

## **PREVALENCE AND CORRELATES OF POVERTY IN PAKISTAN**

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### **Abstract**

*Poverty is one of the main problems faced by the Pakistani economy that hinders economic growth and development. To surge the key elements, involved in poverty, this paper examines the effect of remittances, terrorism, GDP at factor cost, public spending on education and urbanization, on poverty reduction by apply VECM techniques, on data slab 1971 to 2018. Scales of some variables were transformed to log form to normalize them. The Johansen Co-integration shows long run relationship amongst the selected variables. The empirical results reveal that remittances, GDP at factor cost, public spending on education and health significantly play its role to alleviate poverty. Government must take some necessary steps involved in remittances receiving by poor household. The social protection programs must be extended to rural areas of the country so more people can be benefited from such programs.*

**Keywords:** *Poverty, Terrorism, Urbanization, Remittances*

### **Introduction**

Pakistan has been facing internal as well as external security problems ever since the independence in 1947 from the British Empire. Pakistan faced 1965 and 1971 wars with India after its independence, the division of its eastern region, and consequences of the Soviet-Afghan war in 1980. Involvement in Afghan jihad in 1980s is counting as a root cause of current security challenges (Ahmad *et al.*, 2018) and according to figure No. 1, almost sixty-four thousand humans lost their lives during 2000 to 2019 (SATP, 2019). In Pakistan the phenomenon of terrorism became familiar after the incidence of 9/11 attack on Twin Towers by the terrorist group.

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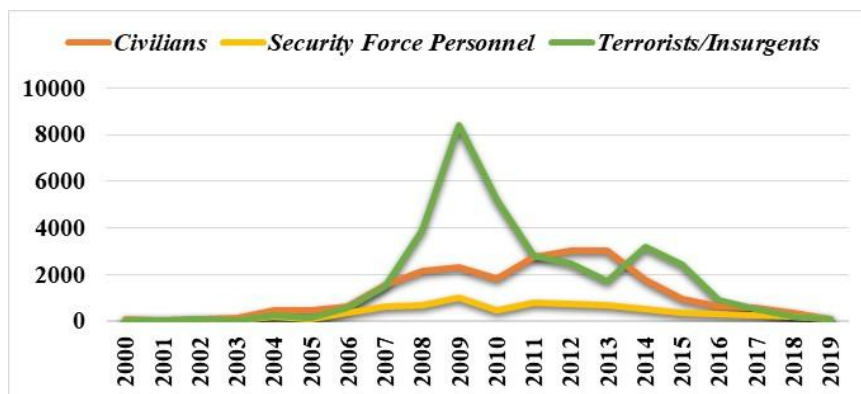
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Pakistan takes part in playing front role against war on terror. Several definitions of terrorism exist as every researcher defines it according to their understanding / phenomena. The Global Terrorism Database (GTD) has defined the terrorism as “threatening or original use of illegal power and violence by a non-state actor to achieve political, economic, religious, or social purpose through terror, intimidation or repression”. Relationship between peace and economic growth are inevitable as economic development cannot happen in the presence of terrorist activities (Zakaria *et al.*, 2019). The main determinant of economic growth is the accumulation of physical and human capital whereas terrorist activities put an end to both capitals and weakening of social and political institutions which negatively impacts economic growth (Khan *et al.*, 2016).

Domestic as well as foreign investments are reduced because a high level of violence is losing investors' confidence (Filer & Stanisic, 2016). Due to terrorist activities, investors transmit human and financial resources to the peaceful place and such process leads to downward economic growth (Çınar, 2017; Mehmood, 2014; Mubashra & Shafi, 2018). Further, in the absence of economic growth and development process, unemployment accrued to the highest level which ultimately increases the poverty headcounts in the country. In a developing country like Pakistan terrorist activities increased due to absence of social justice, poverty and inequality (Piazza, 2006). Terrorism increases poverty in three channels i.e. fiscal cost, economic cost and social cost (Ahmad, 2010).

