

Socioeconomic Determinants of Poverty in Pakistan

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Abstract:

Present research tried to explain the socioeconomic determinants of poverty in Pakistan. This study employed Autoregressive Distributed Lag (ARDL) methodology to check the association of variables for period of 1986 to 2020. The study found poverty, economic growth, foreign direct investment net inflows, and human capital positive associated with poverty. While government expenditure is found to have a negative association with poverty. On the basis of results of the study, it is recommended to the policy makers to formulate the policies regarding poverty, economic growth, government expenditure, foreign direct investment net inflows, and human capital to mitigate poverty.

Keywords: Socioeconomic determinants, poverty, Pakistan, Autoregressive Distributed Lag

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Introduction:

At the international poverty line of \$1.90 per person per day in 2018, Pakistan's poverty headcount ratio was approximately 4.4 percent (World Bank, 2020; Meo et al., 2018). Additionally, the UNICEF projection states that about 44 percent (22.8 million) of children of Pakistan in the age bracket of 5 to 16 years were unable to enroll in school as a result of poverty in 2016 may help to understand the poverty condition in Pakistan.

According to Chishti et al. asymmetric modeling approaches are anticipated to have a somewhat higher power to assess the effects of both positive and negative shocks on the explanatory components on the outcome variable. The linear approaches, on the other hand, only produce results in the setting of positive impacts onto the explanatory factors and offer no evidence of what would occur in the scenario of a negative shock to the explanatory variables.

Through the Sustainable Development Goals (SDG) declarations, the UN has challenged nations to make commitments to end all forms of poverty (Lauridsen, 2011; Chilufya, et al.,

2019). The World Bank estimated that 805 million people would not have enough food to eat and 750 million would have to satisfy their thirst by drinking water from filthy sources in 2020. Additionally, according to the World Bank's 2020 report, 1.1 billion children globally are predicted to be living in poverty. Additionally, it is believed that a sizable portion of the world's population suffers from poor sanitation as a result of persistent poverty, which has a detrimental effect on these individuals (Odebode, et al., 2012).

The goal of economic development has taken the top spot on the current global agenda. The widely recognized theories of economic growth state that a continual decrease in the rate of poverty is necessary for an economy to grow. However, there are two ways that poverty is commonly defined: absolute poverty and relative poor. The UNDP defined absolute poverty as a situation in which a person has no access towards basic needs i.e. food, shelter, health care, education, clean drinking water, clothing, etc. Additionally, absolute poverty is defined by the World Bank as the inability to maintain one's standard of living; as a result, people who earn lesser than USD1.90 per day are regarded as living in it.

Comparative poverty is described by Lipton and Ravallion (1995) to be as situations when victim(s) are not able to make a particular amount of money which can assist them maintain their way of living. It should be observed that there are empirical disagreements over the appropriate definition of poverty. The growth of any economy, however, has been found to be unaffected by poverty, regardless of how it manifests. As a result, Szirmai (2015) argues that one of the key strategies for eradicating poverty is to achieve socioeconomic development.

Therefore, it can be argued that poverty is a very alarming problem that requires worldwide attention through the implementation of efficient poverty-reduction programmers (Pervez & Rizvi, 2014). However, it is very challenging for underdeveloped countries, like Pakistan, to end poverty. Pakistan has historically faced difficulties brought on by a growth in the prevalence of poverty, just like many other developing countries. The country is ranked 154th among the world's economies according to each human development index, falling into the category of "medium human development countries" (UNDP, 2020). According to the report, 40 percent of Pakistan's population lived in multidimensional poverty in 2014.

Pakistan's figures demonstrate poverty as one of the significant issues for any rising economy like Pakistan, it is crucial to investigate the macroeconomic variables that contribute to it. In light of this, present research estimates the determinants of the domain of macroeconomic which effect income poverty in Pakistan.

This research is carried upon yearly time-series data of the range 1972 to 2018. Of the various macroeconomic variables examined in this research, the effects of Foreign Direct Investment (FDI) inflow, international commerce, controls for economic development, health spending, and population size are highlighted. Based on the related theoretical reasons for their influence on income poverty, the macroeconomic variables were chosen.

