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GLOBAL ANA REVIEW INTELLING FROM THE SECONDATION

### Empirical Analysis of Poverty Reduction and Governance in Pakistan: A Qualitative Comparison with Sub-Continent

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Government stability, law, and order, internal Abstract conflict, government effectiveness, regulatory quality, quality of bureaucracy, corruption, external conflict, investment profile, military in politics, religious tensions, and ethnic are the key policy variables that are directly and strongly correlated with all strategies and measures to reduce poverty. And these are summarised in one terminology, i.e., 'Governance'. So, quality of governance is crucial to lessen hunger. However, this idea is not empirically tested, especially in the case of the subcontinent. First of all, this paper presents a statistical analysis of this phenomenon in the case of the sub-continent and then offers to make an econometric analysis of the link between political governance and strategies of poverty reduction in the case of Pakistan. Time series data from the year 1984 to 2015 is used for econometric analysis. After checking stationary of variables, cointegration among variables, stabilities of an econometric model, ARDL technique is used for estimation. What follows is the conclusion that that governance is directly affecting the schemes to reduce poverty. Moreover, the pragmatic recommendations for reduction in poverty are given in this paper.

Pages: 87 – 102 Vol. VI, No. II (Spring 2021) Key Words: Governance, Poverty, Co-integration, Stability of Econometric Model, ARDL Bound Test Approach

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**JEL Classification:** 

#### Introduction

This research proposes a chain of governance's indicators to be used in assessing progress in the process of poverty reduction, keeping in view the Millennium Development Goals (MDGs). United Nations has passed the resolution of Millennium Development Goals (MDGs) in 2000. Among the eight development goals, poverty reduction is the most important one, and a target was set to achieve these goals by 2015, taking 1990 as a base year. Good governance as a supporting base for economic development has also become the main concern for social development and poverty reduction among International Financial Institutions (IFIs).

The issue of governance is not new in development literature. Governance It is defined as a mode in which power is

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exercised in order to manage the economic and social resources of a country for development. All people would be well off if this power was exercised within institutions that were competent. accountable. quick transparent. to and respond. fair. judicious. Good governance for IFIs like World Bank is similar to the term sound development administration. The economic performance of developing countries from 1965 to 1980 highlighted the issue of governance which created hurdles in the efficient use of their resources. During the 1990s, the agenda of governance was geared up by World Bank, and since that period, it has been the main pillar for economic development.

According to World Governance Indicator (2011), governance consists of traditions and institutions through which power is exercised. Power means the process by which government is selected, monitored, and replaced. UNDP (1997) defines governance as the exercise of economic, political, and administrative authorities to manage a country's affairs at all levels. It comprises the mechanisms, processes, and institutions through which citizens and groups clear their interests, exercise their legal rights, meet their obligations, and mediate their differences. According to Asian Development Bank (1995), there are four basic elements of good governance such as accountability, participation. predictability. and transparency. IMF (2005) is one-sided to only the economic aspects of governance: improving the management of public resources, supporting the development and maintenance of a transparent and stable economic and regulatory environment conducive to efficient private sector activities. USAID (2005) describes governance as the ability of government to develop an efficient, effective public management process that is open to citizens to participate, which strengthens

the democratic system of government. <u>Kaufmann (2003)</u> says that governance has six dimensions; voice and external accountability, political stability and lack of violence, crime and terrorism, government effectiveness and regulatory quality, the rule of law, and control of corruption.

Over the years, policies have been made to build the structure of institutions to reduce poverty. The majority of the poor live in developing countries of South Asia, sub- Saharan Africa, and Latin America. Although there are many other factors that cause poverty, poor political governance is the most severe one among them. The connection between political governance and poverty reduction is surely significant. On the one hand, there is some empirical evidence to suggest that weak political governance reinforces poverty (Poverty Task Force, 2002.Campos and Nugent, 1999). On the other hand, the link between governance and poverty is simply assumed to be true (OECD Development Centre.

