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Analysis of Infrastructure Investment and Institutional Quality on Living Standards: A Case Study of Pakistan (1990-2013)

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In this study, the relationship of Infrastructure Investment and Institutional Quality (CIM) on Living Standards of people was analysed for Pakistan. This paper comprises of trend analysis of institutional quality for different periods of governments of Pakistan coupled with an empirical analysis of the model. The empirical estimates are comprised of unit root test, Johansen Cointegration, VAR analysis and Granger Causality tests for the sample of 1984–2013. The trend analysis depicts fluctuations of Institutional Quality in different governments due to different political conditions of every period. The empirical analysis shows that there exists long standing relationship between the Institutional Quality, Infrastructure Investment and living standards of people. However, the VAR analysis shows that the coefficients of only Institutional Quality and Living Standards of People (previous year i.e. lag variables) resulted significance in affecting living standards of the people. The Granger causality result shows bi-directional and uni-directional relationships among variables. The results in our study indicate bi-directional relationships of Living Standards of People (GDPC) with Institutional Quality (CIM). Secondly, CIM and Infrastructure Investment (Developmental Expenditure) are having uni-directional relationship. Thirdly, Population and Institutional Quality (Contract Intensive Money) are having uni-directional relationship. Fourthly, GDPC and Infrastructure Investment carry a uni-directional relationship.

JEL Classification: E02, F41, H53, O1, O4, P23.

Keywords: Institutional Quality (Contract Intensive Money (CIM), Infrastructure Investment (Developmental Expenditure), Trade Openness, GDP per Capita, and Population.

INTRODUCTION

In economics literature, we get wide explanations of how significant the capital is for the economy? It plays a positive role in the economic development, as it works as an intermediate input in production process which improves quality and quantity of infrastructure in a country [Kessides (1993)].

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Infrastructure contributes immensely to economic and social activities possible by providing public health, education services and buildings for community activities, railways, airports, hospitals, schools, roads, sewerage systems and reservoirs etc., that are major part of infrastructure investment [Sedar (2007)]. Simultaneously, infrastructure investment also enhances private sector activities at micro-level of economy. It reduces cost of production, opening up new markets, providing new opportunities for production and trade. It also contributes to social wellbeing which improves standard of living and reduces poverty [Adeola (2005)]. Similar results were found by the study of Ford and Poret (1991) in which impact of infrastructure on private sector productivity for 11 Organisation for Economic Cooperation and Development (OECD) countries. It concluded that there is a significant role of investment in infrastructure on private sector of the most developed countries like United States, Canada etc. While, considering the case of developing countries, the recent study of Jerome and Ariyo (2004) considered impact of infrastructure investment on poverty reduction in Nigeria. The results supported positive role of investment in infrastructure, but there was no significant decrease in poverty. The investment done in infrastructure had not targeted poor natives.

Government is considered responsible for investing in infrastructure of developing countries. However, in developing countries, concentration of infrastructure in the domain of the public sector leads to immense failures of these services due to high macro-risk arising from political instability and poor governance which reduces government credibility [Okoh and Ebi (2013)]. Different studies were conducted on analysing impact of public investment on growth and the results of these studies found that when government credibility is on the higher side, public investment is more responsible for increasing productivity in the economy [Aschauer (1989)].

Pakistan is considered as one of developing countries that are striving hard to progress and contains window of opportunity in the modern world [World Bank Report (2014)]. After observing role of infrastructure investment, National Trade Corridor Improvement Programme (NTCIP) was initiated by Pakistan in 2005, to improve infrastructure so that it can fulfil the demand of economy more efficiently. The main objective of that programme was to reduce the cost of doing business and improving the quality of services [Siddique and Pant (2007)]. Similarly, public investment on physical infrastructure (rural roads, village electrification and irrigation) and social infrastructure (rural education and health) have contributed positively on Total Factor Productivity [Nadeem and Javed (2011)]. However, the disease of Corruption has severely affected the institutional quality of Pakistan. It's ranking on institutional quality indicators like government effectiveness, rule of law and corruption is below average in South Asian countries [Khan and Khawaja (2011)]. Due to Poor governance and lack of law and order situations, corruption Index ranked Pakistan on 127th among 177 countries in 2013. Highly unequal societies may adversely influence the quality of institutions. These include concentration of political power, social and ethnic fragmentation etc. [Nigar (2010)]. Apart from these complexities, higher proportion of youth will be a source of high demographic dividend.