The relevance of this study goes beyond merely tackling income poverty locally because the findings may help Pakistan raise its standing among other countries in terms of poverty and assist the nation in achieving the SDG by 2030. This study contributes to the corpus of literature in three different ways. To start, this study valuates asymmetric effects of the chosen variables (macroeconomic) on Pakistan's income and poverty indices. This is in contrast to generally

utilized methods. The existing works in this area (Banerjee et al., 2005; Quart-ul-Ann & Mirza, 2021; Shirazi, 1995) have mostly employed linear econometric models. Contrarily, non-linear models have not been widely used in past studies in this situation (Meo et al., 2020).

Literature Review:

Cruz and Ahmed (2018) looked at how changes in the population impact economic development and poverty. The data were collected between 1950 and 2010. The result shows that a rise in the percentage of adults who are working has a positive effect on per capita GDP growth. The variables year, starting GDP per capita, and GDP trade as a proportion of GDP were all used in this research.

Jalilian and Weiss (2002) investigated the relationship between FDI and poverty in Asia. In this analysis, data from cross-sections and time series were used. The researcher used independent variables including GINI change, GDP over US GDP ratio (%), net FDI over GDP ratio, and GDP growth. The results back up the claim that FDI has effectively decreased poverty.

Agusalim et al. (2017) discussed the dynamic effect of trade openness on poverty in Indonesia. The author used data from 1978 to 2015, including GDP, per-capita income, the rate of open employment, and the poverty rate. This essay makes use of variables such as unemployment, TOI, LNGDP, and LNGDP-C. As a result, there is little short-term evidence that increased global trade openness reduces poverty.

Anetor et al. (2020) described the impact of trade and foreign direct investment on poverty in African countries. We used information from 29 sub-Saharan African countries between 1990 and 2017 for this analysis. Foreign direct investment, the human development index, foreign aid, trade openness, a gain in the gross domestic product (GDP) per capita, annual growth in the GCF, and inflation are among the indicators that are visible.

Huang et al. (2010) discussed poverty and both domestic and international direct investment. In middle-income countries, panel data were used. The independent variables TRADE, FDIIN, FDIOUT, GOV, PCGDP, and PCGDPPOOR are used in this analysis.

Amjad and Kemal (1997) used Macroeconomic policies and their impacts on poverty in Pakistan. Data from time series covering both urban and rural areas from 1963–1964 to 1992–1993 were used by the author. The research use simple regression models. Garza-Rodriguez et al (2021) discussed poverty and economic growth in Mexico. The time series techniques applied in this essay. The data were collected between 1960 and 2016. Among the variables the author listed were the natural logarithm of real gross domestic product per capita, the natural logarithm of household consumption expenditure, dummy variables, and the disturbance term.

Meo et al. (2020) looked on the connection between Pakistani government and poverty. Data from 194 to 2016 are analyzed in this article using a nonlinear ARDL co-integration approach. The researcher used factors in this study such as government, unemployment, and poverty. This article shows a nonlinear relationship between unemployment, poor governance, and poverty.

Calvo and Hernandez (2006) examined the growth of direct investment and poverty in America. The results demonstrated that panel data from 20 Latin American countries support our

theory that a lack of capital is a determinant of poverty and, as a result, that FDI may aid in reducing poverty. The log domestic capital stock, log foreign capital stock, agricultural and industrial value added, exchange rate volatility, and a dummy for hyperinflation are the independent variables in the article.

Rozanti et al. (2021) used the elements that define household poverty in Indonesia's Kediri City. To analyse the data, the researcher employed a logit regression model. The study made use of crude cross-sectional data. The researcher included a variety of independent variables in this study, including household member education, occupation, household head age, household head age, gender, marital status, dependence asset, internet, sanitation, and health facilities.

Haruna and George and George (2012) analyzed the determinants of poverty in Ghana. The farming seasons from 2009 to 2010 are included in the statistics. Household, age, household education, household employment, household assets, and household remittance are the independent variables. The weighted least square regression model was employed in this study, and the results revealed that poverty has a negative impact.

Qurat-ul-Ann and Mirza (2021) investigate the multiple causes of Pakistan's extreme poverty. In this study, the logistic regression model is used. In this study, the number of working household members, the household head's age, educational attainment, and yearly income are all used as independent factors.

Shirazi (1995) used the factors that determine poverty in Pakistan. The model's results show that providing more sadaqat to the poor reduces the risk of an elderly household being impoverished. The Logit model has been applied to the data on household income. The independent variables included in this study are Sadaqat, Sindh, NWFP, Baluchistan, education levels 1, 2, and 3, family size and poverty, and number of earners.