Theoretically, there are different through channels which political governance has an effect on poverty. These channels include (a) creating accountability in utilizing public revenue in the interest of the poor, (b) building national capacities for pro-poor policy information and implementation, (c)improving management and participation of the private sector for efficient service delivery to the poor, (d) minimizing corruption through empowering the poor it affects the poor most, as (e) strengthening the rule of law to prevent property rights of poor, (f) involving all stakeholders including NGOs those are representative of poor, (g) providing security against economic shocks through better management of fiscal resources (h) free and fair process of selection and replacement of govt, in order to the efficient delivery of social services.

The above discussion shows that political governance is an important variable among all other macroeconomic variables in affecting poverty. So, on the basis of this discussion, the research question of this paper is that whether the quality of political governance is empirically correlated with poverty reduction in the case of Pakistan or not.

Next, section II presents a hypothesis building on the basis of a literature review of previous studies and statistical analysis of the link between political governance and poverty for India, Pakistan, and Bangladesh. Succeeding section III deals with data description, specification of an econometric model, methodology, and estimation of the model. Final section IV covers the conclusion.

## Literature Review

Carbonnier et al. (2012) made а comparison of governance outcomes in developed and developing countries. Industrialized countries like Australia, Canada, and the United States succeeded in utilizing their natural resources for economic growth and development. Developing countries like Botswana, Chile, Malaysia, and South Africa have been included in upper-middle-income economies by utilizing natural resources. But other resource-abundant economies such as the Democratic Republic of the Congo and Niger could not compete with these achievements. They have ranked low-income countries among despite abundant natural resources due to weak governance performance as compared with that of developed economies. This study is based on empirical analysis of the significance of governance for better utilization of resources in order to attain development goals. The dynamic panel data analysis of this study covered 108 developing countries over 24 years, from 1984 to 2007. In the model, the dependent

variable was log per capita genuine savings of country I time, while the lagged level of log per capita GDP plus population growth plus RR (export-based resource richness) plus indicators of governance were used as explanatory variables. The coefficient associated with the lagged level of log per capita (dependent variable) showed the expected sign, the governance indicator has a positive and significant impact on economic development. So, the existence of effective checks and balances appears to be critical to help in inversing the adverse development outcome of mining or natural resources. These results made a demand for increased emphasis on strengthening checks-and-balance mechanisms with regard to the capacity of legislatures to apply effective limits on the executive and on supporting the development of a reliable judiciary.

Rizk (2012) provided evidence of povertv reduction through the enhancement of institutional quality. He gave two arguments about the nexus between the governance indicators and development outcomes; on the one hand, indicators all governance were significantly important for development outcomes, while on the other hand, all indicators of governance were not equally crucial for development outcomes at different stages of development. He made an analysis by using panel data technique and data of 71 countries from the year 1996 to 2008. He used poverty reduction as a measure of development outcome, and further he measures poverty as Human Poverty Index (HPI) by UNDP, and governance was measured as government effectiveness, regulatory quality, the rule of law, political stability, voice and accountability, and control of corruption. The coefficients of governance indicators showed the inverse and significant Impact on poverty reduction: a rise of 1 percent improvement in these indicators resulted in the decline of 1.75 percent in HPI. By following these governance indicators' results, the study concluded that countries with weak governance not only suffer from severe poverty but also face problems in public spending on social safety nets. Earle and Scott (2010) combined theoretical, and donor research on the impact of governance works on poverty reduction and development outcomes. This study consists of several chapters that give indications of the impact of democratisation, justice and the rule of law, corruption, and decentralization. They provided references for these concepts, which are given as. Democracy had neither the best nor the worst effect on economic development. Diamond (2004) presented a theoretical framework that where there was a high poverty rate, democracy would increase the chance of pro-poor public policy. Sen (1999: 157), democratic governments were most likely to provide social service provision and safety nets. The rule of law, cox (2008) provided a broad overview of the development returns of security and justice that includes coverage of property rights and crime, and the gendered dimensions of access to justice by quoting proof from two major econometric studies. Firstly, Acemoglu, Johnson, and Robinson (2001) showed that income levels across countries were closely associated with the security of property rights, and that a crucial factor in attracting foreign direct investment. Secondly, cox referred to Kaufmann and Kraay (1999), who used a combination of cross-country data on six governance indicators, including the rule of law, and found that an increase of one point on their 6-point rule of law index was associated with 15-25% increase in literacy. Decentralization; on the one side, (2003:169)presented Vedeld some successful case studies from Uganda, Mali, Bolivia, the Philippines, and India but conceded that none of the cases were really highly successful, that none of the

