

## Do Democratic Governments Perform Better? An Empirical Assessment

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**Abstract:** The underlying study analyzes the impact of “Democracy” on “Quality of Government”; namely the ability of the government to perform its activities in an efficient way and without corruption. Previous empirical studies concerned with this issue point to a nonlinear relationship between the two concepts, claiming that there are certain characteristics of a society that are key in determining the impact of democracy on the government quality. In this regard, the current study tests whether democracy tends to affect the quality of government differently based on the level of economic development. Using panel data estimations, for a sample of 125 countries over the period (2000-2011), the results suggest that mere transition to democracy is not sufficient to enhance government quality. An advanced fully-formed mature democracy, together with a high level of economic development, is crucial to realize the benefits of democracy in terms of an improved quality of government. These results remain robust under alternative cross-sectional estimations and with alternative measures of government quality.

**Key words:** democracy; quality of government; corruption; rule of law; government effectiveness; economic development; panel data

**JEL codes:** D72, D73, H11, K42, O50, P16

### 1. Introduction

The Arab region is witnessing a crucial period of transformation. The uprisings in Tunisia, Egypt, Libya and elsewhere in the region have considerably altered the political landscape in those countries. Authoritarian leaders were forced to comply with the popular pressure for democratic transition, and for the first time in the region, several countries are taking significant steps along the path towards democracy.

The uprisings in the Arab spring countries were triggered by a general discontent with the ageing dictatorships and widespread corruption, which resulted in a number of economic and social hardships such as; high rates of poverty, illiteracy, unemployment, and severe social inequality between rich and poor. Hence, many democratic movements were called for with the purpose of improving the quality of government and the inoperative role of public institutions; through creating better mechanisms of transparency and accountability.

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Generally, there exists a concordance among scholars and policymakers on the crucial role that that political systems can play in affecting the quality of government. Theoretical literature provides different reasons supporting the claim that democracies should exhibit higher government quality than autocracies. Yet, empirical evidence examining this democratic hypothesis gives mixed results, asserting that democracy does not automatically translate into better quality of government. In fact, democracy affects government quality in divergent ways depending on the basic characteristics of a society and its political regime.

Given this puzzling relationship, the current study seeks to analyze the effects of democracy over the quality of government to verify whether democratic countries perform better than authoritarian ones. In particular, the study aims to test the hypothesis that there are certain prerequisites that should be present for an effective process of democratization to take place and promote quality of government, mainly through detecting the role of economic development in determining the impact of democracy on government quality.

The idea is that, lower income societies are expected to demand from their government the delivery of goods and services for immediate consumption, and thereby under-value their government if it directs more resources to invest in administrative capacity which by nature entail quite a long time to reap the fruits of such investments. On the contrary, as the level of economic development increases and so do the society's standard of living, citizens tend to demand their government to undertake more investments in bureaucratic capacity aimed at enhancing the government quality. Accordingly, the level of economic development is expected to play a key role in shaping the impact of democracy on quality of government as suggested by Charron and Lapuente (2010) and Asongu (2011).

The remainder of the paper is organized as follows: Section 2 reviews existing literature on the nexus between democracy and government quality. Section 3 outlines data and methodology, then presents the empirical analysis. Finally, section 4 concludes with policy recommendations.

## **2. Existing Literature**

### **2.1 Some Theoretical Definitions**

The concepts of "Democracy" and "Quality of Government" are not uniquely defined in literature. Both terms include many aspects and hence, an extensive debate exists on how to define and measure each of them. Democracy can be defined as "a political regime in which rulers are selected through free and contested elections" (Przeworski, 2004). Basically, democratic systems include the rights to vote, to be elected, and to form political parties as well as freedom of political competition. Consequently, such systems necessitate certain rights and appropriate institutions be upheld to guarantee free and fair elections and maintenance of political freedom (Polterovich & Popov, 2007; Bäck & Hadenius, 2008).

Regarding the measurement of democracy, there are several indices that offer a broad coverage of countries, both geographically and over time; making them suitable for research purposes. Yet, Hadenius and Teorell (2005) have made an assessment of the pros and cons of alternative indices, and suggested a graded measurement strategy for democracy based on the average scores of political rights and civil liberties published by Freedom House, and the combined autocracy and democracy scores derived from the Polity data set. Accordingly, they constructed an index that ranges between 0 and 10 with 10 being most democratic; arguing that this index is more valid and reliable than its constituent parts (Rothstein, 2011).

Also, there is a vast literature attempting to define the concepts of "Quality of Government" and "Good Governance". Those closely related concepts have gained gigantic importance in research and policy making areas

since the mid-1990s. Although the two terms are sometimes used interchangeably, yet a considerable body of literature has differentiated between them in certain aspects. The notion of “Good Governance” is defined by the World Bank as a broad concept that rests on a number of components related to both *procedures* as well as *policy content*; including: (1) the process by which governments are selected, monitored and replaced, (2) the capacity of the government to effectively formulate and implement sound policies, and (3) the respect of citizens and the State for the institutions that govern economic and social interactions among them (Holmberg, Rothstein & Nasiritousi, 2008; Rothstein, 2011).

