



Socio-economic influencing factors of democracy, empirical evidence from Pakistan

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Abstract

This paper investigates socio economic determinants of democracy. To achieve the objective, this research employs the Auto Regressive and Distributive Lag (ARDL) econometric technique over the period of 1980 to 2018. This papers finding unearth that education expenditures and economic growth are positively associated with democracy and both are statistically significant in long run. Furthermore government expenditure, trade openness, corruption, and law & order are negatively associated with democracy and all are statistically significant except corruption in long run. Finally, this research suggests that it is mandatory for the democratic government to increase education expenditure and take initiative for better education of the citizens, and make them able to understand better their manifestos and effect of their policies on the betterment of the society. The high corruption and uncertain law & order situation in Pakistan would reduce trust on democracy and create frustration among citizens. The responsibility of improving law & order situation and of eradication of corruption comes on the shoulders of current Democratic government through strengthening the institutions.

Key Words: Democracy, Determinants, Economic growth, Institution, Education, ARDL

Introduction

Democracy in Pakistan does not remain in the discussion but it is beyond the discussions into the core feeling of political party workers. Since 1970's public of Pakistan is not only fighting for democracy but have also been victimized through physical violence, sentenced to prison and death. These are the triggering reasons of motivation behind the study. It is very important to explore these questions. What is democracy? How can Pakistani people enjoy it? What are the prerequisites' for democracy? What benefit can common person get from it? And finally what the determinants of democracy? This study focuses the very important one: the last question. Democracy is a political set up which makes the people aware of the policies prepared by government and the government accountable for their actions. The ex-president of America Abraham Lincoln defined democracy as "Government of the people, by the people, for the people" and he emphasized that it shall not perish from the earth.

Among all forms of government democracy is indeed the best. Yet not any other form of the political system is introduced that could perform political affairs better than democracy. The democracy is defined as by Samuel (1991) "one public virtue, not the only one, and the relation of democracy to other public virtues and vices can only be understood if democracy is clearly distinguished from other characteristics of political system". Generally, Democracy involves forming political groups, having the right to vote and to be elected Polterovich et.al (2007). According to Tavares et.al (2001) democracy is "a body of rules and procedure that regulates the transfer of political power and the free expression of disagreement at all levels of public life". Diamond (2005) explains democracy as "A system of government in which the people choose their leaders and representatives and can replace them, in regular free and fair elections". From all above statements, we can conclude that democracy is the participation of every resident of society for the betterment of the economy.

People are interested in democracy because, only in democracy grassroots responsibility functionally organized, as that every local citizen is expected to participate in decision making and his or her participation is expected to count in the final working though of the common social decision. This discussion leads us to conclude that public of Pakistan wants their active participation in the final working of the social decision, which may improve their economic and social wellbeing. The literature on democracy can tell us, how Pakistan will enjoy democracy? Or what stages it would pass to achieve democracy? Or which things will help it to enjoy proper democracy. Rustow(1970) in his paper gave two major explanations to achieve democracy. In 1stexplanation, he said that the stable democracy is possible with good social and economic condition such as income (PCI) a good education and widespread urban residence. In 2ndexplanation, he talked about the certain characteristics of political and social setup. Moreover in the general consensus theory writers such as Bernard Crick, Carl J. Friedrich and Ralf Dahrendorf have emphasized that the disagreement and reconciliation are important to democracy. Dahl R. A (1961) said that democracy needs a commitment to democratic norms, not along with the electorate at large but along with the politician expert, every one of these presumable association to other through effective ties of political group. Eckstein (1961) said convergence create the stable democracy, the arrangement of power throughout society, such as trade union, church, family, and business must prove the more democratic and more directly they impose on the method of government. Lipset (1959) found a close

association between economic development and increased education with democracy. He argued that education paves the way for promotion of democracy as it modifies the political attitude of masses (e.g. generating an environment of political harmony and increased patience among various political parties). He also claimed that economic development changes the entire structure of the social system from the pyramid shaped structure (having a major portion of the poor population) into the diamond shaped structure (having a middle class, which in his view is comparatively better off, as a major portion of the population). He thinks this change in social structure will reduce the intensity of the “class competition” as poor are easily influenced by anti-democratic forces compare to the middle class which is pro-democratic. The middle class acquires formal education required for their occupations, which in turns promote democracy. According to his analysis middle class is the prerequisite for enhancing democracy which becomes enlarged with socioeconomic development. Furthermore, we know that this term democracy was introduced by Athens city-state where only male aristocrat had right to vote and slaves and females were totally ignored. Everybody knows that modern democracy started from European and American countries and that was the time of industrial revolution in these countries. The industrial revolution increases their education standards, trade, and per-capita income and strengthen institutions of these countries. The social and economic developments of these countries force them to free from a monarch or disagree with the Catholic Church. So, we believe that in Pakistan, only social and economic development can bring strong democracy.