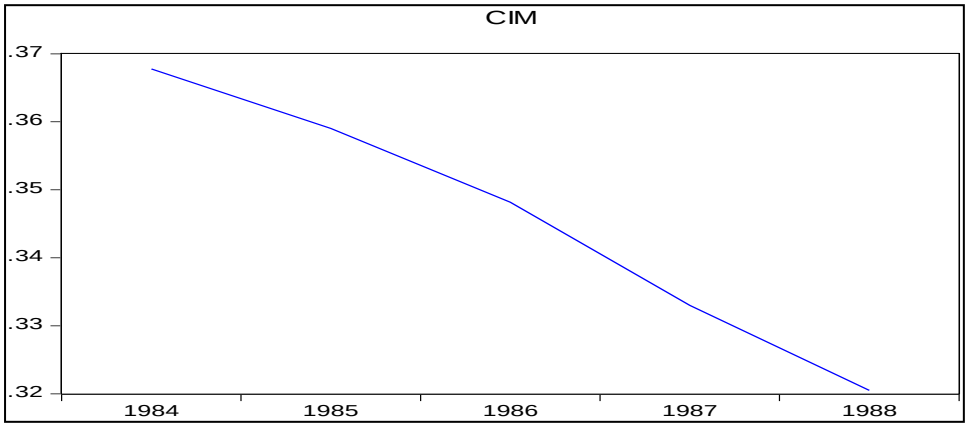
Tabulation of Variables

In this study, we discuss and critically analyse the behaviour of important variable i.e., Institutional Quality (Contract Intensive Money) for the entire time span (1984-

2013). The Data is segregated into different period for analysing role of Institutional Quality in different governments. In these periods, Pakistan was switching between democracy (Benazir Bhutto's and Nawaz Sharif government) and dictatorship (General Zia and General Musharraf's regime).

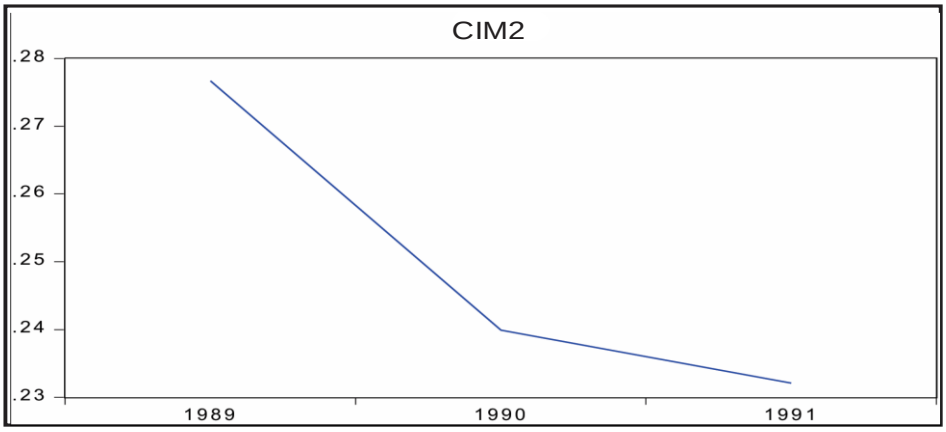
The variable of Institutional quality is defined by CIM represents Contract intensive money index, according to Okoh and Ebi (2013) is a newly developed index which measures the enforceability of contracts and security of property rights. It is an indicator of Institutional Quality. CIM ranges from 0-1. A high score means high security of property rights and enforcement of contracts and low score tells poor security of property and contract rights. Further to this patterns of CIM are given below:

Graph 1.1. Since 1984–1988



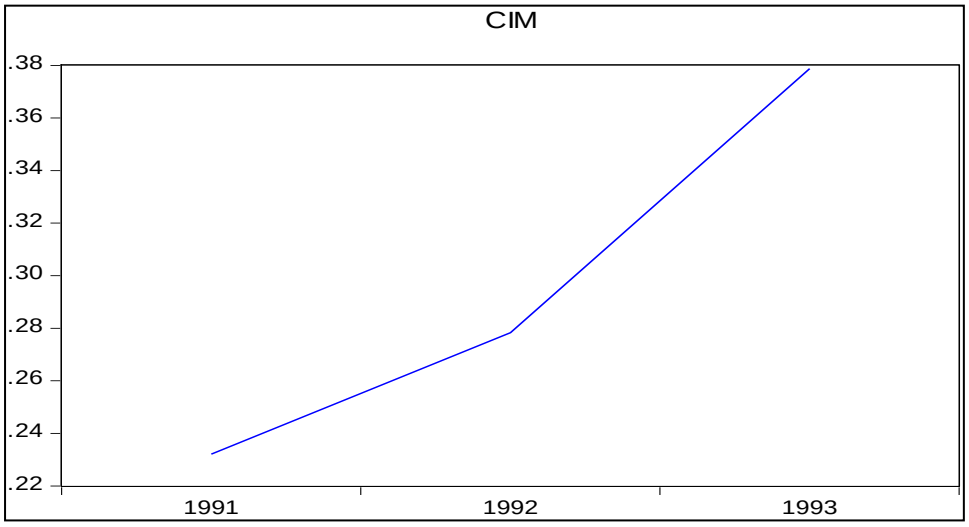
The above Graph depicts gradual decrease of Institutional Quality variable from 1984's till 1988. Initially, it was almost 0.37 percent and ended on 0.32 percent as we move right from 1984 till 1988. The downward decrease of Institutional Quality variable (CIM) is in response to political instability [Clague, *et al*. (1999)].

