Exploring the Impact of Socio-Economic Indicators on Economic Growth of Pakistan

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A R T I C L E I N F O	A B S T R A C T
	Since independence, Pakistan has faced many economic problems. Social and administrative issues have been an obstacle to its economic growth. Economic, social, and administrative problems have amalgamated and engulfed the whole nation like an epidemic. Being the most critical issue, bad governance is destroying the economy in many ways. Poor governance negatively contributes to the empirics of economic growth through increased poverty directly and through increased social evils, such as crimes, indirectly. The present study is conducted to see how socio-economic variables are affecting economic growth rate of Pakistan. Three Stages Least Square (3SLS) estimation technique is used to examine the role of governance in stimulating economic growth by considering important socio-economic variables like poverty and crime. The study results suggest that poor governance is contributing to increasing poverty in Pakistan, which is, in turn, raising crime rates drastically. Moreover, trade openness is not contributing towards poverty reduction. Since high crime rates slow down the economic pace of the economy, improved governance, increased employment opportunities, mobilization of private investment, and diversion of public investment to rural areas are essential for promoting economic growth.

Introduction

Since independence, Pakistan has faced not only economic problems but also social and administrative problems. Economic issues like unemployment, inflation, foreign debt, and many others have hit the economic health of the country(Adnan & Fatima, 2018) . Besides these, Pakistan has faced many administrative and social issues like corruption, absence of accountability, law and order problem, exploitation, and profiteering of funds (M. M. A. Khan & Alam, 2020; Nadeem, Liu, Zulfiqar, Younis, & Xu, 2021). These problems are not only hurting the economy but are also making institutions ineffective. Economic, social, and administrative issues have amalgamated and engulfed the whole nation like an epidemic. This study has been designed to analyze the relationship between governance and key components related to economic, social, and administrative issues like poverty, crime, and economic growth.

Governance refers to the process of decision-making and the practice by which decisions are implemented (Abas, 2019; Gorgulho, Tavares, Páscoa, & Tribolet, 2015). It is how public

officials and institutions acquire and exercise power to provide public goods and services (Bank, 2006). Failure of good governance is a severe issue in developing or third world countries, owing to different social and administrative issues (Aly, 2013; Mayer Pelicice, 2019; Sundaram & Chowdhury, 2011; Sohail et al, 2022). It has been the most highlighted issue for the economy of Pakistan as well over the last decade. According to Carbonnier and Wagner (2011) , good governance of countries like Botswana, Chile, Malaysia, and South Africa has helped these countries to move to a group of higher-income countries. At the same time, the bad governance of countries like the Democratic Republic of the Congo and Niger has held them in the category of low-income countries. There are many channels- direct and indirect- through which governance can affect the economic growth of an economy (Wilson, 2016). Bad governance promotes political anxiety, which is a cause of most of the evils. Due to the failure of good governance, political unrest has been a major problem in Pakistan since its inception. Apart from these, bad governance also gives rise to many social problems. Therefore, one can say that lack of economic growth, which results from poor governance, raises many social and political problems like political instability, poverty, crimes, etc.

Bad governance greatly affects the poor segment of society (Aloui, 2019). Bad governance can be seen in the case of Pakistan, where resources are not used for the betterment of the poor segment of society. Income inequality has been rising day by day worldwide, and about 50% of the population is still facing difficulty in meeting basic needs (Bank, 2018). According to a study conducted on Pakistan's economy by Akram, Wajid, Mahmood, and Sarwar (2011), bad governance and income inequality in Pakistan are the most prominent factors, among other issues that create a high level of poverty. The authors pointed out that improved governance can help to reduce poverty and inequality in Pakistan. In this regard, Fajnzylber, Lederman, and Loayza (2002) provided strong evidence of the positive correlation between crime rates and inequality. The direction of causality implies that inequality induces crime rates in 39 countries.

"An act or omission prohibited by criminal law and punished, usually by fine or imprisonment, is called the crime." It is a well-known truth that poverty promotes criminal activities because every individual has some basic needs, and to satisfy these necessities, they need money. If they do not have sufficient resources, they indulge in criminal and unlawful activities to satisfy such needs (Hinton, 2017; Mehlum, Moene, & Torvik, 2005; Bilal et al, 2018). The country's crime

rate can be reduced by increased employment opportunities and other policies that help reduce poverty, as discussed by Aurangzeb and Asif (2012) in the case of Pakistan.

