

Democracy and Economic Growth in the MENA countries: An Empirical Analysis using Panel Data

الديمقراطية و النمو الاقتصادي في دول MENA: تحليل تطبيقي باستعمال بيانات البانل

Brahim Zirari¹, Youcef Souar²

¹ ITMAM Laboratory, University of Dr.Tahar Moulay Saida, Algeria
brahim.zirari@univ-saida.dz

² MIFMA Laboratory, University of Dr.Tahar Moulay Saida, Algeria,
syoucef12@yahoo.fr

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Abstract:

The relationship between democracy and economic growth is ambiguous. Therefore, this paper examines the impact of democracy on economic growth by using panel data of 15 MENA countries over the period 2006-2018. The study follows democratisation, and it assumes that democracy affects economic growth through: Electoral process and pluralism index, Political participation index, Functioning of government index, Political culture index, Civil liberties and freedom index that collected from Economic Intelligence Unit (EIU) dataset.

We explored this nexus by using a Random Effectmodel, and results revealed that democracy enhances economic growth through electoral pluralism index; meanwhile, it hinders growth through the functioning of government index.

Keywords:Economic growth, Democracy, Panel data.

JELClassificationCodes:B22, D73, C33

ملخص:

إن العلاقة بين الديمقراطية و النمو الاقتصادي تتسم بالإبهام، لذلك تهدف هذه الورقة العلمية إلى تحليل أثر الديمقراطية على النمو الاقتصادي باستخدام بيانات البانل في 15 دولة من الشرق الأوسط و

¹ *Corresponding author: Brahim Zirari, e-mail:*ziraribr@gmail.com.

شمال إفريقيا *MENA* خلال الفترة 2006 – 2018. الدراسة تتبع نظرية الديمقراطية و تفترض أن هذه الأخيرة تؤثر على النمو الاقتصادي من خلال خمس متغيرات مجمعة من *EIU*. من خلال تحليل نموذج التأثيرات العشوائية، أظهرت الدراسة أن الديمقراطية تعزز النمو الاقتصادي من خلال مؤشر التعددية الحزبية و تؤثر سلبا على النمو من خلال مؤشر الأداء الحكومي. كلمات مفتاحية: النمو الاقتصادي، الديمقراطية، بيانات البانل. تصنيفات JEL : B22, D73, C33

1. INTRODUCTION

Regime type and economic growth a research area captured the interest of many researchers in economics and politics. Since the work of Max weber and the third wave of democratisation that started in the 1970s, studies have focused on examining the interference between democracy and economic growth in nations, which are shaped by the question of whether countries are prosperous because they are democratic, or they are democratic because they are prosperous.

The existing literature in this regard shows a controversial output in empirical research. (Lipset, 1959) has conducted a study titled “economic development and political legitimacy”, where he found that urbanisation, globalisation and industrialisation produce economic growth that facilitates democratisation through a profound social evolution (high level of education, equality...etc.) under the name of the modernisation process. (Barro, 1999) supported modernisation, and he mentioned that poor countries do not last as democracies. However (Huntington, 1968), found that economic growth leads to high rates of corruption; thus, governments will build institutions as a process of democracy.

(Acemoglu , Johnson, & James.A, 2005) have delved the democracy-economic growth nexus for a long time. Based on instrumental variables for GDP growth and a panel Fixed Effect model, they pointed out that control for heterogeneity between countries was absent in modernisation theory, which led to biased results. The authors found out that the causality

direction moves from democracy to economic growth (democratisation process).

According to (Ghardallou & Sridi, 2019), studies that followed democratisation have revealed three major different results: democracy has a negative impact on economic growth (Aisen & Veiga, 2013), (Rachdi & Saidi, 2015) through “the massive redistribution of income and the autonomy of the state and the poor quality of institutions”, democracy has a positive impact on economic growth (Knutsen, 2011) through political stability, protection of civil liberties and accumulation of human capital. Furthermore, a third argument poses that democracy has no relationship with economic growth, which clearly showed in a study conducted by (Song, D. Berger, & Kim, 2017).

The third wave of democratisation reached MENA countries in the last decades, and its impact on economic growth is still controversial. Therefore, our study aims to investigate the following question: **Does democracy foster economic growth in the MENA region?**

To answer this problematic, our empirical study assumes that democracy causes economic growth and its impact is crucial. Using a panel data model due to longitudinal data and heterogeneity aims to shed light on this ambiguity in 15 MENA countries from 2006 to 2018.