Graph 1.2. Since 1989–1991



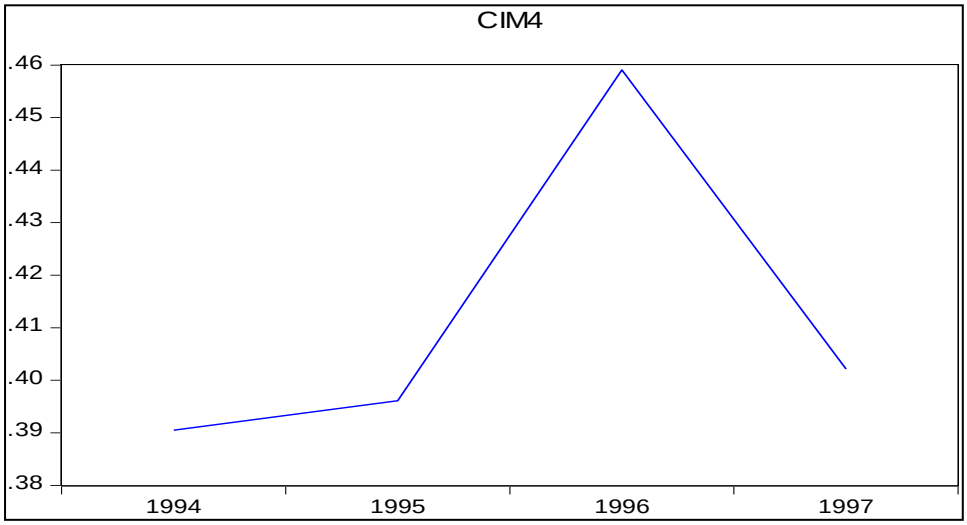
The above Graph depicts a sharp decrease of Institutional Quality variable from 1989 till 1990 and further rate of reduction has reduced after 1990 to 1991 but remained decreasing. Initially, it was between 0.28 percent and 0.27 percent but in 1991 reached near 0.23 percent. The downward decrease of Institutional Quality variable (CIM) is in response to political instability [Clague, *et al*. (1999)].

Graph 1.3. Since 1991–1993



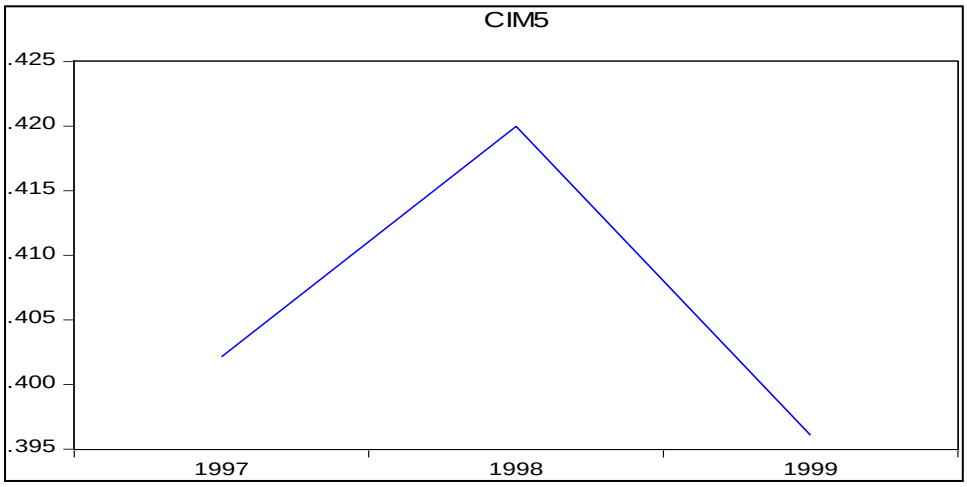
The above Graph shows gradual increase of Institutional Quality variable from 1991 till 1992 but after that it increased sharply from 1992 till 1993. Initially, in 1991 it was near 0.24 percent and finally reached at 0.38 approximately. The upward increase of Institutional Quality variable (CIM) is in response to political stability [Clague, *et al.* (1999)].