Both crime rates and poverty create uncertainty in the country, which in turn results in a low level of business activities and ultimately affects the economy's economic growth. In the case of Pakistan, Ahmad, Ali, and Ahmad (2014) have reported the negative and significant impact of crime on economic growth. There are different channels through which crime adversely affects economic growth (Anh, Minh, & Tran-Nam, 2016). It increases the sense of insecurity in the country and restrains investors from investing in the economy, causing capital outflow. A high crime rate increases administrative expenses and discourages foreign investment (Cabral, Mollick, & Saucedo, 2019). It forces the government to allocate an excessive budget toward law-and-order maintenance, crime prevention, and justice administration. This money could instead be directed toward developmental projects. In addition to the fact that a high crime rate can cause economic backwardness, rapid economic growth is not attainable without protecting the rights of the vulnerable class of the society and without the equal participation of the entire nation in the development process. Since the vulnerable class in developing countries comprises a major proportion of the total population, these groups must be given equality. A lower level of inequality leads to a higher growth rate for a country (Aslam el al, 2014; Brueckner & Lederman, 2018; Michálek & Výbošťok, 2019). All this requires is the existence of good and improved governance.

As mentioned, there exists a relationship between governance, economic growth, crime rate, and poverty. There are various channels through which governance can affect the development of the economy. Good governance can help reduce poverty in the country, which can move the country towards the path of rapid economic growth. Since poverty is one of the main determinants of crime and other social evils, poverty alleviation can help the economy overcome such problems and move towards prosperity. Therefore, good governance can stimulate rapid economic growth by directly reducing poverty and indirectly reducing social evils such as crimes. To the best of researcher's knowledge, there is no study in literature that has checked the impact of socio-economic variables on the economic growth of Pakistan by considering a large number of variables. Therefore, the present study aims to find the synergy between governance, poverty, crime, and economic growth in the case of Pakistan.

Literature Review

Past literature has comprehensively discussed the significance of good governance for the development process of a country. Uddin and Joya (2007) conducted an empirical study on South Asian countries to analyze the relationship between economic development and governance. The authors quoted that to alleviate poverty, increase the literacy rate, and control corruption, there is a dire need for democracy, accountability, and effective government functioning. The authors concluded with the point that good governance can be a too complex phenomenon but necessary for economic growth. Similar to these results, Fayissa and Nsiah (2013) conducted an empirical study on 28 African countries and confirmed positive relation between governance and economic growth. The study used six proxies: control of corruption, government effectiveness, political stability, regulatory quality, the rule of law, and voice and accountability, to measure the performance of governance.

Apart from the role that good governance plays in promoting the economy's growth, it helps the economy to overcome many social problems as well. An increase in the quality of governance reduces poverty and inequality in an economy because the most prominent effect of poor governance can be on the poverty and income inequality in the country. For the case of Pakistan, Anwar (2006) theoretically and empirically checked the relationship between governance and absolute poverty. The study results showed that absolute poverty in Pakistan increased from 1998 to 2002 due to lower economic growth rates, while absolute poverty decreased due to higher economic growth rates from 2002 to 2005. The author comprehensively discussed the role of good governance in poverty reduction and concluded that improvement in governance is essential for poverty reduction in Pakistan.

In this regard, Moore and Unsworth (2006) highlighted the importance of good governance, control of corruption, and the role of aid for an economy. The authors analyzed and discussed

how the development process is taking place in developing countries. The study primarily focused on governance and its significant role in poverty reduction. The study results highlighted that improved government performance is a primary driver of economic development for a country.

Moreover, Deller and Deller (2010) theoretically discussed the role of governance in reducing poverty and promoting development. Based on the results, the authors conclude that democracy has neither the best nor the worst effect on economic development. In this regard, Corbridge (2002) also pointed out that democratic governments were most likely to provide social service provisions and safety nets. Akram et al. (2011) conducted an empirical study to check the relationship of poverty with both governance and income inequality. The results suggested that poverty increases income inequality both in the short and long run. Moreover, no significant relationship was observed between poverty and income inequality in the short run, but a negative and significant relationship was observed between the two in the long run.