Ullah et al. (2014) evaluated the causes of poverty in the Gilgit Baltistan mountain region of Pakistan. Farmland ownership, other product assets, household size, household head education level, dependence ratio, participation rate, and age of the household head were employed as explanatory variables in this study.

Kona et al (2018) based on an estimate that took into account the socioeconomic factors that influence both rural and urban poverty in Bangladesh. Primary data for this study came from the rural and urban populations of Bangladesh. The researcher examined the data using the binary logistic regression model. The household head's age, gender, size, level of education, and the member of the household with the highest level of education were all used as explanatory variables in this study, along with the empowerment of women.

Cheema and Sail (2012) provide an estimation of Pakistan's poverty incidence profile and economic causes. The photograph was taken between 2005 and 2006. In this study, the household size, foreign remittances, land ownership, land squared, livestock, sewing machines, household head's education level, age, and educational level were tracked using independent variables. Other independent variables included household size, remittances from abroad, age, and educational level of the household head.

Muhammad and Ali (2017) investigated how socioeconomic factors affect poverty. The data were collected using a stratified sample approach and both regression and descriptive statistical methods were used to analyses them. The findings indicate that household poverty is significantly impacted negatively by the dependent ratio as well. The household dependency ratio, livestock population, household head age, and household head gender were used as independent variables in this study.

Methodology:

The estimation technique of ARDL is employed in this study. The following are the methodological steps;

Model Specification

$POV = f(EG, GX, FDI, HC)$

POV= poverty

EG= economic growth

GX= government expenditure

FDI= foreign direct investment net inflows

HC=human capital

According to conventional theory, the aforementioned model has parameters of 1, 2, 3, and 4. Additionally, a properly distributed error term is assumed. The coefficients 1, 2, 3, and 4 represent the elasticity of poverty in relation to economic growth, public spending, net inflows of FDI, and human capital. The ARDL model's specification is as follows:

Whereas, Δ describes the first distinction operator of variable and α_0 is the deterministic drift parameter.

$$\Delta POV_t = \alpha_0 + \sum_{i=1}^l a_{1i} \Delta ECG_{t-i} + \sum_{i=0}^p \alpha_{2i} \Delta GX_{t-i} + \sum_{i=0}^q \alpha_{3i} \Delta FDI_{t-i} + \sum_{i=0}^r \alpha_{4i} \Delta HC_{t-i} + \mu_t$$

Description of variables

Following are the variable used in the study which are calculated in log form.

POV= poverty

EG= economic growth

GX= government expenditure

FDI= foreign direct investment net inflows

HC=human capital

Results and Discussions:

Stationarity Test

Non-stationary data frequently produces inaccurate regression results, it is crucial to confirm whether the variables under consideration have a stationary character before conducting this test. To determine whether data are stationary, apply the ADF (augmented Dickey Fuller) and Phillips Peron test. In this investigation, an autoregressive distributed lag model is used to analyses the data.

Table 1. Unit Root Test

ADF Test		
Variable	At level	At 1stDifference
POV	2.025	-3.926
ECG	-0.125	-4.411
GX	-1.400	-4.820
FDI	-3.006	-3.803
HC	-1.823	-5.896
PP Test		
Variable	At level	At 1stDifference
POV	3.002	-3.912
ECG	2.320	-4.364
GX	-1.492	-4.820
FDI	-1.907	-3.657
HC	-1.741	-6.056

All variables, including poverty, economic growth, public spending, net inflows of foreign direct investment, and human capital, are non-stationary at the same level. At the first distinction, they become stationary.

Bound Test Results

The long-term co addition calculated F-values reveal an F-statistic of 4.831. Which confirms that the connotation between the variables over the long term is more than the upper bound?

Table 2. Bound Test Results

Linear regression distributed log(ARDL)	Auto	F-Statistic	Significance	(1)bound	(0) bound

Model				
	4.831	10%	2.45	3.52
		5%	2.86	4.01
		2.5%	3.25	4.49
		1%	3.74	5.06

Note= (1) show the lower bound and (0) show the upper bound.

Long Run and Short Run Results

The long-term data show that each factor has a big impact on poverty. For instance, the poverty coefficient is a high and favorable 0.174161, which. The coefficient of economic growth is considerable and favorable. Net inflows of government spending have a negative coefficient, whereas significant inflows of foreign direct investment and human capital have positive coefficients.

