator. It has shown empirically that the governance of natural resources improves with the strong penetration of social networks or social media such as the case of Facebook. This conclusion is robust to several tests, including changes in

estimation techniques, the decomposition of the governance index, the addition of other control variable and the correction for outliers. Also, we tested the causality between the two variables, correcting the endogeneity of the Facebook penetration variable.

Ultimately, countries that have better governance of natural resources are those that are equally associated with a strong Facebook penetration. Increasing this penetration directly causes better governance. In the light of these findings, the main policy implication from this study is that policies designed to increase Facebook penetration will benefit from better governance standards. Such benefits will go a long way to improving the governance of natural resources.

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