**Figure 1: Fatalities in Terrorist Violence in Pakistan 2000-2019**

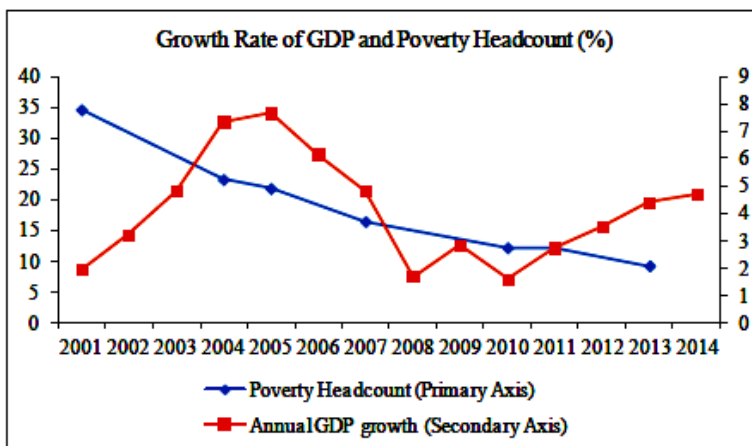


Source: South Asian Terrorism Portal

In terms of fiscal cost, poverty increases through the effectiveness of the revenue and development program. Government investment decreases due to reduction in revenues which ultimately cutoff the proportion of development programs while on the other hand, military expenditures will increase to

mitigate terrorist activities (Ali, 2010; Goldstein, 2005). In the existence of economic cost, the terrorist activities reduce investment opportunities, raise capital flight which ultimately increases demand/supply gap. In the presence of such activities, foreign investors transfer their investments to other countries where their portfolio meets and this act of shifting increases unemployment which ultimately leads to poverty. After all, social cost is also interrupted due to terrorist activities because it decreases standard of living, health and education facilities which are necessary to sustain life (Ismail and Amjad, 2014; Krieger and Meierrieks, 2011; Freytag *et al.*, 2010). According to Planning Commission of Pakistan, poverty headcount reduced from 54 percent to 24.3 percent from 2001-02 to 2015-16 (GoP, 2015-16) due to increase in economic growth and remittances. After the incidence of 9/11, Pakistan is playing front role in war on terror which has increased terrorist activities in the country and after 2001, the terrorist activities have become more sever. The factsheet of planning commission of Pakistan ignores effects of such insurgency. In figure No. 2, decline and upward trend can be observed in annual GDP growth rate from 2001 to 2014 whereas the poverty headcounts for the same period shows decline without any fluctuations and such effect of terrorist activities on poverty headcounts and GDP growth rate will be dug out in the present study. Also Pakistan faces Rs. 10762.64 billion rupees, directly or indirectly, in the fight against terrorism which has badly affected economic, commercial and normal activities. The basic research question of this paper is to see that how poverty decreased continuously in the presence of terrorist activities.

**Figure 2: GDP growth rate and Poverty Headcounts**



Source: World Bank data ([data.worldbank.org/country/pakistan](http://data.worldbank.org/country/pakistan))

## Literature Review

According to Aslam *et al.*, (2018); Blomberg *et al.*, (2011); Mirza & Verdier (2008); Crain & Crain (2006); Noar (2006) terrorism and economic growth have a negative relationship and it is detrimental for economic growth and development. Terrorism creates an environment where no multinational corporation and company feel safe and secured thus they shift their investment to the safe zone. It starts the capital flight which on the other hand increases unemployment along with government sector revenues (Barth *et al.*, 2006). The less developed economies have been more adversely affected by terrorism activities as it squeezes economic growth (Gupta *et al.*, 2004; Ocal & Yildirim, 2010) however, Meierrieks & Gries, (2012) found no relationship between economic growth and terrorist activities. In Pakistan some studies like Mubashra & Shafi (2018); Khan & Yusof (2017); Khan *et al.*, (2016); Hyder *et al.*, (2015); Mehmood, (2014); and Shahbaz *et al.*, (2013) investigated impact of terrorism on economic growth and found negative relationship of terrorism on economic growth. Process of economic growth and development was disrupted due to adverse effect of terrorism on domestic savings; internal capital formation, foreign trade, tourism, foreign investment, capital flight, brain drain and increase in military expenditure which ultimately increased government expenditures. Adams and Page (2005) investigated strong and statistically significant relationship between remittances and poverty for developing countries. Jongwanich (2005) found that improvement in domestic investment lead to positive and modest impact on economic growth in Asia-Pacific countries. The author further investigated that remittances directly reduce poverty by increasing the income level of poor people, smoothing out consumption pattern and increasing access of the poor people to capital. In Pakistan, Khan (2017) investigated that after 2007 growth slowdown increased the international remittances which strongly contributed to poverty reduction. Further, the Benazir Income Support Program (BISP) also played direct role in poverty alleviation. However, Shirazi *et al.*, (2018) found significant relationship between remittances, economic growth and poverty. Inflow of remittances in the country significantly contributes to economic growth and also enables the poor households to come out of poverty. In a micro-level study of more than forty thousand households in Punjab province, Kashif *et al.*, (2018) found significant relationship between household income with remittances and severity of poverty. In Pakistan, presently no study has yet analyzed the effects of terrorism on poverty and economic growth. The present study will seek to bridge this gap. The objective of this paper is to dig out the effects of terrorism on poverty and economic growth. In order to explore these effects, certain variables were identified and have been estimated through econometric techniques.

