

Vivek Anand*

Muhammad Qasim Nizamani†

Farheen Qasim Nizamani‡

Macroeconomic Determinants of Inclusive Growth in Pakistan: An ARDL Approach



Abstract *There is increasing concern that growth in most part of the world is not distributed equitably. This is particularly the situation in Pakistan, where the economic growth is uneven and biased toward the affluent. This study aims to present empirical analysis to characterize the association between inclusive growth and its macro-economic determinants in Pakistan. In this context, the study employs annual time-series data for 23 years (1994-2017). In order to obtain long-run and short-term results, both auto-regressive distributed lag (ARDL) and error correction model (ECM) was being implemented. The findings of the study reveal that infrastructure development and government consumption have a positive and significant impact on the long-term inclusive growth of Pakistan. In contrast, a negative relationship is being observed between inflation, health expenditure and inclusive growth. Based on the findings, the study suggests that policymakers should develop appropriate policies to promote healthy government expenditure, infrastructure development, control inflation, and bring transparency in the health sector for fostering inclusive growth in Pakistan.*

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Introduction

Over the last two decades, many countries in Asia-Pacific regions have witnessed not merely impressive growth rate but also report massive curtailment in the incidence of poverty (Rhee, 2012). The proportion of individuals existing below the poverty line in the Asia-Pacific region has been declined to 10.3 percent from 29.7 percent in the year 2010-2013 (UN, 2017). Despite tremendous achievement in economic growth, people in

*Assistant Professor, Isra University Hyderabad, Sindh, Pakistan.

†Assistant Professor, Department of Media & Communication Studies, University of Sindh Jamshoro, Sindh, Pakistan. Email: qasim.nizamani@usindh.edu.pk

‡Assistant Professor, Department of Media & Communication Studies, University of Sindh Jamshoro, Sindh, Pakistan.

this region still deprive of the basic necessities of life; about 60% of the world malnourished and starved residents live in Asia (Haq, 2015). Whereas about two-thirds of the world, poorest populace still lives in this area (Brooks, Joshi, McArthur, Rhee, & Wan, 2013).

Rapid economic growth accompanied by poor statistics on living condition raise the concern among the international bodies that economic growth in these regions is not equitable, and the fruit of increased prosperity has not been equitably sharing among the entire population. A survey on household consumption and expenditure reveals that the growth in per-capita expenditure of the lower quantile is far below the growth of the upper quantile in Asian countries (Ali, 2007).

Apart from Asia, there is also a growing trend in monetary and non-monetary disparities in the rest of the world (Facundo Alvaredo, 2018). The growth in the average income of the top 10% earner is 9.5 times the average earning of the poor (OECD, 2014). According to (UNDP, 2017) household income inequality increased by 11% in developing nations and by 9% in developed nations of the world. An increase in monetary and non-monetary inequalities is mainly due to the unequal distribution of opportunities (Ali, 2007). Economic growth generates new opportunities that are distributed disproportionately. Underprivileged groups, due to lack of resources and poor circumstances, are unable to avail these opportunities; as a result, a smaller segment of the wealthiest people is benefited more from the growth process, and the rest of the people are deprived if these growing inequalities left unchecked could leave a considerable portion of the world in poverty even by 2020 (Zhuang, 2008).

The growing concern to control the issue of escalating inequality switch the attention of policymakers and researchers of the world toward the new model of economic development, i.e. “Inclusive Growth” (Asghar & Javed, 2011). However, in the international community, we don’t find any consistent meaning of the term inclusive growth as the notion is relatively new and still in its exploratory phase (Ranieri & Ramos, 2013). Inclusive growth is normally understood as growth that reduces income and non-income inequality (Rauniyar & Kanbur, 2010). It is the economic growth that focuses on creating opportunities and make sure that these opportunities are obtainable to all, including the vulnerable groups, to the highest possible extent (Ali & Son, 2007).

According to (Kireyev & Chen, 2017), economic growth is said to be inclusive if it leads to a reduction in poverty and inequality, provides jobs, eliminates gender inequality, responds to climatic conditions and improves the administration of a country. Moreover, Sustainability is an essential component of inclusive growth; any economic growth that produces disparity would not sustain for a more extended period and thus make the growth non-inclusive (WB, 2009).

