

Does Democracy Boost Good Governance?

Yashar Tarverdi Mamaghani^a, Shrabani Saha^{b*}

ABSTRACT

Why does governance effectiveness differ across countries? In this article, by focusing on democratic attributes, we examine whether democracy revitalises good governance over one hundred countries using advanced panel data analysis for the period 1996-2012. Our results confirm that political freedom influences the level of good governance, but this effect is nonlinear. Governance effectiveness is typically higher in dictatorships than in countries that are partially democratized. However, once past a threshold, democratic practices assist good governance. Furthermore, democracy substantially strengthens governance quality only within the top-half of the conditional distribution.

Keywords: Democracy, good governance, country studies, panel data

JEL Classification: K4, H1, O5

^aBusiness School, University of Western Australia, 35 Stirling Highway, Crawley WA 6009, Australia; email: yashar.tarverdi@uwa.edu.au

^bLincoln Business School, University of Lincoln, Brayford Pool, Lincoln, Lincolnshire, LN6 7TS, United Kingdom; email: ssaha@lincoln.ac.uk

*Corresponding author: *Shrabani Saha, Lincoln Business School, University Of Lincoln, Brayford Pool, Lincoln, Lincolnshire, LN6 7TS, United Kingdom; phone: + 44 -1522835547; email: ssaha@lincoln.ac.uk*

Does Democracy Boost Good Governance?

I. INTRODUCTION

The seminal work by North (1990) first highlighted the importance of institutions on countries' economic performances. Throughout the last two decades, various impacts of social and economic institutions have been studied. However, there is not any particular and widely-cited definition for governance. The World Bank (1992) first attempted to provide a clear definition by referring to it as “the process of decision-making and the process by which decisions are implemented (or not implemented)”.¹ A key implication of this definition is that the quality of governance is beyond the immediate control of any government (however well intentioned).

Despite the fact that almost all studies so far find a positive linkage between good governance and desirable economic achievements (i.e. good governance is generally found as a key foundation of economic growth and development)², the possible factors that can contribute to good governance have relatively attracted less research attention and it is believed that there are some important aspects which have not been explored and quantified adequately. Majority of the existing literature in this area focuses on the linkage between democracy and quality of government/corruption.³ Our purpose is to offer a systematic investigation for observed cross-country differences in governance by taking into

¹ World Bank (1992) also introduces a framework containing eight aspects of a “good” governance, namely Participation, Rule of law, Transparency, Responsiveness, Consensus oriented, Equity and inclusiveness, Effectiveness and efficiency, and Accountability.

² See for example, Wabuke, 2010; Brown-Shafii, 2011; Quinn and Dawson, 2011; and Abdulkadir et al., 2012 for details.

³ See Sung (2004); Keefer (2007); Keefer and Vlaicu (2008); Rock (2009); and Charron and Lapuente (2010, 2011a, 2011b); and Dahlström et al (2011) for details.

consideration of much broader perspective and focusing on the role of democracy.⁴ In particular, does democracy necessarily improve the quality of governance?

Undoubtedly, one of the interesting aspects of governance is democracy or regime type. This idea has attracted a few researchers' attention, for instance Stockemer (2009, 2014) explored the linkage between democracy and good governance in Africa and Latin America and in different income groups of countries. In addition, Al-Marhubi, (2004) studied a similar linkage between democracy and good governance. These studies find that the state's movement towards greater democracy initiates better governance practices and the positive linkage exists over different income groups of countries.

Although these studies find a positive association between democracy and good governance, the worldwide evidence reflects a mixed pattern; i.e. countries with democratic governments do not necessarily lean towards good governance. For instance, country like Singapore demonstrates a temperate level of democracy as well as very high levels of good governance. Contrarily, in spite of India's high level of democracy, its governance quality is feeble. In other words, one of the largest democracies in the world doesn't produce "good governance" but with comparatively restricted democracy Singapore created a good example for "good governance". This propels challenges to the claims of a positive linear relationship between democracy and good governance. In this study we try to solve this paradox with a systematic non-linear analysis without assuming any curvilinear form. Therefore, our main question focuses on whether democracy necessarily brings good governance to countries, controlling for other socio-economic and institutional factors and whether the impact of democracy is consistent across the various levels of governance. The non-linearities between

⁴ As a broader perspective "governance" is an envelope of the government and the state capacity or government effectiveness as well as quality of government which controls corruption.

democracy and good governance are examined in a non-linear functional form and also in both non-parametric and semi parametric settings.

This paper explores what level of democracy is crucial for good governance? The study differs from earlier literature in several ways: first, we explicitly explore the non-linear effect of democratization on good governance by considering much broader perspective. There is no cross-country evidence in the existing literature that captures the nonlinear effects on the democracy–good governance relationship. Second, we checked the consistency of our results across various levels of governance using quantile regression. Third, we examine the link between democracy and good governance across different regime types – ‘free’ and ‘not free’ countries. Fourth, along with aggregate measure of democracy, we examine the individual dimensions to identify the crucial aspect of democracy that contributes towards good governance. Fifth, a good governance indicator is constructed by employing principal component analysis (PCA). Sixth, we aim to find the effective elements on good governance by incorporating spiritual beliefs (e.g. religion) and gender parity which have not been studied in the literature. Finally, this work contributes to the literature by improving the methodology and model selection. The non-linear effects are tested by utilizing the most advanced semi-parametric panel data techniques. It also extends the geographical and economical grouping and covers a relatively large period, from 1996-2012. We turn next to a discussion of the model used, the data employed, and the estimation techniques.

II. THEORETICAL ASPECTS

There is a prolonged debate in the development literature over whether democracy supports or hinders good governance and how the effect varies across regions as well as countries. On the one hand, it is found that free countries across all level of development have higher levels of bureaucratic effectiveness and a better regulatory framework to provide efficient allocation

of resources (Stockemer, 2014). According to this finding, democracy enhances transparency in the decision-making procedures and hence it is likely that democracies are best equipped to create expedient conditions for sustainable economic and social enlargement. The contention behind this argument is that democratic systems operate under checks and balances where the various executive branches of government are balanced by an elected parliament and open elections allow political leaders to alternate in power (Saha et al., 2014). Thus it is reasonable to expect that a well-functioning democracy, with an independent judiciary, results in a society where the power of political elites is substantially moderated and consequently the level of transparency is higher.

On the other hand, it is observed that industrializing countries with autocratic rule demonstrate superior governance practices compared with their democratic counterparts. Although autocratic systems are characterised by the monopolization of power in the hands of small elites, autocrats are not free of threats. Accountability within autocracy can restrain rulers in the absence of democratic elections and provide an effective incentives system. Usually the political and economic literature model autocracy as if the citizens have no role in constraining leader's behavior, but actually autocratic governments are afraid of possible citizens' revolts (Gilli and Li, 2012; Tullock, 1987 and 2005; and Wintrobe, 1990, 2012). According to this perspective, revolutionary threats from the citizens might restrain the leader from adopting non-congruent policies in autocracies. In other words, the autocrat's focus is on his own survival in office and potential threats to his regime. However, Gilli and Li (2012) argue further that revolutionary threats can create two sets of outcomes, either instability entices leaders to seize money and flee in a weak institutional set up, or revolutionary threats ensure a congruent behaviour in a more established setting. A good example of the first outcome can be drawn from the Suharto era in Indonesia. Conversely, Singapore provides an example of good governance with a strong institutional set up.

Even though many political scientists and economists are concerned about the heterogeneous economic outcomes of different political regimes, both democracies and autocracies have obtained significant economic success in some countries and periods, while in other contexts both types of governance have induced poor economic outcomes.⁵ However, evidence suggests one common feature that boosts economic success in both autocracies and democracies is sound institutional settings. Actually, mature institutions differentiate “liberal democracy” from “illiberal democracy”.⁶ Liberal democracy is enriched with mature institutions whereas the opposite is the case for illiberal democracy. Zakaria (2004) cites Croatia and Slovakia as two countries that were initially illiberal democracies and have subsequently evolved toward being liberal democracies with constitutional reforms and maturing institutions. However, illiberal democracy does not necessarily follow the path of maturing institutions leading to a gradual transformation to liberal democracy. A country might remain an illiberal democracy for an indefinite period of time.

Hence, a simplistic distinction between just ‘democracy’ and ‘no democracy’ is unhelpful and simply looking at the term democracy does not ensure improvement in governance quality. On the one hand, in many illiberal democracies, under the mask of political participation, political elites continue to manipulate the electoral process to legitimize retention of power and use the state machinery in pursuit of their own interests by limiting governance practices for the populous (Doig, 2000). On the other hand, expansion of liberal democracy is posited to increase the quality of good governance by reducing corruption in two ways. First, the freedom of information and association characteristic of democracies

⁵ See for instance, Bardhan, 1993; Przeworski and Limongi, 1993; Huber et al. 1993; Barro 1996; Almeida and Ferreira, 2002; Boix and Stokes, 2003; Acemoglu and Robinson; 2006; Papaioannou and Siourounis, 2008; Acemoglu et al., 2008; Acemoglu et al., 2009; Boix, 2011; Treisman, 2011.