## Data and Methodology

Every country has its own perspective towards achieving the goal to overcome poverty headcounts. To explore relationship between poverty, terrorism and economic growth in Pakistan, the time series analysis will be carried out from 1971 to 2018. According to Planning Commission of Pakistan, poverty reduces due to urbanization, remittances and economic growth. In this paper remittances, urbanization and government spending will also be used to sort-out their effects on poverty. The Vector Error Correction Model (VECM) will be applied after Johnson Co-integration test and lag length selection criteria. The function form of the model is included as poverty is a function of Remittances, Terrorism, GDP factor cost, Urbanization, and Government spending on education and health (Ravallion and Chen, 1997).

Mathematical form of the model is

$$\Delta y_t = \xi + \sum_{i=1}^{k-1} \beta_i \Delta y_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta X_{t-j} + \dots + \lambda ECT_{t-1} + u_t$$

$$\begin{aligned} \Delta Pov_t = & \alpha + \sum_{i=1}^{k-1} \beta_i \Delta Pov_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta L_{Remit_{t-j}} + \sum_{l=1}^{k-1} \theta_l \Delta L_{Terr_{t-l}} \quad (2) \\ & + \sum_{m=1}^{k-1} \gamma_m \Delta Urban_{t-m} + \sum_{n=1}^{k-1} \rho_n \Delta PSEH_{t-n} + \sum_{p=1}^{k-1} \tau_p \Delta GDP_{t-p} \\ & + \lambda_1 ECT_{t-1} + u_{1t} \end{aligned}$$

$$\begin{aligned} \Delta L_{Remit}_t = & \vartheta + \sum_{i=1}^{k-1} \beta_i \Delta Pov_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta L_{Remit}_{t-j} + \sum_{l=1}^{k-1} \theta_l \Delta L_{Terr}_{t-l} \quad (3) \\ & + \sum_{m=1}^{k-1} \gamma_m \Delta Urban_{t-m} + \sum_{n=1}^{k-1} \rho_n \Delta PSEH_{t-n} + \sum_{p=1}^{k-1} \tau_p \Delta GDP_{t-p} \\ & + \lambda_2 ECT_{t-2} + u_{2t} \end{aligned}$$

$$\begin{aligned} \Delta L\_Terr_t = & \sigma + \sum_{i=1}^{k-1} \beta_i \Delta Pov_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta L\_Remit_{t-j} + \sum_{l=1}^{k-1} \theta_l \Delta L\_Terr_{t-l} \quad (4) \\ & + \sum_{m=1}^{k-1} \gamma_m \Delta Urban_{t-m} + \sum_{n=1}^{k-1} \rho_n \Delta PSEH_{t-n} + \sum_{p=1}^{k-1} \tau_p \Delta GDP_{t-p} \\ & + \lambda_3 ECT_{t-3} + u_{3t} \end{aligned}$$