On the other hand, the concept of “Quality of Government” is usually restricted to *procedures*. Simply put, quality of government can be defined as having impartial government institutions that have the ability to perform its activities in an efficient way and without corruption (Rothstein & Teorell, 2005; Charron & Lapuente, 2010). On an empirical basis, the “quality of government” is usually proxied using indicators reflecting control of corruption, prevalence of rule of law, bureaucratic quality and government effectiveness.

## **2.2 Literature Review on the Nexus between Democracy and Quality of Government**

There is a general consensus among scholars and policymakers on the role that political systems can play in affecting the quality of government. Theoretically speaking, numerous reasons have been presented to explain why democracies should entail higher quality of government than autocracies. Establishing democracy has often been championed as an effective solution to get rid of high levels of corruption and low bureaucratic quality. The argument stresses the idea that democratic systems offer the main instruments through which people can constrain inefficient and corrupt government officials, and thus improve the quality of government, which is expected to be higher on average in the long-run (Rivera-Batiz, 2002; Rothstein, 2011).

In particular, the competition that democracy brings among politicians and bureaucrats should work on minimizing corruption in governments. This is evident from the election mechanisms within a democratic context. The basic intuition is that voters can easily replace politicians and thus, the latter’s position is not automatically guaranteed. This in turn, leads individual officials to have fewer incentives to engage in corrupt activities to avoid the risk of being replaced. In addition, more democratic institutions ensure accountability by creating the needed tools that can monitor corruption and disseminate information on corrupt government officials to the public, which further helps to reduce the discretionary powers of public officials (Pellegata, 2009; Fortunato & Panizza, 2011).

On the contrary, autocratic states are characterized by the monopoly of power by a small elite without effective constraints to prevent them from exercising this power to achieve their own interest, and accordingly a high level of corruption is usually witnessed in such regimes. In this sense, authoritarian systems may not be capable of providing quality of government since they can lack the appropriate mechanisms for protecting both political and civil rights (Saha and Campbell, 2007; Saha, 2008).

Nevertheless, the link between democracy and quality of government is neither straightforward nor clearly distinct in terms of observed reality. The extent to which democratic countries are performing better than authoritarian ones is not quite apparent. There exist several case studies where shifts towards democracy were followed by an increase in corruption and deterioration in the quality of government; as witnessed by numerous developing countries after decolonization, various post-communist countries after 1990, and some Latin American countries after different waves of democratization (Charron & Lapuente, 2010). Consequently, empirical evidence asserts the fact that democracy does not automatically translate into better quality of government. In this regard, empirical literature testifies that democracy affects government quality in divergent ways depending on the basic

characteristics of a society and its political regime. Particularly, there are certain essential prerequisites for an effective democratization process to take place and enhance government quality.

A large body of empirical literature points to a non-linear relationship; where democracy tends to exert negative impact on quality of government in early stages of democratization, then the effect turns to be positive. This non-linear relationship has been explained by two directions in empirical studies as pointed out by Charron and Lapuente (2010). The first direction of studies deals with the *level of democracy* in a given country and shows that government quality is highest in strongly democratic states, medium in strongly authoritarian regimes and least in states that are partially democratized. This is empirically reflected in either U-shaped, J-shaped or S-shaped relationship between the two variables (e.g., Sung, 2004; Bäck & Hadenius, 2008). The second direction of empirical studies deals with the *time exposure of democracy* and reveals that benefits of democracy are brought by the experiences of mature democracies, that is, the higher the accumulated experience with democracy, the better the quality of government; whereas the picture looks quite different in the case of newly democratized countries (Polterovich & Popov, 2007).

Sung (2004) employed a sample of 103 countries with complete information on both the Political Rights Index compiled by the Freedom House and the Corruption Perception Index (CPI) compiled by Transparency International over the period (1995-2000). Results showed that in general, democracy eventually leads to lower levels of corruption. However, there are some temporary sudden rises in government corruption that should be expected during the early stages of the democratization process.

Bäck and Hadenius (2008) tested the effect of democracy on “State Capacity”. They defined “State Capacity” as the ability of the state organs to perform their tasks well and to maintain sovereignty over a geographical territory. Drawing on a sample of 140 countries over 19 years, their empirical assessment revealed the existence of a curvilinear (J-shaped) relationship between democracy and State Capacity. In other words, while democracy in a highly authoritarian country causes lower levels of administrative capacity, further democratization of a semi-authoritarian country has no effect on such capacity. In addition, if the country is more democratic, then additive democratization would have positive (and increasingly significant) effect on the state’s administrative capacity.

A comprehensive study that sums the general idea regarding the importance of the two dimensions (*level* and *time exposure*) of democracy was carried out by Pellegata (2009). Pellegata studied the effects of different indicators of democracy on the state capacity to constrain corruption on the political level. Using cross-country data on democracy and performance indicators for 191 countries, his results show that countries with higher “level of democracy” and more cumulated “democratic experience” over time are less corrupt. Accordingly, Pellegata concluded that the mere presence of democracy does not necessarily help to constrain political corruption. The consequences of democracy should be examined not only through the actual level of democratization in a specific time period, but also the longitudinal dimension of democratic process itself.