cases had obtained 'substantial effects on poverty reduction. On the other side, Faguet (2001) provided evidence that decentralization in Bolivia had led to significantly increased investments in education. agriculture. urban development, water management, water and sanitation, and health. Corruption, Gupta et al. (1998) stated that corruption results in income inequality, affecting distribution through impacts on budgetary revenues and expenditures. They proclaimed that a 1 percent increase in corruption causes a 7.8 percent reduction in income growth of the poor. Khan (2006) reviewed that corruption caused disorder the transparency of markets increases transaction costs and creates uncertainty. On the basis of the above arguments, the study concluded that bad governance impacts negatively on the poor, and governance matters for growth and poverty reduction.

### Statistical Analysis of Quality of Governance and Poverty in Sub-Continent

Now Pakistan, India, and Bangladesh are three independent states of the Sub-Continent and past British colonies as well. These states have similarities in many areas such as geographical location, population growth rates, economic and social structure, strategic priorities. bureaucratic administration systems as well as governmental systems. Therefore, on the basis of these similarities, it is significant to technically make а statistical analysis of the quality of political governance and poverty trends among Pakistan, India, and Bangladesh. Bv employing data of governance generated by the World Bank, the following charts are used in order to make a comparison among these countries. The range of data is from -2.5 to +2.5, a value which is close to +2.5 shows better

governance while the value which is close to -2.5 shows worse governance. Six indicators of governance are used in this data set.

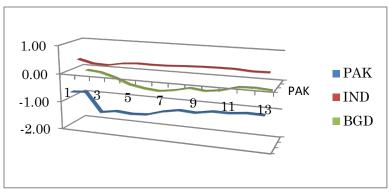


Figure 1: Voice & Accountability Source: World Bank (various years)

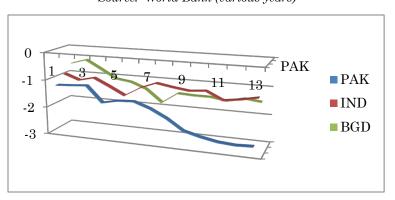


Figure 2: Political Stability Source: World Bank (different years)

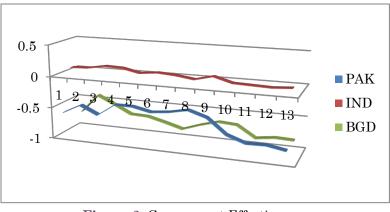


Figure 3: Government Effectiveness Source: World Bank (various years)

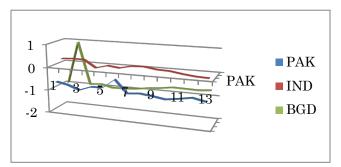
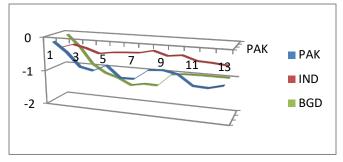
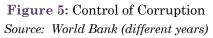


Figure 4: Rule of Law Source: World Bank (various years)

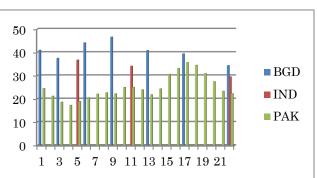


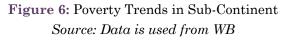


The above figures show that Pakistan is behind both India and Bangladesh in governance competitiveness from the year 1996 to 2011. So, there is a need to address this issue promptly to compete with the economies of the same culture and almost the same characteristics. It seems that poor governance leads to poverty in Pakistan.