The Evidence of Determinants of Democracy From Developing and Developed Countries

Table 1 shows the evidence on the determinants of democracy in developing countries, which we mentioned above that, the key determinants of democracy are institutions and trade openness. So for the institution we took data of institutional index from International Country Risk Guide, and for trade openness, we took data of tariff rate all product percentage. So it has been observed that in developing countries there is high tariff rate, low institutional index score and therefore low average democracy score over the 39 years. Table 2 shows the same evidence of determinants of democracy for developed countries, and in table 2 it is observed that in developed countries, there is low tariff rate and high institutional index score and therefore high average democracy score over the 39 years. From this data set, we can take the idea that for democracy trade openness and institution are very much important for Pakistan’s democracy.

Table: 1 Evidence of Determinants of Democracy from Developing Countries

Country Name	Average Democracy score over the 39 years	Institutional Index	Tariff rate All Product %
Azerbaijan	0.06	5.97	8.70
Bangladesh	3.40	4.89	13.82
India	8.43	7.39	9.74
Kenya	2.66	6.25	12.07
Nepal	3.20	4.09	12.71
Pakistan	3.56	5.30	14.71
Somalia	0.25	2.62	15.75
Sri lanka	0.76	6.40	11.32
Sudan	6.20	4.02	13.38
Zimbabwe	2.12	5.08	15.08

Sources: (WDI)World Development Indicators and (ICRG) International Country Risk Guide

Table: 2 Evidence of Determinants of Democracy from Developed Countries

Country Name	Average Democracy score over the 39 years	Institutional Index	Tariff rate All Product %
Sweden	10	10.76	2.15
Norway	10	10.55	2.23
New Zealand	10	10.67	2.61
Japan	10	9.76	3.27
Italy	10	8.42	2.15
Ireland	10	9.98	2.15
United States	10	10.42	3.10
Denmark	10	10.75	2.15
Canada	10	10.73	4.17
United Kingdom	10	10.29	2.15
Australia	10	10.41	4.25

Sources: (WDI)World Development Indicators and (ICRG) International Country Risk Guide

Econometric Model Specification: Determinants of Democracy

The political science variables are harder to estimate in isolation because each and every social science discipline can change the behavior of political science variable. Therefore it is too difficult to estimate true determinants of political variable democracy. With the help of literature and data, we put our effort to represent true democracy determinants in this study. The preceding studies like Barro, Muller, Csordas et.al and others suggest that the key determinants of democracy are trade openness, GDP per capita, education, inequality, institution, middle-class population health facilities.

Moreover, all authors did cross countries analysis. Whereas this study focused on time series analysis a case studies of Pakistan. In our study, we estimate the short run and long run relationship among variables. So for that, there are three approaches to find long run relationship between variable.

1. The Engle-Granger two- step procedure.
2. The Johansen estimation procedure.

3. The Autoregressive Distributed lag (ARDL).

But the most recently developed method is Autoregressive Distributed Lag (ARDL) approach, it is proposed by Pesaran et al. (2001) and in this Study, it is used for estimation. Because it overcomes some problems and those problems are in first two methods. The ARDL approach can proceed on multiple registration and it captures both long-run and short-run dynamics, for co-integration. The other edge of this method on first two methods is, it can be applied when variables are I(0), I(1) or a combination of the two. But it is not for I(2) series.

However, the pre-testing for the order of integration of the variables in the model is required because the procedure is not valid for I(2) series. Thirdly, it offers explicit tests for the existence of a unique cointegration vector rather than assuming one. Finally, the test is applicable for a small sample. So our model is as,

$$DEM = \gamma_0 + \gamma_1 EG + \gamma_2 TO + \gamma_3 EDU + \gamma_4 COP + \gamma_5 LO + \gamma_6 GEXP + \mu_t$$