In addition, Saha (2008) tested the effects of democracy on corruption using a panel data model covering the period (1995-2004). The results show that an “electoral democracy” represented by “political right” is not sufficient for constraining corruption. However, an “advanced mature democracy” has a significant effect in restraining corruption. These results remain robust under alternative sensitivity tests. In addition, Saha confirmed the non-linear argument between democracy and corruption stating that democratization increases corruption in the early stage of democratic reforms. Once the threshold point is attained, corruption level decreases substantially in a well-functioning mature democracy.

Kolstad and Wiig (2011) argued that the estimation of a relationship between democracy and corruption may raise an endogeneity problem, which should be taken into consideration in the estimation process. Thus, they used a variable which is related to democracy but yet not related to corruption as an instrumental variable in their model. This variable was a dummy variable indicating whether the country was in conflict with a democracy between 1946 and 2009 for a sample of 151 countries. The relevance of the instrument is based on the observation that democracies seldom go to war against each other, hence a negative correlation between being a democracy and having been in conflict with a democracy is expected. Using the instrument variable, the results also reveal a significant impact for democracy in reducing the level of corruption experienced by a given country.

As central as the stage of democratization, there are other certain characteristics of a society that are pointed to by a vast group of empirical studies—as key in determining the relation between democracy and quality of government. For instance, Fortunato and Panizza (2011) examine the effect of democracy on the quality of government using education as a main determinant in this relationship. Employing cross-country and panel data regressions, they conclude that democracy has positive effect on the quality of government in countries with high levels of education, and a negative effect in countries with low levels of education. This result indicates that the two variables complement each other in the selection of high quality policymakers which, ultimately leads to enhanced quality of government.

In a similar context, Charron and Lapuente (2010) claim that the relationship between democracy and government quality is contingent upon the level of economic development. They employ time series, panel data and spatial models for more than 125 countries, and their results show that a low level of government quality is predicted in democratic countries with low levels of economic development, while the quality of government improves in democracies with high levels of economic development.

Also, Polterovich and Popov (2007) show that a certain threshold level of law and order is indispensable if the advantages of the democratization process are to be realized. They use cross-country regression over the period (1975-1999) to estimate the implications of democracy on economic development through the channel of law and order. They find that democratization stimulates economic development in countries with strong law and order, while the contrary happens in countries with poor levels of law and order.

Therefore, in light of the above brief review of literature, the existing evidence on links between democracy and quality of government does not provide a clear-cut support of the idea that democracy entails improved government quality. A well consolidated mature democracy is necessary to realize a better government quality; whereas a young or partial democracy tends to perform worse than authoritarian regimes. Moreover, a certain level of income, education and civil society development are basic requirements for an effective process of democratization. In sum, it is the initial conditions of each country, together with the extent/stage of the democratization process itself that determine the shape and magnitude of democracy effects on the performance of political institutions.

### **3. Empirical Analysis**

#### **3.1 Data and Methods**

In this section, the paper tests its main hypothesis, regarding the role of economic development in determining the impact of democracy on the quality of government, through estimating a panel data model for a sample of 125 countries during the period (2000-2011). Our model builds on the work of Charron and Lapuente

(2010). Below is a detailed description for the variables used in the model.

### 3.1.1 The Dependent Variable

Two approaches have been adopted in recent quantitative literature concerning the measurement of “Quality of government”<sup>1</sup> and corruption (as an indicator for government quality). The first approach is to use a “hard measure” employing indicators such as conviction rates or reports of corruption cases. The second approach uses perception-based indicators, which are either built on surveys or based on the risk assessments of country experts, and has been widely used in many studies, especially in cross-country ones.

Comparing the two approaches, it is argued that “hard measures” may lead to significant biased results if used in a cross-section analysis since the “hard measure” captures the strength of a country’s legal system or its ability to detect corruption, not its actual corruption. On the other hand, perception-based indicators may also have an inherent bias. But in this case it would be an economic bias, since most of them aim at assessing the risk of doing business in a country. However, perception-based indicators are built with a comparative goal and are much more widely available and hence, are considered attractive to scholars seeking to maximize the number of countries in their analyses. In this regard, Kaufman et al. (2008) argue in their debate on corruption indicators that, “perceptions matter because agents base their actions on their perceptions, impression, and views”. In light of the above-mentioned argument, the underlying paper uses perception-based indicators, noting that results should be observed and interpreted with a certain degree of caution given their unavoidable biases.

The dependent variable of interest in the current analysis is the QoG; understood as the capacity a state has to perform its activities in an efficient way and without corruption, in light of rule of law and strength of the legal system. We measure the QoG with two alternative indicators that are commonly used in literature. The first measure is an aggregate index for QoG obtained from the International Country Risk Guide (ICRG) data which, nearly covers 145 countries over the period (1984-2012), reported by the Political Risk Services (PRS) Group. The second measure for QoG employed in the analysis is the World Bank’s “Government Effectiveness” measure which is one of the World Bank Governance Indicators that includes surveys of country experts, households and business elites, and is currently available for about 190 countries since 1996.