## **Poverty in Sub-Continent**

In all three countries of the sub-continent discussed, the poverty ratio has been remained at above threshold ratio. And this situation is alarming for all over the World since ¼ of the World population live in this region.





The above figure shows that the poverty ratio never comes below 20 to 23 percent. As we have seen that India is performing better in political governance, and also poverty trends are decreasing sharply relative to those of Pakistan and Bangladesh.

## Hypothesis

Indeed, the literature and statistical analysis provide strong evidence of a connection between political governance and poverty. So, following that evidence, the hypothesis of this study is

- H<sub>0</sub>: Governance is significantly related to poverty reduction.
- H<sub>1</sub>: Governance is not significantly related to poverty reduction.

# A Model Specification

The following econometric model is used to check the effect of political governance on poverty The reduction. index of International Country Risk Guidance (which is consists of government stability, law. conflict, and order. internal effectiveness, regulatory government bureaucracy, quality. quality of corruption. External conflict, investment profile, military in politics, religious tensions, and ethnic tensions) is used as proxy governance with inflation and population growth  $\mathbf{as}$ supporting explanatory variables as inflation directly affect poverty (Chani et. al (2011), ADB (2011), Sugema et al (2010), Son and Kakawani (2006)} and the population is also significantly related with the poverty {Wittemyer G et al. (2008), Ahlburg D. A. (1996), Birdsall N. 1980}. The equation of the model is given below

Poverty= f (Governance, Population Growth, Inflation)

HC =  $\beta 0 + \beta_1 ICRG + \beta_2 INF + \beta_3 PG + \mu$ Where

HC = Head Count Ratio as a Proxy of Poverty

ICRG = index of International Country Risk Guidance a proxy of governance

INF = Inflation

PG = Population Growth

 $\mu$  = Error term

## Data Description

The data used in the empirical analysis is from 1984 to 2015It is collected from International Country Risk Guidance (ICRG) Rating System, World Value Survey, and Economic Survey of Pakistan. Proxy of governance ICRG is obtained from World value survey, while the remaining data is used from the Economic Survey of Pakistan.

## **Econometric Methodology**

When variables are specified in different forms .i.e. stationary or non-stationary form, the spurious results are likely to occur. But considering the importance of variables of the model, these variables should be included in the model to avoid the problem of model specification error. So, the inclusion of the stationary is mandatory to prove the hypothesis of the study, but it will raise a problem of the loss of long-run information of the data. To prevent this kind of problem, there is a test to check the existence of the long-run information of data. A series is said to be stationary if it has zero mean and constant variance, and on the other hand, a series is non-stationary if it has random mean and variance. The following tests have been used to check the stationary of the variables.

### Augmented Dickey-Fuller (ADF) Test

Augmented Dickey-Fuller test control the higher-order serial correlation of error terms by using higher order of lags. The null hypothesis of the test is that series is non-stationary .i.e., H<sub>0</sub>: series is nonstationary. Against the alternative hypothesis that series is stationary .i.e.  $H_{1:}$  series is stationary. ADF test relies on the estimation of the following equation.

 $\Delta Y_t = \alpha + \beta \ (Y)_{t\text{-}1} + \sum^{\rho_k = 1} \phi_k \Delta Y_{t\text{-}k} + V_t$ 

t-statistics =  $\hat{\beta} \div S.E(\hat{\beta})$ 

This calculated value is compared with the given critical tabulated value.If the calculated value lies outside the critical region, then we reject our null hypothesis and accept our alternative hypothesis .i.e. series is stationary, and vice versa is also true.