Similarly, Rizk (2012) conducted a panel data study to examine the role of governance in reducing poverty in 71 countries. The results showed that all governance indicators were significantly affecting the development process. But at the same time importance of these indicators did not stay the same at different stages of economic development. The results suggested that a 1% improvement in governance indicators results in a 1.75% decline in the Human Poverty Index (HPI), a proxy for poverty. The study also highlighted that a country would experience poverty and face difficulties in providing social services if the country had a weak governance system.

In addition to analyzing the direct impact of governance on poverty reduction, the indirect relationship between the two can also be studied, i.e., through economic growth, where governance influences economic growth and the latter then helps alleviate poverty. In this regard, M. H. Khan (2009) analyzed how poverty can be reduced with the help of equal distribution of income and increased economic growth. Since good governance can enhance economic growth and income distribution, it can also help to alleviate poverty. However, countries that focus only on improving governance are less likely to achieve rapid economic change because rapid economic growth requires good governance and a need for fiscal capabilities, which are lower in less developed countries.

Poverty is one of the main reasons which compel the masses to indulge in antisocial activities like crime and corruption. Extreme poverty and a lack of education and employment opportunities leave no way for people to indulge in antisocial and unlawful activities. Omotor (2010) conducted an empirical study to check Nigeria's socio-economic determinants of crimes. The results highlighted those socio-economic variables like per capita income and population are major determinants of Nigeria's crimes.

Regarding Pakistan, Gillani, Rehman, and Gill (2009) conducted a study to determine the primary determinant of crime. Using time-series data ranging from 1975 to 2007, the study revealed that poverty, unemployment, and inflation are the major factors causing the high crime rate in Pakistan. Moreover, Aurangzeb and Asif (2012) also checked Pakistan's major determinants of crime. The negative and significant impact of GDP, education, and wage rate was observed on the crimes in Pakistan. In contrast, a positive and significant effect of population growth rate and consumption of households was observed on crimes. Similarly, a

positive and significant impact of migration was observed on crimes; however, these impacts were relatively weak.

Jalil and Iqbal (2010) highlighted urbanization as one of Pakistan's major determinants of crimes. While developing the model, some socio-economic control variables such as income inequality, inflation (measured by CPI), education, and the unemployment rate were also considered. The paper's findings suggested a positive and significant impact of urbanization on the crime rate in Pakistan. Lobonţ, Nicolescu, Moldovan, and Kuloğlu (2017) discussed the effect of socio-economic factors on the crime rate of Romania from 1990 to 2014. The authors concluded that urbanization is increasing the crime rate in Romania.

Above mentioned studies show that economic variables, including poverty, inequality, and inflation, are the major cause of the high crime rate. A high crime rate then, in turn, affects the growth rate of a country adversely. Mehlum et al. (2005) examined the relationship between poverty, crime, and economic growth and found that poverty leads to crime, and crime, in turn, hampers economic growth. The authors highlighted the fact that increased employment opportunities have a dual effect. On the one hand, increased demand for labor decreases crime, but at the same time, an increase in GDP provides more to steal and thus increases crimes. The authors believed that the second effect is relatively strong in less modernized markets. Therefore, these markets may experience poverty, low output, and a high crime rate.

A Joint Report on Crime, Violence, and Development by the United Nations and the World Bank (2006) stated that crimes affect the citizen of the Caribbean through various channels. Crimes discourage business activities and investment, increase uncertainty and deteriorate economic growth. The report mentioned that the murder rate per 100,000 population is 30, which is the highest around the globe. Deller and Deller (2010) conducted primary data analysis to check the

crime-growth relation in rural areas of the United States of America (USA). The authors highlighted that crime is one of the significant causes of low growth in these rural areas. The results suggest that if rural communities want to achieve high growth rates, they must address the upward pressure of crimes. Moreover, Ering (2011) theoretically discussed the impact of trans-border crimes on the socio-economic development of developing countries. The results showed that trans-border crimes such as money laundering and drug trafficking are economically hurting developing countries and causing uncertainty. The author suggested that regional or sub-regional bodies must be established to overcome such trans-border crimes.

