

## **Trade Openness, Institutions and Industrial Growth in Pakistan: An Application of Bayer and Hanck Cointegration Test**

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### **Abstract**

*Per Capita Income and productivity of industrial sector are very low in developing nations including Pakistan as compared to developed nations. Three reasons have been mentioned in the literature for this difference; geographical differences, role of international trade and the quality of institutions. This study examines the short run and long run impacts of trade openness, and quality of institutions, on the growth of industrial sector of Pakistan, using time series data over the period of 1984-2013. The Cobb- Douglas production function has been augmented by adding quality of institutions, trade openness, and financial development variables to probe their impacts on the industrial growth. The most recently developed combined cointegration technique by Bayer and Hanck (2013) has been used to check the cointegration among the variables. Long run empirical results show that trade openness, and quality of institutions positively contributes to the growth of industrial sector. These results suggest that better quality and well-functioning of the institutions is a pre requisites to boost the foreign trade, and the growth of industrial sector of Pakistan.*

**Keywords:** Trade Openness, Institutions, Industrial Growth, Pakistan

The per capita GDP and the productivity of industrial sector are very low in Pakistan as compared to the developed countries. Pakistan has a per capita GDP of \$1200, compared to Luxembourg's \$50061(WDI,2015). In the numerous literatures on this topic three aspects have been mentioned for this enormous difference; geographical differences, role of international trade, and the quality of institutions (Rodrik et al.,2004). This study focuses on the last two aspects. It is also worth mentioning that relationships between the quality of institutions, trade openness and economic growth have been the topic of intense debate among the development economists in these days. The endogenous growth theories have deliberated trade openness as the key driver of economic growth through the channel of technological spillover (Romer,1990).Similarly numerous studies have also pointed only to trade openness as one of the mechanisms to promote economic growth (Krueger, 1997; Grossman and Helpman,1990; Lucas,1988;Romer,1990; Young,1991; Wacziarg,2001;Kaufmann et al.,2002;Yanikkaya, 2003; Greenaway et al., 2002; Foster, 2008;Chang and Ying,2008;Das and Paul,2011;Squalli and Wilson,2011).In contrast to the above empirical findings, few studies have revealed that trade openness hampers economic growth (Batra, 1992; Batra and Slottje, 1993; Vamvakidis, 2002);Pariliti and Tunc,2018).

Pakistan has gradually liberalized its economy after accepting the first IMF Structural Adjustment Program in 1988 and joining the World Trade Organization in 1995. But the fruits of trade openness has not been realized in terms of economic growth Chaudhary and Ahmed, (2004). It might be due to the poor quality of the institutions. Institutional quality has been deliberated a new driver of economic growth (Stiglitz,1998,2000; Frankel and Romer,1999; Dollar and Kraay,2003;Rodrik et

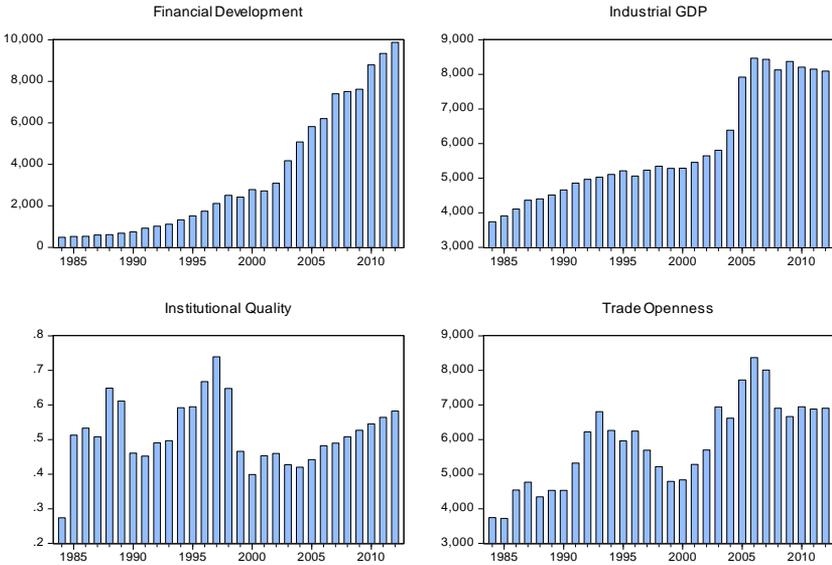
al.,2004; Chaudhary et al.,2007;Iqbal,2016).Corruption and poor quality of institutions are the major hindrances in augmenting the growth of the trade sector in developing countries (Anderson and Marcouiller,2002).Weak economic, political and institutional framework is the major hurdle behind the insignificant impact of trade openness on economic growth in Pakistan (Kemal et al., 2002).