⁶ The term ‘illiberal democracy’ was popularised by the widely-read work of Fareed Zakaria (2004).

facilitates monitoring of public officials, thereby limiting their opportunities for corrupt behaviour (Montinola, 2002; Saha et al., 2014). Second, the alteration of power in democracies limits the credibility of political elites and hence minimises the size of bribes that rent-seekers are willing to accept (McChesney, 1987).

Also, countries that swing from autocracy to new or illiberal democracy frequently encounter a jump in the level of corruption, and a deterioration in the quality of governance (obviously these phenomena are closely linked). Weak institutional frameworks in newly democratised countries can be blamed for a lower quality of governance level. These countries are mostly characterised as electoral or illiberal democracies and they typically belong to the low-end of the ‘free’ category of countries as classified by Freedom House (2012). Political institutions in a newly formed electoral democracy lack the institutional resources to restrict corrupt practices of political elites. Dahl (1971) argues that democracy without participation is an absurdity, but participation without an effective institutional framework would be futile and chaotic. In support of this view, Doig (2000) notes that democracy requires institutional arrangements to secure the rule of law and participation of people in state activities. Shleifer and Vishny (1993) also claim that the structure of government institutions and political process are the most important determinants of corruption.

The above discussion suggests that one should be cautious about assuming a simple positive relationship between democracy and good governance. The goal of this paper is to investigate what level of political freedom can be regarded as necessary to escalate a country’s level of governance effectiveness. In other words, which aspects of democracy matter most in improving good governance? It further explores the hypothesis that a non-linear association between democracy and good governance can be plausible. The existence of ‘electoral democracy’ in the early stages of democratization is not sufficient to increase

governance efficiency.⁷ This hypothesis is based on the idea that it is the institutions associated with a mature democracy that are crucial for enhancing governance efficacy. That is, while free and fair elections are to be welcomed, on their own they do not lead to increase the quality of governance without sound institutions.

III. DATA, MODELS AND METHODOLOGY

The dependent variable in this study is good governance. Like corruption, there is no universally accepted definition of good governance. Governance is an elusive concept; there is no unanimity about what comprises good governance (Andrews, 2010; Mkandawire, 2007). Thus different researchers emphasise different aspects of the problem depending on the subject under examination. However, the introduction of Worldwide Governance Indicators (WGI) by Kaufmann et al. (1999) represented a major breakthrough in the empirical research relating to governance. Kaufmann et al. (1999, p. 1) define governance as “the traditions and institutions by which authority in a country is exercised. This includes (a) the process by which governments are selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them.” They constructed the six dimensions of governance which are: i) Voice and Accountability; ii) Political Stability and absence of violence/terrorism; iii) Government Effectiveness; iv) Regulatory Quality; v) Rule of Law; and vi) Control of Corruption. Various studies in economics and political science have used the WGI indicators either by

⁷ The concept of electoral democracy emerges from Schumpeter’s (1947) emphasis on electoral competition as the core of democracy. The contemporary minimalist concept of democracy or equivalently an ‘electoral democracy’ refers to a multi-party system with (relatively) free and fair elections, but deficient in many important aspects that define a liberal democracy. See Diamond (1996) and Tronquist (1999, p. 98) for details.

aggregating or converting all the indicators or by considering the individual or composite components as proxies for good governance.⁸ There are varying aspects of the six indicators i.e. each individual indicator measures different things. While the voice and accountability indicator has been constructed to demonstrate the democratic process of governments, other indicators capture the various governance processes such as control of corruption, effectiveness of government quality, rule of law etc.

For the purpose of this study, we consider a wider definition for our dependent variable, i.e. governance rather than quality of government. Acknowledging the fact that there is still debate on the definition of governance, good governance specifically; the concept is still under development Gisselquist (2012). However, the concept of “Good Governance” has distinctive differences from conventional meaning of government, while government is about a specific party who has the control of power to certain amount of time; the governance defines the underlying political system that brings different components of a political system together. The framework that we adopt in this study is more aligned with the definitions of World Bank (1989, 1992), therefore we use the WGI indicators for constructing the good governance indicator by employing principal components analysis (PCA).⁹ Five WGIs are used to create a proxy for good governance.¹⁰ The result of the PCA is shown in Table 1.

⁸ See for example Stockermer (2009, 2014) and Al-Marhubi (2004) for details.

⁹Principal Component Analysis (PCA) is a powerful statistical technique to determine the important component(s) among many variables. It finds the combination of the variables which explains the phenomena. Mathematically, PCA tries to find some linear projections of the data which preserve the information that the data have. The number of principal components is less than or equal to the number of original variables. PCA has been widely used in the literature for dimensionality reduction.

¹⁰The voice and accountability component is excluded because it represents democratic aspects of governments. According to the WGIs, the voice and accountability component captures perceptions of the extent to which a

[TABLE 1 ABOUT HERE]

It can be noted that the eigenvalue of the first component is much higher than for the other components.¹¹ Also, the first component successfully explains almost 89% of variation in the dataset¹². Therefore the score of each observation based on this component can be used as reduced dimension of governance aspects (i.e. proxy for good governance). In addition, the scree plot presented in Figure 1 confirms the usage of first component score as a proxy indicator for good governance.¹³

[FIGURE 1 ABOUT HERE]

country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

¹¹Eigenvalue gives the components in order of significance. If the eigenvalues are small then the components can be ignored without losing much information.

¹²Another way to determine the number of new variable(s) is to look at the cumulative proportion of variance. This means how much of the information that the original data have can be described by the combination of the new variables. For instance, the component 1 can describe 87% of the information the original data have. Generally, 80% is considered as the number of the percentage which describes the data well. So, in this case, we can take component 1 and ignore others.

¹³The scree plot is a useful visual aid for determining an appropriate number of principal components. The scree plot graphs the eigenvalue against the component number. An "elbow" in the scree plot determines the appropriate number of components. The component number is taken to be the point at which the remaining eigenvalues are relatively small and all about the same size.

Each dimension of the original WGI has a normal distribution with zero mean and unit variance and ranges between -2.5 to 2.5. However, the new constructed index for good governance ranges from -6 to 5 and the higher score indicates better governance.¹⁴

The main independent variable in this study, democracy, also suffers from the problem of measurement. The measurement of democracy is disputed due to the problems of conceptualization, measurement and aggregation; no single index offers a satisfactory response to these problems, and even the best indices have significant weaknesses (Coppedge, 2002 and Munck, and Verkuilen, 2002). For the purpose of this study, Polity IV institutionalised democracy index is used as the principal measure of democracy. The index is based on the competitiveness of political participation, the openness and competitiveness of executive recruitment and constraints on chief executives.¹⁵ It measures the degree of democracy and autocracy. The most widely used Polity score combines the scores on the democracy and autocracy indices into a single regime indicator. The score captures the regime authority spectrum on a 21-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy). However, the Polity IV index is an additive eleven-point scale (0-10) and a higher value indicates a higher level of democracy.

As an umbrella concept democracy combines multiple components into one index. However, Jackman (1985) suggests that it is imperative to focus on the individual components as well. In order to examine the effectiveness of individual dimensions of democracy, the ‘democracy barometer’ index developed by University of Zurich (UZH) and

¹⁴ The constructed index is used without any normalization as it is believed that normalizing the constructed variable would change the distribution across countries.

¹⁵ Unlike, other democracy indicators such as Freedom House and the Polity Project, the Democracy Barometer uses hard and aggregated survey data whenever possible. See <http://www3.nd.edu/~mcoppedg/crd/PolityIVUsersManualv2002.pdf> for details.

Social Science Research Centre Berlin (WZB) is used for more in-depth analysis.¹⁶ The democracy barometer takes into account both a country's institutional setting (rules in law) as well as effectiveness of those institutions in practice (rules in use). The overall quality of democracy in a democratic country is based on three principal components, namely, freedom, control and equality and each component is constructed on multiple criteria.¹⁷ Each index ranges from 0 to 100 and a higher value indicates a better democratic performance.

Economic freedom index (EF), is included as an institutional control variable that measures the level of regulation on economic activities in a country is sourced from Heritage Foundation. Other socio-economic variables incorporated as the control variables are per capita real gross domestic product (RGDP), population (POP), Gini index (GINI) of inequality and secondary level of education (SED) and these variables are obtained from World Bank World Development indicators. For sensitivity analysis we include federal states and Protestant, Muslim and Catholic tradition variables which are based on the Quality of Government (QOG) Standard Dataset (2011).¹⁸ Additional controls such as natural resource abundance, women in parliament and ethnolinguistic fractionalization variables are obtained from the World Development Indicators dataset. Summary statistics and the data sources are provided in Appendixes 1 and 2, respectively.