This paper contributes to the existing literature through three aspects: the current controversy in empirical research, the few studies performed in MENA countries; finally, the rising debate of how to measure democracy in empirical research, and the existing critics towards some datasets (e.g. Polity index).

The paper is structured as follows: a first section for the data and the model specification, a second section was devoted to the related literature, a third section to display and discuss our study results, and a fourth section for the discussion. Finally, a fifth section for the conclusion.

Table 1. The relationship between Democracy and economic growth in empirical research

The theory of modernisation	The theory of democratisation		
Urbanisation, industrialisation and globalisation lead to economic development; hence, democracy	Democracy fosters economic growth	Democracy hinders economic growth	There is no linkage between democracy and economic growth.

Source: Authors' construction

2. LITERATURE REVIEW

A recent study performed by (Yi Man Li, Chi Ho Tang, & Ho Leung, 2019), where they investigated the relationship between democracy and economic growth by using panel data including 167 countries. Democracy variable was measured by the Economic Intelligence Unit (EIU) index and GDP growth was used as a metric for economic growth. The research revealed an indirect significant negative impact of democracy on economic growth for a short period.

(Ghardallou & Sridi, 2019) performed a review paper study in the context of the impact of democracy on economic growth. The study aimed to analyse the existing work in this field and highlighted the controversial debate in this research area. Results have analysed the positive nexus, the negative nexus and the non-relationship between democracy and economic growth.

(Zirari & Souar, 2019), the study focused on exploring the causality direction between democracy and economic growth in Algeria in the context of the conflicting views between modernisation and democratisation theory. According to the authors, both in short and long run, the causality moves from democracy towards economic growth.

A study performed by (Baklouti & Boujelbene, 2018) explored the behaviour of democracy and economic growth while accounting the role of political stability in the MENA region during the period of 1998-2011. Based on a dynamic simultaneous equation panel, the output highlighted the need of democracy in nations, and it found out that democracy stimulates economic growth through political stability and economic performance in turn is a key factor for democracy.

(Nosier & El-Karamani, 2018) explored the indirect impact of democracy on economic growth using a dataset of 17 MENA countries from 1990 to 2015. Through a system of simultaneous equations, they concluded that democracy fosters economic growth through health, cripples growth through government size and trade openness, and found a non-effect for education and physical capital. Moreover, they found that democracy is better in prosperous countries than poor countries.

A study aimed to answer the problematic of whether democracy is a cause or a consequence of economic development conducted by (Song, D. Berger, & Kim, 2017). Using a multiple linear regression and panel data of 215 countries from 1960 to 2014, the study covers two datasets of democracy: polity index and the democracy dictatorship index as a dummy variable. Results showed a non-significant relationship between democracy and economic growth. Subsequently, nations may become rich under many regime types.

(Nayebyazdi, 2017) examined the impact of democracy on economic growth using panel data of 18 Muslim MENA countries between 2008 and 2014. A spatial econometric approach revealed a spatial relationship between democracy and economic growth, and a negative impact of democracy on growth in the surveyed countries.

(Zghidi, 2017) investigated the question of whether democracy and political stability increase growth in 31 African countries covering from 1986 to 2014. At first, the contribution of political stability and democracy on economic growth was analysed. Based on a panel data estimation using the GMM method, the study pointed out a positive impact of political stability and democratisation on GDP growth.

The study of (Rachdi & Saidi, 2015) investigated the impact of democracy on economic growth in the MENA region in the period 1983-2012 as the first contribution in MENA countries. Economic growth was measured by GDP per capita and democracy by the polity index components (institutionalised democracy score, institutionalised autocracy score, competitiveness of executive recruitment, openness of executive recruitment and executive constraints). Based on a Fixed Effect, Random

Effect and the generalised method of moments (GMM), they pointed out that democracy cripples growth.

“Democracy and economic growth in Sub-Saharan Africa: A panel data approach”, a paper conducted by (Jaunky, 2013) in 28 countries of Sub-Saharan Africa between 1980 and 2005. Freedom House Index was used as a measure for democracy. Through a variety of panel data unit root and co-integration tests, the variables found to be co-integrated. In the short-run, the causality found to move from economic growth to democracy. Meanwhile, the long-run relationship estimation showed a positive impact of democracy on GDP and vice versa. “These results lend support to the virtuous cycle hypothesis,” the authors said.

