Dilemma of Alliances in Afghan Wars and its Impact on Crimes in Pakistan

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ABSTRACT

During the last few decades, the conflict and instability in Afghanistan had extremely deleterious repercussions in Pakistan. Pakistan has experienced not only huge arrival of Afghan refugees into Pakistan, but also witnessed a huge increase in the criminal activities in the country, particularly in consequence of 9/11 incident. This study explores the impacts of Pakistan's alliances in Afghan wars (during Russian invasion and USA hostile incursion after 9/11) on crimes in Pakistan. Time series data from 1973 to 2011 has been used, Auto Regressive Distributed Lag (ARDL) model has been applied for estimation of results. The findings revealed that both alliances had incremental impact on criminal activities in Pakistan, however it was anti-Taliban alliance, with NATO during U.S.A invasion in Afghanistan after 9/11 incident, that was found to be the most significant determinant of increasing criminal activities in Pakistan.

KEYWORDS: Afghanistan, Pakistan, Russia, USA, 9/11, Taliban, Crimes, ARDL

JEL Classification: F51, F59, N4

INTRODUCTION

During the last decade, particularly after the 9/11 incident, Pakistan has observed unusual proliferation in criminal activities both terrorist (suicide attacks, bomb blasts) and non-terrorist (Murder, Target killing, Kidnaping, Docaity) crimes. These activities in Pakistan have proved to be more devastating than in any other country and none of the provinces or even cities in Pakistan is insulated from their effects today. They not only inflict the pains and sufferings on its victims but also have significant economic costs as well. Increasing crime rate, particularly terrorist crimes, force the political authorities to divert major part of public finance towards security issues and maintenance of law and order in the country. Likewise, high crime rate creates environment unconducive for production of goods and services. Investment in an economy, both by domestic and foreign investors, is more likely to be discouraged by increase in such activities. Therefore, crime has become a priority in national policy agenda of Pakistan given its pernicious social and economic effects.

Afghan Wars are now considered as one of the fundamental reasons of rising terrorist crimes in Pakistan. The rugged land of Afghanistan was first invaded by the former USSR, and after its withdrawal, it was again invaded by America in order to establish so-called democratic structure and to culminate Taliban Regime. Pakistan has been major key player in both these wars in Afghanistan during the last three decades. Pakistan supported Taliban with the help of USA and other influential stakeholder economies during the Soviet invasion in this rugged land. There was a colossal migration of masses from Afghanistan to Pakistan during soviet invasion in Afghanistan. Almost one fifth of Afghanistan migrated to the refugee camp in Pakistan during that war. Although Pakistan received generous aid during the Afghan-Soviet war however after the end of the war the amount of foreign aid considerably shrunk. Moreover, lack of proper planning regarding this massive influx of population with either no or peppercorn literacy contributed towards the rise of both terrorist and non-terrorist crimes, in the so-called spirit of religion in Pakistan.

There exist significant literature on crime and its social, economic and demographic causes. Researchers have attributed unemployment and illiteracy as the major driving forces for crime. Considerable number of studies also highlighted the importance lawlessness, income inequality, inflation, low wage rate, high population and various other factors in the development of crimes in Pakistan [3; 19]. However, none of the researches highlighted the indispensable role of Afghan war i.e. Pakistan's alliance and anti-alliance with Talibans in the development of criminal activities in Pakistan.

Therefore, in the present study we attempted to explore the impacts of various determinants of crimes particularly Pakistan's alliance and anti-alliance with Taliban during the foreign invasion in Afghanistan on the

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criminal activities in Pakistan. This study would help us understand the empirical impacts of Pakistan inclusion in Afghan war on the rising criminal activities in the country. Moreover, the results would help the policy makers and government to find the answers to this critical and mounting problem.

The present study is organized in the following manner. Literature on crime and its determinants along with empirical support have been reviewed in Section II. We have discussed the fundamental model and methodological issues in conduct on this research in Section III. Results have been presented and discussed in sufficient detail in Section IV. Section V is dedicated to policy recommendations and conclusion on the basis of our findings so that we can draw a roadmap to trim down the criminal activities in Pakistan.