Inclusive Growth and Pakistan’s Socio-Economic Conditions

The inclusive growth agenda has been well recognized by the Government of Pakistan as a key strategic pillar to deal with poverty and inequality. This agenda has been set by the Planning Commission of Pakistan for achieving the country’s Vision 2025. Besides, it was also the part of government 11th-year plan 2013-2018 (UNDP, 2018). The purpose is to realize not only a high growth rate but having a growth process that shares broadly among society, improving the living conditions of the people and provide equal opportunities for productive employment.

Yet, despite realizing an average 5% growth rate and attaining 13 years of the highest GDP growth rate of 5.8% in 2018 (UNDP, 2018), the country statistic depicts poor performance toward its strategic pillar of realizing inclusive economic growth. About 38.8% of the population lives in multidimensional poverty are deprived of necessities of life (Oxford Poverty and Human Development Initiative, 2016). Gini coefficient of Pakistan is increased from 30.7% (2013) to 36.20% (2018) (VENTURA, 2018; WEF, 2018). Furthermore, according to (UNESCO, 2012) Pakistan queued on 113th out of 120 countries in Education Development Index, and the number of illiterate adults reached up to 49.5 million, which is the 3rd highest illiteracy rate in the world. The country has the lowest performance in almost all macroeconomic indicators, i.e. health, education, employment, security and infrastructure (Deng, 2019).

Considering inclusive growth as one of the important instruments for improving the economic performance of a country and its adoption by the Government of Pakistan to meet its strategic vision 2025. This study aims to determine macroeconomic determinants that have a long-run and short-run influence on fostering inclusive growth in Pakistan.

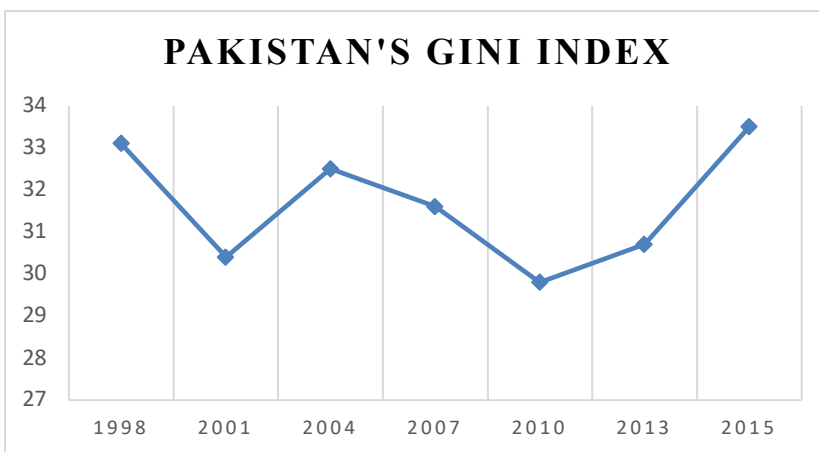


Figure 1: Pakistan's Gini Index source: (World Development Indicators)



Figure 2: Pakistan Unemployment Rate Source: IMF (2019) IMF (2019)

Literature Review

Inclusive growth has been thought of as an approach that seeks to improve people lives by reducing the problem of increasing poverty and economic discrepancy from the world (OECD, 2015; Sun et al., 2018). As reviewed by (De Haan and Thorat, 2013), the concept arose to the front-line of public debate and policy issues in 2004 during the national election of India. When it has been criticized that India's previous growth model has been unable to deliver the desire results and left behind a large part of society into extreme poverty. Therefore, their new government, for the first time, used the term "Inclusive Growth" as a strategy to deal with ever-growing poverty and inequality. After that, the concept has been widely promoted by the Asian Development Bank (ADB) and incorporated promptly into the literature on economic development (Rauniyar and Kanbur, 2010).

There is no consistent, universal definition of inclusive growth, as the concept is still in its exploratory phase (Klasen, 2010; Ranieri and Ramos, 2013). Many experts and researcher try to define the concept in their own ways, so there are numerous descriptions and valuation techniques of inclusive growth present in economic literature. For instances, (OECD 2016a) describe IG as "economic growth that produces an opportunity for the entire section of the society, and equally allocate the fruit of increased affluence in financial and non-financial ways. According to (Ali and Zhuang, 2007). "Inclusive growth" is an endorsing growth strategy that emphasizes on availability and access of equal opportunities to all, irrespective of their circumstances.