Hence, not only trade openness but also the quality of institutions has been conquering the central galaxy in elucidating economic growth. Recently, contemporary economists focused attention on the role of trade openness to economic growth by adding the institutional quality in the growth models (Rassekh, 2007). Growth of industrial sector, its productivity, growth of trade sector and quality of institutions are vital in achieving the sustainable economic growth in the developing countries like Pakistan. Weak political and economic institutions significantly hampers economic growth (Aron2000;Myint and Lal ,1996;Acemoglu et al.,2013).The role of institutions in enhancing the economic growth in developing countries has been advocated in these days by the various agencies and development economists (North1990;Stiglitz, 1998,2000;Acemoglu et al.,2003,2005,2014).There is a long run relationship between industrial value added and GDP growth of a country. Trade openness is very important for technological innovation and industrial growth. But only trade sector cannot stimulate the growth of the economy unless the industrial sector is taken into account (Soo, 2011, 2013; Sultan, 2008). Trade openness encourages specialization in manufacturing sector which can operate on large economies of scale. Due to large economies of scale, efficiency and productivity of the industrial sector is improved in long run (Bhagwati and Srinivasan, 1978; Bhagwati et al., 2004). On contrary, Redding (1999) showed that trade openness impedes economic growth. Hence, we can say that connection between quality of institutions, free trade, and industrial growth has become a point of concern for research scholars and policy makers. The development economists believe that, such a relationship is most critical for developing economies. Although, it is also established during the nineteenth century that trade is driving force for economic growth, but the latest existing empirical literature on the subject suggests that a country's overall economic performance, besides, other variables, is also significantly affected by the quality of the institutions (Mamoon and Murshed, 2006). Economists believe that there exists a favourable positive association between the export's growth and overall economic performance in general and industrial export growth and overall economic performance in particular (Khan and Saqib, 1993).

Productivity of the industrial sector of Pakistan has been very meager since 1947 (Zaidi, 2005). Industrial sector is the main source of the employment and foreign exchange for the economy of Pakistan but it is shrinking due to various reasons like poor quality of exportable goods and weak institutions. 70 % of exports are based upon cotton or cotton base products. Government of Pakistan had implemented trade and economic reforms during 1990sto enhance the process of economic development. These inclusive reforms had a range of ingredients such as deregulation, privatization, removal of tariff and liberalization. Industrial sector had 25 percent contribution in GDP in 1990, which had decreased to 23.3 percent in 1999-2000. It was 20.9 percent in 2011-12 and has further decreased to 20.8 percent in 2014-15 (GoP, 2014-15).

The main objective of this study was to explore the connections between quality of institutions, trade openness, and industrial growth over the time period of 1984-2013 using time series datasets for Pakistan. Empirical results show that trade openness and quality of institutions positively contributes to the growth of industrial sector. The outcomes of this study suggest that better quality and well-functioning of the institutions is a pre requisites to boost the foreign trade, and the growth of industrial sector of Pakistan.

The study is structured as follows; Section 2 analyses the trade policies of Pakistan, Section3 reviews the literature, Section4 presents the sources of data and methodology, Section5 discusses the empirical results. Finally, section 6 concludes the study.