A significant amount of literature on governance to poverty (Anwar, 2006; Early & Scott, 2010) and governance to growth (Parker, 1999) relationships is available. Moreover, past studies have also checked the relationship between poverty and crime (Ilyas & Ali, 2011; Khattak, Ahmad, & Khan, 2010; Omotor, 2010) and the impact of crime on economic growth (Goulas & Zervoyianni, 2013). Still, no empirical study shows the synergy between governance, poverty, crime, and economic growth to the best of our knowledge. There are rarely any studies that show the impact of governance on economic growth by taking socio-economic variables like poverty and crime into account. Therefore, the present study aims to fill this gap in the literature. The study is designed to check the channels through which the government can play an essential role in enhancing the economic growth of Pakistan.

Data and Methodology

This research paper has used time series data ranging from 1987 to 2018. Data on all variables has been gathered from various sources, including Fifty Years of Statistics in Pakistan, World Development Indicators (2018), multiple issues of the Economic Survey of Pakistan, and Quality of Government Basic Data Set University of Gothenburg.

To check the effect of governance on the growth of the economy, through poverty and crime, simultaneous equation modeling has been used. Three Stages Least Square (3SLS) estimation technique has been applied to test these relationships. 3SLS estimation technique has been simultaneously used in all the model equations, considering the cross-equation correlation between the residuals. This estimation technique helps to obtain more efficient estimates than those obtained using the Two-Stage Least Square (2SLS) technique. The equations used in the present study are as follows:

$$HCR = \ \alpha_1 LGDP + \ \alpha_2 UN + \ \alpha_3 LCRI + \ \alpha_4 INF + \ \alpha_5 ICRG + \ \alpha_6 T + \ \alpha_7 LRP + u_{t1} \quad (1)$$

$$LCRI = \ \alpha_8 LGDP + \ \alpha_9 HCR + \ \alpha_{10} LSEC + \ \alpha_{11} LUP + \ u_{t2} \quad\quad\quad (2)$$

$$LGDP = \ \alpha_{12} + \ \alpha_{13} LCRI + \ \alpha_{14} LGDP_{-1} + \ \alpha_{15} LGFCF + \ \alpha_{16} HCR + u_{t3} \quad\quad (3)$$

Here "HCR" shows the Headcount Ratio, which is used to measure poverty and is obtained by taking the percentage of the population living below the $1.25 poverty line. "GDP" is the Gross Domestic Product (constant 2000 US$). It is used to measure the economic growth of Pakistan. "UN" is the employment rate of Pakistan, and INF shows the inflation rate, which is measured by using the Consumer Price Index (CPI). "CRI" shows the crime rate. It includes all reported crimes like burglaries, murders, attempts to murder, theft, kidnapping, etc. "ICRG" is the International Country Risk Guide (ICRG) rating. The composite scores, ranging from 0 to 100, are then categorized into the Very Low-Risk category (80 to 100 points) to the Very High-Risk category (zero to 49.5 points).

"T" shows trade openness measured by the percentage of trade (import plus export) to GDP. "RP" is the rural population, and "UR" is the urban population of Pakistan. "SEC" denotes secondary school enrolment, which is the proxy of human capital, and "GFCF" is the gross fixed capital formation (constant 2000 US$).

The application of 3SLS requires the satisfaction of some pre-conditions. These include the existence of simultaneity in the model, over-identification, and the correct specification of all the equations used in the model. Moreover, all the equations should be free from the problem of autocorrelation. Therefore, before applying the 3SLS method of estimation, the satisfaction of these pre-conditions is necessary.