A composite index based on the weighted and scoring scheme has been developing by (McKinley 2010) to evaluate IG domestically. He identified a set of relevant indicators for measuring the progress of a country towards attaining inclusive growth. These indicators are economic growth, productive jobs, economic substructure, human abilities dimensions and social protection. Similarly, the Asian Development Bank, in the attainment of its strategic objective of achieving inclusive growth, construct a framework that is grounded on the combination of 35 gauges that can be used in the country specific study as well as in cross-section studies to measure the progress of inclusive growth (ADB, 2011a) later with the further addition of green growth variables; the purposed framework was modified by (Jha et al., 2018) as inclusive- green growth index, comprises of 28 indicators and 3 policy pillars, i.e., economic growth, social equity and environmental suitability.

In the context of Pakistan, scholars have also conducted many studies considering inclusive growth and its measurement. For instances, (Khan et al., 2016) measure the inclusive growth of Pakistan from (1992-2012) by using the weighted and scoring technique provided by (McKinley 2010). His technique consolidates growth, inequality, accessibility and governance into a single measure and develops an IG index of 100 points, where a score nearer to 100 suggest a higher degree of inclusiveness in economic growth. The result of the study shows that the performance of Pakistan toward achieving inclusive growth is little satisfactory.

Similarly (S. Asghar and Javed, 2011) applied the social opportunity function approach of (Ali and Son, 2007) to measure the change and access to educational and employment opportunities and how these opportunities are distributed in Pakistan. The study obtains data from Pakistan Social and Living Standard Measurement Survey (PSLM) for 1988/99 and 2007/2008 to develop the opportunity curve and opportunity index. The obtained result exhibited an overall increase in inequalities in both

educational and employment sectors. Whereas, average educational opportunities were increased, and employment opportunities were a decline in 2007/2008.

Furthermore, (Tirmazee and Haroon, 2015) also measure the inclusiveness of Pakistan economic growth through social welfare function by adopting the methodology of (Anand et al., 2013). The author analyzed inclusiveness by means of per capita income, wealth index and plot the social mobility curve for the period of 2008-9 and 2010-11. Their findings reveal that there is an overall improvement in the per capita income of the country, but the wealth index shows a decline in the wealth held by citizens; this may be due to high inflation, which increases the cost of living and prevent people from saving. Further distribution of wealth and income show a high degree of inequality, depict that the economic growth of Pakistan is not inclusive.

In another study (Kiani and Ullah, 2015) construct an inclusive growth index based on the z-sum score technique to measure the inclusive growth of Pakistan from 2008-2012. Their index was composed of social, economic and political indicators and ranged from 0 to 1, where IGI value close to zero suggest poor performance and close to one suggest good performance in achieving inclusive growth. Findings reveal that in 2008 IGI score of Pakistan was 0.48, which is very low; this may be due to the global financial crisis and emerging terrorism. But after that, IGI starts increasing gradually and reach closer to 1 in the year 2011-2012 indicate better performance of Pakistan.

From the above literature, one can easily conclude that there are vast numbers of studies that have been conducted regarding the conceptual discussion and measurement issues of inclusive growth. But the identification of the elements that foster inclusive growth in a country is still missing and not fully addressed, especially in the case of Pakistan. Our study tries to fill this gap and attempt to identify the deterrents of inclusive growth in the case of Pakistan.

Data Model and Methodology

Model and Data Collection

The theory of economic development indicates many factors that affect the inclusive growth of a country. The scholars like (Anand, Mishra, & Peiris, 2013; Tella & Alimi, 2016) proclaims that these factors are inflation, human capital, government consumption, foreign direct investment, real effective exchange rate, natural resources, social investment, infrastructure development, trade openness, population, GDP per capita and many others.

In view of our objective to identify determinants of inclusive growth in Pakistan, this study uses annual data of Pakistan for the time span of 23 years (i.e., 1994- 2017). Most of the data on the economic indicators of Pakistan has been taken from the website of the world bank, i.e., world development indicators (WDI). Whereas the data for inclusive growth has been taken from a recently published paper by Faisal Munir (2018). The author of this paper applies the measurement technique of Anand et al. (2013) and measure the inclusive growth of Pakistan.