$$\begin{aligned} \Delta Urban_t = & \delta + \sum_{i=1}^{k-1} \beta_i \Delta Pov_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta L\_Remit_{t-j} + \sum_{l=1}^{k-1} \theta_l \Delta L\_Terr_{t-l} \quad (5) \\ & + \sum_{m=1}^{k-1} \gamma_m \Delta Urban_{t-m} + \sum_{n=1}^{k-1} \rho_n \Delta PSEH_{t-n} + \sum_{p=1}^{k-1} \tau_p \Delta GDP_{t-p} \\ & + \lambda_4 ECT_{t-4} + u_{4t} \end{aligned}$$

$$\begin{aligned} \Delta PSEH_t = & v + \sum_{i=1}^{k-1} \beta_i \Delta Pov_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta L\_Remit_{t-j} + \sum_{l=1}^{k-1} \theta_l \Delta L\_Terr_{t-l} \quad (6) \\ & + \sum_{m=1}^{k-1} \gamma_m \Delta Urban_{t-m} + \sum_{n=1}^{k-1} \rho_n \Delta PSEH_{t-n} + \sum_{p=1}^{k-1} \tau_p \Delta GDP_{t-p} \\ & + \lambda_5 ECT_{t-5} + u_{5t} \end{aligned}$$

$$\begin{aligned} \Delta GDP_t = & \xi + \sum_{i=1}^{k-1} \beta_i \Delta Pov_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta L\_Remit_{t-j} + \sum_{l=1}^{k-1} \theta_l \Delta L\_Terr_{t-l} \quad (7) \\ & + \sum_{m=1}^{k-1} \gamma_m \Delta Urban_{t-m} + \sum_{n=1}^{k-1} \rho_n \Delta PSEH_{t-n} + \sum_{p=1}^{k-1} \tau_p \Delta GDP_{t-p} \\ & + \lambda_6 ECT_{t-6} + u_{6t} \end{aligned}$$

**Where**

Pov = Poverty Head Count Ratio

Remit = Remittances received in million US\$

Terr = Total No. of terrorism incidence

GDPfc = Gross Domestic Product at factor cost in million rupees

Urban = Urban population share out of total population

PSEH = Public spending on education and health as percent of Gross Domestic Product

$k - 1$  = the lag length is reduced by 1

$\beta_i, \phi_j, \theta_b, \gamma_m, \rho_n, \tau_p$  = short-run coefficients of the model's adjustment

$\lambda i$  = speed adjustment parameter

$ECT_{t-1}$  = the Error Corrector Term,

$\mu_{it}$  = residuals

## Result and Discussion

This section describes the results of the study and its conclusions. The results are discussed in two ways i.e. in first step data specification is discussed and in the second step, brief discussion is made on econometric analysis.

### A. Descriptive Statistics

The first step is to understand the behavior of selected variables in the model and to do descriptive analysis that help to understand the behavior of variables in the model.

**Table 1: A Descriptive/Summary Statistics**

Variables	Mean	St.Dev	Prob (Skewness)	Prob (Kurtosis)	----- joint -----	
					Adj_chi2(2)	Prob>chi2
<b>Poverty</b>	28.051	7.741	0.523	0.715	0.560	0.757
<b>Remit</b>	4682.625	5804.676	0.000	0.052	15.400	0.001
<b>Terr</b>	309.438	540.112	0.000	0.001	25.970	0.000
<b>Urban</b>	32.034	4.205	0.533	0.038	4.690	0.096
<b>Gdpfc</b>	6273,338	9215121	0.0001	0.0764	14.34	0.0008
<b>PSEH</b>	2.320	0.543	0.0021	0.0052	13.60	0.0011

*Source: Author own calculations.*

After examining descriptive statistics in Table No. 1A, it can be observed that some basic information about the variables and for the variables stability and representation averages are required to be stabled, but in the present case the summary statistics of remittances and terrorism are not healthy as expected. As noted, probability of skewness for remittances, terrorism, GDPfc and PSEH is less than 5 percent and in such case hypothesis of normal data is not accepted however rest of variables describe normal distribution. Also the large value of standard deviation than mean is an indication that such variables will produce spurious and misleading results. In such cases, scales transformation is considered as a good tool to normalize results of the said variables which bring them justifiable.