Where DEM is representing democracy score, EG is representing economic growth, TO is standing for trade openness, LO and COP are representing institutions, one is law and order and other is corruption, GEXP is representing government expenditure. The ARDL expression of above equation is as,

$$\begin{aligned} \Delta DEM = & \gamma_0 + \sum_{i=1}^n \gamma_1 \Delta DEM_{t-i} + \sum_{i=1}^n \gamma_2 \Delta EG_{t-i} \\ & + \sum_{i=1}^n \gamma_3 \Delta EDU_{t-i} + \sum_{i=1}^n \gamma_4 \Delta TO_{t-i} \\ & + \sum_{i=1}^n \gamma_5 \Delta COP_{t-i} \\ & + \sum_{i=1}^n \gamma_6 \Delta LO_{t-i} + \sum_{i=1}^n \gamma_7 \Delta GEXP_{t-i} + \delta_1 EG_{t-i} + \delta_2 DEM_{t-i} \\ & + \delta_3 ED_{t-i} + \delta_4 TOD_{t-i} + \delta_5 CP_{t-i} + \delta_6 LOD_{t-i} + \delta_7 GEXP_{t-i} + e_t \end{aligned}$$

Where,

Δ represent First difference Operator

γ_0 represent intercept component

e_t represent white noise error term

The equation 2 also represents the technique of short run and long run evaluation. First, six terms of the equation on the left-hand side exposed as (γ_1 to γ_7) represent short-run dynamics and term shown as (δ_1 to δ_7) represent the long run dynamics of the model.

Data Sources

The above models have estimated long run and short run coefficient (EG, TO, EDU, COP, LO, and GEX) of democracy for Pakistan over the period 1980 to 2018.

Table: 3 Data Sources

VARIABLE	SOURCE
Education	Economic Survey Of Pakistan (Statistical supplement)
Democracy score	Polity IV
Law & Order	International Country Risk Guide
Corruption	International Country Risk Guide
Economic Growth	WDI
Trade Openness	WDI
Government Expenditure	SBP

Definitions of Variables

Researchers always try to represent true theoretical relations of variables in the empirical results. But sometimes it is not possible to use same variables which are required due to time constraint or resources constraint or does not availability of data. So for that researchers used a proxy of unavailable series. In our study, the data of Education and government size is not available over the time. So, for education, we use education expenditure and for government size as well government expenditures uses and both are a percentage of GDP. The variable trade openness is the sum of export and import divided by GDP is used. The economic growth is the percentage increase in GDP over a year. The variables Corruption (COP) and Law & Order (LO) is an index which is taken from International Country Risk Guide (ICRG). The democracy is also an index which constructed by Ted Robert Gurr and the details definition is given as “The Democracy indicator is an additive eleven-point scale (0-10). The operational indicator of democracy is derived from codings of the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive”.¹

The Review Results of Determinants of Democracy for Pakistan

This part of the paper covers the estimation results of the econometric model in which we try to find long-run determinants of democracy. The determinants of democracy are economic growth, education, trade openness, corruption, Government size, and law & order. As we discussed our analysis is regarding time series data and to check stationarity of the variables unit root test use. The results are demonstrate in Table- 5 that economic growth (EG), Corruption (COP), and Trade Openness (TO) are stationary at level I(0), and other variables including democracy (DEM), Education (EDU), Government expenditure (GEXP),and Law & Order (LO) are stationary at first difference I(1).

The bound test use to know the long run relationship among variables. The bound test results are in table- 4. Where F-statistics calculated is 4.59, which is greater than all F-statistics critical at all levels. Therefore here it is conclude that there is a long run relationship among variables.

¹Political Regime Characteristics and Transitions, 1800-2012 Monty G. Marshall Center for Systemic Peace and Societal-Systems Research Inc, Ted Robert Gurr University of Maryland (emeritus), and Keith Jagers Colorado State University.

Table No. 4ARDL Bound Test Result

Test Statistics	Value	K
F-Statistics	4.59	6
Critical Value		
Significance	10 Bound	L 1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	4.99
1%	3.15	4.43