## Kwiatkowski-Philips-Schmiat-Shin (KPSS) Test

Kwiatkowski-Philips-Schmiat-Shin Test is also used to check the stationarity of the series and to make a comparison with the result of the Augmented Dickey-Fuller test. It is developed by Kwiatkowski et al (1992). In this test, the hypothesis is reciprocal of those of the Augmented Dickey-Fuller test .i.e., in this test, the null hypothesis is that series is stationary with the alternative hypothesis that series The has unit root. equation of Kwiatkowski-Philips-Schmiat-Shin (KPSS) test is given below.

 $Y_{t=}\delta_0+\delta_1\,t+\delta_2\sum_{j=1}^{\rho_{j=1}}\phi_j+\eta_m$ 

Where  $\eta_{m}$  is stationary and  $\varphi_{j}$  is distributed independently with zero mean and constant variance. To make a conclusion about the hypothesis t-calculated value is compared with the tabulated value of t. If t-calculated value is less than the critical value, then we accept our null hypothesis, which states that series is stationary and reject the alternative hypothesis for nonstationary of the series.

# Auto-Regressive-Distributed-Lag Bound Testing Approach

In order to check the long-run relationship (co-integration) among variables there are many econometric techniques - Engel and Granger (1987) technique - Johnson (1988) introduced another technique - Johnson and Jusellius (1990) test. There are two major issues with these technique. One is that all variables of model should be integrated in the same order, and another is that small sample size cannot be used. To tackle these issues a new technique came into research work which is developed by Pesaran and Pesaran (1997), Pesaran and Smith (1998), Pesaran and Shin (1999), and Pesaran et al (2001). Both restrictions which are applied in former tests are relaxed in this approach.

## Auto-Regressive-Distributed-Lag Testing Procedure

The first step is to check the long-run relationship among variables by using the bound testing technique. In this test null hypothesis, which is there is no long-run relationship among variables, is tested against alternative hypothesis that longrun relationship among variables is exist. If F-calculated is greater than the Ftabulated we reject  $H_0$  and accept  $H_1$ , which the existence shows of cointegration among variables and vice versa. If F-calculated is between the lower and upper bound of F-tabulated then results remain inconclusive. In the next step, the ARDL equation is estimated, and lag length is chosen by using either The Akaike Information Criterion or Schwartz Bayesian Criterion. Now ARDL equations for our four models of the study are given below.

# Estimated Result Unit Root Results

There is an assumption of Bound Test (which is used to measure long-run

relationship among variables) that must be integrated at level or order one. If any variable is integrated at order two, then the results of Bound Test will not remain valid. So, first of all, stationary of variables is checked by using Augmented Dickey-Fuller test and Kwiatkowski-Philips-Schmiat-Shin test, and the results are given below.

| Table 1. Result of | unit |
|--------------------|------|
|--------------------|------|

| Variable | Order of Integration       | ADF Tes   | t's Result | KPSS Te   | st's Result |
|----------|----------------------------|-----------|------------|-----------|-------------|
|          |                            | With      | Intercept& | With      | Intercept&  |
|          |                            | Intercept | Trend      | Intercept | Trend       |
| Ln HC    | 1 <sup>st</sup> Difference | -4.382072 | -4.280798  | 0.076220  | 0.070269    |
| Ln ICRG  | Level                      | -3.918443 | -3.729651  | 0.403054  | 0.126374    |
| Ln INF   | 1 <sup>st</sup> Difference | -4.843777 | -4.903849  | 0.067388  | 0.062056    |
| PGA      | Level                      | -3.042978 | -4.814451  | 0.672885  | 0.179421    |