### The Data, Modeling Framework, and Estimation Strategy

The present study has used time series data set for the industrial sector of Pakistan covering the period of 1984-2013. Selection of the time period is based on the logic that trade policies were introduced during 1980s. *World Development Indicators* (2015), *International Financial Statistics* (2015), *International Country Risk Guide* (ICRG), various issues of *Annual Reports*, State Bank of Pakistan (SBP) and various issues of *Pakistan Economic Survey* have been consulted for the collection of secondary data for this study. To discover the connection among trade liberalization, quality of institutions, financial development, and economic growth, following augmented Cobb-Douglas production function has been used: Following Mankiw et al., 1992, it may be represented as;

$$Y = AK^{\beta_1}L^{\beta_2}T^{\beta_3}F^{\beta_4}IQ^{\beta_5}e^{u_t} \quad (1)$$

We convert the augmented Cobb Douglas productions function into log linear model due to its various advantages. It yields more efficient results and gives direct elasticities. Transforming equation 1 into logarithmic form, it may be written as;

$$\ln Y_t = \ln A + \beta_1 \ln K_t + \beta_2 \ln L_t + \beta_3 \ln T_t + \beta_4 \ln F_t + \beta_5 \ln IQ_t + u_t \quad (2)$$

By Putting  $\ln A = \beta_0$  in equation 2 we get

$$\ln Y_t = \beta_0 + \beta_1 \ln K_t + \beta_2 \ln L_t + \beta_3 \ln T_t + \beta_4 \ln F_t + \beta_5 \ln IQ_t + u_t \quad (3)$$

Equation 3 has been converted to equation 4 with little change for the industrial sector of Pakistan to attain the main aim of the study. Equation 3 can be rewritten as for industrial sector.

$$\ln Y_{It} = \beta_0 + \beta_1 \ln K_{It} + \beta_2 \ln L_{It} + \beta_3 \ln T_{It} + \beta_4 \ln F_{It} + \beta_5 \ln IQ_{It} + u_{It} \quad (4)$$

Where  $\ln Y_{It}$ ,  $\ln K_{It}$ ,  $\ln L_{It}$ ,  $\ln T_{It}$ ,  $\ln F_{It}$ ,  $\ln IQ_{It}$ , and  $u_{It}$  stands for log transform of, real industrial value added per capita, real industrial capital stock, employed labour force of industrial sector, real industrial trade openness, real financial development of industrial sector, an index for institutional quality and a random error  $u_{It}$  term, contains normal distribution with zero mean and finite (constant) variance, at time "t" for the industrial sector, respectively. Institutional quality index has

been constructed by utilizing the governance indicators from the source of International Country Risk Guide. Equation 4 has been employed to for empirical analysis.

Engle and Granger (1987) argued that time-series data sets are not stationary; therefore, we need to check the stationarity of the series to avoid the spurious results obtained from the application of OLS method. Datasets of time series has been checked through unit root tests. We have employed Augmented Dickey Fuller (1981) and Phillips and Perron(1988) unit root tests to investigate the unit root properties of the variables. The latest combined cointegration test, developed by Bayer and Hanck (2013) has been used to investigate whether there exists or not cointegration among the variables. The long run relationship between the variables is obtained by using Ordinary Least Square Method (OLS), similarly, to examine the short run impact of independent variables on dependent variable, Error Correction Method (ECM) has been employed.

### **Bayer and Hanck (2013) Co integration Test**

To check the stationarity among the non-stationary variables Engle and Granger (1987) developed first procedure of cointegration. This procedure is good when the data under estimation has a limited time period compared to other economic time series. Later on, Johansen (1991) developed another cointegration technique called Johansen maximum Eigen value technique. Johansen (1991) cointegration technique has the advantage that it permits more than one cointegrating relationship. Due to this reason this approach is more relevant than the Engle–Granger test. Phillips and Ouliaris (1990) developed another cointegration technique, which is based on residuals and is known as the Phillips–Ouliaris cointegration test. The Error Correction Model (ECM) based F-test of Peter (1994), and the ECM based t-test of Banerjee et al. (1998) are also available to check the cointegration among the time series.