Source: author computation

The co-integration test uses to find the long run coefficients of determinants of democracy, and its results are given in Table- 6. The Co-integration result shows that how each determinant, determine democracy in long run. These results indicate that EG has a positive impact on democracy but its insignificant. The second variable EDU has a positive and highly significant impact on democracy. Barro(1999) also find GDP per capita have a positive and significant impact on democracy and he also investigates positive impact EDU on democracy. Csordás et.al (2010) concluded that income has a positive impact on democracy. Whereas, the (Edward N. Muller 1995) find the contradictory result of GDP per capita income on democracy for a middle-income group of countries except for Thailand. Li, Q et.al (2003), find a positive impact of economic growth on democracy and it's statistically insignificant in all cases. The size of government is the third determinant of democracy, for this we use government expenditure. The GEXP has a negative and significant impact on democracy. Because when government size increases it increases the non-developmentexpenditure, therefore, it has a negative impact on democracy. The fourth one is COP; it has a negative and insignificant impact on democracy and Drury et.al (2006) investigated that corruption has a negative impact on democracy. The fifth one is LO; it has a negative and significant impact on democracy. The last is TO; it has a negative and significant impact on democracy. Li, Q et.al (2003), find a negative effect of trade on democracy in each case. Whereas Csordás et.al (2010) investigates that trade openness does not have any impact on democracy using GMM. These results are in line with the first explanation of Rustow (1970) paper where he said that the stable democracy is possible with good socioeconomic conditions i.e. income (PCI) good education and growth in urban residence.

Table No. 5 The Unit Root Results of Variables Used In Second Model

Series	Order	T-statistics	P Value	Decision
EG	Level	3.67*	0.009	I(0)
	1st Difference	7.25	0.000	
DEM	Level	1.60	0.470	I(1)
	1st Difference	5.26*	0.000	
EDU	Level	1.65	0.443	I(1)
	1st Difference	5.13	0.000	
COP	Level	3.01**	0.043	I(0)
	1st Difference	5.81	0.000	
LO	Level	1.25	0.637	I(1)
	1st Difference	4.22*	0.002	
TO	Level	2.95**	0.049	I(0)
	1st Difference	8.05	0.000	
GEXP	Level	1.33	0.602	I(1)
	1st Difference	4.52	0.001	

The significance indicates as 1% *, 5% **, and 10% *** Source: author computation

So for the reelection of any government, it is mandatory for the ruling political party that, must focus on education of the citizens or take the effort to educate the citizens as they understand their manifesto and effect of their policies on living standard, as they elect their party once again. Otherwise might be citizens think that dictator performance better than democratic government. The Pakistan and Pakistani people are same in the current situation. It is also discussed in the previous chapter that apparently dictator performance is better than democratic parties.

Table No. 6 The ARDL Long Run Coefficient Result of Determinants of democracy Model

Variable	Coefficient	Standard Error	T-statistics	P-statistics
EG	0.10***	0.05	1.82	0.118
GEXP	-0.30**	0.09	3.16	0.019
EDU	0.49*	0.02	18.37	0.000
COP	-0.27	0.30	0.89	0.403
LO	-0.87**	0.26	3.33	0.015
TO	-0.24**	0.08	3.08	0.021
Constant	12.14	3.29	3.68	0.010

The significance indicates as 1% *, 5% **, and 10% *** Source: author computation

Table- 7 shows the short-run dynamics of determinants of democracy. Where the task is to calculate short run behavior of variables and it is calculated through Error Correction Model (ECM). In short run the D(DEM(-1)), D(DEM(-2)), D(EG), D(GEXP), and D(GEXP(-1)), is a positive and significant impact, it means these all variable play active role to reach long run equilibrium. The D(EDU) is a key variable which is significant at 1% in long run as well as in short run. So we can say that education expenditure play a

vital role to determine democracy. The error correcting term’s coefficient (ECT) is significant at 1% level and shows convergence towards equilibrium. The value of error correcting term’s coefficient is -0.876 and it is highly significant in our model. It indicates that divergence from the long run equilibrium is corrected by with the speed of 86% over a year. The lag length of the model is chosen on the basis of the AIC. The graph of the model selection is given in figure- 1 and this study follow ARDL selected model is (3, 2, 3, 3, 3, 2, 2).

Table No. 7 The Error Correction Results of Second Model

Variable	Coefficient	Standard Error	T-statistics	P-statistics
D(DEM(-1))	0.93**	0.40	2.33	0.058
D(DEM(-2))	1.88**	0.52	3.57	0.011
D(EG)	0.10**	0.04	2.22	0.067
D(EG(-1))	-0.07	0.06	-1.12	0.302
D(GEXP)	0.17***	0.09	1.90	0.104
D(GEXP(-1))	0.51**	0.16	3.15	0.019
D(GEXP(-2))	0.19	0.16	1.17	0.285
D(EDU)	0.45*	0.02	19.61	0.000
D(EDU(-1))	0.30***	0.19	1.61	0.157
D(EDU(-2))	-0.75**	0.20	3.60	0.011
D(COP)	0.81**	0.32	2.48	0.047
D(COP(-1))	0.31	0.31	1.02	0.344
D(COP(-2))	0.48***	0.26	1.83	0.116
D(LO)	0.23	0.32	0.73	0.489
D(LO(-1))	-0.43***	0.28	1.50	0.182
D(TO)	-0.03	0.05	0.66	0.531
D(TO(-1))	0.17**	0.06	2.82	0.030
CointEq(-1)	-0.87*	0.39	4.78	0.003