Hausman Test

The presence of simultaneity has been checked by applying the method provided by Hausman (1978). Hausman test is used to determine the endogenous regressors in the model. The null hypothesis of the test state, "there exists no simultaneity in the model." To apply the Hausman test, the reduced form of the equations is obtained by regressing all three dependent variables on all the model's independent variables separately. The reduced form of the equations is as follows:

$$HCR=\beta_1\,LGDP_{-1}+\beta_2\,UN+\beta_3\,ICRG +\beta_4\,INF +\beta_5\,T+ \beta_6\,LRP+\beta_7\,LSEC +\beta_8\,LUP+ \beta_9\,L+\beta_{10}\,LGFCF +W_1 \tag{4}$$

$$LCRI=\beta_{11}\,LGDP_{-1}+\beta_{12}\,UN+\beta_{13}\,ICRG +\beta_{14}\,INF +\beta_{15}\,T+ \beta_{16}\,LRP+\beta_{17}\,LSEC +\beta_{18}\,LUP+ \beta_{19}\,L+\beta_{20}\,LGFCF +W_2 \tag{5}$$

$$LGDP=\beta_{21} +\beta_{22}LGDP_{-1}+\beta_{23}\,UN+\beta_{24}\,ICRG +\beta_{25}\,INF +\beta_{26}\,T+ \beta_{27}\,LRP+\beta_{28}\,LSEC +\beta_{29}\,LUP+ \beta_{30}\,L+\beta_{31}\,LGFCF +W_3 \tag{6}$$

W_1, W_2, and W_3 are error terms of reduced-form equations. The estimated values of LCRI and LGDP are obtained by estimating equations 2 and 3 stated above. The estimated values of LCRI and LGDP are used to get estimated values of W_2 and W_3 i.e.

$\hat{W}_2 =$ LRCI -estimated (LPOV)

$\hat{W}_3 =$ LGDP-estimated (LGDP)

The equation "1" is re-estimated by adding values of $\hat{W}_2$ and $\hat{W}_3$ in the equation. The equation "1" becomes:

$$\text{HCR} = \alpha_1\text{LGDP} + \alpha_2\text{UN} + \alpha_3\text{LCRI} + \alpha_4\text{INF} + \alpha_5\text{ICRG} + \alpha_6\text{T} + \alpha_7\text{LRP} + \alpha_{17}\hat{W}2 +$$

$$\alpha_{18}\hat{W}3 \ u_{t1} \tag{7}$$

Equation 7 is estimated to check whether the reduced form of error terms $\hat{W}_2$ and $\hat{W}_3$ are related to the dependent variable HCR. If the value of F- stat is less than 0.05, we can conclude that there exists simultaneity in the model and proceed further.

Identification Status of the Model

The identification means whether the parameters in a developed model are uniquely defined. The identification problem usually occurs in a model when a system of equations is specified where exogenous and endogenous enter the model in linear form. Koopmans, Rubin, and Leipnik (1950) presented the rank and order conditions to check the identification issue in the linear model. The identification status of each equation has been checked using the order condition. The basic equation of the order condition test is given as:

F-f $\geq$ E-1

where;

F = Total exogenous variables in the model

F= Total exogenous variables in a specific equation

E= Total endogenous variables in the model

Model Specification Test

After checking the identification status of the model, a model specification test is applied. Ramsey (1969) presented the test to check the model's specification. After estimating each model equation using OLS, Ramsey Regression Equation Specification Error Test (RESET)

has been applied to check the specification of the equations used in the model. The null hypothesis of the model is "the model is correctly specified."

Autocorrelation Test

Autocorrelation measures the relationship between the current and the previous value of any variable of interest. There are many methods to check the autocorrelation in the error terms of the model, but the Breusch-Godfrey Lagrange Multiplier test is considered better than all other tests (Asteriou & Hall, 2011). The null hypothesis of the test is "the absence of autocorrelation."

Results and Discussions

Before applying the 3SLS estimation technique, we check for the satisfaction of its pre-conditions, i.e., existence of simultaneity, over-identification, the correct specification of all the equations used in the model, and the non-existence of the problem of autocorrelation.

Hausman Test

The Hausman test has been applied to check the simultaneity in the model. The results of the test are presented in Table 1.

Table 1: Results for the Hausman Test

Test statistic	Value	Df	Probability
F-statistic	7.58032	(2,22)	0.001*

Source: Authors (2020) *Indicates that the null hypothesis is rejected at a 1% level of significance.

Since the p-value of F statistics is less than 0.01, the null hypothesis "there exists no simultaneity in the model" is rejected. It can be concluded that simultaneity exists in the model, and the simultaneous equation model can be applied.