The (ICRG) aggregate index measuring QoG is built up by jointly considering corruption and competency indicators. In particular, this index is the simple average of the ICRG variables “Corruption”, “Law and Order” and “Bureaucracy Quality”. The indicator is scaled (0-1) with higher values associated with better QoG. The corruption element of the index assesses corruption within the political system, and is more concerned with actual or potential corruption in the form of excessive patronage, nepotism, job reservations, “favor-for-favors”, secret party funding, and suspicious close ties between politics and business. The law and Order element of the index is an assessment of the strength and impartiality of the legal system, and the popular observance of law. Finally, the bureaucracy quality component captures the ability of the country to bear up a change in government without experiencing shocking disruptions with respect to policy formulation and implementation, daily administrative duties and provision of services.

One potential problem of the (ICRG) aggregate measure is that the experts providing these assessments from country to country have a similar set of presumptions or prejudices regarding different aspects of QoG. This may consequently, produce bias in country assessments and hence, the results would be less valid. Therefore, we will also employ the World Bank’s “Government Effectiveness” measure as an indicator for QoG in a cross-sectional

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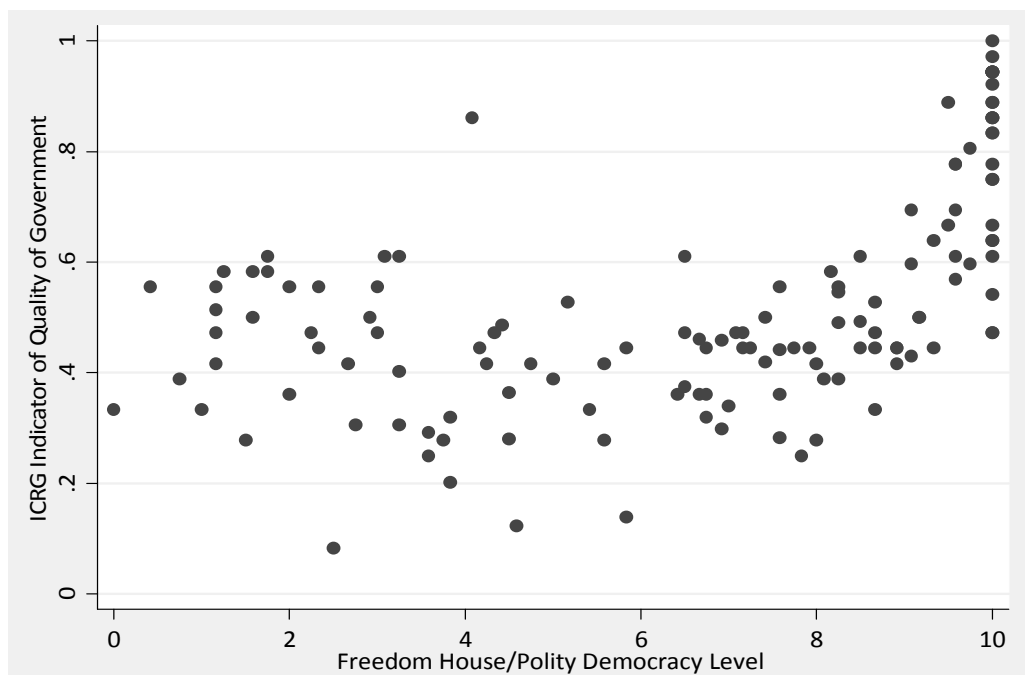
<sup>1</sup> Hereafter mentioned as QoG.

robustness check, and also in attempt to counter the above-mentioned potential problem of the first indicator of QoG. The “Government Effectiveness” indicator is currently available for nearly 190 countries. This indicator dates back to 1996, and data is bi-annual until 2000 and is only available annually from 2002 onwards. It ranges from “-2.5” to “2.5” with higher scores indicating better perceived governance.

### 3.1.2 The Independent Variables

As previously mentioned, *democracy* can be considered as one of the important determinants of the QoG. Based on the assessment of Hadenius and Teorell (2005), we employ a measure of democracy that uses a combination of the Freedom House index and the Polity index. This index ranges from (0-10) with 10 being most democratic. A second independent variable used in the analysis is the GDP per capita based on purchasing power parity (PPP) (constant international dollars) obtained from the World Development Indicators (World Bank, 2013). GDP per capita is used to proxy the *level of economic development* in a country as a possible determinant of QoG; as claimed by Charron and Lapuente (2010).

An *interaction term between democracy and GDP per capita* is employed to test if the relationship between democracy and QoG is conditional on the level of economic development achieved in the country. In addition, we add *square the level of democracy* as another independent variable, in order to control for the hypothesis of nonlinearity between democracy and QoG; as claimed by different previous studies (Figure 1). We further construct an *additive count variable of democracy* by summing all previous years of the Freedom House/Polity measure of democracy since 2000 (the first point in our dataset) to capture in the analysis not only the “depth” of democracy, but also the “time” dimension which, reflects the accumulated “experience” of democracy in a given country.