The significance indicate as 1% *, 5% **, and 10% ***Source: author computation

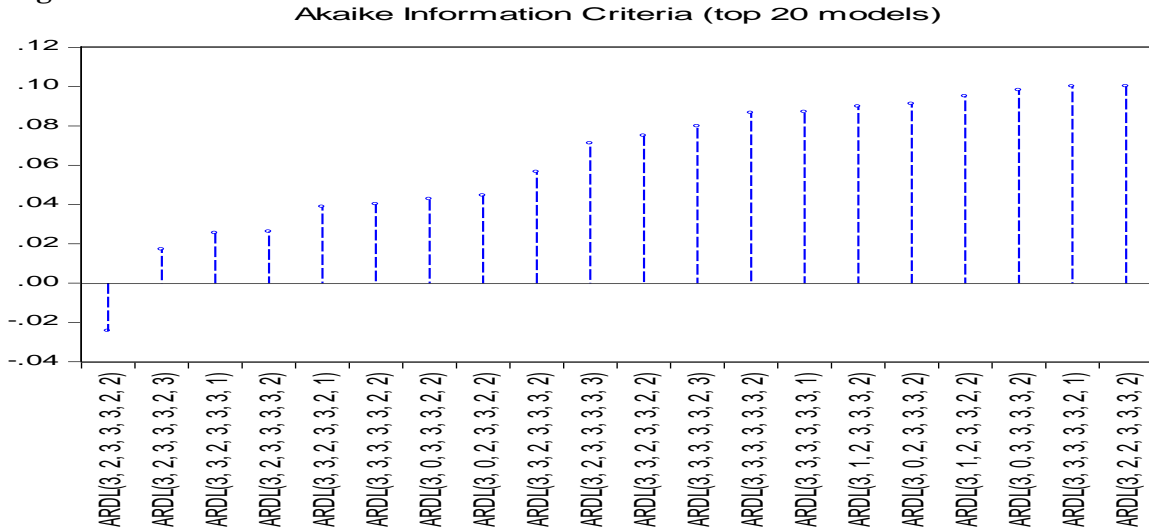
Table- 8 shows the deduction result of heteroskedasticity White test, Breusch-Godfrey serial correlation LM test for autocorrelation and Ramsey RESET Test model specification. And all tests are showing insignificant P Statistics and F statistics, it means that there is no autocorrelation, no heteroskedasticity and there is not any specification biasesness in the model.

Table No. 8 Econometric Deduction methods

	Name of the Test	F-value	P-value
1	Heteroskedasticity Test: White	0.65	0.78
2	Breusch-Godfrey Serial Correlation LM Test:	2.52	0.19
3	Ramsey RESET Test	.50	0.51

Source: author computation

Figure: 1 model selection criteria



Conclusion

It is too difficult to investigate the determinants of a political variable democracy. With the help of literature, this study reach to the key determinant of democracy. As the preceding studies like Robert J. Barro, Edward N. Muller, Stefan Csordas et.al and others suggest that the key determinants of democracy are trade openness, GDP per capita, education, inequality, institution, government expenditure, middle-class population and health facilities. Our study also use some of the above variables for Pakistan and finds that education expenditures and economic growth are positively associated with democracy. So this study suggests that all the political parties, who dream to see Pakistan as a welfare democratic state must focus on education and increase the share of education expenditure in GDP. Moreover, it is mandatory for the ruling political party that must focus on education of the citizens or take the effort to educate the citizens as they understand their manifesto and effect of their policies on living standard, as they elect their party once again. Otherwise might be citizens think that dictator performance is better than democratic government and it is observed in Pakistan. Finally, study utilized corruption index and law & order index to analyze the impact of institutions on democracy. From the results of this study, we suggest that high corruption and uncertain law & order situation in Pakistan reduce faith from democracy and create frustration among citizens. Now it is the responsibility of ruling party that must strengthen the institute as they perform their duties under the constitution of Pakistan and eradicate

corruption from the country. Lastly, it is the responsibility of government and law enforcement agencies to create peace in the society which creates stairs for a strong democracy.

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