Identification Status of the Model

While checking the equation 1, 2, and 3, it is found that there are nine total exogenous variables (F) and three total endogenous variables (E) in the whole model. The results of the order condition to check the identification of the model are presented in Table 2.

Table 2: Identification Status

Equations	Exogenous variable in each equation (f)	Identification Formula $(F-f \geq E-1)$	Identification Status
1	5	9-5 > 3-1= 4>2	Over Identified
2	2	9-2 > 3-1 = 7>2	Over Identified
3	2	9-2 > 3-1 = 7>2	Over Identified

Source: Authors (2020)

The results of the order condition test show that all the equations of the model are over-identified.

Model Specification Test

Ramsey Rest test was applied to check the specification of the model. The results of the test are given in Table 3.

Table 3: Ramsay Reset test

Equation of Variables	F-statistic	Probability
Gross Domestic Product (LGDP)	0.219714	0.644087
Crime (LCRI)	0.891832	0.355721
Poverty (HCR)	1.417343	0.249306

Source: Authors (2020)

Since the null hypothesis of the model is "the model is correctly specified." The results of Ramsey Reset presented in table 3 show that all three equations of the model are correctly specified, and we fail to reject the null hypothesis of all three equations.

Autocorrelation Test

The autocorrelation problem was checked with the help of the Breusch-Godfrey Lagrange Multiplier test. The results are presented in Table 4.

Table4 : Breusch-Godfrey Lagrange Multiplier Test

Equation for the Variables	F-statistic	Probability
Gross Domestic Product (LGDP)	0.67880	0.421571
Crime (LCRI)	2.98765	0.083476
Poverty (HCR)	3.20164	0.071929

Source: Authors (2020)

The results show that we fail to reject the null hypothesis of no autocorrelation at a 5% level of significance in all model equations. The p-value is greater than 0.05, which indicates the absence of the problem of autocorrelation.

Results of Three-Stage Least Square

The satisfaction of the pre-conditions paves the way to apply the 3SLS estimation method to the collected data. The results of the 3SLS estimation are given in Table 5.

Table 5: Three Stage Least Square Estimation Results

Equation	Variables	Estimates	Std. Error	t-Statistic	Prob.
	LGDP	-1.858725	0.015919	-116.7600	0.0000***
Poverty (HCR)	UN	0.013576	0.010808	1.256119	0.2136
	LCRI	1.596023	0.123454	12.92811	0.0000***
	INF	-0.000160	0.003944	-0.040677	0.9677
	ICRG	-0.475972	0.275377	-1.728437	0.0887**
	T	-0.008383	0.007799	-1.074838	0.2864
	LRP	1.595917	0.090254	17.568245	0.0000***
Crime (LCRI)					
	LGDP	1.634732	0.389522	4.196768	0.0001***
	HCR	0.875721	0.206776	4.235116	0.0001***
	LSEC	0.304994	0.056279	5.419277	0.0000***
	LUP	-1.855547	0.582693	-3.184432	0.0022***
Gross Domestic Product (LGDP)					
	LCRI	-0.119182	0.032060	-3.717446	0.0004***
	LGDP₋₁	1.219553	0.035021	34.82360	0.0000***
	GFCF	-0.104646	0.018904	-5.535545	0.0000***
	HCR	-0.526235	0.000500	-1052.289	0.0000***
	Constant	-0.240050	0.287005	-0.836398	0.4060

Source: Authors (2020) *** & ** show the level of significance at 5% and 10% respectively.

The results of the first equation show many socio-economic variables are affecting poverty in Pakistan. Poverty and economic growth have a significant linear-log relation at the 5% level. The results confirm the negative and significant relationship between poverty and economic growth,

i.e., a 1% increase in the country's economic growth reduces poverty by 0.01858 %. The results are consistent with the studies of M. H. Khan (2009) and Gillani et al. (2009). Inflation, trade openness, rural unemployment, and governance also negatively relate to poverty. However, the impact of inflation and trade openness is insignificant. The trade liberalization is not reducing poverty in Pakistan.