The inclusive growth function that integrates both output growth performance and economic growth distribution is stated as follows;

$$Y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \mu_t \quad (3.1)$$

Where Y_t is inclusive growth at time t , β_0 and β_1 are coefficient, X_1 is stream/vector of determents of IG, where is μ_t Is the error term. In our study, a vector of determinants of inclusive growth in Pakistan characterizes as Government spending on health sector (GGHE), general government final consumption expenditure (GGC), Infrastructure development (INFR), inflation (INF). Therefore, our above equation will be signified as:

$$IG_t = \beta_0 + \beta_1 GGHE + \beta_2 GGC + \beta_3 INFR + \beta_4 INF + \mu_t \quad (3.2)$$

In equation 3.2, infrastructure development is proxy as gross capital formation. Where health expenditure, government consumption, infrastructure development measure as % of GDP and inflation is measured as annual %.

Methodology

Auto-Regressive Distributed Lag (ARDL)

Autoregressive distributed lag is one of the widely used approaches to measure long-run and short-run relationship among economic series. The model was originally presented by Pesaran, Shin, and Smith (2001) to investigate the association among series integrated at the order $I(0)$ and $I(1)$. In an ARDL approach to cointegration, there are essentially two steps to identify long-term association among variables. The first stage includes the identification of long-term relationship through the bound test; if the test shows the presence of long-run integration, the next stage is to evaluate short-term and long-term models.

The general equation of the auto-regressive distributed lagged model is:

$$\Delta Y_t = \beta_0 + \sum_{i=1}^n \beta_1 \Delta Y_{t-i} + \sum_{i=0}^n \beta_2 \Delta X_{t-i} + \varphi_1 Y_{t-1} + \varphi_2 X_{t-1} + \varepsilon_t \quad (3.3)$$

Here, Y_t Is dependent variable at time t , Δ is first difference operator, β_0 is the intercept, β_1 and β_2 are short-run coefficients, φ_1 and φ_2 are long-run coefficients, ε_t is error term at time t .

Putting our variables in the above mention ARDL equation, we get:

$$\Delta IG_t = \beta_0 + \sum_{i=1}^n \beta_1 \Delta IG_{t-i} + \sum_{i=0}^n \beta_2 \Delta INF_{t-i} + \sum_{i=0}^n \beta_3 \Delta INFRA_{t-i} + \sum_{i=0}^n \beta_4 \Delta GGHE_{t-i} + \sum_{i=0}^n \beta_5 \Delta GGC_{t-i} + \varphi_1 IG_{t-1} + \varphi_2 INF_{t-1} + \varphi_3 INFRA_{t-1} + \varphi_4 GGHE_{t-1} + \varphi_5 GGC_{t-1} + \varepsilon_t \quad (3.4)$$

Before estimating the ARDL model, we need to identify the presence of a long-run relationship between our variables. For this purpose, the study applied a bound test approach to cointegration, which is centred on F-statistics. The null hypothesis of the bound test is that there is no cointegration, and the decision on the acceptance or rejection of the null hypothesis is made on the basis of F-statistics. If the value of F-statistics is higher than the upper bound, i.e., $I(1)$, that case, we will reject the null hypothesis, inferring cointegration. Whereas, if the value of F-statistics is smaller than the lower bound, i.e., $I(0)$, then we will accept the null hypothesis of no-cointegration. However, If the value of F-statistics lies in between the upper and lower bound value, than we will say that the results are inconclusive; after estimating long-run cointegration by means of a bound test, the next stage is to estimate following long-run ARDL model.

$$IG_t = \varphi_1 IG_{t-1} + \varphi_2 INF_{t-1} + \varphi_3 INFRA_{t-1} + \varphi_4 GGHE_{t-1} + \varphi_5 GGC_{t-1} + \varepsilon_t \quad (3.5)$$

The decision on optimal lag length is based on (AIC) Akaike information criterion. After the estimation of the long-run ADRL model and analyzing long-run parameters, the study then estimates the following ECM model to get short-run dynamics.

$$\Delta IG_t = \beta_0 + \sum_{i=1}^n \beta_1 \Delta IG_{t-i} + \sum_{i=0}^n \beta_2 \Delta INF_{t-i} + \sum_{i=0}^n \beta_3 \Delta INFRA_{t-i} + \sum_{i=0}^n \beta_4 \Delta GGHE_{t-i} + \sum_{i=0}^n \beta_5 \Delta GGC_{t-i} + \lambda ECM_{t-1} + \varepsilon_t \quad (3.6)$$

Here, $\beta_0 - \beta_5$ are short-term parameters, λ is the speed of adjustment, which is supposed to be ≤ 0 ,

ECM is an error correction term to attain from equation 3.6. In order to check the validity of our model, a diagnostic and stability test of the residuals were applied. In the diagnostic test, the study examines the presence of serial correlation, heteroscedasticity and normality in the model. Whereas the stability of the model is measure by means of the cumulative sum (CUSUM) and cumulative square sum (CUSUMQ) test. If the plot of both tests remains within 5% upper and lower bounds (presented by the red dotted line), then we will say that there is no structural break and the model is stable.