3.1. Models

This paper examines the non-linear democracy-good governance relationship using recent data covering over 100 countries for the period 1996 to 2012. We begin the analysis by

¹⁶See http://www.democracybarometer.org/about_en.html for details. The advantage of the democracy barometer is that it uses, whenever possible, hard and aggregated survey data.

¹⁷ Each component consists of at least one subcomponent that measures rules-in-law and rules-in-use.

¹⁸See <http://www.gaportal.org/global-indicators/quality-of-government-datasets-qog-standard-dataset> for details.

focusing on a basic linear regression model to measure the impact of democracy on good governance which is specified as:

$$GG_{i,t} = \beta_0 + \beta_1 DEMO_{i,t} + \beta_2 \log RGDP_{i,t} + \beta_3 \log POP_{i,t} + \beta_4 SED_{i,t} + \beta_5 EF_{i,t} + \beta_6 FEDERAL_{i,t} + \beta_7 NRA_{i,t} + \beta_8 RELIGION_{i,t} + \beta_9 WOMENP_{i,t} + \beta_{10} GINI_{i,t} + \varepsilon_{i,t} \quad (1)$$

where GG is good governance indices; DEMO is democracy indices; RGDP is real gross domestic product per capita; POP is population; SED is secondary enrolment; EF is economic freedom; FEDERAL is federal states; NRA is natural resource abundance; RELIGION is percentage of various religion; WOMENP is proportion of women in national parliament; GINI is income inequality index; and ε is error term for country i in time t .

The sign and significance of β_1 is of interest. In particular, if β_1 turns out to be positive it reflects that more democracy improves governance practices. Both β_2 and β_4 coefficients tend to be associated with increases in the level of economic development which should foster good governance by facilitating sophisticated bureaucracies, better infrastructure and decision making (Stockemer, 2009). The population coefficient β_3 , is expected to be negative, as countries with large population size should be more difficult for the government to distribute resources equally, execute rules and laws and maintain transparency (Stockemer, 2009, 2014). The recent corruption literature identifies economic competition as an important determinant of good governance, in particular, Ades and Di Tella (1999), Treisman (2000) and Saha et al., (2009) argue that economic competition tends to reduce corruption by lowering the rewards from engaging in corruption due to the greater competition in the product markets. Therefore the coefficient β_5 is expected to be positive. Also based on the fact that federalism can create competition among regions and increase efficiency and transparency, we expect β_6 to be positive. At the same time, natural resource abundance may lead to poor governance and increase in corruption due to the greater potential gain to

officials who have authority to set policy and allocate rights to exploit such resources (Ades and Di Tella, 1999; and Treisman, 2000). Moreover, natural resource abundance may reduce government's dependence on its citizenry for tax revenue and thereby decreases citizens' demand for accountability and transparency from governments (Al-Marhubi, 2004).

The coefficients β_8 and β_9 provide interesting insights about the religious and gender sensitivity. Lipset (1994) and Landes (1998) emphasise the role of religious affiliation in determining good governance. Religious traditions provide the richest source of values and are important because they condition cultural attitudes toward social hierarchy and authority. Moreover, religious traditions differ in the degree of separation between political and religious beliefs and drawing the line between the spiritual and temporal. The separation of the religious from the political is believed to increase a country's propensity to experience democracy. Thus a common view in the literature is that Protestantism is positively related with governance relative to other religious affiliations because it is more egalitarian, less hierarchical and more individualistic. There is growing public support for women's increased political participation, since they are perceived to be more trustworthy and competent than men (McGrew, Frieson and Chan, 2004). Finally, it is a common belief that the more unequal society is, the poorer the governance is. Hence, the expected sign of β_{10} is negative.

The second step examines the nonlinear democracy–governance nexus in a quadratic form:

$$GG_{i,t} = \beta_0 + \beta_1 DEMO_{i,t} + \beta_2 DEMO_{i,t}^2 + \beta_3 \log RGDP_{i,t} + \beta_4 \log POP_{i,t} + \beta_5 SED_{i,t} + \beta_6 EF_{i,t} + \beta_7 FEDERAL_{i,t} + \beta_8 NRA_{i,t} + \beta_9 RELIGION_{i,t} + \beta_{10} WOMENP_{i,t} + \beta_{11} GINI_{i,t} + \eta_{i,t} \quad (2)$$

where η is the error term. The non-linear democracy-good governance association is reflected by the coefficients β_1 and β_2 , where the expected sign for β_1 is negative and β_2 as positive. These expected signs of β_1 and β_2 represent a U-shape relationship between democracy and

governance. It reflects that at a certain value of democracy the marginal effect of democratisation on good governance is 0. Therefore, before this threshold level of democracy the effect on governance is negative which becomes positive after a certain threshold level of democracy. Hence, at the early stages of democratization an increase in democracy reduces the efficiency of good governance and reaches a minimum level, i.e. the threshold point, and thereafter with improved mature democracy it has an enhancing effect on governance. In other words, the quadratic equation hypothesises that as democratization progresses governance level tends to be weak first and then develops. Hence, governance levels become feeble at the early-to-medium-stages of democratization, however, at the mature stages the consolidation of advanced institutions eventually escalate the efficiency of governance.

The next step includes examining individual dimensions of democracy, namely freedom (Free), control (CNL) and equality (EQL) to measure the quality of democracy and its impact on good governance. The coefficient of democracy (β_1) in equation (1) is altered with Free, CNL and EQL to estimate the the possible aspect of democracy that has significant effect on democracy. Finally, we test the existence of non-linearity across different level of our dependant variable that is governance.

3.2 Methodology

In order to estimate the proposed hypothesis, first a panel least squares model is used based on the available data, then to address some of the potential econometrics problems in least square estimation, we estimate the main equations using advanced Dynamic Panel Data technique called System GMM. While the simple OLS model could give us an idea of possible relationship, the proper model to address the hypotheses is panel data analysis, which can control both country and time wise variation in the variables.

While, estimating the main equation using least square panel data, we test the hypothesis of fixed effects (FE) against random effects (RE) using Hausman test. Therefore, to control for both time and country level specifications, and considering the possible non-linearity of the relationship, a two way FE model is structured as follows:

$$GG_{i,t} = \alpha_0 + \alpha_1 DEMO_{i,t} + \alpha_2 DEMO_{i,t}^2 + \beta_k X_{i,t} + u_i + e_t + \varepsilon_{i,t} \quad (3)$$

where, $X_{i,t}$ is the vector of explanatory variables that varies over time and country; β_k is the vector of coefficients for $X_{i,t}$; u_i is individual-level effect; e_t is time period effect and $\varepsilon_{i,t}$ is disturbance term. As it is mentioned above, the existence of RE in the model is also tested. In the RE model, where the regression error term is $v_{i,t} = u_i + \varepsilon_{i,t}$, it is assumed that that time-invariant factors are included as part of the regression disturbance for equations (3). Furthermore, in both models (RE and FE) it is assumed that all explanatory variables are independent from v_{it} , u_i , and ε_{it} . While Hausman test reveals that the null hypothesis of random effects can be rejected with high level of significance however, the extended Wald test for group wise heteroskedasticity in FE regression models shows that the models suffers from serious heteroskedasticity. However, the results are presented after controlling for both heteroskedasticity and serial correlation with robust standard errors.¹⁹

3.2.1 Non-linearity between governance and democracy

Estimating significant parameters in the model such as in equation (3), suggests that there is a non-linear quadric linkage between democracy and governance. However, the true non-linear relationship could be in different form than a quadric one. We address this issue, using semi parametric panel data models, to test the hypothesis of existence of non-linearity between governance and democracy and if the function relating them is unknown. However, the

¹⁹ Autocorrelation test shows that there is also a problem of serial correlation in the dataset.

relationship between control variables and governance is assumed to be linear. In general form, the model in equation (3) changes to the following equation.

$$GG_{i,t} = \alpha_0 + f(DEMO_{i,t}) + \beta_k X_{i,t} + \varepsilon_{i,t} \quad (4)$$

Similar to our previous model $X_{i,t}$ is the vector of explanatory variables that varies over time and country; β_k is the vector of coefficients for $X_{i,t}$. and $\varepsilon_{i,t}$ is the disturbance term. In spite of difficulty in finding the exact functional relationship between democracy and governance, the methodology of estimating the partial linear panel-data models with fixed effects introduced by Baltagi and Li (2002) can find the marginal effects of democracy on governance.

The Baltagi and Li's (2002) methodology is implemented as an independent package for software Stata by Verardi and Libois (2012) and using the package we estimate the above equation and find the estimated value of governance for different value of democracy in partial-linear form.

3.2.2 *Endogeneity between democracy and governance*

The results of least square panel data with fixed effect provide an important insight on the out of interest linkage. However, they can render biased estimates due to the potential problem of endogeneity between several of our variables such as governance and democracy, governance and income inequality. Additionally, there could be an endogeneity between GDP per capita and governance and which can cause the error terms to be correlated with dependent variables.²⁰ Although we have considered a vector of control variables to reduce the problem of endogeneity, but there could be yet some factors that cause changes on both democracy and governance.