II. LITERATURE REVIEW

The evolution of the research on the economic aspect of crimes was just started about three decades ago. Criminals were considered as persons having unusual motivations before 1970. At that time, theory of crime was based upon the beliefs of sociologists, psychologists and law professionals rather than rigorous scientific investigation. [6] Did a seminal work in the field of criminology. He explained the phenomenon of impacts of variation in probability and severity in legal penalty on the likely payoffs, which in turn affects the decision of criminals regarding conduct of crime or in economic terms "Supply of Crime".[15] Incorporated the time allocation assumption in the basic work of [6]. He assumed that every individual dedicates fixed time to leisure whereas remaining time is allocated between legal and illegal activities. He predicted that if payoffs from legal activities are low or opportunities to earn legally are less, then an individual will more likely to be involved in criminal activities. [17] Conducted a study to estimate the impact of costs benefit analysis of choice between legal and illegal earning sources on crimes. He finds that amount of fine and length of sentence imposed as a result of being caught for some crime is negatively correlated with crime. However, the impact of income level on crime is non-systematic as high income can be considered as benefit from point of view of both legal and illegal activities. During 1980's there has been less emphasis on theory of crimes. However, after 1990, economics of crimes have been keen area of interest [16; 27] severity of unemployment in European Union and Western countries diverted the attention of many economists from analysis of deterrence hypothesis towards analysis of impact of unemployment, inflation, migration, income inequality and other social and demographic factors on crime. Some researchers have also performed the task to estimate the loss of criminal activities in monetary terms. For example, [2] conducted a study in which he quantified the direct and indirect costs of crimes in the U.S.A. He included loss of life and property, outlays on private security in the direct costs and anxiety and fear caused by all kinds of crimes in the society as indirect costs. He finds that America suffers approximately one million dollar annually on account of criminal activities only.

The nexus between crime and unemployment is explored by [38] who finds that there exists a positive association between unemployment and property crimes whereas impact of unemployment on violent crimes is substantially weaker. [28] Examined the effect of education on criminal activities in the USA. He used the annual data ranging from 1960 to 1990. He concluded that education plays a positive role in reducing crime rate in USA and it is negatively associated with crime rate. One of his major findings is that there exists no significant difference in impact of black and white people on criminal activities in USA. Whereas [21] challenged these findings and concluded that ethnicity or number of blacks in a city has strong positive relationship with the crime in the cities of USA.

 [25] Also investigated the nexus between unemployment and crime in San Diego, USA. He concludes that apprehension rate is crucial in the examination of relationship between unemployment and crime and there exists negative relationship between unemployment rate and crime rate in the presence of low apprehension rate and vice versa. [11] Looked into the impacts of income inequality and poverty on criminal activities in USA. They find positive relationship between income inequality, structural shift and poverty on number of criminal activities in USA. [1; 5] find that Unemployment has significant impact on not only total crimes but also on the various forms of crimes. They further explain that unemployment among males with low literacy is relatively stronger driving factor of crime in European countries. [36] Show in their study that unemployment is significant determinant of crime in New Zealand. [14; 20] confirmed the same findings for Sweden. In addition to that, results of study conducted by [20] reveal that youth unemployment is considerably more important determinant of crime than overall unemployment.[9] examined the relationship between unemployment, income inequality and crime rate in Argentina and its results verified the existence of significant positive relationship between income inequality, measured by Gini co-efficient, unemployment and crime rate. It has been observed that income inequality is superior antecedent of property crime however, it has no significant impact on violent crime in London [32].The influence of inflation and unemployment on crime rate in Malaysia was investigated by [40]. He finds that inflation and unemployment are positively related with crime rate in the long run however,

inflation has no significant impact on crimes in the short run. [8] Explored the validity of social demographic and economic factors in determination of crime in Spain. They find that property crimes are largely influenced by social and economic factors like GDP growth, unemployment and education etc. however, demographic factors are significant in the determination of violent crimes.

Sometimes Labor market conditions may be extremely important determinant of crime rates. [26] Explored the relationship between unemployment and different subcategories of crime in Asia Pacific Region. He studied Japan, Australia and South Korea. He also verified the existence of significant positive long run relationship between labor market conditions i.e. unemployment and subcategories of crimes. [18] Examined the antecedents of crime in Latin America. They found that lower level of income and deterrence factor are significantly positively related to the crime rate. [10] Contributed in literature regarding the role of macroeconomic factors in determination of crime rate. They conclude that inflation rate, unemployment rate and poverty are positively associated with crime. Whereas, [41] found that monetary policy impacts the crime via channel of inflation and fiscal policy also affect the crime via channel of government expenditures.