**Figure 1 The Non-linear Relationship between Democracy and QoG in 2009**

Source: Constructed by the authors using STATA 11 based on data from QoG cross sectional database.

Additionally, we include a *time count trend* to avoid problems associated with spurious correlation when both the dependent variable and the primary independent variables vary independently, but in a constant trend over

time. Furthermore, since the dependent variable is based on subjective perceptions, the time count variable is expected to help in correcting for potential year-to-year differences in the administration of the PRS Group's surveys and trends in the systematic changes over time.

Also, in an attempt to account for the concerns about the potential problem of two-way causality between QoG and income on one hand, and between QoG and democracy on the other hand, we employ all independent variables lagged by one year to model the impact of the independent variable taking place prior in time to the occasion of the dependent variable, as suggested by previous literature (e.g., Bäck & Hadenius, 2008).

In addition, a dependent variable lagged by one year is also used to account for potential first order serial correlation. The empirical analysis will also include control variables consistently shown as relevant in previous studies, such as the country's *level of trade openness*, measured as imports plus exports as a percentage of GDP, and a discrete variable which is a tenfold classification of the *former colonial ruler* of the country<sup>2</sup>.

We estimate the panel data model using pooled ordinary least squares (OLS) with robust standard errors. However, since some problems may arise from repeated observations per unit (country in this case) as the observations may not be independent, we further run a random effects model and a fixed effects model, then choose the most appropriate model on the basis of the Hausman Specification Test.

For further robustness checks of the findings, a cross-sectional analysis is undertaken using data for the 125 countries in year 2009. Through this analysis, we can control for a larger number of control variables, in addition to trade openness and colonial origin, which have been found as significant variables in previous cross-sectional studies. Those variables are: press freedom [press freedom index which ranges between 0 (total press freedom) and 100 (no press freedom)], newspaper circulation [measured by number of newspaper per 1000 inhabitants in 1996], level of education [measured by the average of number of years of education for women and men aged 25 and older], ethnic fractionalization, and number of veto players. In addition, the cross-sectional analysis allows us to include the level of income inequality (measured by estimate of Gini index of inequality in household disposable income), to investigate whether within-country variation of income distribution affects the impact of democracy on QoG.

Data for all variables used are obtained from the *Quality of Government Standard Database* published by the Quality of Government Institute. Descriptive statistics are shown below in Tables 1 and 2.

**Table 1 Descriptive Statistics—Panel Data**

Variable	Obs.	Mean	Std. Dev.	Min	Max
QoG (ICRG)	1560	0.526	0.201	0.083	1
GDP per capita (log)	1469	8.791	1.305	5.513	11.264
Democracy	1560	6.602	3.075	0	10
GDP*Dem	1469	61.137	31.198	0	108.032
Democracy <sup>2</sup>	1560	53.032	35.979	0	100
Dem. Experience	1560	42.649	32.069	0	120
Colonial Origin	1560	2.731	2.631	0	10
Trade Openness	1457	85.238	46.657	0.309	460.471

<sup>2</sup>This variable exclude the British settler colonies (the US, Canada, Australia, Israel and New Zealand), and exclusively focused on “Western overseas” colonialism. This implies that only Western colonizers (e.g., excluding Japanese colonialism), and only countries located in the non-Western hemisphere “overseas” (e.g., excluding Ireland and Malta), have been coded. Each country that has been colonized since 1700 is coded. In cases of several colonial powers, the last one is counted, if it lasted for 10 years or longer. The categories are the following: (0) Never colonized by a Western overseas colonial power, (1) Dutch, (2) Spanish, (3) Italian, (4) US, (5) British, (6) French, (7) Portuguese, (8) Belgian, (9) British-French, (10) Australian.



Table 2 Descriptive Statistics—Cross Sectional Data

Variable	Obs.	Mean	Std. Dev.	Min	Max
QoG (ICRG)	134	0.522	0.198	0.083	1
Gov. Effectiveness (W.B.)	162	-0.112	0.994	-2.270	2.292
GDP per capita (log)	155	8.681	1.277	5.715	11.096
Democracy	162	6.293	3.100	0	10
GDP*Dem	155	56.993	31.442	1.967	107.616
Democracy <sup>2</sup>	162	49.150	35.941	0	100
Dem. Experience	157	17.828	21.703	0	70
Colonial Origin	162	2.963	2.716	0	10
Trade Openness	152	82.194	42.589	22.118	421.567
News Circulation	133	99.865	125.162	0	588
Education Years	159	7.738	3.525	1.05	14.2
Fractionalization	158	0.457	0.256	0	0.930
Veto Players	160	2.931	1.870	1	17
Press Freedom	161	30.264	25.693	0	112.5
Income Inequality	85	36.340	7.649	22.276	53.403
Inequality* Dem	85	273.313	100.675	31.548	496.993

### 3.2 Panel data Analysis

Table 3 displays six empirical models designed to test our hypothesis. In model 1, we run a baseline test of our primary hypothesis, which states that the impact of democracy on QoG is conditional on the level of economic development in a given country. In this basic baseline model we find initial support for our hypothesis. The coefficient of democracy is negative and significant and the interaction term between democracy and economic development is positive and significant at all significance levels. When adding the total effects of the three variables, the effect of democracy on the quality of government is negative at low levels of economic development, while the impact of democracy is positive for states with higher levels of economic development. The coefficient for economic development is insignificant, which with the inclusion of the interaction term, indicates that there is no significant effect of economic development on QoG in strong autocracies.