Table 3. Long Run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
POV	0.174	0.114	1.516	0.145
ECG	0.813	0.113	7.170	0.000
GX	-0.054	0.054	-1.008	0.325
GX (-1)	0.131	0.057	2.270	0.034
FDI	0.018	0.007	2.349	0.029
HC	0.036	0.027	1.349	0.192

Note: shows significant level at 10%, 5%, 2.5% and 1%.

Similar findings show that poverty has a positive effect on government spending in the short term. The correlation coefficients between economic growth, foreign direct investment, and human capital are all substantial and positive. But the impact of government expenditure is notably negative. The coefficient of financial progress is insignificant. However, the value of the GEXP time is negative and substantial, indicating the likelihood of a long-lasting alteration.

Table 4. Co integration Form

Variables	Coefficients	St. Error	t. statistics	Prob.
D(ECG)	0.813	0.113	7.170	0.000
D(GX)	-0.054	0.054	-1.00	0.325
D(FDI)	0.018	0.007	2.349	0.029
D(HC)	0.036	0.027	1.349	0.192

CointEg (-1)	-0.825	0.114	-7.191	0.000
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Note: shows significant level at 10%, 5%, 2.5% and 1%.

Diagnostic Test Results

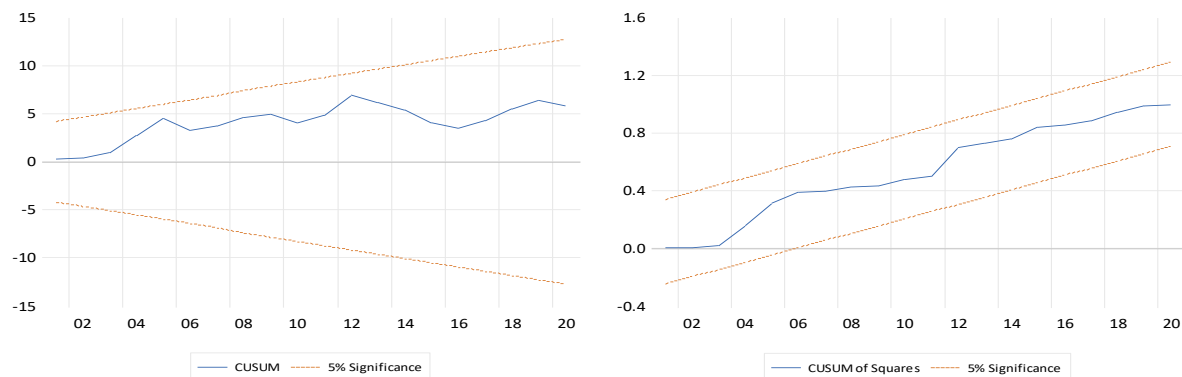
The diagnostic finding demonstrates that the entire model is unchanging and allowed from all significant problems, such as heteroskedasticity, normalcy, autocorrelation, and constancy.

Table 5. Diagnostic Test Results

R	0.998	D.W= 2.262
Adj. R	0.997	F-Value=22.731
JB Test	0.080	(0.960)
LM Test	1.357	(0.282)
Hetero Test	0.853	(0.586)
Stability(Ramsey) Test	0.066	(0.798)

Note: the numbers in () are showed p-values.

Though, the outcomes of CUSUM and CUSUMQ shows that general model is steady. Next statistics shows the significance of CUSUM and CUSUMQ



Conclusion and Policy Implications:

Conclusion

Our research aimed to shed light on the socioeconomic factors that contribute to poverty in Pakistan. The ARDL approach was used in this study to examine the relationships between the variables for the years 1986 to 2020. The study discovered favorable relationships between poverty and economic growth, net inflows of foreign direct investment, and human capital. Government spending has been linked negatively to poverty. The study suggests that policymakers create the policies in light of the findings w.r.t poverty, economic development,

public spending, net inflows of foreign direct investment, and human capital.

Implications of Research

Following policy implications are suggested for improvement the macroeconomic unrest;

- i. Pakistan government should employ international funding, extra regularly to money, infrastructure, project and progress the business and assets situation, which support to poverty elevation.
- ii. Government should make its economies more conducive to investment. If the government wants this innovation to succeed, it must support and encourage investment. To promote investment and financial development, governments might deploy a range of subsidy programmers.
- iii. Continued economic growth almost in Pakistan depends on recognized excellence. Almost every organization that has an impact on economic growth sees a proportional increase due to government requirement.
- iv. The conversation about funding delivery and international growth support needs to be prioritized in order to support financial development, as poverty is a common source of declining life worth and a key impediment to development in accordance with the natural programmed.

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