(Heo & C. Tan, 2011), this study explored the causality direction between democracy and economic development for 34 countries over the period 1950-1982 in the term of modernisation and democratisation theories. Authors have evaluated democracy by Arat’s index, and economic growth by GDP. Granger causality test showed two-way Granger causality between democracy and economic growth.

(Narayan, Narayan, & Smyth, 2010) performed a study titled “Does democracy facilitate economic growth or does economic growth facilitate democracy?” in 30 sub-Saharan African countries over the period 1972-2001. Two democracy datasets (legislative index of electoral competitiveness and freedom house index) were used. The findings showed different output in the context of impact and causality direction between countries.

Table 2.Summary of related studies.

The study	Results
Yi Man Li, Chi Ho Tang, & Ho Leung, 2019	Indirect impact of democracy on economic growth
Ghardallou & Sridi, 2019	Democracy fosters growth; democracy hinders growth; non-relationship democracy and growth.
Zirari & Souar, 2019	Democracy causes economic growth (democratisation)
Baklouti & Boujelbene , 2018	Democracy stimulates economic growth through political stability
Nosier & El-Karamani, 2018	Democracy enhances growth through health and cripples growth government size and trade openness
Song, D. Berger, & Kim, 2017	Non-relationship between democracy and economic growth
Nayebyazdi A. , 2017	Democracy causes economic growth (democratisation)
Zghidi, 2017	Democracy increases GDP growth
Rachdi & Saidi, 2015	Democracy hinders economic growth
Jaunky, 2013	Economic growth causes democracy in the short run, and democracy causes and nurtures growth in the long run.
Heo & C. Tan, 2011	Two causality direction between democracy and economic growth
Kumar Narayan, Smyth, & Narayan, 2010	Different causality direction and different impact differs between countries and datasets.

Source: Authors' construction

3. METHODOLOGY

3.1 Econometric Model

(Acemoglu , Johnson, & James.A, 2005) conducted a study to trace the impact of democracy on growth in nations. Their model based on controlling heterogeneity between countries through a Fixed Effect panel data; meanwhile, they have used instrumental variables for economic growth to confirm their results. For the MENA countries, studies in this regard are very few and according to (Rachdi & Saidi, 2015), their study is

the first contribution in the region. Our study is based on Gauss – Markov theorem, where regression sample of data is as follows:

$$Y = X\beta + \varepsilon$$

The econometric model we applied to investigate our question is extracted from the studies mentioned above as the following:

$$\text{GROWTH}_i = \text{TRADE}_i + \text{GOVTSIZE}_i + \text{POP}_i + \text{DEMOCRACY}_i + \varepsilon_i$$

Where:

GROWTH: GDP per capita growth;

TRADE: Import plus export divided to GDP;

GOVTSIZE: Government final consumption to GDP;

POP: Growth rate of total population;

DEMOCRACY: EIU democracy index (electoral process and pluralism index, political participation index, functioning government index, political culture index, civil liberties and freedom index).

For economic growth, most empirical studies in this research area have used GDP growth per capita. However, democracy index differed from study to another: Polity index, EIU index and Freedom House Index are the best-known measurements.

3.2 Data description

The study spans panel data of 15 MENA countries (Algeria, Bahrain, Egypt Arab Rep, Irak, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey and United Arab Emirates) from 2006 to 2018. The period of study was chosen depending on the availability of data in Economic Intelligence Unit (EIU) dataset. Data are collected from World Bank Indicators (WDI) for (GDP, trade, government final consumption and population growth), and democracy proxies are collected from EIU. Table 03 summarises the data description and resources.