Source: Author's own calculations

| Level of Significance | Critical Va | lue For ADF | Critical val | lue For KPSS |
|-----------------------|-------------|-------------|--------------|--------------|
|                       | With        | Intercept&  | With         | Intercept &  |
|                       | Intercept   | Trend       | Intercept    | Trend        |
| 1%                    | -3.724070   | -4.356068   | 0.739000     | 0.216000     |
| 5%                    | -2.986225   | -3.595026   | 0.463000     | 0.146000     |
| 10%                   | -2.632604   | -3.233456   | 0.347000     | 0.119000     |

Source: Mackinnon (1996), Kwiatkowski et al (1992)

| Level of Significance | Critical Va | lue For ADF <sup>6</sup> | Critical valu | ie For KPSS <sup>7</sup> |
|-----------------------|-------------|--------------------------|---------------|--------------------------|
|                       | With        | Intercept &              | With          | Intercept&               |
|                       | Intercept   | Trend                    | Intercept     | Trend                    |
| 1%                    | -3.724070   | -4.374307                | 0.739000      | 0.216000                 |
| 5%                    | -2.986225   | -3.603202                | 0.463000      | 0.146000                 |
| 10%                   | -2.632604   | -3.238054                | 0.347000      | 0.119000                 |

Source: Mackinnon (1996),Kwiatkowski et al (1992)

In the above table, results of stationery and order of stationery for each variable of study are given. Inflation and headcount ratio are stationary at level, while political risk and population growth are stationary at 1<sup>st</sup> Difference. As all variables are integrated either at level or at first Difference so now we can apply the Bound Test and ARDL approach.

### Auto-Regressive-Distributed-Lag Equation for Model

 $\begin{array}{l} \Delta LnHC_t = \propto_0 + \sum_{i=1}^N \propto_1 \Delta LnHC_{t-i} + \\ \sum_{i=0}^N \propto_2 \Delta LnICRG_{t-i} + \sum_{i=0}^N \propto_3 \Delta LnINF_{t-i} + \sum_{i=0}^N \propto_4 \Delta LnPG_{t-i} + \\ \beta_1 LnICRG_{t-1} + \beta_2 LnICRG_{t-1} + \beta_3 LnINF_{t-1} + \\ \beta_4 LnPG_{t-1} + \gamma ECT_{t-1} + \mu_t \dots \dots \dots (1.1) \\ In \ above \ equation \ ``\alpha \ represent \ short-run \\ coefficients \ and \ ``\beta \ ``represent \ long-run \end{array}$ 

coefficients and "ß "represent long-run coefficients and " N " is the optimum lag length of ARDL Model.

### **Results of Model**

| $LnHC_t = 60$     | $+\beta_1 \text{LnICRG}_t + \beta_2 \text{LnINF}_t + \beta_2$ | 83 |
|-------------------|---|----|
| $Ln PG_t + \mu_t$ |   |    |

In this study, log-log model is used.

### **Bound Test Result**

| Table 3. | Bound | Test | Result |
|----------|-------|------|--------|
|----------|-------|------|--------|

| <b>F-Calculated</b> | 95% Confidence Interval |             | 90% Confide | ence Interval |
|---------------------|-------------------------|-------------|-------------|---------------|
|                     | Lower Limit             | Upper Limit | Lower Limit | Upper Limit   |
| 13.29624            | 2.72                    | 3.77        | 3.23        | 4.35          |

Source: Author's own calculations

As our calculated value of F is greater than all critical values with 95% confidence interval and 90% confidence interval, so we reject our null hypothesis which is  $H_0$ : There is no long-run relationship among variables and accept our alternative hypothesis, which is  $H_{1:}$ There exist long-run relationship.