Empirical Results and Discussion

Descriptive Statistics

Table 1 exhibit information on descriptive statistics of our variables. According to the information, the average/mean of inclusive growth is 1.48, with a standard deviation of 1.67. The mean of inflation, Infrastructure, General government health expenditure and government consumption is 8.21, 17.01, 0.77 and 10.26, respectively, with a standard deviation of 4.46, 1.6, 0.18 and 1.36.

In our data set, all the variables are slightly positively skewed except general government consumption, which show little negative skewness. The kurtosis statistics show that all the variables are platykurtic except inflation which is slightly leptokurtic. The probability value of jarque-bera statistics shows our data is normally distributed.

Table 1. Descriptive Statistics

	IG	INF	INFRA	GGHE	GGC
Mean	1.482500	8.218931	17.01928	0.777968	10.26791
Median	1.830000	7.645420	16.87719	0.721345	10.46251
Maximum	5.200000	20.28612	19.54642	1.071239	12.64510
Minimum	-1.870000	2.529328	14.12063	0.489377	7.780805
Std. Dev.	1.674980	4.461347	1.645262	0.187890	1.361219
Skewness	0.071651	0.729643	0.012712	0.207568	-0.330911
Kurtosis	2.725549	3.239815	1.799330	1.483674	2.215380
Jarque Bera Probability	0.953201	0.335038	0.486204	0.290605	0.590481

Multicollinearity

Multicollinearity is a condition in which two or more explanatory variables or predictors are highly associated with each other. The strong associations among the regressors create disruption in the data sets, so the inferences generated from such a model is not reliable and spurious. So, it is important to estimate the degree of correlation among the

variables before proceeding further. The degree of correlation suggested by Evans (1996) are:

- 0.20-0.39 is weak
- 0.40-0.59 is moderate
- 0.60-0.79 strong
- 0.80-1.0 is very strong

Table 2 show the direction and strength of correlation in our independent variables of economic series.

Table 2. Test for Multicollinearity

	GGHE	GGC	INF	INFRA
GGHE	1	0.247928	-0.301676	0.12606
GGC	0.24792	1	0.25627	0.080584
INF	-0.30167	0.25627	1	0.36237
INFRA	0.12606	0.080584	0.362374	1

None of the variables from our selected series is highly or strongly correlated. The highest value of our correlation coefficient in the entire data set is 0.36, which falls in the degree of weak correlation. Hence, we can say that there is no multicollinearity among our variables.

Stationarity Test

If the mean and variance of a series remain constant over time, then the data is said to be stationary. For checking the stationarity of data, we will perform an augmented dickey-fuller unit root test. The null hypothesis of the ADF test is there is a unit root in the given variable and is rejected when the p-value is below 5% levels. For each variable, unit root analysis is conducted separately. Table 3 shows the results of the ADF unit root test of all variables.

The result of the test reveals that all the variable has a unit root at level, but at the first difference, all of these variables become stationary at 5%, so we can say that our variables are integrated at 1st order.

Table 3. Results of Unit-Root Test

Variables	Unit Root I (0)	Unit Root I(I)
IG	0.174	0.0012
GGHE	0.40	0.0000
INF	0.25	0.0001
GGC	0.37	0.0019
INFR	0.27	0.0010

Lag Selection Criteria

The decision on the optimal lag length has been taken on the minimum value of AIC. Based on the results in our further analysis of auto-regressive distributed lag estimation to cointegration, we will use a lag length of 2 as an optimal lag.

Table 4. VAR Estimation for Optimal Lag Length

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-163.2876	NA	3.033753	15.29887	15.54684	15.35729
1	-108.0515	80.34337*	0.208370	12.55014	14.03792*	12.90062
2	-75.52756	32.52398	0.160384*	11.86614*	14.59375	12.50868*

Bound Test

Table 5. Bound Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Significance.	I (0)	I (1)
F-statistic	5.361155	10%	2.2	3.09
		5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

From the table-5 we have seen that the value of our F-statistics is higher than the upper bound at a 5% level, i.e., $5.361 > 3.49$. Even the value is also higher at a 1% level of significance, $5.36 > 4.37$. Hence, we can reject the null hypothesis of no-cointegration and accept the alternative hypothesis of having a long-term relationship among our variables.