When we apply these econometric cointegration techniques different outcomes might be possible. To augment the authority of cointegration test, with the exclusive aspect of producing a joint test-statistic for the null hypothesis of no cointegration based on Engle and Granger, Johansen, Peter Boswijk, and Banerjee tests, Bayer and Hanck developed a new cointegration test in 2013 and known as *Bayer-Hanck* cointegration test. In view of the fact that this new test permits us to merge various individual cointegration test outcomes to offer a more convincing result. Following Bayer and Hank (2013), the blend of computed significance level (*p*-value) of individual cointegration test in Fisher’s formulas as follows:

$$EG - JOH = -2[\ln(\rho_{EG}) + (\rho_{JOH})] \tag{5}$$

$$EG - JOH - BO - BDM = -2[\ln(\rho_{EG}) + (\rho_{JOH}) + (\rho_{BO}) + (\rho_{BDM})] \tag{6}$$

Where  $\rho_{EG}$ ,  $\rho_{JOH}$ ,  $\rho_{BO}$ , and  $\rho_{BDM}$  are the *p*-values of various individual cointegration tests respectively. It is assumed that if the estimated Fisher statistics exceed the critical values provided by Bayer and Hank (2013), the null hypothesis of no cointegration is rejected.

### **Empirical Results and Discussions**

In table 1 descriptive statistics reveal that series of financial development, trade openness, quality of institutions, capital stock and employed labor force are normally distributed as shown by the results of Jarque-Bera (JB) test in Table 1. All the explanatory variables have expected sign when our regressand is sectoral real GDP (value added per capita by the industrial sector).

Table 1: Descriptive Statistics and Correlation Matrix

Variables	$\ln Y_t$	$\ln FD_t$	$\ln TR_t$	$\ln INS_t$	$\ln K_t$	$\ln L_t$
Mean	8.6439	7.6900	8.6566	-0.6765	6.8859	1.2450
Median	8.5718	7.7924	8.6935	-0.6770	6.9557	1.2983
Maximum	9.0439	9.1981	9.0322	-0.3017	7.3950	1.4981
Minimum	8.2264	6.1890	8.2218	-1.2942	6.3700	0.9656
Std. Dev.	0.2584	1.0124	0.2190	0.1926	0.2784	0.1706
Skewness	0.3925	-0.0021	-0.2869	-0.7694	-0.0274	-0.3035
Kurtosis	1.9026	1.6328	2.1870	5.0326	2.0392	1.7590
Jarque-Bera	2.1996	2.2585	1.1963	7.8538	1.1189	2.3061
Probability	0.3329	0.3232	0.5498	0.0197	0.5714	0.3156
$\ln Y_t$	1.0000					
$\ln FD_t$	0.9554	1.0000				
$\ln TR_t$	0.8574	0.8050	1.0000			
$\ln INS_t$	0.0856	0.0471	0.1491	1.0000		
$\ln K_t$	0.8073	0.4620	0.7339	-0.1418	1.0000	
$\ln L_t$	0.4730	0.3709	0.2024	-0.2434	0.2497	1.0000

### ADF and PP Unit Root Analysis

In order to check the stationary properties, we have used Augmented Dickey –Fuller (1981) and Phillips and Perron (1988) unit root tests for each of the six-time series. Table 2 exhibits that the variables of the series are not stationary at level with intercept and time trend by the ADF test. All the variables of the series are found stationary at first difference. This shows that integrating order of the variables is 1, i.e. they are integrated at I (1). The same inference can be drawn for other PP unit root test. So we find that variables of the time series have unique integrating order. As we know that if we have the same order of integration among the variables then we can use the Bayer-Hanck (2013) combined cointegration tests such as EG-JOH and EG-JOH-BO-BDM tests to examine the cointegration among the variables.