## Initial Estimates of ARDL

**Table 4.** Selected Model: ARDL (3, 1, 1, 4) based on Schwarz Bayesian Criterion Dependent Variable is LMHC

| <b>Explanatory Variables</b>   | Coefficient    | Standard Error        | <b>T-Statistic</b> | <b>P-Value</b> |
|--------------------------------|----------------|-----------------------|--------------------|----------------|
| L_HC(-1)                       | 0.501505       | 0.141460              | 3.545194           | 0.0029         |
| L_HC(-2)                       | -0.285921      | 0.169945              | -1.682425          | 0.1132         |
| L_HC(-3)                       | 0.190165       | 0.158238              | 1.201769           | 0.2481         |
| LNICRG                         | 0.071149       | 0.098336              | 0.723531           | 0.4805         |
| LNICRG(-1)                     | 0.229453       | 0.099622              | 2.303250           | 0.0360         |
| LNINF                          | 0.012095       | 0.023842              | 0.507279           | 0.6193         |
| LNINF(-1)                      | 0.054099       | 0.017682              | 3.059566           | 0.0079         |
| LNPGR                          | -4.899310      | 2.834460              | -1.728481          | 0.1044         |
| LNPGR(-1)                      | 14.08464       | 7.912632              | 1.780019           | 0.0953         |
| LNPGR(-2)                      | -23.44670      | 10.22303              | -2.293518          | 0.0367         |
| LNPGR(-3)                      | 22.35185       | 7.161580              | 3.121078           | 0.0070         |
| Constant                       | 1.188100       | 0.303600              | 3.913373           | 0.0014         |
| $R^2$ 0.944235 Adjusted- $R^2$ | 0.899622 F-Sta | atistic 21.16530 [0.0 | 00]                |                |

Source: Author's own calculations

The results of the above table clearly indicate that all independent variables of model are significantly related to the dependent variables.R<sup>2</sup> has a value 0.94, which means that 94 per-cent variation in the dependent variable of our model is due to independent variables while remaining fluctuations are due to error term.Adjusted-R<sup>2</sup> shows the goodness of fit of model adjusted with degree of freedom, and it is equal to 0.89 in the model. Due to lagged dependent variable Durbin's hstatistic has been used to check the problem of auto-correlation with  $H_0$ : no auto-correlation problem and  $H_1$ : auto-correlation problem exist. In our case Durbin's h-statistic implies the rejection of our alternative hypothesis, so there is no auto-correlation problem in data.

### **Diagnostic Tests**

In order to check the robustness of the results diagnostic tests are applied, and results are given below in table 5.

| iusie s.           |                     |             |
|--------------------|---------------------|-------------|
| Problem            | <b>F-Statistics</b> | Probability |
| Serial Correlation | 2.023820            | .1717       |
| Functional Form    | 0.027247            | 8713        |
| Normality          | 0.97432             | .614        |
| Heteroscedasticity | 0.600581            | .8106       |

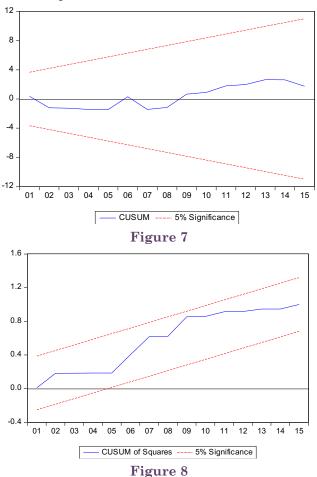
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Source: Author's own calculations

By using lagrangian multiplier test, it can be safely concluded that there is no serial correlation problem in data as probability is greater than 10 percent. Ramsey's RESET test is used to confirm the correct functional form of the model, and again the value of probability indicates that there is no functional form error. The value of f-statistics and probability, given in the above model, also prevailed that data is also normally distributed and error term has a constant variance.

### **Stability Tests**

The results of both Cumulative Sum of Recursive Residual (CUSUM) and Cumulative Sum of Square of Recursive Residual (CUSUM Square) for model 1 are given in the following figures.



As shown in the above figure, the estimated lines of Cumulative Sum of Recursive Residual (CUSUM) and Cumulative Sum of Square of Recursive Residual (CUSUM Square) fall within the critical bound at 5% level of significance, hence our model is stable and it also suggests that model is properly specified.