In model 2, similar to the baseline model, we find that even when adding more control variables like trade openness and colonial origin, the interaction term is robust and remains strongly positive and significant at the 1% level of significance. Democracy remains strongly negative and significant, meaning that, at low levels of economic development, democratization has a negative impact on QoG. Moreover, economic development coefficient remains insignificant similar to the baseline model. As for control variables added, only the colonial origin variable is significant at 10 percent significance level and is considered a positive determinant of QoG.

Model 3 includes more control variables; the “democratic experience” variable together with the time count variable. The model gives similar results to the initial baseline model. First, GDP per capita does not exert a significant effect on QoG on its own without taking into account the level of democracy. Second, democracy has a significantly negative impact on QoG at low levels of economic development, and the interaction term remains significant and positive. Thus, when calculating the impact of democratization at higher levels of economic development, its impact is positive. The control variables added in model 2 (trade openness and colonial origin) are both insignificant here. The “democratic experience” variable, while being with the expected positive sign, is

not statistically significant. This shows the strong impact of the interaction between income and democracy relative to the accumulated experience with democracy as an alternative explanation for QoG. Finally, the “year count” variable is positive and strongly significant, which indicates that there is a positive trend in the dependent variable. This means that QoG have been improving in quality since year 2000.

**Table 3 The Conditional Impact of Democracy on QoG**

Variable	Pooled Panel Data Models				Alternative Models	
	Baseline Model	Baseline with Controls	Add Democracy Experience and Time Count	Full Model with Squared Democracy	Random Effects	Fixed Effects
	(1)	(2)	(3)	(4)	(5)	(6)
Democracy	-0.0049*** (0.0018)	-0.0055*** (0.0019)	-0.0047** (0.0019)	-0.0058*** (0.0021)	-0.0058*** (0.0022)	-0.0190** (0.0074)
Democracy <sup>2</sup>	-	-	-	0.0002 (0.0001)	0.0002 (0.0001)	0.0007** (0.0004)
GDP per capita (log)	-0.0003 (0.0010)	-0.0001 (0.0011)	-0.0005 (0.0011)	-0.0006 (0.0011)	-0.0006 (0.0014)	-0.0159** (0.0080)
Dem * GDP	0.00056*** (0.0002)	0.00064*** (0.0002)	0.00053** (0.0002)	0.00046** (0.0002)	0.00047** (0.0002)	0.00171* (0.0009)
Trade	-	0.000006 (0.00002)	-0.0000003 (0.00002)	0.000002 (0.00002)	0.000002 (0.00002)	0.000044 (0.00006)
Colonial Origin	-	0.0006* (0.0003)	0.0005 (0.0003)	0.0006* (0.0003)	0.0006 (0.0003)	-
Year Count	-	-	0.0016*** (0.0004)	0.0016*** (0.0005)	0.0016*** (0.0005)	0.0020*** (0.0006)
Democratic Experience	-	-	0.00002 (0.0001)	0.00001 (0.0001)	0.00001 (0.0001)	-0.00014* (0.0001)
Lag Dep. Variable	0.9696*** (0.0058)	0.9694*** (0.0058)	0.9766*** (0.0059)	0.9751*** (0.0057)	0.9749*** (0.0061)	0.6293*** (0.0175)
Constant	0.0145 (0.0097)	0.0095 (0.0104)	0.0017 (0.0102)	0.0055 (0.0109)	0.0056 (0.0129)	0.3108*** (0.0684)
Obs.	1352	1315	1315	1315	1315	1315
Countries	124	124	124	124	124	124
R <sup>2</sup>	0.985	0.985	0.986	0.986	0.986	0.978

Notes: Robust standard errors in parentheses for pooled OLS models and standard errors in parentheses for RE and FE models. p\* < 0.10, p\*\* < 0.05, p\*\*\* < 0.01.

The fourth model in Table 1 tests all of the hypotheses together in order to estimate their relative strength to one another. Here we observe that when accounting for the squared democracy variable-which fails to be significant at any significance level-together with time count and democratic experience; the net impact of democracy on government quality becomes negative, however this negative effect declines with the increase in the level of economic development.

Then we run random and fixed effects models including all the explanatory variables of interest. The results of the random effects model (model 5) resemble that of model 4, where democracy has a significantly negative impact on QoG, the interaction between democracy and economic development remains significant, and the squared democracy variable is still insignificant.