**Table 1B: Descriptive/Summary Statistics**

Variables	Mean	St. Dev	Prob (Skewness)	Prob (Kurtosis)	----- joint -----	
					Adj_chi2(2)	Prob>chi2
<b>Poverty</b>	28.051	7.741	0.523	0.715	0.560	0.757
<b>L_Remit</b>	7.71	1.344	0.263	0.798	1.380	0.501
<b>L_Terr</b>	3.944	2.351	0.590	0.005	7.170	0.028
<b>Urban</b>	32.034	4.205	0.533	0.038	4.690	0.096
<b>L_Gdpfc</b>	14.225	1.965	0.865	0.0020	8.28	0.0159
<b>PSEH</b>	2.320	0.543	0.0021	0.0052	13.60	0.0011

Source: Author own calculations.

As noted in Table No. 1B, scale transformation to logarithm increase the probability of skewness for remittances, terrorism and GDPfc i.e. 0.263, 0.590 and 0.865, respectively. Also the standard deviation of such variables moves toward half of their mean value i.e. 1.344, 2.351 and 1.65, respectively.

A rational matrix of correlation describes the degree of correlation between variables whereas it has been observed from Table No. 2 that all variables have negative correlation with poverty indicating that one score increase in remittances will reduce poverty and vice versa. In the correlation matrix there exists negative correlation between poverty and terrorism which indicates that people living below the poverty line and low education level are easily selected by the terrorist groups for terrorist activities (Krueger & Malečková, 2003). However, another reason of such inverse correlation between poverty and terrorism is the income gap between poor and rich people (Shaheen *et al.*, 2017; Enders & Hoover, 2012) and terrorism incidence can be reduced if income inequality reduces (Enders *et al.*, 2016; Goldstein, 2005).

**Table 2: Matrix of Correlations**

Variables	Poverty	L_Remit	L_Terr	L_GDPfc	Urban	PSEH
<b>Poverty</b>	1.000					
<b>L_Remit</b>	-0.752	1.000				
<b>L_Terr</b>	-0.683	0.726	1.000			
<b>L_GDPfc</b>	-0.661	0.840	0.866	1.000		
<b>Urban</b>	-0.655	0.855	0.865	0.996	1.000	
<b>PSEH</b>	-0.596	0.298	0.360	0.208	0.213	1.000

Source: Author own calculations.



## B. Econometric Analysis

Unit root test is to be considered important and mandatory when dealing with time series data. According to Granger *et al.*,(1974) that unit root problem in the series lead to misleading and spurious result. A variable has an order of integration and is stationary otherwise essential steps are taken to remove unit root from such series i.e. by taking difference form etc.

**Table 3: Tests for Unit Root**

Variables	ADF results			PP results		
	Intercept	Trend and intercept	None	Intercept	Trend and intercept	None
Poverty	-2.400	-2.000	-1.217	-2.468	-2.235	-1.191
D_Poverty	-5.536***	-5.573***	-5.603***	-5.515***	-5.560***	-5.589***
Remit	3.708***	1.013	5.527***	2.753***	0.529	4.267***
D_Remit	-4.007***	-	-3.540***	-4.015***	-4.018***	-3.524***
Terr	-1.524	-1.929	-1.179	-1.836	-2.370	-1.483
D_Terr	-8.264***	-8.175***	-8.256***	-9.497***	-9.403***	-9.213***
Urban	5.679***	4.688***	40.548***	2.912***	1.901	21.242***
D_Urban	-5.487***	-5.373***	0.010	-1.298	-1.178	-0.079
Gdpfc	12.577***	5.329***	16.80***	8.222***	3.542***	10.380***
D_Gdpfc	-5.013***	-5.638***	-1.406**	-5.127***	-5.706***	-1.055
PSEH	-2.542***	-2.575***	-0.109	-2.857***	-2.917***	-0.199
D_PSEH	-7.973***	-7.884***	-8.051***	-8.151***	-8.052***	-8.232***

\*, \*\*, \*\*\*  $H_0$  rejected at 0.10, 0.05 and 0.01 respectively

Source: Author own calculations.