Table 3. Data description

Variable	Label	Definition	Source
Economic growth	GDP	GDP per capita annual growth	WDI
Trade	TRADE	The sum of import and export of good and services divided to GDP	WDI
Government final consumption	GOVTSIZE	The amount of income that represent the government expenditure on goods and services	WDI
Population	POP	The annual total growth of population	WDI
Electoral process and pluralism index	ep	Composed of 12 indicators that assess elections, opposition, suffrage, municipal, citizen freedom to form political parties. It ranges from 0 for countries with low electoral process and 10 for high democracies.	EUI
Political participation index	pp	Composed of 9 indicators that assess degree of ethnic and religion in politics, women in parliament, adult literacy and engagement of citizen in politics. It ranges from 0 to countries with limited political participation and 10 for those with large process	EUI
Functioning government index	gi	Composed of 12 indicators that evaluate the functioning of a government in multiple sectors. It ranges from 0 to 10 for low and well performing governments, respectively	EUI
Civil liberties and freedom index	cl	Composed of 17 indicators assess free media, freedom of expression, law, human rights and discrimination. It gives 0 to low democracies and 10 to high democracies.	EUI
Political culture index	pc	Composed of 8 indicators to evaluate political culture in a country. It ranges from 0 for low rates of Political culture and 10 for high rates.	EUI

Source: Authors' construction

4 EMPIRICAL RESULTS

4.1 Multicollinearity test

Panel data is crucial in this research area because of the cross sectional and time series data. According to (Kenedy, 2008, p. 281), longitudinal data have “observations on the same units in several different time periods”. Moreover, panel data provides “more informative data, more variability, less collinearity among variables, more degree of freedom and more efficiency”, (Baltagi, 2001, p. 6). The need of panel data analysis is present in our study, where we have heterogeneity between countries. A first test of multicollinearity was performed to check the correlation between independent variables (especially democracy variables), and table 04 illustrates the output.

Table 4. Multicollinearity test

Variable	VIF
Trade	3.95
Government final consumption	2.07
Population	2.98
Electoral process and pluralism index	1.77
Political participation index	1.55
Functioning government index	1.44
Civil liberties and freedom index	1.24
Political culture index	1.22

Source: Output of Stata.14

All VIFs presented above are less than (<3), and moves in an interval less than 5 and 10, thus, we accept the null hypothesis of the absence of multicollinearity.

4.2 Model estimation using Fixed Effect, Random Effect and Pooled OLS models

Table 5 presents the estimation results of Fixed/Random Effect and Pooled OLS regressions:

Table 5.Model parameters using Fixed Effect, Random Effect and Pooled OLS models

Regressors	Pooled OLS	Fixed EffectModel	Random EffectModel
Trade	.0170247	.0578205	-.0070098
Population growth	.5094284	-.4623416	-.5415085
Government final consumption	-.066449	-.1365778	-.0965852
Electoral pluralism	.0320906	.0503247	.0456768
Political participation	.0335155	.006529	-.0437663
Government index	-.047159	-.0964827	-.0644816
Political culture index	.024033	.0207144	.0250496
Civil liberties index	.0309514	-.0052513	.029216
Intercept	4.742226	.6429495	5.099239
F-test(model)	6.52	4.35	38.11
Prob > F-test (model)	0.0000	0.0001	0.0000
R ²	0.22	0.3594	0.5095
N	187	187	187

Source: Output of Stata.14

For Fixed Effectmodel, a within estimation was conducted instead of LSDV because how far dummy variables deviate between the reference and the actual group is needless in our research. R² of within estimation is not correct. Therefore, we used an “areg Stata command” to find the authentic value as presented in the table above.

4.3 Model Selection: Fixed or Pooled OLS?

F-test compares Fixed Effectmodel to Pooled OLS based on the goodness-of-fit of data. The test hypotheses are the following:

$$\left. \begin{aligned}
 &H_0: \mu_0 = \mu_1 = \dots = \mu_{k-1} \\
 &H_1: \text{At least one dummy variable is not zero}
 \end{aligned} \right\}$$

And Fisher test is calculated as follows:

$$F = (n - 1, nT - n - k) = \frac{(R^2_{LSDV} - R^2_{Pooled})/n-1}{(1 - R^2_{LSDV})/(nT - n - k)}$$

If the null hypothesis is rejected, we conclude an increase in goodness-fit in Fixed Effect model, which means that Fixed Effect model, is preferable to the Pooled OLS model. Test results are summarised in Table 06.

Table 6. Restricted Test of Fisher

H0 : All $u_i = 0$	F(14,164) = 2.43	Prob > F = 0.0040*
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*, **, and *** indicate statistical significance at the 10%, 5%, and 1% level

Source: Output of Stata.14

The value of probability (Prob>F =0.0040) leads us to reject the null hypothesis, it confirms the existence of significant (1%) difference across countries. Therefore, running a Fixed Effect model is needed.