²⁰ Democracy and income inequality are endogenously determined in the sense that they are both correlated with exogenous shocks that affect the level of good governance.

The regular practice towards solving the endogeneity issue is to consider an instrument variable which has significant relationship to explanatory variables without having any significant effect on dependent variable. However, application of this approach in our model is not practical. The main issue around this approach in our model is the close conceptual linkage between democracy and governance which makes finding a technical suitable Instrumental Variable (IV) almost impossible.

To address the problem of endogeneity the most advanced System GMM Dynamic Panel (SGDP) estimators introduced by Arellano and Bond (1991) and later developed by Blundell and Bond (2000) and Bond (2002) are employed.²¹ In SGDP, rather than traditional application of regular instrumental variables, variables are lagged and used as instruments for their level or differenced. In SGDP there are two main equations, the first equation is the equation in the levels and the second one is the differenced equation. Lagged differences of variables are used as instruments in the level equation and lagged variables are used for instruments in the first difference equation.

Dynamic panel estimators address the endogeneity issues by not having to find strictly exogenous instruments, and have gained increased popularity in recent years. As Roodman (2009) stresses, the Arellano-Bond (1991) and Arellano-Bover (1995)/Blundell-Bond (1998) dynamic panel estimators are particularly suited for the following: small “T” (fewer time periods) and large “N” (many individual or country) panels, panels with a linear functional relationship and country fixed effects and panels with a single dependent variable that’s dynamic, panels consisting of independent variables that aren’t strictly exogenous. Out of the two dynamic panel estimators, System GMM estimators improve on the Difference GMM

²¹ Also, System GMM is used to identify the causal effect of democracy on good governance as there may be some time-invariant omitted variables influencing political variables, which cannot be controlled for by fixed effects.

estimators by using extra moment conditions that 'rely on certain stationarity conditions of the initial observation (see, Blundell and Bond, 1998).

However, one of the important steps to apply system GMM is to identify the endogenous, exogenous and predetermined variables. Strictly exogenous variables are the variables that they are not correlated with the error term, so if we assume a variables such as W is strictly exogenous we have $E(W_{i,s}, W_{i,t}) = 0$ for all s and t . Strictly exogenous variables enter into the instrument matrix as their own. Following Roodman (2009) we consider the time effects (year dummies) as strictly exogenous variable. Moreover, the next step for application of SGDP to our main equation is the identification of predetermined variables. Predetermined variables are the variables that are correlated with the lagged error terms. If we take W as an example of predetermined variables, this assumption yields $E(W_{i,s}, W_{i,t}) = 0$ if $s < t$ and $E(W_{i,s}, W_{i,t}) \neq 0$ if $s > t$. Predetermined variables also might be endogenous and they enter the instrument matrix with a minimum of two lags, while other predetermined variables enter the matrix with at least one lag. In our model, all of the variables are predetermined as any assumption regarding the history of their relationship is restrictive. However, we consider the GDP per capita and democracy as both predetermined and endogenous variables.

After establishing our model and finding the coefficients of interest, the threshold level of democracy's contribution to good governance is estimated. Furthermore, the current literature lacks an answer as to whether greater democracy consistently improves good governance among the most and the least effective governing nations. We address this issue as good governance (and its almost-twin-sister corruption control) is a crucial concern from a policy perspective, especially for the developing countries. The effects of democracy in enhancing good governance at different stages is examined using quantile regression to check the stability of the results in different groups of countries based on the level of good governance.

IV. RESULTS

This section analyses the empirical results of the role of democracy in affecting good governance. To begin with, the scatter plots of democracy and good governance indicators of the countries examined in this study are shown in Figure 2. It is apparent from the figure that the direction of the relationship is not straight forward and the possibility of a non-linear relationship may exist between democracy and good governance. In other words, democratization does not necessarily transform weak governance into strong governance automatically. Hence, this section analyses the empirical results of a rigorous study of the impact of democracy on good governance, incorporating control variables using OLS, FE, and SGDP.

[FIGURE 2 ABOUT HERE]

We begin with a simple model that casts good governance as a function of democracy, and other economic and social control variables. The first column (Table 2) displays the relevant ordinary least squares (OLS) estimates. The results find no significant evidence that higher levels of democracy enhance good governance. The democracy coefficient is positive but not significant.

[TABLE 2 ABOUT HERE]

The scatter plot shown in Figure 2 illustrates the possibility of a non-linear nexus between governance and democracy. In the next step, to evaluate the possibility more systematically, we re-estimate the models with a second-degree polynomial function and the columns (3)–(4) of Table 2 display the set of estimates. The OLS estimates confirm the existence of a non-linear association between governance and democracy and the results are significant at all

specifications. The non-linear hypothesis implies that the quality of governance drops initially but then expands in the course of a country's democratic consolidation. The significant DEMO coefficient value of 0.424 for the linear democracy term is negative and the squared term is positive 0.0442 (column (3)). This suggests that governance effectiveness decreases at the transitional stage of democratization and increases as the nations' achieve mature levels of democracy. The estimated second-degree polynomial of DEMO² indicates that a U-shape function better fits the data than the linear one. In addition, inclusion of quadratic term increases the explanatory power (R² increases in all specifications) suggesting that quadratic model is more appropriate than the linear function.

Based on the findings of a U-shape relationship between governance and democracy we next estimate the threshold level of democracy at which governance changes its direction, i.e. the turning point is based on the partial effect of a change in the democracy level:

$$\frac{\partial GG}{\partial DEMO} = -0.424 + 2 \times 0.0442 \times DEMO = -0.424 + 0.0884 \times DEMO \quad (5)$$

Equation (5) shows that when the level of democracy is allowed to vary in our sample, democracy is not governance enhancing at all levels. The estimated turning point value at which governance quality starts improving is approximately at the value of 4.79. In the case of China, a country in the sample with the least possible democracy with an average democracy index (DEMO=0) during 1996–2010, democracy weakens the governance quality. When DEMO reaches 4.8 (the average for Guinea-Bissau during 1996–2010), democracy has no effect on governance at the margin. Beyond this level, democracy actually enhances good governance. In the case of Australia, a country in the sample with the highest level of democracy with an average democracy index (DEMO=10) during 1996–2010, democracy leads to good governance. Overall, any value below the threshold level, democracy is not

effective for good governance, however, once past a threshold, democratic practices assist good governance.

Table 3, columns (5)-(6) presents two-way FE estimates with non-linear democracy-governance relationship with robust standard errors.²² Fixed effects results confirm the non-linear effect of democracy on good governance. We also re-estimate the non-linear relationship using RE and the results are consistent with FE. However, the test for any RE in our model is rejected by Hausman test.²³

[TABLE 3 ABOUT HERE]

On the other hand, control variables reveal mostly the expected signs. The level of economic development measured by log RGDP illustrates a positive and significant impact on good governance suggesting that higher levels of GDP are associated with higher levels of good governance. This pattern comforts well with the expectations that the higher public-sector wages usually decrease the incentives for corruption and enhance good governance. Another economic variable related to economic development (SED) shows a positive and significant impact on good governance, as expected. The negative population and Gini coefficients indicate that a large population size and greater income disparity reduce governance efficiency. At the same time, a higher economic freedom provides better governance by limiting rent-seeking activities of public officials.

With respect to the other explanatory variables, the results show that natural resource abundance negatively influences the quality of governance which is consistent with Ades and

²² The results show that there are significant effects of time in our model and an efficient model should control for time effects. The results of the time dummies are not reported here.

²³ The results are not reported here can be made available upon request.

Di Tella (1999). However, Protestant affiliation does seem to be important for better quality of governance than other faiths. Federal states create the opportunities for good governance as suggested by Treisman (2000). Finally, the estimates imply that a larger female participation rate in politics is associated with good quality of governance. This pattern is noteworthy and consistent with Cammisa and Reingold (2004), which argues that women view government as a tool to help serve under-represented or minority groups more than men do. Interestingly, the exclusion of Gini coefficient tends to increase the statistical significance of the other variables. In particular, women's participation and federal states which become significant once the Gini coefficient is discounted for (columns (2) and (4), Table 2). Religion variables are replaced with ethnolinguistic fractionalization and the results are interesting; strikingly, inclusion of ethnolinguistic fractionalisation is associated with significantly better quality of governance for both the specification with and without the Gini coefficient.²⁴ The result is consistent with Charron and Lapuente (2011). The inclusion of economic, social and institutional variables explains around 80-89% of the cross-section variations in governance.

4.1 . Non-linearity in semi-parametric settings

The non-linear relationship between governance and democracy presented in Table (2) and Table (3) assumes that the non-linearity follows a quadric pattern. However, using semi-parametric regression in panel data, we relax the quadric functional assumption and estimate the coefficients.