Table 2: Unit Root Analysis

Variable	ADF Unit Root Test		PP Unit Root Test	
	T-statistic	Prob. value	T-statistic	Prob. value
$\ln Y_t$	-2.7248 (2)	0.2328	-1.9572 (3)	0.6061
$\ln FD_t$	-2.7240 (1)	0.2329	-2.9255 (3)	0.1657
$\ln TR_t$	-3.1757 (3)	0.5226	-2.7577 (3)	0.2206
$\ln INS_t$	-2.4484 (1)	0.1547	-2.4366 (3)	0.3704
$\ln K_t$	-2.8251 (3)	0.1972	-2.7884 (3)	0.2097
$\ln L_t$	-0.5647 (2)	0.9758	-0.7450 (3)	0.9623
$\Delta \ln Y_t$	-3.9174 (1)**	0.0206	-3.7060 (3)**	0.0307
$\Delta \ln FD_t$	-6.2601 (3)*	0.0000	-6.2608 (6)*	0.0000
$\Delta \ln TR_t$	-5.2650 (1)*	0.0006	-5.1953 (3)*	0.0007
$\Delta \ln INS_t$	-4.3280 (1)*	0.0106	-6.0721 (3)*	0.0001
$\Delta \ln K_t$	-5.3626 (3)*	0.0005	-5.3598 (3)*	0.0005
$\Delta \ln L_t$	-6.9629 (1)*	0.0000	-6.9042 (3)*	0.0000

Note: \* and \*\* represent significant at 1% and 5% levels respectively. Lag order is shown in parenthesis.

Source: Authors' calculations.

Table 3: Lag Length Selection

Lag	LR	FPE	AIC	SC	HQ
0	NA	3.11e-10	-4.8645	-4.5765	-4.7788
1	213.1736*	1.13e-13	-12.8565	-10.8407*	-12.2571
2	44.9234	1.03e-13*	-13.3986*	-9.6551	-12.2855*

\* indicates lag order selected by the criterion

Source: Authors' calculations.

### Bayer and Hanck Cointegration Results

Table 4 displays the combined cointegration test results including the EG-JOH, and EG-JOH-BO-BDM. We find that Fisher-statistics for both EG-JOH and EG-JOH-BO-BDM tests exceed the critical values at 5% level of significance when we use economic growth, trade openness and capital use as dependent variables for respective models. The test rejects the null hypothesis of no cointegration among the variables in these models. However, when financial development, quality of institutions and employed labor force are considered to be a dependent variable, the cointegration test is not consistently able to reject the null hypothesis of no cointegration. This confirms the presence of cointegration among all the variables. Thus, in overall, one can conclude that there is a long run relationship between financial development, trade openness, quality of institutions, capital stock and employed labor force in case of Pakistan.

Table 4: The Results of Bayer and Hanck Cointegration Analysis

Estimated Models	EG-JOH	EG-JOH-BO-BDM	Lag Order	Cointegration
$Y_t = f(FD_t, TR_t, INS_t, K_t, L_t)$	55.843*	129.525*	2	Exists
$FD_t = f(Y_t, TR_t, INS_t, K_t, L_t)$	5.390	10.698	2	Not Exists
$TR_t = f(Y_t, FD_t, INS_t, K_t, L_t)$	56.771*	167.195*	2	Exists
$INS_t = f(Y_t, FD_t, TR_t, K_t, L_t)$	5.760	16.978	2	Not Exists
$K_t = f(Y_t, FD_t, TR_t, INS_t, L_t)$	55.444*	125.908*	2	Exists
$L_t = f(Y_t, FD_t, TR_t, INS_t, K_t)$	5.587	14.798	2	Not Exists

Note: \* represents significant at 1% level. Critical values at 1% level are 15.701 (EG-JOH) and 29.85 (EG-JOH-BO-BDM) respectively. Lag length is based on minimum value of AIC.

Source: Authors' calculations.

### Long Run Empirical Results

The long run empirical results of the industrial sector of Pakistan are shown in table 5. These results show that financial development of industrial sector has an expected positive sign. It has positive impact on industrial sector GDP and is significant at one percent. A one percent increase in financial development leads to increase in industrial sector GDP by 0.0381 percent. Trade openness of this sector also has positive sign and is significant at one percent level. A one percent rise in industrial trade openness increases the GDP of this sector by 0.2456 percent.

These results are contradictory with the empirical findings of Umer and Alam (2013). They found that trade openness has a negative and insignificant impact on industrial growth of Pakistan. It might be due to the misspecification of their econometric model. They have not included the important variables like quality of institutions, capital stock and employed labour force, but these variables are considered as important ingredients of the production process. Our study has included

these variables and found their positive and significant impact on the economic growth of industrial sector. This study also confirms the findings of Dutta and Ahmed (2004). They found positive and significant impact of trade openness on industrial value added of Pakistan. They also suggested that developing countries should adopt the trade liberalization policies in order to sustain and accelerate the growth of the industrial sector.