Social, economic and demographic antecedents of crime rate in Iran are examined by [22] in their study. The findings of their study reveal that economic variables like family income and unemployment are significant determinants of crime whereas demographic factors like migration and population density etc. affect only some of the subcategories of crime. They suggest that the effective use of economic policies to increase economic growth can help to curb crimes in Iran. However, [13] find in their study that both socioeconomic and demographic factors are significant determinant of crime in India. [33] Finds that low per capita income, high population density and poor performance of law enforcement agencies are basic reasons for crime in Nigeria. They suggest population control measures and amelioration in law enforcement to control the crime in Nigeria. However, attention towards economics of crime in Pakistan is quite recent phenomenon, which can be attributed to sudden rise in terrorism activities and crimes during last decade after 9/11 incident. Many researchers tried to explore the determinants of crime and the crux of these studies has been given as follows.

Psychological factors that influence crime among females in Sindh province, Pakistan are investigated by [7]. She conducted surveys and interviews to collect the data for various independent variables i.e. age, profession, income of family members and marital status etc. and dependent variables i.e. Theft and robbery, murder and sexual crime etc. in this study. She applied Logit model for estimation of results and her results revealed that the psychological factors are significant determinant of crimes among females in Sindh, Pakistan. She suggested that the improvement in literacy of females in Sindh, Pakistan would help to reduce the crime ratio among females.

[29] Examined the factors that are responsible for juvenile crimes in Faisalabad and Bahawalpur districts of Punjab, Pakistan. They studied 221 juvenile criminals of these districts. The findings of the study show that honor killing is one of the major determinants of most of these juvenile crimes in Faisalabad and Bahawalpur. Moreover, income of family, personal income and land dispute are also found to have significant impact on juvenile crimes in these two districts of Punjab, Pakistan.

[19] Worked on the determinants of crimes in Pakistan. They utilized the annual time series data on variables like inflation, unemployment rate, poverty and criminal activities in Pakistan ranging from 1975 to 2007. Their results indicate that unemployment rate, inflation rate and poverty are significant positive determinants of crime in Pakistan. The tendency of crime among youth having age between 15 to 29 in Gujrat, Pakistan has been investigated by [39]. They collected their data from various police stations of Gujrat, Pakistan during January 2010 to February 2011. The crimes committed by youth in Gujrat were mainly theft, robbery, abortion and murder. The authors suggested that improvement in crime reporting system and arrangement of counseling sessions with youth by the police would have a positive impact on youth. [37] Analyzed the impacts of inflation, unemployment, human capital and investment on crime in Pakistan. They used annual data ranging from 1980 to 2010. They conclude that human capital i.e. health and education has significant impact on crime however, they find no significant impact of unemployment and inflation on crime in Pakistan. In addition to that, investment has significant negative relationship with crime. Recently, [24] worked on the impact of urbanization and income inequality on crime in Pakistan. They used time series data ranging from 1964 to 2008. They concluded that recent trend of urbanization has significant positive relationship with crimes in Pakistan. Moreover, they recommended that Government of Pakistan should ensure fair employment opportunities in rural areas as well. Similarly, [3] also investigated the determinants of crime in Pakistan. He used time series data and simple Ordinary Least Square (OLS) technique for estimation of results. He concluded that wage rate, literacy, GDP and consumption level have strong positive relationship with crime in Pakistan. Table.1 presents the apportionment of total number of crimes reported by type, which indicates that they are on increasing trend particularly kidnaping/abduction, Dacoity and Robbery has proliferated, target killing of religious, political leaders and high official of law enforcing agencies was also on rise.

Kidnaping was also on increasing trend. It is worth mentioning here that kidnaping also includes the kidnaping of high bureaucrats, political leaders etc. by terrorists.

Table.1 Crimes reported by type (Numbers) in Pakistan during last decade

Year	All Reported	Murder	Attempted Murder	Kidnapping/ Abduction	Dacoity	Robbery	Burglary	Cattle theft	Other theft
2001	378301	9528	11433	6546	1372	7672	13057	5542	18546
2002	399568	9396	10945	6938	1631	8235	13318	5420	18363
2003	400680	9346	11562	8450	1821	8434	13049	6742	20189
2004	440578	9719	12678	9637	2338	11851	13647	7924	22024
2005	453264	9631	12863	9209	2395	12199	12067	11884	24793
2006	537866	10048	13729	10431	2895	14630	12872	13327	31166
2007	538048	10556	13840	10725	3260	16639	12067	9388	29493
2008	592503	12059	15083	15135	4529	19943	14943	8880	36023
2009	616227	12491	14962	16313	4457	19138	15073	9456	35697
2010	652383	13208	15478	18556	4727	21907	16638	8373	37878
2011	673750	13860	15496	19806	4980	20632	18195	9345	42223

Crimes: Data relates to the number of crimes reported to the police and not the number of persons involved.
Source: Pakistan Bureau of Statistics.