Figure (3) illustrates the marginal effects of democracy on good governance with the confidence intervals. The results confirm the existence of a non-linear linkage between democracy and governance. It can be seen that at an initial stage an increase in

²⁴ The results are not reported here, will be available from authors upon request.

institutionalized democracy decreases the level of governance slightly then it starts its increasing trend. Although from the graph it can be argued that after a specific level of democracy, the democracy increases with decreasing rate but the fact is the part of graph is almost horizontal with fluctuations around zero and they are relatively small in compare to the U shape relationship before the 6 value of democracy. The panel data semi-parametric regression results confirm our previous findings regarding the non-linearity between democracy and governance.

[FIGURE 3 ABOUT HERE]

4.2. Addressing endogeneity: System GMM results

The system GMM results (Table 4) after controlling for endogeneity confirm the existence of a non-linear relationship between democracy and governance. In other words, the linear and squared coefficients in columns (7)-(8), suggest that an increase in the level of democracy decreases the governance quality in general, however, before a specific level of democracy it has a decreasing trend and then after a point of zero marginal effect it starts its increasing trend. Similar to previous sections, we find that GDP per capita is one of the important factors of good governance and an increase in per capita income brings out better governance. Our findings regarding economic freedom index is consistent with the literature suggesting that an increase in the level of economic freedom enhances good governance. In addition, the negative significant effect of Gini index on good governance (column (7)) implies that poorer countries have lower governance after controlling for income per capita. Furthermore, we couldn't find any significant effects of religions on good governance.

[TABLE 4 ABOUT HERE]

Also, note that the probability of the hypothesis of autocorrelation of second order, along with probability of the Hansen test, confirms the stability of our regressions in system GMM dynamic panel.

4.3. Democracy and governance relationship in 'free' and 'not free' countries

We re-estimated equation (2) based on 'free' and 'not-free' countries for the period 1996–2012, the results are not reported here.²⁵ In the case of free countries the results suggest the existence of a positive governance-augmenting level of democracy with significant coefficients of democracy and democracy squared. On the other hand, the estimation results do not allow us to establish any significant correlation between democracy and good governance for the subsample of not-free countries.

4.4. Various democracy indicators and governance relationship

While the above results suggest that there is a non-linear relationship exists between level of democracy and good governance, not all levels of democracy ensure good governance in a country. To explore the non-linear relationship further and to acquire the possible dimension of democracy that has significant effect on the quality of governance, we re-estimate the base equation (1) with various individual democracy indicators.

The two-way fixed effect results for the individual democracy indicators separately for all three measures freedom, control and equality are presented in Table 5. The computed Freedom coefficient (column (9)) is positive, but weakly significant, suggesting that there is no strong evidence to believe that the freedom component of democracy enhances the quality

²⁵ The results will be available upon request.

of governance.²⁶ The influence of other individual components of democracy, i.e. Control and Equality (columns (10)–(11)) coefficients are positive, however, the greater magnitude of the Equality coefficient (column (11)) indicates that a one-standard deviation increase in equality value enhances quality of governance by 0.0185 points, and approximately 0.6187% of a standard deviation in the governance index. In other words, a highly significant Equality coefficient demonstrates a greater ability in enhancing good governance than the other two individual measures of democracy. It is important to note here that the equality component of democracy represents democratic transparency, participation and representation that have a greater power to boost governance quality. Column (12) confirms that equality produces much stronger effects in enhancing the governance effectiveness. Moreover, it indicates the relevance of transparency as an additional mechanism that countries can utilize to improve the quality of governance. Hence an advanced level of democracy generates greater transparency and greater representation that can improve governance quality effectively.

[TABLE 5 ABOUT HERE]

4.5. *Quantile regression results*

The final step examines whether greater democracy consistently enhances governance effectiveness among the most and the least quality of governance. We re-estimate the base model using quantile regression fixed effect in panel data in three different quantiles, the 25th, 50th (median), and 75th. We choose quantile regression for two basic reasons. Firstly, quantile regression relaxes the assumption on parametric distribution of error terms and therefore it

²⁶ The freedom component of democracy comprises with individual liberties, rule of law and public sphere. Please see <http://www.gaportal.org/global-indicators/quality-of-government-datasets-qog-standard-dataset> for details.

can be included as one of the non-parametric methods and if our results stand we can argue that our conclusion is free of assumptions on the distribution of error terms. Secondly, quantile regression is more robust with the existence of outliers in the dataset.

The quantile regressions results are presented in Table 6. The results confirm our findings in simple OLS, two-way FE and SGDP regressions. The results reveal that the effect of democracy is in non-linear quadratic form; only a level of democracy beyond a threshold can enhance good governance. Furthermore, democracy substantially augments governance quality at a higher quantile (over the 75th) (among the most efficient governance) where the turning point of democracy is reached much faster (approximately at level 3). This finding confirms our hypothesis that democracy is not consistently statistically significant across various quantiles and it calls into question the notion that the transformation to democracy from autocracy uniformly stimulates good governance.

[TABLE 6 ABOUT HERE]

V. Conclusion

The failures of authoritarian regimes in the 1990s have redrawn attention towards democracy and its role in the economic performance of a country. It is a common belief that democratic institutions can serve the public better. However, many of the newly-born democracies undergoing market reforms appear to have slumped mainly due to the higher levels of corruption and poor governance. Thus, whether democratic forces recuperate governance effectiveness by punishing corruption and incompetence remains an open question. This paper presents a systematic empirical analysis that specifies the effects of democracy on governance for the periods 1996-2012 for over one hundred countries with various economic, social and institutional controls to evaluate the stability of our estimates.

The most important implication of our work is that democracy matters for governance; however, there is a threshold level in this relationship. Governance quality is typically weaker in countries with intermediate levels of political freedom than in their less democratic counterparts, but once past the threshold level, greater political competition is associated with considerably stronger governance. In other words, governance effectiveness is likely to be slightly higher in autocracies than in countries that have newly-born democracies. However, with more consolidated democratization, countries experience a much higher quality of good governance. Furthermore, the findings on the relationship is robust across different level of governance, this implies that there is a non-linearity of the relationship between governance and democracy across different level of governance. This pattern is consistent with the various specifications, estimation techniques and alternative indicators of democracy.

Our results suggest that where political freedoms, representation and democratic transparency, are limited, the quality of good governance is likely to be reduced even with relatively free and fair elections (electoral democracy). The results provide support for the weak structure of governance in a country like India. A good deal of the blame for the weak governance can be placed on ineffectual institutions and lack of transparency in the democratic information process, even though India exhibits fair competition, checks and balances and a high degree of federalism. On the other hand, countries like Australia and Denmark experience the highest quality of governance with advanced mature democracy.

The results for control variables suggest that the effectiveness of governance increases with increasing economic development, as reflected in RGDP per capita, and education. Large population and unequal distribution of income and natural resource abundance reduce governance quality. Furthermore, higher economic and state freedom enhances good governance. Finally, religion and gender sensitivity analysis shows that protestant tradition and women's participation in politics help improve the quality of governance. The results

remain robust under various estimations and for alternative measures of democracy. The policy implications are that there is a need to establish effective and efficient democratic institutions in order to establish good quality governance so as to control corruption and generally allow the state to achieve its social and economic objectives. Moreover, effective institutions require a high level of transparency, participation and representation which in turn strengthen the quality of good governance. Hence, transition countries can overcome the problem of weak governance once the democratic consolidation has been made.

REFERENCES

- Abdulkadir, M. S., Jayum, A. A., and Zaid, A. B. (2012). Issues and Strategies in Promoting Democracy and Good Governance: Nigerian and Malaysian Examples, *Asian Social Science*. 8: 259-267.
- Acemoglu D. and Robinson J. (2006). *Economic Origins of Dictatorship and Democracy*. Cambridge: Cambridge University Press.
- Acemoglu D., Johnson S., Robinson J. A. and Yared P. (2008). Income and Democracy, *American Economic Review*. 98: 808-842.
- Acemoglu D., Johnson S., Robinson J. A. and Yared P. (2009). Reevaluating the Modernization Hypothesis, *Journal of Monetary Economics*. 56: 1043-1058.
- Ades, A. and Di Tella, R. (1999). Rents, Competition, and Corruption, *American Economic Review*. 89: 982–993.
- Al-Marhubi, F. (2004). The Determinants of Governance: A Cross-Country Analysis, *Contemporary Economic Policy*. 22: 394-406.
- Almeida H. and Ferreira D. (2002). Democracy and the Variability of Economic Performance, *Economics and Politics*. 14: 225-257.
- Andrews, M. (2010). Good Government Means Different Things in Different Countries, *Governance*. 23: 7-35.
- Arellano, M. and Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations, *The Review of Economic Studies*. 58: 277 – 297.