Moreover, the results also exhibited that poverty reduction can be expected if good governance prevails in Pakistan. Alternatively, unemployment and crime positively affect poverty as proved by Aurangzeb and Asif (2012) , but the effect of unemployment is insignificant. Crime significantly affects the poverty levels in Pakistan. The results show that a 1 % increase in crime increases poverty by 0.01596 %. Moreover, the increased rural population also contributes to a higher level of poverty. There are fewer employment opportunities in rural areas of Pakistan, causing poverty. Regarding the unemployment effect on the crime rate, Cheong and Wu (2015) found that unemployment is positively linked to the crime rate in China.

The second equation of the model shows how various socio-economic variables affect the crime rate in Pakistan. The results show that economic growth, poverty, and secondary school education positively and significantly affect crime. Higher levels of poverty induce more criminal activities, as proved by Gillani et al. (2009) for the case of Pakistan. An interesting result of the study is that secondary school education positively impacts the crime rate in Pakistan. Justification for this positive relation lies in the high unemployment rates in Pakistan. High rates of unemployment induce the masses to indulge in organized criminal activities. This equation shows a negative relationship between the urban population and crime rates. Rural-urban migration increases the urban population and decreases the rural population. This rural-

urban migration exposes people to greater employment opportunities that big urbanized cities provide, diverting people's attention away from criminal activities.

The results of the last equation show how different socio-economic variables affect the growth rate of Pakistan. The crime rate negatively affects the economy's growth rate, and a 1% increase in the crime rate reduces economic growth by 0.119%. Same results were obtained by Deller and Deller (2010) for USA and Ering (2011) for group of developing countries. Moreover, GFCF also has a negative and significant impact on the economy's growth. The primary reason for this negative relation is reducing private capital formation. Although public capital formation is increasing, it is not enhancing the country's growth process due to bad governance and corruption. Nowbutsing (2012) also found the negative impact of capital formation on economic growth due to governance issues. Moreover, poverty is negatively and significantly affecting the economic growth of Pakistan.

Summary of Results

The core objective of the study is to show how governance, through poverty and crime, affects economic growth. The following Table 5 shows the summary results of the supporting variables.

Table 5: Interpretation of Theory Supporting Variables

Coefficients	Estimates	Standard error	T ratios	Probability
Governance to poverty	-0.475972	0.275377	-1.728437	0.0887**
Poverty to crime	0.875721	0.206776	4.235116	0.0001***
Crime to GDP	-0.119182	0.032060	-3.717446	0.0004***

Source: Authors (2020) ***&** shows a level of significance at 5% and 10% respectively

The results highlight the channel by which governance affects the economic growth of Pakistan. The results indicate that governance negatively affects the poverty levels, suggesting that good governance can play a vital role in reducing poverty. Poverty is considered a significant determinant of crime in a society, and crime adversely affects the economy's growth rate. The

results of the present study support this evidence. Therefore, based on these results, it is concluded that bad governance increases criminal activities in the country, adversely impacting the economy's growth rate.

Conclusion and Policy Implications

Over the past few years, governance has become an important issue in Pakistan. People in Pakistan blame the governance system for every social or economic issue. The present study has addressed this issue by conducting an empirical study. In this regard, the study analyzes the effect of governance on economic growth by considering mediating variables like poverty and crime. The present study results highlighted that bad governance is one of the main contributing factors to poverty in Pakistan. Poverty figures in Pakistan are very threatening, where almost one-fourth of the population is living below the poverty line of $ 1.90 a day (Bank, 2014). This increased poverty forces people to indulge in unlawful activities and other social evils like crimes. Such acts have adverse social and economic impacts on society as a whole. High crimes have become an important reason for economic backwardness in Pakistan. Therefore, one can say that bad governance is one of the major reasons for crimes and poverty, ultimately hampering Pakistan's economic growth. The results of this study call upon a need for improved governance. The government should devise policies that provide more and improved employment opportunities for poor people. Employment opportunities will not only increase economic activity but will also decrease social evils in society. Since employment opportunities are more in big cities, it is imperative to focus on building new big cities.

Moreover, most of the rural population in Pakistan is associated with the agriculture sector; the public investment must also be diverted to rural areas. Furthermore, the share of private investment has decreased, so there is a need to encourage investors to invest in the economy. The

investment will positively contribute to enhancing the growth of the economy. The government should take some initiatives and start some special programs or projects that support the lower class of the population.

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