III. Model specification

More than fifty thousand Pakistani nationals died, more than five thousand personnel of law enforcing agencies and renowned religious and political leaders lost their life in this war against the terrorism. In table.2 below, some figures are presented about the losses suffered from the war against the terrorism after 9/11 by economy of Pakistan. It shows that the cost of war to Pakistan has consistently been increasing and during the years 2009-10, 2010-11, it was on peak and those were the years immediately after the military operation launched against terrorists in Swat area, this era can be considered as the "retaliation period". The total cost to Pakistan economy after 9/11 is estimated to be approximately 102.51 billion US$. Table. 3 Below provides the summary of losses caused to Pakistan economy in various sectors during last three years. The prevailing situation of exasperating criminal activities disrupted routinely economic and trading activities of Pakistan, the result of which was not only huge cost to business but also instability in production process, resulting in delays in fulfilling the export orders around the world. Consequently, Pakistani products have gradually lost their market share against their competitors. Correspondingly, the pace of economic growth of the country slowed down significantly, demand for exports declined, revenue collection decreased and foreign inflow of investment curtailed. Increasing trends of investment outflows from economy has further added to the miseries of deteriorating performance of the export oriented industries in Pakistan. Pakistan requires mammoth resources to enhance productive capability of the economy by restituting damaged infrastructure and to create a favorable investment climate. The security situation will be the key determinant of future flow of the investment. Pakistan's economy needs an early end to the conflict in Afghanistan as well as its negative impacts on invariably all domestic regions, in the form of violent extremism and terrorism, for revival of the economy and to keep stabilize the system.

Table. 2 Cost of War against Terrorism to Pakistan: 2001-2014

Years	$ Billion	Rs. Billion	% Change
2001-02	2.67	163.90	-
2002-03	2.75	160.80	3.0
2003-04	2.93	168.80	6.7
2004-05	3.41	202.40	16.3
2005-06	3.99	238.60	16.9
2006-07	4.67	283.20	17.2
2007-08	6.94	434.10	48.6
2008-09	9.18	720.60	32.3
2009-10	13.56	1136.40	47.7
2010-11	23.77	2037.33	75.3
2011-12	11.98	1052.77	-49.6
2012-13	9.97	964.24	-16.8
2013-14*	6.69	701.26	-32.9
Total	102.51	8264.40	

* Estimated on the basis of 9 months actual data (Jul-Mar) Source: Economic Survey of Pakistan 2013-14
Table. 3 Summary of Losses due to Terrorist Attacks (Million US$)

S.No	Organization	Years			Total
		2011-12	**2012-13**	**2013-14***	
1	Exports	1237.00	730.00	323.13	2290.13
2	Compensation to Affectees	24.28	20.96	13.97	59.21
3	Physical Infrastructure	1266.18	766.99	437.36	2470.53
4	Foreign Investment	4597.00	210.00	3260.00	8067.00
5	Privatization	277.00	4719.46	0.00	4996.46
6	Industrial Output	331.69	308.49	129.61	769.79
7	Tax Collection	2431.76	2315.79	1732.39	6479.94
8	Cost of Uncertainty	121.83	50.34	32.61	204.78
9	Expenditure Over run	111.96	324.58	207.98	644.52
10	Others	1398.88	522.00	556.65	2477.53
	Total Losses	11797.58	9968.61	6693.70	28459.89

* Estimated on the basis of 9 months actual data (Jul-Mar)   Source: Economic Survey of Pakistan 2013-14

The model used in this study to determine the antecedents of crime in Pakistan is as follows:

$$CRIME_t = \alpha + \beta_1 D1 + \beta_2 D2 + \beta_3 INF_t + \beta_4 PDSTI_t + \beta_5 UNEMP_t + \mu_t \quad \ldots\ldots\ldots\ldots.1$$

Whereas:

CRIME= Total number of crimes that have been reported to police. **D1**= the dummy variable for pro-Taliban alliance with NATO during Russian invasion in Afghanistan. This variable assumes the value 1 for the time period from Russian invasion (1979) in Afghanistan to withdrawal (1989) of its forces and 0 for the other years, it was the period during which NATO, Pakistan government and Taliban were on the same table having the same line of action. **D2**= the dummy variable for anti-Taliban alliance with NATO during U.S.A invasion in Afghanistan after 9/11 incident. Hence, this dummy variable assumes the value 1 for the years after 9/11 and 0 for all the preceding years under consideration. **INF** = the inflation rate measured by consumer price index. **PDSTI**= population density per sq. Kilometer. **UNEMP**= unemployment rate and finally μ is the error term.

The econometric methodology that we have used in our study (ARDL model) was at first developed by [34]. This model has some very attractive properties that make it better measurement technique. The advantages involved in this methodology are: at very first as per [34] this methodology gives consistent estimates of the long- run coefficients that are asymptotically normal, regardless of the integration order of the independent variables, they may be either I(0) or I(1) or mixed, however it requires that the dependent variable should be I(1).In present study the independent variables are having mix order of integration i.e. some are I(0) and some others are I(1), therefore this methodology is preferable. Secondly, ARDL model gives unbiased estimates of the coefficients of the long run and t statistics are valid even if there is any possibility of endogeneity of some of the independent variables [23].Thirdly ARDL model has better statistical properties than the two-step Engle and Granger approach, as the unrestricted error correction model does not push the dynamics into the residual term [4]. Finally, ARDL model has very good small sample properties as compared to alternative econometric techniques; multivariate co-integration [30; 31]. The representative model for auto regressive distributed lag (ARDL) approach to co-integration for our study is given below.

$$\Delta CRIME_t = \alpha_0 + \beta_1 CRIME_{t-1} + \beta_2 INF_{t-1} + \beta_3 PDSTI_{t-1} + \beta_4 UNEMP_{t-1} + \beta_5 D1_t + \beta_6 D2_t$$

$$+ \sum_{i=1}^{N} \delta_i \Delta CRIME_{t-i} + \sum_{i=0}^{N} \theta_i \Delta INF_{t-i} + \sum_{i=0}^{N} \eta_i \Delta PDSTI_{t-i} + \sum_{i=0}^{N} \varphi_i \Delta UNEMP_{t-i} + \mu_t \quad - - - (2)$$

In the above equation, short run and long run behavior are presented. For short run coefficients δ, θ, η, φ have been used and long run dynamics has been represented by β_1, β_2, β_3, β_4, β_5 and β_6. Δ is the first difference operator and N refers the optimal lag length.

Firstly, in order to apply ARDL approach, we have to estimate equation 2 given above by using Ordinary Least Squares (OLS) method. We have to test the presence of co-integration by restricting all the coefficients of the lagged level variables equal to zero. The null hypothesis of no co-integration $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$ is tested against the alternative hypothesis of $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0$. We have applied the F test for this purpose. As a result of this test, we have two asymptotic critical value determined on the basis of integration level of variables i.e. I(0) or I(1) or a mixture of both. If the test statistic value is higher than their upper critical value, then null hypothesis is rejected and it is concluded that there exists significant evidence for co-integration among variables. If the test statistic value is lower than their lower critical value then we cannot reject the null hypothesis of no co-integration and it is concluded that there exists no sufficient evidence of co-integration among variables. If the value is lower than upper bound and higher than lower bound or, in other words, it lies between bounds then it implies that the result is inconclusive.

If we find that there exists significant evidence for long-run relationship among variables, then equation (2) is estimated by using optimal lag length selected through appropriate assorted lag-selection criterion. At the second stage of the *ARDL* co-integration procedure, we can also obtain the ARDL representation of the error-correction model. To estimate the speed with which the dependent variable adjusts to independent variables, following [34], the lagged-level variables in equation (2) are replaced by ECT_{t-1} as in equation (3):

$$\Delta CRIME_t = \alpha_0 + \sum_{i=1}^{N} \delta_i \Delta CRIME_{t-i} + \sum_{i=0}^{N} \theta_i \Delta INF_{t-i} + \sum_{i=0}^{N} \eta_i \Delta PDSTI_{t-i} + \sum_{i=0}^{N} \varphi_i \Delta UNEMP_{t-i} + \gamma ECT_{t-1} + \mu_t - (3)$$

If the value of γ i.e. coefficient of ECT_{t-1} is negative and statistically significant then it may provide information regarding the speed of adjustment and in addition to this, it also provides an alternative evidence of existence of co-integration among variables included in the model.