- Arellano, M. and Bover, O. (1995). Another Look at the Instrumental Variable Estimation of Error-Components Models, *Journal of Econometrics*. 68: 29-51.
- Baltagi, B. H. and Li, Q. (2002). On Instrumental Variable Estimation of Semiparametric Dynamic Panel Data Models, *Economics Letters*. 76: 1-9.
- Bardhan, P. (1993). Symposium on Democracy and Development, *The Journal of Economic Perspectives*. 7: 129-142.
- Barro, R. (1996). Democracy and Growth, *Journal of Economic Growth*. 1: 1-27.
- Blundell, R. and Bond, S. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models, *Journal of Econometrics*. 87: 115-143.
- Blundell, R. and Bond, S. (2000). GMM Estimation with Persistent Panel Data: An Application to Production Functions, *Econometric Reviews*. 19: 321-340.
- Boix C. and Stokes S. C. (2003). Endogenous Democratization, *World Politics*. 55: 517-549.
- Boix, C. (2011). Democracy, Development, and the International System, *American Political Science Review*. 105: 809-828.
- Bond, S. R. (2002). Dynamic Panel Data Models: A Guide to Micro Data Methods and Practice. The Institute for Fiscal studies Department of Economics, UCL CEMMAP working paper CWP09/02.
- Brown-Shafii, S. (2011). Promoting Good Governance, Development and Accountability: Implementation and the WTO. Basingstoke: Palgrave Macmillan Ltd.
- Cammisa, A. and Reingold, B. (2004). Women in State Legislatures and State Legislative Research: Beyond Sameness and Difference, *State Politics and Policy Quarterly*. 4: 181-210.
- Charron, Nicholas, and Victor Lapuente (2010). "Does democracy produce quality of government?." *European Journal of Political Research* 49.4 (2010): 443-470.
- Charron, Nicholas, and Victor Lapuente. "Which dictators produce quality of government?." *Studies in Comparative International Development* 46.4 (2011): 397-423.
- Charron, N., and Lapuente, V. (2011). Why do some regions in Europe have higher quality of government. *QoG Working Paper Series, 1*.
- Coppedge, M. (2002). Democracy and Dimensions: Comments on Munck and Verkuilen, *Comparative Political Studies*. 35: 35-39.
- Dahlström, Carl, Victor Lapuente, and Jan Teorell (2011). "The merit of meritocratization: politics, bureaucracy, and the institutional deterrents of corruption." *Political Research Quarterly* (2011): 1065912911408109

- Dahl, R. (1971). *Polyarchy: Participation and Opposition*. New Haven: Yale University Press.
- Diamond, L. (1996). Is the Third Wave Over? *Journal of Democracy*. 7: 20–37.
- Doig, A. (2000). In the State We Trust? Democratization, Corruption and Development, in: A. Doig and R.Theobald (eds.), *Corruption and Democratization*. London: Frank Cass.
- Freedom House. (2012). Freedom in the World 2012: Methodology. http://www.freedomhouse.org/report/freedom-world-2012/methodology?page=351&ana_page=363&year=2012#.VE6-W3Q7nug.
- Gilli, M. and Li, Y. (2012). Citizenry Accountability in Autocracies, Proceedings of the 12th Jan Tinbergen European Peace Science Conference, PEPS. 18: 1-12.
- Gisselquist, Rachel M. *Good governance as a concept, and why this matters for development policy*. No. 2012/30. WIDER Working Paper, 2012.
- Huber E., Rueschemeyer D. and Stephens J. (1993). The Impact of Economic Development on Democracy, *The Journal of Economic Perspectives*. 7: 71-86.
- Jackman, R. (1985). Cross-National Statistical Research and the Study of Comparative Politics, *American Journal of Political Science*. 29: 161–182.
- Kaufman, D., Kraay, A. and Zoido-Lobaton, P. (1999). Governance Matters. World Bank Policy Research Working Paper No. 2196.
- Keefer, P. (2007). ‘Clientelism, credibility, and the policy choices of young democracies’. *American journal of political science*, 51(4), 804-821.
- Keefer, P., & Vlaicu, R. (2008). ‘Democracy, credibility, and clientelism’. *Journal of Law, Economics, and Organization*, 24(2), 371-406
- Landes, D. (1998). *The Wealth and Poverty of Nations*. New York: Norton.
- Langbein, Laura, and Stephen Knack. "The worldwide governance indicators: six, one, or none?." *The Journal of Development Studies* 46.2 (2010): 350-370.
- Lipset, S. (1994). The Social Requisites of Democracy Revisited, *American Sociological Review*. 59: 1-22.
- McChesney, Fred S. (1987). Rent Extraction and Rent Creation in the Economic Theory of Regulation, *Journal of Legal Studies*. 16: 101-118.
- McGrew, L., Frieson, K. and Chan, S. (2004). Good Governance From the Ground Up: Women’s Roles in Post-Conflict Cambodia. Women Waging Peace Policy Commission.
- Mkandawire, T. (2007). Good Governance: The Itinerary of an Idea, *Development in Practice*. 17: 679-681.

- Montinola, G. R. and Jackman, R.W. (2002). Sources of Corruption: A Cross-Country Study, *British Journal of Political Science*. 32: 147–170.
- Munck, G. and Verkuilen, L. (2002). Conceptualizing and Measuring Democracy: Evaluating Alternative Indices, *Comparative Political Studies*. 35: 5–34.
- North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- Papaioannou E. and Siourounis G. (2008). Democratization and Growth, *Economic Journal*. 118: 1520-1551.
- Przerworski A. and Limongi F. (1993). Political Regimes and Economic Growth, *The Journal of Economic Perspectives*. 7: 51-69.
- Quinn, R. and Dawson, L. (2011). Good Governance is a Choice : A Way to Re-create Your Board_the Right Way. Lanham: Rowman & Littlefield Education.
- Rock, Michael T. (2009). Corruption and democracy. *Journal of Development Studies* 45: 55-75.
- Roodman, D. (2009). How to Do Xtabond2: An Introduction to Difference and System GMM in Stata, *The Stata Journal*. 9: 86-136.
- Saha, S. Gounder, R. and Su, J.J. (2009). The Interaction Effect of Economic Freedom and Democracy on Corruption: A Panel Cross-Country Analysis, *Economics Letters*. 105: 173-176.
- Saha, S. Gounder, R. Campbell, N. and Su, J.J. (2014). Democracy and Corruption: A Complex Relationship, *Crime Law and Social Change*. 61: 287–308.
- Schumpeter, J. (1947). *Capitalism, Socialism, and Democracy*. Second Edition, New York: Harper.
- Shleifer, A. and Vishny, R. (1993). Corruption, *Quarterly Journal of Economics*. 108: 599–617.
- Stockemer, D. (2009). Does Democracy Lead to Good Governance? The Question Applied to Africa and Latin America, *Global Change, Peace & Security*. 21: 241-255.
- Stockemer, D. (2014). Regime Type and Good Governance in Low and High Income States: What is the Empirical Link? *Democratization*. 21: 118-136.
- Sung, H. E. (2004). Democracy and political corruption: A cross-national comparison. *Crime, Law and Social Change*, 41(2), 179-193.
- Treisman, D. (2000). The Causes of Corruption: A Cross-National Study, *Journal of Public Economics*. 76: 399–457.
- Treisman, D. (2011). Income, Democracy, and the Cunning of Reason, mimeo.

- Tronquist, O. (1999). *Politics and Development*. London: Sage.
- Tullock, G. (1987). *Autocracy*. Dordrecht: Nijhoff.
- Tullock, G. (2005). *The selected works of Gordon Tullock: Vol. 8. The Social Dilemma: of Autocracy, Revolution, Coup D'etat And War*. Edited and with an Introduction by C. Rowley (2006). Indianapolis: Liberty Fund, Inc.
- Verardi, V. and Libois, F. (2012). XTSEMIPAR: Stata Module to Compute Semiparametric Fixed-Effects Estimator of Baltagi and Li, Statistical Software Components S457428, Boston College Department of Economics, revised 29 Apr 2014.
- Wabuke, M. (2010). *Eye on Africa : Perspectives of an African Native*. Los Angeles: Coltan Books.
- Wintrobe, R. (1990). The Tinpot and the Totalitarian: An Economic Theory of Dictatorship, *American Political Science Review*. 84: 849–872.
- Wintrobe, R. (2012). Autocracy and Coups d'etat, *Public Choice*. 152: 115-130.
- World Bank (1989). *Sub-Saharan Africa. From crisis to Sustainable Growth: A Long-Term Perspective Study*, New York, The International Bank for Reconstruction and Development World Bank.
- World Bank (1992). *Governance and Development*, New York, The International Bank for Reconstruction and Development World Bank.
- Zakaria, F. (2004). *The Future of Freedom: Illiberal Democracy at Home and Abroad*. New York: Norton.

Table 1
PCA for WGI^a

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	4.47169	4.12715	0.8943	0.8943
Comp2	0.344538	0.241487	0.0689	0.9632
Comp3	0.103051	0.058955	0.0206	0.9839
Comp4	0.044096	0.007476	0.0088	0.9927
Comp5	0.03662	.	0.0073	1

Number of Observations =1356, Number of Components=5, Trace=5, Rho=1

^aPCA generates five new variables which can explain the same information as the original five variables (political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption), which are Comp1 to Comp5.