Estimating Long-Term Relationship

The result of the long-run ARDL model (2, 1, 0, 2, 1) is presented in table 6. The results indicate that Government consumption (GGC) and infrastructure development (INFRA) has a significant and positive impact on the inclusive growth of Pakistan. According to the results, a one percent increase in general government consumption will accelerate inclusive growth by 0.30% in the long-run.

Further tables exhibit that if government spending on infrastructure development increase by 1% will cause an acceleration in inclusive growth by 0.39%. This is because good infrastructure is key for economic development. It will bring ease to the life of poor man, attract international investor, reduce production cost and promote tourism; which in turn brings prosperity to a country.

Table 6. Long Run ARDL Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GGHE	-5.719871	0.945157	-6.051771	0.0001
GGC	0.307948	0.125763	2.448641	0.0323
INF	-0.297348	0.048195	-6.169722	0.0001
INFRA	0.391825	0.128204	3.056272	0.0109
C	-1.427484	2.493135	-0.572566	0.5785

At a significance level of 0.01, government health expenditure (GGHE) and inflation (INF) has negative nexus with the inclusive growth of Pakistan. As per the results, if the government boost its spending in the health sector by one percent it will lead to deceleration of inclusive growth by 5.7% in the long-run. The probable reason for the negative impact on inclusive growth can be; public spending on health is distributed

inefficiently and inequitably, or the overall quality of government spending on health is poor. Another probable explanation of the negative impact is that just increasing expenditure is not enough to improve the healthcare of individual; there should be proper management ensuring these funds are being utilized properly.

However, as per our expectations, each per cent increase in inflation demote inclusive growth by 0.29%. A persistently high level of inflation is bad for inclusive growth because it deters purchasing power of the currency and lowers down the real income of the common man, resulting in an increasing number of people dropping down the poverty line.

Estimating Short-run Relationship

Table 7. Error Correction Regression

Error Correction Model				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(IG(-1))	0.725969	0.180897	4.013157	0.0020
D(INF)	-0.225153	0.050182	-4.486724	0.0009
D(INF(-1))	0.204021	0.065544	3.112716	0.0099
D(INFRA)	0.910075	0.197474	4.608588	0.0008
D(GGHE)	-0.928415	1.605908	-0.578124	0.5748
CointEq(-1)*	-1.638890	0.239597	-6.840195	0.0000

The results indicate that the inclusive growth of the previous year has a positive and significant influence on the inclusive growth of this year. However, inflation of the previous year has a negative but inflation of this year has a positive and significant impact on inclusive growth. One percent increase in inflation of the previous year; accelerate inclusive growth of this year by 0.20% in short-run. Further, in the long run, the influence of infrastructure development on IG still remain positive and significant; a unit increase in infrastructure will cause inclusive growth to raise 0.91%. However, the result of short-term government health spending reveals a negative but insignificant effect on the inclusive growth of Pakistan.

Our error correction coefficient is negative and significant at less than 0.01 level; this infers that our variables are integrated and move together in a similar direction towards long-run equilibrium. The negative sign of the ECT indicates that some part of the long-run deviation among variables is offset to equilibrium each year. From the results above, our value of ECT is -1.6, which implies that every year 1.6% deviation from long-run equilibrium is corrected by our selected series.

Table 8 present the result of the model diagnostics test. The acceptance of the null hypothesis at the 0.05 level is desirable for all these tests. The result indicates a p-value more than 0.05, so, we will accept the null hypothesis. In other words, our model is free from the problem of serial correlation, heteroscedasticity and our residuals are normally distributed. This indicates that our model is fit to use, as it fulfils all requirements of a desirable econometric model.

Table 8. Model Diagnostics Test

Diagnostics Test	P-value
Breusch-Godfrey Serial Correlation LM Test	0.09

Breusch-Pagan-Godfrey Heteroskedasticity Test	0.99
Jarque-Bera Normality Test	0.62

The figures 3,4 shows the result of CUSUM and CUSUM SQUARE statistics. From the results, model seems to be steady and completely specified as plot of both tests remain within 5% critical boundaries.