IV. RESULTS AND DISCUSSION

In ARDL approach it is not necessary to pretest the variables included in the model, for unit roots just like we do it in other techniques, such as the Johansen approach [34; 35]. However, we test for the presence of unit roots to exclude the possibility of I (2) variables. if there is any regressive in the model having order of integration I(2), then F test critical values are not more valid because they are based on the assumption that variables are either I(0) or I(1). Augmented Dickey Fuller (ADF) test [12] has been used to test for unit roots in the variables. Given below are the results of Augmented Dickey Fuller (ADF) unit root test for each variable.

Table. 4 Augmented Dicky Fuller (ADF) Unit Root Test

Variables	Values at Level			Values at First difference			Order of Integration
	Test Statistic critical values at 5%	Calculat-ed Test Statistic	P-Values	Test Statistic critical values at 5%	Calculat-ed Test Statistic	P-Values	
CRIME	-2.941145	-0.005395	0.9522	-2.945842	-5.118549	0.0002	I(1)
INF	-2.941145	-3.272981	0.0233				I(0)
PDSTI	-2.963972	-3.882845	0.0059				I(0)
UNEMP	-2.941145	-1.499801	0.5229	-2.943427	-5.732067	0.0000	I(1)

The results of unit root test reveal that CRIME and UNEMP are integrated of order I(1) while INF and PDSTI are integrated of order I(0) while D1, D2 are dummy variables so there is hardly any theoretical reason to check unit root problem for dummy variables so they have not been checked for unit root . None of the variables used in our study is integrated of order I (2) and dependent variable is integrated of order I (1), so we can apply ARDL approach for the estimation. We have already discussed that before applying ARDL approach to co-integration, we have to ensure significant evidence for the presence of co-integration among variables by restricting all the coefficients of the lagged level variables equal to zero by using F-test.

Table.5 Bounds Test for Co-integration Relationship

Critical Value Bounds of the F-Statistic				
K	5% level of significance		10 % level of significance		Calculated F Statistics
6	Lower bound 2.4256	Upper bound 3.8083	Lower bound 1.9905	Upper bound 3.2222	4.2189

The results of the bound testing approach shows that the value of Calculated F Statistics is 4.218 which is higher than upper bound value of 3.80 at 5% level of significance and 3.22 at 10 % level of significance, so we reject the null hypothesis of no co-integration and conclude that there do exist co-integration between total number of crimes in Pakistan and our explanatory variables. As we have found sufficient and significant evidence of co-integration relation among the variables, now the next task is to estimate the long run coefficients. Table.7 given below shows the results of VAR lag order selection criteria and here we find that the maximum lag length to be used in our model is 2 according to most of the criteria. Hence, optimal lag length of 2 is used in the estimation.

Table.7 VAR Lag Order Selection

VAR Lag Order Selection Criteria						
Endogenous variables: CRIME D1 D2 INF PDSTI UNEMP, Exogenous variables: C , Sample: 1973- 2011						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-789.9122	NA	1.95e+11	43.02228	43.28351	43.11438
1	-485.6817	493.3466	101089.2	28.52334	30.35195*	29.16801
2	-424.1901*	79.77298*	29903.94*	27.14541*	30.54140	28.34265*

* indicates lag order selected by the criterion, LOGL: Log Likelihood, LR: sequential modified Likelihood Ratio test statistic (each test at 5% level), FPE: Final Prediction Error, AIC: Akaike Information Criterion, SC: Schwarz information Criterion, HQ: Hannan-Quinn information criterion.