Table No. 3 shows the Augmented Dicky Fuller (ADF) and Philips-Perron (PP) test for unit root which reveals that some variables are stationary at level while the rest are stationary at their first difference. Letter “D” mentioned in the prefix of each variable indicates their first difference. When then series is stationary at I (0) and I (1), we move towards lag length selection criteria and Johansen Co-integration test. Table No. 4 shows the lag length selection criteria and according to FPE, AIC, HQIC and SBIC the 2<sup>nd</sup> lag is the optimal lag.

**Table 4: Lag Length Selection**

Lag	LL	LR	Df	p	FPE	AIC	HQIC	SBIC
0	-389.467	-	-	-	1.73172	17.576	17.666	17.817
1	-8.046	762.840	36	0.000	3.8e-07	2.224	2.853	3.910
2	70.279	156.650	36	0.000	6.3e-08*	0.343*	1.510*	3.474*
3	104.925	69.294*	36	0.001	8.5e-08	0.403	2.110	4.980

Source: Authors own calculations

**Table 5: Johansen test for Cointegration**

Maximum Rank	parms	LR	eigenvalue	Trace Statistic	5% critical value
0	42	2.683	-	134.854	94.15
1	53	30.773	0.705	78.674	68.52
2	62	46.791	0.501	46.639*	47.21
3	69	59.083	0.414	22.054	29.68
4	74	65.334	0.237	9.552	15.41
5	77	70.006	0.183	0.208	3.76
6	78	70.111	0.004	-	-

Source: Authors own calculations

Table No. 5 reveals that there are two co-integration equations in the specified model and rejects the null hypothesis i.e. no co-integration exists amongst the variables. The next step is VECM instead of Vector Auto regression (VAR) model for the relationship amongst the variables.

**Table 6: Vector error-correction model**

	Coef.	St.Err.	t-value	P-value	[95% Conf	Interval]
L_ce1	-0.095	0.109	-0.87	0.386	-0.309	0.119
L_ce2	-0.046	0.921	-0.05	0.960	-1.851	1.760
LD.Poverty	0.128	0.174	0.73	0.465	-0.214	0.470
LD.L_Remit	-2.965	2.848	-1.04	0.298	-8.548	2.617
LD.L_Terr	0.031	0.548	0.06	0.955	-1.044	1.106
LD.L_GDPfc	7.962	13.502	0.59	0.555	-18.502	34.425
LD.urban	8.658	10.456	0.83	0.408	-11.836	29.152
LD.PSEH	-1.928	1.383	-1.39	0.164	-4.639	0.784
Constant	-0.832	10.342	-0.08	0.936	-21.101	19.437

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table No. 6 represents VECM result which indicates that long term relationship between poverty and other endogenous variables exists but statistically insignificant. The result verifies one condition for long run relationship i.e. negative sign of L.\_ce1 and L.\_ce2 however the second condition of such as significant t-value does not meet hence long run relationship exists between the selected variables but is insignificant. Further, Table No. 7 represents co-integration equations which show high probability values.

**Table 7: Co-integration equations**

Equation	Parms	Chi2	p>chi2
_ce1	4	48.521	0.000
_ce1	4	29.999	0.000

Source: Authors own calculations

In table No. 8, Johansen normalization restriction imposed or long run relationship amongst the variables are presented. In the second co-integration equation terrorism and public spending on education and health are statistically significant. The incidence of terrorism brings instability and disrupts the economic performance which reduces the income level of people (Krueger & Malečková, 2003). Poverty and terrorism have positive but statistically significant relationship which reveals that due to disruption of business activities people vulnerable to poverty become poor (Shaheen *et al.*, 2017; Enders & Hoover, 2012). Terrorism incidence can be reduced by reducing income inequality and regional disparity (Enders *et al.*, 2016; Goldstein, 2005). The regression coefficient of gross domestic product at factor cost has negative and statistically insignificant relationship with poverty head count ratio (Yoshinuet *et al.*, 2018; Abduvaliev *et al.*, 2019). The GDP can reduce poverty in many ways like investment, rules of laws, macroeconomic stability and infrastructure etc. (Thurlow *et al.*, 2019; Musakwa & Odhiambo, 2019). Urbanization and poverty head count ratio has negative and statistically insignificant relationship. The result is also identical to the statement of Planning Commission of Pakistan that rapid urbanization is responsible for poverty reduction because rapid urbanization creates more opportunity subject to their plan and adaptation (Datt *et al.*, 2016; Christiaensen & Kanbur, 2017; Christiaensen *et al.*, 2013; Arouriet *et al.*, 2017; Liddle, 2017; Su, 2019; Chen *et al.*, 2019). Public spending on education will heighten economic growth and reduce income inequality and poverty head count and such spending has based upon the return of social rate (Rossignolo, 2017). The social rate of return is originating low in tertiary education however it is high on spending on primary education (Gupta *et al.*, 2002). There is a negative relationship between public spending on education and poverty (Bursztyn, 2016; Dissouet *et al.*, 2016). Poverty head count reduces due to increase in government expenditures on