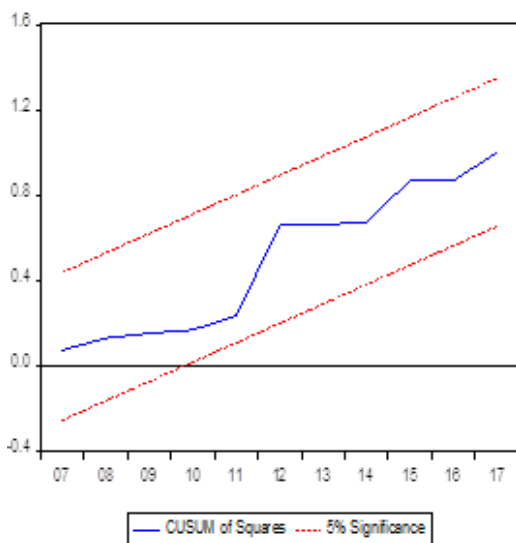


Figure 4: CUSUM SQ

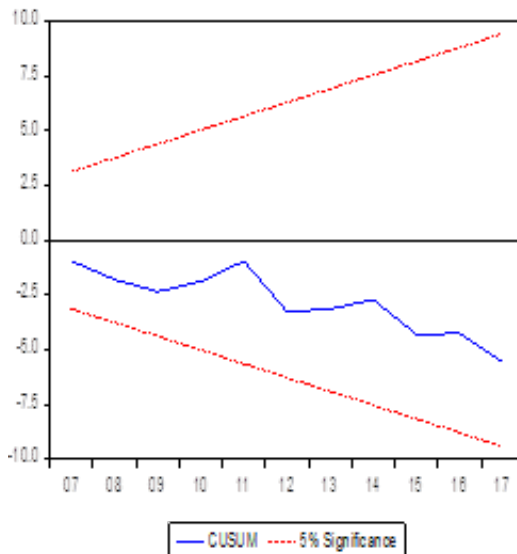


Figure 3: CUSUM Test

Conclusion and Recommendation

The idea of accelerating inclusive economic growth in Pakistan is a matter of serious concern for the government of Pakistan and its regulatory institutions. This study intends to identify factors/macroeconomic variables that have a significant impact on fostering inclusive growth and access the relative importance of the chosen variable as a driver of inclusive growth in Pakistan. For this purpose, time-series data capturing the time frame of 23 years 1994-2017 has been taken form the world development indicator. The impact of four macroeconomic variables (infrastructure development, inflation, government health expenditure and government consumption) on inclusive growth has been analyzed by means of the ARDL approach to cointegration and error correction (ECM) representation.

The results of Augmented-Dicky fuller unit root test and correlograms indicate that our variables are stationary at I(I). VAR optimal lag selection criteria indicate two as optimal lag length for our selected model. Outcomes of the ARDL bound test approach confirm the presence of long-term cointegration among our response and explanatory variables.

After estimating the ARDL model for long-run parameters, we analyze that infrastructure development and general government consumption are the long-run drivers of inclusive growth of Pakistan, as both of these variables has a positive and significant impact on the inclusiveness of our country. However, inflation and health

expenditures seem to affect adversely on long-run inclusive growth of Pakistan. While short-run dynamic obtained from ECM indicate a positive and significant impact of infrastructure development and inflation; but, the impact of health expenditure is found to be insignificant and negative, inferring failure of government expenditure on rising access of poor to basic healthcare facilities.

From this study, we can conclude that the major drivers of inclusive growth in Pakistan are infrastructure development and general government consumption. Whereas inflation and health expenditure impede inclusive growth of the country. The study suggests that the government should take serious action for the improvement and development of infrastructure; special concentration should be given on resolving the problem of electricity shortage, water supply and sanitation system of the country. Further government spending, which is part of the fiscal policy of the country, should be made wisely in-light of achieving inclusive economic growth.

Based on the results of the study, we recommend a few policy implications for accelerating inclusiveness in Pakistan's economic growth and for improving the living conditions of our poor citizen.

- The government should promote infrastructure development policies; especial concentration should be given to improving rural infrastructure because most of the poor people live in rural areas of the country.
- Reduction in inequality is not a short-term objective; it could be achieved by increasing government spending in the vulnerable area of the country. Spending on social services, quality education and health could have an effect on reducing inequality from the country.
- Efforts should be made on improving the internal stability of the country by making strict monetary policies to control high inflation from the country.
- In order to obtain the positive effect of public health investment, policies should be made on increasing transparency in this sector; further, there is also a need for increasing the budgetary allocation in the health sector of the country.

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