Table. 8 Long Run Results ARDL, Dependent Variable: CRIME

Independent Variables	Coefficients	Standard Errors	T-Ratios	P-Values
D1	5068.0	16956.2	.29889	0.767
D2	63909.6	23619.9	2.7058	0.012***
INF	5774.2	1997.1	2.8913	0.007***
Pdsti	4504.6	345.4551	13.0398	0.000***
UNEMP	-36953.1	8597.4	-4.2982	0.000***
c	-224472.9	45337.7	-4.9511	0.000***

*** indicates significant at 1% level of significance

Table.8 shows the results of ARDL approach for long run; D1 is the first variable of interest, which is a dummy variable for Pakistan's Government pro-Taliban alliance with U.S.A during the period of Russian aggression in Afghanistan. This variable has a positive sign which implies that this alliance had positive relationship with increase in number of crimes in Pakistan. However, this relationship was found to be statistically insignificant. Although this alliance was pro-Taliban but still it has positive sign which might be due to the fact that, it is generally human nature that after acquiring unimpeded power, one consider himself above law and less likely to be remain nonviolent, especially in developing economies owing to number of reasons i.e. lack of sufficient level of education and enforcement of law etc. The same can be applied to Pro-Taliban era that Pakistan's Government provided unconditional support and unrestrained power to Taliban, which eventually turned out to be in our own detriment in the form of rising number of crimes. D2 is also a dummy variable for anti-Taliban alliance of Government of Pakistan with U.S.A after 9/11 tragic incident. We find that this variable also has positive sign and statistically significant as well. Therefore, we can confidently conclude that this alliance was the major factor that caused upsurge in total numbers as well as intensity of crimes in Pakistan. This finding is also quite in line with the ground realities as we have observed that most of the crimes in last decade have direct or indirect linkage with Talibans with the help of their facilitators with in Pakistan and outside Pakistan. The volte-face of Pakistan's foreign policy from pro-Taliban to anti-Taliban after 9/11 resulted in conflict of interests between Government of Pakistan and Talibans. Consequently, Taliban nemesis for Government of Pakistan and Pakistan economy as Talibans were having both power and resources so, there was no reason for them to remain non-violent against the Government of Pakistan. Inflation measured by Consumer Price Index is also included in our model as explanatory variable which was found to have positive and statistically significant on crimes in Pakistan. That is primarily because inflation distorts the purchasing power of the consumers; subsequently people lose their purchasing power and become relatively impecunious. Therefore, rapid increase in inflation makes people more likely to be involved in criminal activities like theft and burglary, and involvement in these crimes might also results in unintentional loss of life i.e. murder etc. In addition to inflation, results also affirm the positive and statistically significant relationship between population density per square kilometer and total number of crimes in Pakistan. This implies that higher density of population per sq. kilometer will intensify the number of total crimes in Pakistan. Pakistan is a developing country, where there exists grave shortage of adequate opportunities required to fulfill basic necessities of masses and under such conditions, high density population per sq. kilometer is also more likely to bring about an increase in street crimes. Finally unemployment is found to have quite surprising negative sign and significant relationship with total number of crimes in Pakistan. It is quite intricate to explain, how an increase in unemployment can decrease crimes. We have to find the possible channel through which high unemployment can decrease the crimes in Pakistan. One possible channel through which unemployment might lead to decrease in total number of crimes might be inclusion of these unemployed people in underground economy, i.e. unreported business which offers greater returns as compared to legal activities, considering the weak enforcement of law, this explains the reason why increase in unemployment might lead to decrease in crimes in Pakistan. Secondly, people who do not find an opportunity to work might possibly go abroad in search of better prospects. They send valuable remittances to

Pakistan which not only raises the living standard of their families but also the potential criminals in their families may find some sort of their own business using the remittances sent by their relatives abroad. Therefore, an unemployed person becomes the source of opportunities for other people as well, so in this way it may decrease crimes significantly. The explanations given above seem worth working in the case of Pakistan as weak enforcement of law and tax rules explains for greater share of underground economy and colossal foreign remittances provide sufficient evidence for second explanation. Lastly, intercept term is negative and significant, which shows the average impact of all those variables being excluded from the model on dependent variable.

Table. 9 Results of Short Run

Dependent variable is dCRIME				
Independent Variables	Coefficients	Standard Errors	T-Ratios	P-Values
D(CRIME(-1))	-0.423	0.110	-3.832	0.0007 ***
D(INF)	-2327.405	1125.415	-2.068	0.0483 **
D(PDSTI)	54853.722	29048.998	1.888	0.0698 *
D(PDSTI(-1))	-74021.546	28784.622	-2.571	0.0159 **
D(UNEMP)	-17881.949	4176.703	-4.281	0.0002 ***
ECT(-1)	-0.558	0.100	-5.579	0.0000 ***