Table 5: Long Run Results

Dependent Variable = $\ln Y_t$				
Variable	Coefficient	Std. Error	t-Statistic	Prob. Values
Constant	3.9206*	0.5253	7.4633	0.0000
$\ln FD_t$	0.1443*	0.0170	8.4556	0.0000
$\ln TR_t$	0.2456*	0.0740	3.3151	0.0030
$\ln INS_t$	0.1384**	0.0512	2.7022	0.0127
$\ln K_t$	0.1750*	0.0546	3.2023	0.0040
$\ln L_t$	0.3016*	0.0579	5.2068	0.0000
R-squared		0.9739		
Adj. R-squared		0.9683		
Akaike info. Criterion		-3.1388		
Schwarz Criterion		-2.8559		
F-statistic		172.2751		
Durbin-Watson Test		2.0844		

Note: \* and \*\* significant at 1% and 5% levels of significance respectively

Source: Authors' calculations.

Similarly, the variable of the quality of institutions also show positive and significant impact on industrial sector GDP. It means that by improving the quality of institutions we can enhance the level of industrial GDP. Other Variables of this sector capital stock and employed labour force have also been empirically found positively associated with industrial GDP and are significant at one percent. A one percent increase in real capital increases the industrial GDP by 0.1750 percent and one percent increase in employed labour force increases the industrial sector's GDP by 0.3016 percent.

### Short Run Empirical Results

Table 6 depicts the short run empirical results of the industrial sector of Pakistan. In the short run, we found that impact of financial development of industrial sector on economic growth of this sector is positive but insignificant. Trade openness is positively linked to economic growth and it is significant at 5 per cent level. It means that more trade openness enhances the economic growth of industrial sector in short run too. A one percent increase in trade openness raises the industrial sector's GDP by 0.1290 percent in short run.

The association between the quality of institutions and economic growth is positive and significant at 5 percent. It means that by improving the quality of institutions in short run we can generate more GDP from industrial sector. A one percent increase in the quality of institution increases the GDP of industrial sector by 0.0600 percent. The contribution is not much but it may be due to the fact that institutional development in Pakistan is still at the early stage of its development. Institutions are the regulations of the competition that outline the human connections in the society.

Good quality institutions lead to efficient utilization of economic resources, thereby, resulting in reducing the cost of production, enhancing the economic activities, and improving the productivity; whereas, poor quality of institutions may retard the economic growth.

Capital stock is positively linked with economic growth and is significant at 5 percent level. A one percent increase in capital stock increases the industrial GDP by 0.1529 percent. Employed labor force has negative and statistically significant impact on economic growth. Possible reason behind this negative contribution could be the monopolies created by the labor unions in this sector of Pakistan.

Table 6: Short Run Results

Dependent Variable = $\Delta \ln Y_t$				
Variable	Coefficient	Std. Error	t-Statistic	Prob. Values
<i>Constant</i>	0.0114	0.0103	1.1032	0.2824
$\Delta \ln FD_t$	0.0888	0.0707	1.2571	0.2225
$\Delta \ln TR_t$	0.1290**	0.0594	2.1696	0.0417
$\Delta \ln INS_t$	0.0600**	0.0258	2.3226	0.0303
$\Delta \ln K_t$	0.1529**	0.0579	2.6375	0.0154
$\Delta \ln L_t$	-0.1494**	0.0731	-2.0440	0.0537
$ECM_{t-1}$	-0.6454*	0.1863	-3.4626	0.0023
R-squared		0.6284		
Adj. R-squared		0.5222		
Akaike info. Criterion		-3.8024		
Schwarz Criterion		-3.4693		
F-statistic		5.9190		
Durbin-Watson Test		1.7256		
Diagnostic Tests		F-statistic	Prob. value	
$\chi^2$ <i>NORMAL</i>		1.1671	0.5406	
$\chi^2$ <i>SERIAL</i>		0.4415	0.6582	
$\chi^2$ <i>ARCH</i>		0.2754	0.6043	
$\chi^2$ <i>WHITE</i>		1.9905	0.1127	
$\chi^2$ <i>REMSAY</i>		0.2794	0.7828	