In the fixed effects model (model 6), the coefficients of democracy and GDP per capita are negative, while the coefficient of squared democracy variable is positive; all significant at 95 percent level of confidence. In addition, the interaction term is with a positive sign and significant at 90 percent level of confidence. This indicates that democracy has a negative effect on QoG in autocratic countries with low levels of economic

development, while this effect becomes positive in democratic high income countries. Surprisingly, the model shows that democratic experience variable has a negative significant impact on QoG. This can be interpreted by the fact that, in some cases where countries enjoy democracy for long periods, corruption finds its way in democratic governments, and democracy becomes inducing to more corruption and lower quality of bureaucratic performance.

By running the Hausman specification test to choose among the fixed effects and the random effects models, the null hypothesis was rejected, and this implies that the fixed effects specification should be preferred over the random effects specification. The results of the fixed effect model imply that the impact of democracy on government quality is dependent on the level of economic development in a given country. More precisely, enhanced democracy together with boosted economic development complement each other in promoting the QoG. Consequently, to have a positive effect for democracy on government quality, countries should work on improving their income levels while taking the necessary steps to establish a well-consolidated democracy.

It is worth mentioning that by running a Variance Inflation Factor test for all models, multicollinearity is detected. Upon further examination, strong correlations are found between democracy, interaction term, democratic experience and democracy squared term. Thus multicollinearity is present in each model that includes two or more of these measures. While this issue may render the model less efficient by overestimating the standard errors of each of the estimates, there is no problem with this bias. This may in fact mean that the significance for the coefficients is larger than what the models indicate.

### **3.3 Cross-sectional Analysis and Robustness Checks**

In this section we replicate our model and test for the most prevailing alternative explanations for the relationship between democracy and government quality using cross-sectional data from 2009 to check for the robustness of the results from the panel data models. Year 2009 is chosen as the base year in the analysis in order to maximize the number of observations based on the variables used, since all of the variables are primarily taken from the Quality of Government Institute's dataset, which publishes a wide scope of cross-sectional variables for the year 2009.

Table 4 displays the results of the cross-sectional analyses. In general, all the models estimated continue to show that, at low levels of economic development; democratization lowers government quality, while at moderate to high levels of economic development; the effect of democracy turns to be positive. The coefficient of democracy is negative and significant, and the coefficient of the interaction term between democracy and income has a positive sign and significant at all significance levels.

When running different specifications of the model, we find that model 2 supports the hypothesis that the relationship between democracy and QoG is non-linear, as the squared democracy variable is significant at all significance levels, together with a strongly significant interaction term. In models 3, press freedom variable is not significant. While in model 4, the newspaper circulation variable is strongly significant, and it is considered as a positive determinant of quality of government. In model 5, the level of education does not have significant effect on government quality, and the same holds true with regard to ethnic fractionalization in model 6, and the number of veto players in model 7.

In model 8, the "democracy experience" hypothesis receives some empirical support—on the contrary with the results of the panel data analysis—where the coefficient of democratic experience variable is strongly significant at the 99 percent level of confidence, and the effect of the interaction term remains significantly strong. Model 9 controls for income inequality, which proved to have a significant negative impact on QoG. Moreover, model 10

adds an interaction term between democracy and income inequality in order to investigate whether the within-country variation of income distribution affects the impact of democracy on QoG, as presumed by various theoretical arguments (e.g., Bermeo, 2009). The results do support this hypothesis, as the interaction term is statistically significant, but only at the 90 percent confidence level. Also, the notable difference in model 10 is that economic development now has a positive and significant impact on government quality regardless of the political regime of the country.