***, **, * indicates significant at 1,5,10 % level of significance respectively.

The results of short run are presented in table. 9, where we find that all variables are statistically significant but now inflation (INF) and one period lagged population density (PDSTI) has different impact as compared to long run, lagged crime is also significant. In short run analysis, the most important element is the error correction term which indicates that whether the model can converge towards equilibrium or it diverges from equilibrium, if the equilibrium is disturbed. For this purpose, we take into account the sign and significance of the coefficient of error correction term i.e. ECT(-1) and if the sign is negative and statistically significant as well, it is strong indication and evidence that dependent variable has the tendency to converge towards equilibrium in the case equilibrium is being disturbed. The magnitude of the coefficient of error correction term i.e. ECT (-1) indicates the speed of adjustment. In the table.9 Results indicate that the speed of convergence is 55.81% per period which purports to be decent speed of adjustment and model will converge to original equilibrium in couple of periods.

Table.10 Diagnostic Tests

	LM Version		F-Version	
Test Type	CHSQ Value	P-Value	F-Value	P-Value
A: Serial Correlation	.03362	.855	.023652	.879
B: Functional Form	1.2453	.264	.90552	.350
C: Heteroscedasticity	3.0539	.081	3.1487	.085
D: Normality	1.0377	.595		

A: Lagrange multiplier test of residual serial correlation, B:Ramsey's RESET test using the square of the fitted Values, C: Based on the regression of squared residuals on squared fitted values, D:Based on a test of skewness and kurtosis of residuals

The results of diagnostic tests are provided in Table 10, which indicate that there is no problem of serial correlation, functional form of the model is correct, no problem of heteroscedasticity in the model at the five percent level of significance and residuals are also normally distributed. The stability of coefficients of the model was also checked by CUSUM (Cumulative Sum of Recursive Residuals) and CUSUMSQ (Cumulative Sum of Square of Recursive Residuals) stability tests, which confirmed the stability of coefficients of the model.

V. Conclusion & Policy Recommendations:

The last three and half decades are marked with the acute conflict and instability in Afghanistan, and invasion of so called world powers in succession for their imperialism. However, unfortunately this had severe negative repercussions in Pakistan. Economy of Pakistan not only supported and sustained a huge influx of Afghan refugees across the border into Pakistan but also witnessed an unforeseen spike in the frequency and scale of terrorism activities in Pakistan particularly after 9/11 tragic incident. The cumulative impact of these developments crippled the economy of Pakistan. Pakistan continues to pay a heavy price, both in economic and security terms, in the consequence of successive invasion of Russia and USA in Afghanistan. The surprising rise of violent extremism and terrorism in Pakistan due to instability in Afghanistan not only caused serious damage to assets of Pakistan and business activities but has also been responsible for wide-spread human suffering due to indiscriminate attacks against the civilian population. Keeping in view the radical importance of this issue, this

study has been an effort to explore the impact of Pakistan's alliances in Afghan wars i.e. Pro-Taliban alliance with USA during Russian invasion in Afghanistan and anti-Taliban alliance with NATO after 9/11 during U.S.A invasion in Afghanistan on crimes in Pakistan. Two dummy variables have been used for this purpose and Auto Regressive Distributed Lag (ARDL) model has been used for the estimation purposes. The results revealed that both alliances were proved to be detrimental as they both caused proliferation in total number of criminal activities in Pakistan. However, it was anti-Taliban alliance with NATO during U.S.A invasion in Afghanistan after 9/11 that was the most significant factor in increasing criminal activities in Pakistan. Inflation and density of population are also found to be significant determinants of crimes in Pakistan which provide fuel to criminal activities. Moreover, surprisingly, unemployment was found to have negative relationship with crimes in Pakistan.

Considering the findings of our study, we recommend the Government of Pakistan to engage effectively in peace negotiations with Taliban rather than using force against them, as we have seen it would only add to further economic as well as human loss. Secondly, Pakistan should enforce strict check and balance across rugged Afghan Border so that no more Taliban and so called Jahidis can migrate to and from Pakistan. Finally, Government of Pakistan should implement effective population and inflation control initiatives to ameliorate this condition.

It is imperative to succinctly discuss on the limitations of our study in the end. The most significant of these limitations is that in our study total number of crimes has been used as proxy for crime. However, this provides no information regarding the intensity of crimes. Secondly, improper infrastructure of police department and inadequate reporting system resulted in large share of total crimes to remain unreported. Finally, the results of this study cannot be generalized even to other neighboring countries of Afghanistan.

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