Table 2

Democracy-good governance relationship, 1996–2012: OLS estimation

VARIABLES	(1)	(2)	(3)	(4)
DEMO	0.0232 (0.0233)	0.0190 (0.0142)	-0.424*** (0.0664)	-0.366*** (0.0409)
DEMO ²			0.0442*** (0.00623)	0.0406*** (0.00408)
lnRGDP	0.447*** (0.0838)	0.548*** (0.0403)	0.405*** (0.0751)	0.441*** (0.0391)
lnPOP	-0.144*** (0.0460)	-0.0625** (0.0243)	-0.109*** (0.0413)	-0.0758*** (0.0227)
SED	0.0121*** (0.00358)	0.0116*** (0.00202)	0.0105*** (0.00320)	0.00972*** (0.00189)
WOMENP (%)	0.000643 (0.00581)	0.00819** (0.00365)	-0.00928* (0.00537)	0.00375 (0.00343)
NRA	-1.057*** (0.233)	-1.470*** (0.127)	-0.963*** (0.209)	-1.242*** (0.120)
FEDERAL	-0.0412 (0.143)	0.128 (0.0797)	0.188 (0.131)	0.259*** (0.0754)
CATHOLIC	-0.00747*** (0.00232)	-0.00672*** (0.00110)	-0.00558*** (0.00209)	-0.00491*** (0.00104)
MUSLIM	-0.00621*** (0.00230)	-0.00108 (0.00136)	-0.00287 (0.00211)	0.00114 (0.00129)
PROTESTANT	0.0132*** (0.00460)	0.0104*** (0.00187)	0.0173*** (0.00414)	0.0125*** (0.00175)
EF	0.0702*** (0.00855)	0.0675*** (0.00471)	0.0628*** (0.00770)	0.0616*** (0.00443)
GINI	-0.0373*** (0.00693)		-0.0216*** (0.00657)	
Constant	-4.246*** (1.161)	-7.949*** (0.560)	-4.131*** (1.037)	-6.206*** (0.551)
Observations	206	659	206	659
R-squared	0.816	0.884	0.854	0.899

Standard errors are in parentheses. ***, **, * indicate significance level at the 1%, 5% and 10%, respectively. Please note that due to the data limitations, the model which includes GINI variable shows less number of observations.

Table 3

Non-linear democracy-governance relationship, 1996–2012: two-way FE

VARIABLES	(5)	(6)
DEMO	-0.0700 (0.0558)	-0.121** (0.0486)
DEMO ²	0.0114** (0.00555)	0.0180*** (0.00663)
lnRGDP	0.403*** (0.111)	0.491** (0.190)
lnPOP	0.757 (0.544)	0.536 (0.906)
SED	-0.000358 (0.00147)	0.00411 (0.00470)
WOMENP (%)	-0.00184 (0.00387)	-0.0150** (0.00580)
NRA	-0.152 (0.227)	-0.479 (0.312)
EF	0.0202*** (0.00478)	0.0231*** (0.00712)
GINI		-0.0171 (0.0120)
Constant	-16.35* (9.433)	-13.40 (15.85)
Observations	659	206
R-squared	0.269	0.526

Robust standard errors are in parentheses. ***, **, * indicate significance level at the 1%, 5% and 10%, respectively. Both estimates include time dummies to the base equation. Please note that due to the data limitations, the model which includes GINI variable shows less number of observations.

Table 4

Non-linear democracy-governance relationship, 1996–2012: SGDP

VARIABLES	(7)	(8)
DEMO	-0.382** (0.187)	-0.239* (0.133)
DEMO ²	0.0440** (0.0181)	0.0289* (0.0158)
lnRGDP	0.435*** (0.148)	0.474*** (0.146)
lnPOP	-0.139 (0.107)	0.830 (1.240)
SED	0.00557 (0.00565)	0.00428 (0.00429)
WOMENP (%)	0.0115 (0.0110)	0.00818 (0.00926)
NRA	-0.890 (0.897)	-1.102 (0.709)
EF	0.0583*** (0.0174)	0.0588*** (0.0148)
Catholic	-0.0788 (0.0660)	-0.453 (0.386)
Muslim	0.00658 (0.0656)	-0.711 (0.651)
Protestant	0.0819 (0.0176)	0.524 (0.460)
GINI	-0.0229** (0.00981)	
Constant	-2.918 (2.735)	-1.175 (1.824)
P - AR(2)	0.832	0.675
P- Hansen	0.97	0.995
Observations	206	459
Number of Countries	55	71

Robust standard errors are in parentheses. ***, **, * indicate significance level at the 1%, 5% and 10%, respectively. Standard errors are corrected for small\finite sample. Please note that due to the data limitations, the model which includes GINI variable shows less number of observations.

Table 5

Impact of various democracy indicators on good governance, 1996-2012: two-way fixed effects

VARIABLES	(9)	(10)	(11)	(12)
FREEDOM	0.0219* (0.0117)			0.0178 (0.0122)
CONTROL		0.00505 (0.00731)		-0.000870 (0.00570)
EQUALITY			0.0185*** (0.00614)	0.0185** (0.00788)
lnRGDP	0.205 (0.150)	0.245 (0.180)	0.210 (0.159)	0.205 (0.186)
lnPOP	-0.159 (0.982)	0.163 (1.031)	0.485 (0.846)	-0.0159 (0.974)
SED	-0.00112 (0.00218)	-0.00212 (0.00213)	-0.00153 (0.00202)	-0.00244 (0.00224)
WOMENP (%)	-0.00969* (0.00573)	-0.00418 (0.00542)	-0.0105* (0.00532)	-0.00760 (0.00548)
NRA	-0.313 (0.460)	-0.233 (0.314)	-0.143 (0.286)	-0.380 (0.527)
EF	0.0175*** (0.00542)	0.0189*** (0.00604)	0.0196*** (0.00551)	0.0180** (0.00697)
Constant	0.899 (17.22)	-4.044 (18.15)	-10.03 (14.75)	-1.946 (17.39)
Observations	394	386	435	358
Number of Countries	38	38	43	34
R-squared	0.280	0.237	0.240	0.306

Robust standard errors are in parentheses. ***, **, * indicate significance level at the 1%, 5% and 10%, respectively. All estimates include time dummies to the base equation.

Table 6

Impact of democracy-governance relationship: quantile regressions panel data with fixed effects

VARIABLES	Q0.25 (13)	Q0.50 (14)	Q0.75 (15)
DEMO	-0.198*** (0.055)	-0.172*** (0.059)	-0.172*** (0.066)
Democ2	0.0272*** (0.006)	0.0245*** (0.006)	0.0250*** (0.007)
lnRGDP	0.325*** (0.051)	0.336*** (0.056)	0.3184*** (0.043)
lnPOP	-0.327*** (0.045)	-0.369** (0.044)	-0.362 (0.043)
SED	0.0048** (0.001)	0.0132** (0.001)	0.005*** (0.0002)
WOMENP (%)	-0.014*** (0.003)	-0.0135*** (0.003)	-0.0134** (0.0036)
NRA	-1.41** (0.214)	-1.38** (0.170)	-1.387** (0.208)
FEDERAL	1.076*** (0.167)	1.115** (0.175)	1,154*** (0.178)
EF	0.208*** (0.007)	0.027*** (0.007)	0.0249*** (0.006)
Constant	1.937 (1.224)	1.948 (1.225)	2.153* (1.19)
Turning point	4	4	3
Observations	206	206	206
<i>F</i> -Statistic (<i>p</i> -value)	(0.000)	(0.000)	(0.000)

Bootstrap standard errors are in parentheses. ***, **, * indicate significance level at the 1%, 5% and 10%, respectively. Lower quantiles (e.g., Q 0.1) signify nations with lower quality of governance.