**Table 4 Cross Sectional Regression Results**

Variable	Baseline Model	Squared Democracy	Press Freedom	News Circulation	Education Years	Ethnic Frac.	Veto Players	Democracy Experience	Income Inequality	Inequality* Democracy	World Bank
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Democracy	-0.1507*** (0.0323)	-0.1855*** (0.0331)	-0.1534*** (0.0328)	-0.1608*** (0.0388)	-0.1545*** (0.0328)	-0.1529*** (0.0333)	-0.1518*** (0.0318)	-0.1192*** (0.0344)	-0.1571*** (0.0575)	0.0732** (0.0288)	-0.3820*** (0.1182)
GDP per capita (log)	-0.0125 (0.0234)	-0.0147 (0.0228)	-0.0135 (0.0231)	-0.0459 (0.0300)	-0.0063 (0.0230)	-0.0153 (0.0239)	-0.0108 (0.0233)	-0.0039 (0.0240)	-0.0176 (0.0547)	0.1232*** (0.0205)	0.1711 (0.1099)
Dem * GDP	0.0180*** (0.0034)	0.0152*** (0.0033)	0.0180*** (0.0034)	0.0189*** (0.0042)	0.0185*** (0.0035)	0.0182*** (0.0035)	0.0179*** (0.0034)	0.0137*** (0.0038)	0.0194*** (0.0064)	-	0.0554*** (0.0138)
Trade	0.0004* (0.0003)	0.0005 (0.0003)	0.0004 (0.0003)	0.0005** (0.0002)	0.0005** (0.0002)	0.0004* (0.0003)	0.0004* (0.0003)	0.0005** (0.0002)	0.0004 (0.0003)	0.0001 (0.0003)	0.0025* (0.0014)
Colonial Origin	0.0015 (0.0048)	0.0042 (0.0046)	0.0006 (0.0051)	0.0020 (0.0051)	-0.0015 (0.0054)	0.0014 (0.0048)	0.0009 (0.0048)	-0.0019 (0.0048)	0.0143 (0.0086)	0.0222** (0.0087)	0.0299 (0.0195)
Democracy <sup>2</sup>		0.0055*** (0.0019)									
Press Freedom			-0.0005 (0.0007)								
Newspaper Circulation				0.0004*** (0.0001)							
Education years					-0.0064 (0.0052)						
Ethnic Fractionalization						-0.0106 (0.0510)					
Veto Players							0.0058 (0.0075)				
Democratic Experience								0.0021*** (0.0007)			
Income Inequality									-0.0050** (0.0020)	0.0043 (0.0068)	
Inequality X Democracy										-0.0015* (0.0009)	
Constant	0.5179** (0.2152)	0.6356*** (0.2181)	0.5663** (0.2285)	0.7824*** (0.2674)	0.5173** (0.2096)	0.5529** (0.2221)	0.5009** (0.2141)	0.4503** (0.2160)	0.6642 (0.4599)	-0.9000*** (0.2613)	-2.5664*** (0.9025)
Countries	<b>122</b>	<b>122</b>	<b>122</b>	<b>111</b>	<b>121</b>	<b>120</b>	<b>121</b>	<b>120</b>	<b>77</b>	<b>77</b>	<b>149</b>
R <sup>2</sup>	<b>0.674</b>	<b>0.693</b>	<b>0.675</b>	<b>0.704</b>	<b>0.676</b>	<b>0.674</b>	<b>0.678</b>	<b>0.705</b>	<b>0.765</b>	<b>0.739</b>	<b>0.760</b>

Notes: For models 1-10, the dependent variable is "Quality of Government" obtained from (ICRG) data (0-1) with higher scores associated with better government performance. Model 11 uses the World Bank "Government Effectiveness" indicator as a substitute (-2.5 to 2.5) with higher scores indicating better perceived governance.

Robust standard errors in parentheses, p\* < 0.10, p\*\* < 0.05, p\*\*\* < 0.01.

Finally, model 11 provides a further robustness check to the results, using the World Bank "Government Effectiveness" indicator as an alternative measure for quality of government. The model supports almost the same above obtained results. The general conclusion that could be derived from the cross-sectional analysis is that, in spite of the inclusion of a number of alternative hypotheses, the interaction term between democracy and GDP per capita is always positively and significantly correlated with the quality of government, which adds more robustness to the panel data results.

#### 4. Conclusion and Policy Implications

In this paper, we tried to revisit the puzzling relationship between democracy and quality of government, focusing on how the interplay between economic development and democratic institutions influence government performance and bureaucratic quality. In doing so, we present a quick review of the theoretical and empirical literature that highlights the importance of political institutions in explaining cross-country differences in government quality and shed light on the fundamental factors that play a key role in this regard.

In line with recent literature, we predict the relationship between democracy and quality of government to be non-linear and contingent upon the level of economic development. Using panel data estimations, for a sample of 125 countries over the period (2000-2011), our model provide evidence in support to the main theoretical prediction of the paper. More precisely, the regressions coefficients suggest that democracy inhibit government quality in countries witnessing early stages of democratic reforms and low levels of economic development; once a well-functioning matured democracy is realized, accompanied with boosted levels of economic development, the quality of government is then improved. These results remain robust under alternative cross-sectional estimations and with alternative measures of government quality.

In light of the above analysis, it is advised that countries with high levels of authoritarian rule and corruption try to move towards more democracy and implement a package of anti-corruption initiatives comparable to the ones applied in good performing countries. Promotion of rule of law, transparency and accountability are all believed to enhance government performance. Yet, hand in hand with such reforms, the need for work on a broader developmental scale to enhance both the economic and social spectrums is indispensable.

Worth emphasizing is that although dictatorships have no room to survive in today's globalized world, the benefits of democracies are not assured as well and should be addressed cautiously. As claimed by previous literature and asserted by the results of the underlying analysis, there are certain factors that have major importance in shaping the impact of democracy on state capacity, and are considered necessary prerequisites to reap the fruits of democracy. In particular, the beneficial effects of democracy on the quality of government are realized in counties where high levels of economic development are achieved, low levels of income inequality are witnessed, and well consolidated democratic institutions are put in place.

It should be obvious that the road towards democracy is challenging; yet is worth working hard and exerting extra effort for bridging the developmental gap and achieving the social and economic prosperity. Changing the cultural beliefs from "what people are expected to do" towards "what governments are expected to give" needs a clear vision plan. Policymakers should expect higher levels of demand for improved administrative performance and bureaucratic quality within a mature democratic context, which will not be possible unless a sound economic environment is present.

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