4.4 Model selection: Fixed or Random Effect?

Basically, Hausman test distinguishes between a Fixed Effect and Random Effect models, where the null hypothesis indicates that a correlation between individual effects and regressors violate Gauss-Markov assumption, hence, Fixed Effect is favoured if H_0 is rejected.

Table 6. Hausman Test

Test: Ho: difference in coefficients not systematic	chi2(9)	Prob>chi2
	9.93	0.3560

Source: Output of Stata.14

P-value is large enough to reject the null hypothesis at the .05 significance level; therefore, a correlation between individual effects and independent variables is rejected; thus, a Random Effect model is preferred.

4.5 Estimating of parameters using a Random Effect Model:

After a F-test and a Hausman test results, we performed a Random Effect estimation using GLS estimator and the results are presented in the table 07 as follows:

Table 7. Random Effect Model estimation

R ² =0.5095			
Repressors	Coef	Std. Err	t
Trade	-.0070098	.0131233	-0.53
Population growth	-.5415085	.1169023	-4.63*
Government final consumption	-.0965852	.0781491	-1.24
Electoral pluralism	.0456768	.0274566	1.66***
Political participation	-.0437663	.0307472	-1.42
Government index	-.0644816	.0293764	-2.20**
Political culture index	.0250496	.0411193	0.61
Civil liberties index	.029216	.0482389	0.61
Intercept	5.099239	2.608168	1.96**

*, **, and *** indicates statistical significance at the 1%, 5%, and 10% level.

Source: Output of Stata.14

R² guides researchers to decide the good fit of data in their model, and how much regressors explain the dependent variable. It is agreed that higher values of R² are a strong sign of a good model. However, in the context of the relationship between democracy and economic growth, R² returned low and medium values in some studies (see results in (Rachdi & Saidi, 2015), (Nayebyazdi, 2017), (Song, D. Berger, & Kim, 2017)). It might be the cause of the measurements of democracy in this region that contain some missing data and critics in measuring like polity dataset (Boese, 2019). For our model, R² (50%) means that independent variables account for 50% of change in GDP growth. Furthermore, results show that at a 0.05 significance level with a p-value more than 0.0000, the model in global is significant. The study found the following:

- In case of all independent variables are equal to 0, each county is expected to have a 5.0992 units of growth;
- For one unit increase in population, economic growth is expected to decrease by 0.5415 units, other variables are constant;

- For one unit increase in electoral pluralism, growth expected to increase by 0.04567 units, other variables are constant;
- For one unit increase in government index, growth expected to decrease by 0.06448 units, other variables are constant.

5. DISCUSSION

The empirical approach focused on exploring the impact of five proxies of democracy on economic growth. Some studies have measured this effect through political variables created and collected in international datasets (Polity in (Rachdi & Saidi, 2015), Economic Intelligence Unit in (Rezki & Melikaoui, 2020), Freedom House Index in (Narayan, Narayan, & Smyth, 2010)...etc.), and others used socioeconomic variables (Nosier & El-Karamani, 2018) like (Level of education, Human capital,...etc.). In this context, a new problematic has risen in the recent years about the appropriate measure for democracy in research, and many scholars performed critical studies about some of the existing indexes. According to (Boese, 2019), "Polity dataset contains missing data when it comes to regime transition in countries, and some categories in the third version, their calculation was based on civil conflict". In our case we have avoided using Polity index, and EIU was applied instead. Results showed that democracy fosters economic growth through electoral pluralism and hinders it through functioning of government index. The positive impact of electoral pluralism on growth can be explained by the political transition in MENA countries against monarchy, authoritarianism, political corruption and unemployment like Tunisia, Egypt, Yemen, Syria and Bahrain after the Arab spring (2010-2012). Citizens' freedom to form political parties and participate in elections has improved elections and opposition parties found more space to impose pressure on the winning party to nurture democracy; hence, improve economic growth and lead to better life standards. The democratisation process that started in 2010 seemed to fix all problems and ensure development in these countries; however, the newborn governments and regardless the new level of democracy continued to act slowly and very far from the promising life that people were looking for. Our second finding

supportsthe studies that found a negative impact of democracy, where it considered as a regime of consumption but not a regime of investment(Ghardallou & Sridi, 2019):fiveyears in the regime is not enough to create and develop strong investments- the elected party fears to lose its position, which will lead to increase government's spending on the short term projects to ensure chancesfor the next mandate- it produces weak democratic institutions in these emerging democracies that are unable to nurture growth. Meanwhile,Stability in the regime type led to strong institutions in some MENA monarchies like United Arab Emirates and Saudi Arabia. On overall, the study found that democracy in MENA countries is low, and it can be seen in electoral pluralism as a catalyst to economic growth rates, and functioning of governments as a hindrance.These results are important for both policy makers and for scholarstoassesswhether democracy is an effective way to movecountriesfrom being poor to become rich.