public goods and services i.e. education and health sectors (Dankumoet *al.*, 2019; Johnson & Jackson, 2019).

**Table 8: Johansen normalization restriction imposed**

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]
_ce1	-	-	-	-	-	-
Poverty	1	-	-	-	-	-
L_Remit	0	(omitted)	-	-	-	-
L_Terr	8.691	0.157	5.83	0.000***	5.768	11.614
L_GDPfc	0.127	1.338	0.04	0.992	-24.664	24.919
Urban	0.108	0.68	0.16	0.874	-1.225	1.441
PSEH	0.743	0.258	2.87	0.004***	0.236	1.251
Constant	-24.872	-	-	-	-	-
_ce2						
Poverty	0	(omitted)				
L_Remit	1	-	-	-	-	-
L_Terr	-0.571	0.158	-3.61	0.000***	-0.879	-0.261
L_GDPfc	0.047	1.338	0.04	0.972	-2.576	2.671
Urban	0.108	0.68	0.16	0.874	-1.225	1.441
PSEH	0.743	0.258	2.87	0.004***	0.236	1.251
Constant	-24.872					

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Source: Authors own calculations

Table No. 9A and 9B represent the diagnostic tests which reveal that no autocorrelation exists as shown, the probability values are insignificant meaning that we reject the null hypothesis and accept alternative hypothesis. Further, Part-B represents the model stability by using eigenvalue stability condition. The VECM specification imposes 4 unit moduli meaning that eigenvalues are listed below 1 which indicates good model specification.

**Table 9A: Diagnostic test for autocorrelation (Lagrange-multiplier test)**

Lag	chi2	Df	Prob>chi2
1	36.762	36	0.433
2	33.631	36	0.581

Source: Authors own calculations

**Table 9B: Model Stability (Eigenvalue stability condition)**

Eigenvalue	Modulus
1	1
1	1
1	1
1	1
$0.9610043 + 0.9734694i$	0.965922
$0.9610043 - 0.9734694i$	0.965922
$0.235482 + 0.448276i$	0.506363
$0.235482 - 0.448276i$	0.506363
$-0.00760988 + 0.4245381i$	0.424606
$-0.00760988 - 0.4245381i$	0.424606
0.394717	0.394717
-0.1861498	0.18615
The VECM specification imposes 4 unit moduli.	

Source: Authors own calculation

## Conclusion

The desired results were obtained through VECM by taking time series data from 1971 to 2018. The results show that remittances, GDP at factor cost, urbanization and public spending on education are highly significant at one percent level of significant. The results of this study provide specific political implications for developing countries such as Pakistan, where measures taken to increase remittances, GDP, etc. are an important decision in terms of limited resources to reduce poverty head counts. The results also indicate that terrorism incidence can be controlled if income inequality and regional disparity reduce. Government must take some necessary steps involved in remittances received by poor household. The government of Pakistan must introduce minimum tax slab for receiving remittances through legal sources i.e. commercial banks or other registered companies like Western Union etc. which on the other hand will reduce the illegal business activities of *Hundi* and *Hawala* famous for remittances sending/receiving. The social protection programs like People's Berozgar Scheme, Social Health Insurance, Workers Welfare Fund, Zakat and Ushr, BISP must be extended to rural areas of the country so more people can be benefited from such programs.

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