Figure 1: Scree plot

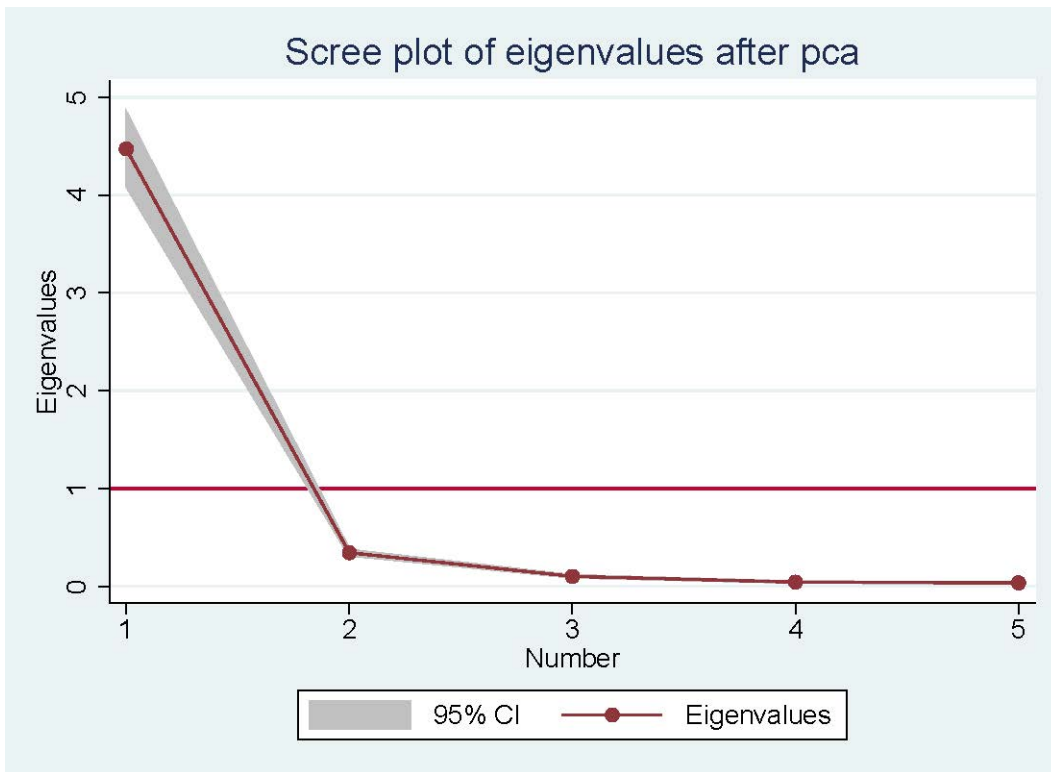


Figure 2: Good-Governance and Democracy Relationship

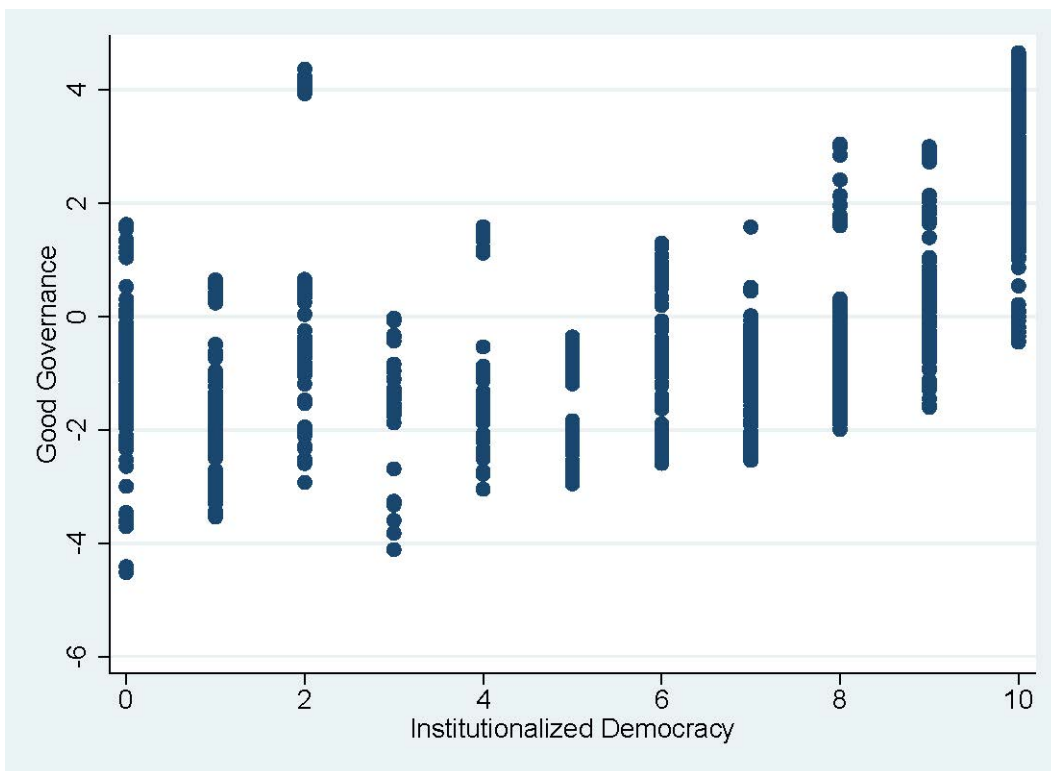
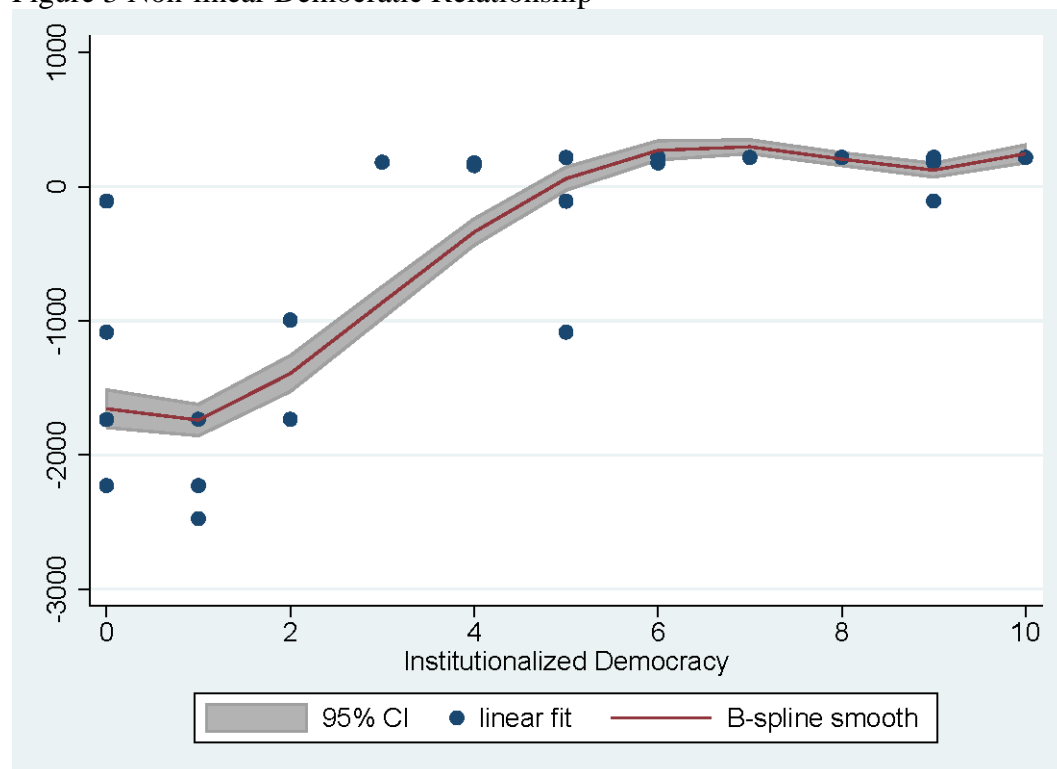


Figure 3 Non-linear Democratic Relationship



Appendix 1 Descriptive statistics

Variable	Mean	Std.Dev	Min	Max	Observations
Good Governance	-5.47e-11	2.291	-5.812	4.992	1356
Democracy	1.640	18.46	0	10	2368
lnRGDP	7.657	1.668	4.171	11.46	2302
lnPopulation	16.32	1.445	13.49	21.01	2356
Secondary Schooling	67.81	34.11	5.165	160.6	1740
Women in Parliament (%)	15.37	10.53	0	56.30	1560
Resource Abundance	0.226	0.274	0	0.997	1976
Federal State	0.196	0.397	0	1	1608
Religion-Catholic	32.82	36.01	0	96.90	2368
Religion-Protestant	12.69	20.82	0	97.80	2368
Economic Freedom	59.64	10.79	15.60	88.90	1679
Gini	45.25	9.463	24.32	74.33	518

Appendix 2 Data source

Variable	Data Source
Good Governance	Constructed using WGI available from http://databank.worldbank.org/data/home.aspx
Democracy	Polity IV - http://www.systemicpeace.org/polity/polity4.htm
RGDP	The World Bank Database : http://databank.worldbank.org/data/home.aspx
Population	The World Bank Database : http://databank.worldbank.org/data/home.aspx
	The World Bank Database : http://databank.worldbank.org/data/home.aspx

Secondary Schooling	
Women in Parliament (%)	The World Bank Database :http://databank.worldbank.org/data/home.aspx
Resource Abundance	Constructed by definition of Treisman, 2000 using the data The World Bank Database :http://databank.worldbank.org/data/home.aspx
Federal State	Treisman, 2000
Religion variables	CIA The World Fact Book, https://www.cia.gov/library/publications/the-world-factbook/
Economic Freedom	The Quality of Government (QOG) Standard Dataset
Gini	World Bank Database :http://databank.worldbank.org/data/home.aspx