6. CONCLUSION

The debate of investigating economic growth behaviour through democracy variationhas been the subject of many studies. Despite the consensus in theoretical research, theempirical research reveals many conflicting views of whether democracy increases or decreases economic growth rates. Therefore, our study was conducted to delve the impact of democracy on growth in MENA region.

Democracy was measured by (electoral process and pluralism index, political participation index, functioning of government Index, political culture index, civil liberties and freedom index) collected from Economic Intelligence Unit (EIU) dataset.

Based on panel data analysis during the period of 2006-2018, the study showed that democracy fosters economic growth by 4% through electoral pluralism and hinders it by 6% through functioning of government index.Therefore, we recommend that these emerging democracies should provide better services to their people through better constitutions.

6. Appendices

Appendice1. Restricted test of Fisher

```
. testparm g1 g2 g3 g4 g5 g6 g7 g8 g9 g10 g11 g12 g13 g14 g15
      F( 14, 164) = 2.43
      Prob > F = 0.0040
```

Appendice2. Hausman test

```
      b = consistent under Ho and Ha; obtained from xtreg
      B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

      chi2(9) = (b-B)'[(V_b-V_B)^(-1)](b-B)
              = 9.93
      Prob>chi2 = 0.3560
```

Appendice3. Multicollinearity test

```
. vif
```

Variable	VIF	1/VIF
ep	3.95	0.253139
gi	3.07	0.325976
cl	2.98	0.335289
pc	1.71	0.583892
pop	1.55	0.646578
pp	1.44	0.696075
trade	1.34	0.744249
fc	1.12	0.890169
Mean VIF	2.15	

Appendice4. Random Effect model estimation (xtreg)

```
. xtreg gdp trade pop fc ep pp gi pc cl, re
```

```
Random-effects GLS regression           Number of obs   =       187
Group variable: country                 Number of groups =       15

R-sq:                                   Obs per group:
    within = 0.1375                      min =          10
    between = 0.5095                     avg =         12.5
    overall = 0.2188                      max =          13

Wald chi2(8) =       38.11
corr(u_i, X) = 0 (assumed)              Prob > chi2     =       0.0000
```

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
gdp						
trade	-.0070098	.0131233	-0.53	0.593	-.032731	.0187114
pop	-.5415085	.1169023	-4.63	0.000	-.7706328	-.3123841
fc	-.0965852	.0781491	-1.24	0.216	-.2497546	.0565842
ep	.0456768	.0274566	1.66	0.096	-.0081371	.0994908
pp	-.0437663	.0307472	-1.42	0.155	-.1040297	.016497
gi	-.0644816	.0293764	-2.20	0.028	-.1220582	-.0069049
pc	.0250496	.0411193	0.61	0.542	-.0555426	.1056419
cl	.029216	.0482389	0.61	0.545	-.0653305	.1237626
_cons	5.099239	2.608168	1.96	0.051	-.0126758	10.21115
sigma_u	1.1926797					
sigma_e	3.4722615					
rho	.10553274	(fraction of variance due to u_i)				

Appendice5. Descriptive statistics

Variable	Obs	Mean	Std. Dev	Min	Max
GDP growth	187	6976999	4.073752	-15.15126	11.94474
Trade	187	87.5184	30.76708	30.24655	174.1553
Population growth	187	3.345745	2.97966	-.0546155	16.70019
Government final consumption	187	16.36688	4.581262	6.732998	30.00348
Electoral pluralism	187	26.68289	24.60097	0	79.2
Political participation	187	34.60989	13.87658	0	71.4
Government Index	187	37.20722	18.47264	11.1	77.8
Political culture index	187	47.8869	9.111096	25	68.8
Civil liberties index	187	36.99064	11.29786	14.7	64.7

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