### Long-Run Estimates

**Table 6.** Selected Model: ARDL (3, 1, 1, 4) based on Schwarz Bayesian Criterion LnHC is Dependent Variable

| Variable | Coefficient | S.E      | <b>T-Ratio</b> | Probability |
|----------|-------------|----------|----------------|-------------|
| LnICRG   | 0.505851    | 0.164972 | 3.066287       | (0.0078)    |
| LnINF    | 0.111391    | 0.062187 | 1.791217       | (0.0935)    |
| LPG      | 1.999324    | 0.106589 | 18.757312      | (0.0000)    |
| С        | 1.99932     | 0.106589 | 18.757312      | 0.0000      |

Source: Author's own calculations

The double log model has been used in studies, so the estimated coefficients will measure the percentage change in our dependent variable, i.e., Poverty. The most important finding in the above results is that the coefficient of ICRG shows that the higher the risk of governance, there will be higher the rate of percentage increase in poverty. These results confirm the early findings of <u>Schneider, H. (1999)</u>. <u>Fung A. & Wright E.</u> O. (2001), Craig D.& Porter, D. (2006). And population growth is effect the poverty inversely, this is a very rare case, and the logic behind it is that it has been seen, during last decades, that the number of highly educated and skilled labour in developing countries like Pakistan, India, and China etc. increased which result in a rise in income level of families and help to decrease poverty. But Coefficient of Inflation is not significant.

## Error Correction illustration for the Selected ARDL Model

**Table 7.** Selected Model: ARDL (3, 1, 1, 4) based on Schwarz Bayesian Criterion Dependent variable is dLnHC

| <b>Explanatory Variables</b> | Coefficient | <b>Standard Error</b> | <b>T-statistic</b> | <b>P-Value</b> |
|------------------------------|-------------|-----------------------|--------------------|----------------|
| D(L_HC(-1))                  | 0.095756    | 0.143141              | 0.668960           | 0.5137         |
| D(L_HC(-2))                  | -0.190165   | 0.158238              | -1.201769          | 0.2481         |
| D(LNICRG)                    | 0.071149    | 0.098336              | 0.723531           | 0.4805         |
| D(LNINF)                     | 0.012095    | 0.023842              | 0.507279           | 0.6193         |
| D(LNPGR)                     | -4.899310   | 2.834460              | -1.728481          | 0.1044         |
| D(LNPGR(-1))                 | 23.446696   | 10.223026             | 2.293518           | 0.0367         |
| D(LNPGR(-2))                 | -22.351847  | 7.161580              | -3.121078          | 0.0070         |
| D(LNPGR(-3))                 | 8.358437    | 2.208203              | 3.785176           | 0.0018         |
| CointEq(-1)                  | -0.594251   | 0.155316              | -3.826086          | 0.0017         |

 $Source: Author's \ own \ calculations$ 

The estimate of Error Correction Model given in table 7 is significant at 1% level of significance. The negative sign of ECM shows that the dependent variable will converge towards long-run equilibrium path due to change in the independent variable, in this case, it has value equal to -0.59 that means that deviation in L from equilibrium level during the current

period will be converged 59% toward equilibrium in next period.

# Conclusion

The main purpose of this research work is to find the empirical nexus between governance and poverty; as shown by estimated results, it is proved that there is a strong relationship between poverty reduction and quality of governance in the case of Pakistan. To reduce poverty in Pakistan, the following policy recommendations are given based on estimated results.

- The basic indicators of governance must be improved to eliminate poverty. These Indicators include Rule of Law, Political Stability, internal conflict, government effectiveness, regulatory quality, quality of bureaucracy, corruption, external conflict, investment profile, and military in politics, religious tensions, and ethnic tensions.
- The labour force must be trained to attract economic globalization.

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