Note: \* significant at 1% level and \*\* significant at 5% level. Normality of error term, serial correlation, autoregressive conditional heteroskedasticity, white heteroskedasticity and functional of short run model is indicated by  $\chi^2$  *NORMAL*,  $\chi^2$  *SERIAL*,  $\chi^2$  *ARCH*,  $\chi^2$  *WHITE* and  $\chi^2$  *REMSAY* respectively.

Source: Authors' calculations.

Labor unions create unrest through strikes to get their demands of high wages and other benefits approved. Such type of strikes creates unrest and interrupts the production process of this sector and negatively contributes to this sector's GDP. The sign of lagged error term is negative and significant at one percent level. This confirms our established cointegration association among the variables.

### **Conclusion and Policy Implications**

The major objective of this study was to explore the relationship between trade openness, quality of institutions, and economic growth for the industrial sector of Pakistan. The empirical results of this paper reveal that trade openness and the quality of institutions play significant positive role in the economy of Pakistan. The relationship between the quality of institutions and economic growth is positive and significant. The contribution is not much but it may be due to the fact that institutional development in Pakistan is still at the early stage of its development. Institutions are the regulations of the competition that outline the human connections in the society. Good quality institutions lead to efficient utilization of economic resources, thereby, resulting in reducing the cost of production, enhancing the economic activities, and improving the productivity; whereas, poor quality of institutions may retard the economic growth.

In addition to this, positive and significant impact of trade openness of the industrial sector has also contributed to the industrial growth of Pakistan. The main avenue of benefits from trade openness can be regarded as the access to better technology, efficient utilization of scarce resources, domestic competition, internal and external economies of scale, etc. Schumpeter's theory has considerable theoretical support for trade liberalization because it focuses on the promotion of new growth environment such as introduction of new goods, new methods of production, opening of new markets, and new source of supply of raw materials. All of the above can be ensured through trade openness particularly for developing countries like Pakistan.

The empirical findings of this study have confirmed the positive long run relationship between trade openness and economic growth recorded in the studies conducted by Din et al. (2003), Dutta and Ahmed (2004), Chaudhary *et al.*, (2010) for Pakistan. But these studies have not included the important determinant of economic growth, quality of institutions, in their econometric models. It is interesting to note that the study of Kemal *et al.*, (2002) found insignificant impact of trade openness on economic growth. The reason behind this insignificant result mentioned by him is the omission of important variables like institutional quality, and financial development. This study has filled this gap and the results are more reliable than the earlier studies.

This study is a forerunner in investigating the relationship between trade openness, quality of institutions, and economic growth. This trio has emerged as a new avenue of research in Economics. Better quality of institutions, in particular, is considered to play a vital role in accelerating economic growth. This new avenue of research has not been explored so far in the case of Pakistan for industrial sector. It is a new contribution to the literature in Pakistani context.

The study also reveals that trade openness policies implemented during 1980s have shown their contribution to economic growth. Thus, outward oriented trade policies have clear cut directions. Therefore, it is needed to further strengthen these policies to reap the full benefits of trade reforms. Presently, Pakistan's economic growth has not been very respectable; its improvement could bring more benefits in all these fronts. Moreover, to enhance the economic growth of a country, policy makers should pay more attention to strengthen its institutions as this is an area that requires further improvement. Developing countries have weak institutions which could be a cause of slow growth and being not fully integrated with the rest of the world. It is in line with the Kruger's views that domestic environment needs to be improved to fully benefit from trade openness. This can be done by improving the law and order situation through good governance and by creating a competitive environment in the country.

Industrial policies should integrate with the trade policy as one factor to endorse the trade of this sector at home and overseas. To reap the benefits of trade reforms, Pakistan should pay attention to develop political and economic institutions because without strengthening these institutions, the desired sustainable development cannot be achieved.

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