Graph 1.4. Since 1994–1997



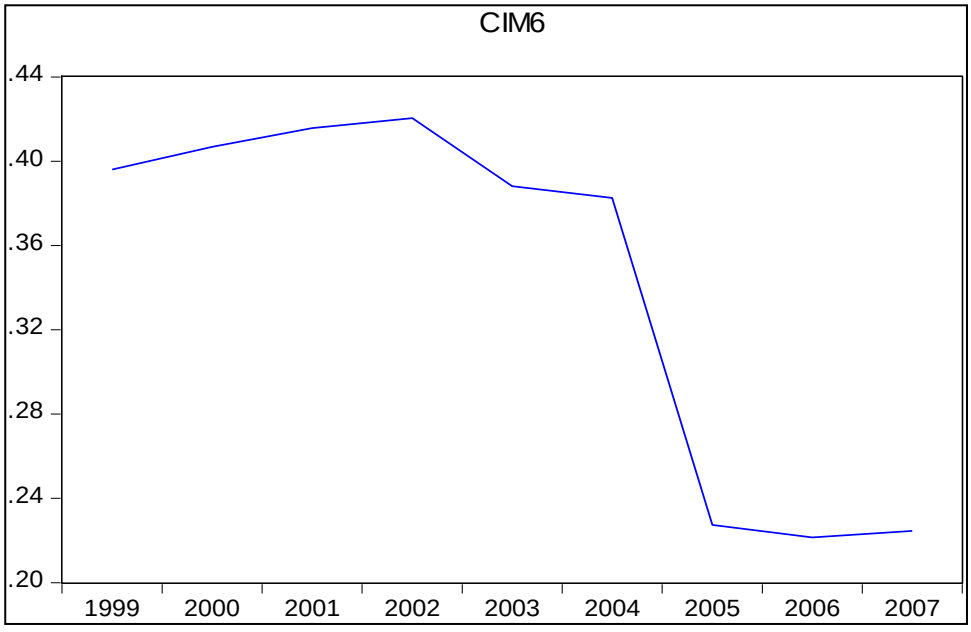
The above Graph shows a gradual increase of Institutional Quality variable from 1994 to 1995 and after it shows sharp increase trend from 1995 till 1996 but after 1996, it went under sharp reduction. The downward decrease of Institutional Quality variable (CIM) is in response to political instability [Clague, *et al*. (1999)].

Graph 1.5. Since 1997–1999



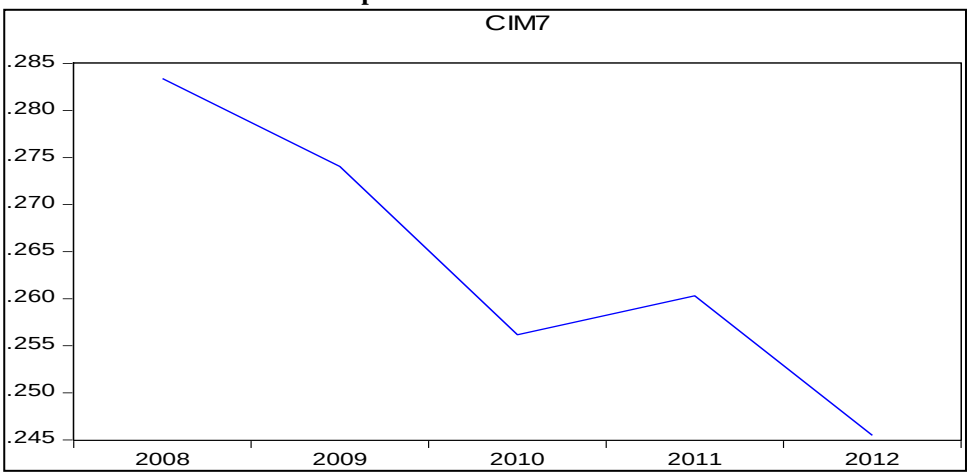
The above Graph shows a gradual increase of Institutional Quality variable from 1997 to 1998 but after 1998 it started to decrease. The downward decrease of Institutional Quality variable (CIM) is in response to political instability [Clague, *et al*. (1999)].

Graph 1.6. Since 1999 to 2007.



In the above Graph indicates a stable increase of Institutional Quality variable from 1999 till 2002 and after it reduced with gradual speed till 2004 (Mid) and further reduced with sharp decrease till 2005 and continued for lower rates. The downward decrease of Institutional Quality variable (CIM) is in response to political instability [Clague, *et al*. (1999)].

Graph 1.7. Since 2008 to 2012



The above Graph shows a gradual decrease with Institutional Quality from 2008 till starting of 2010, and after 2010 it started to increase till 2011. After 2011, it started to reduce till 2012. The downward decrease of Institutional Quality variable (CIM) is in response to political instability [Clague, *et al*. (1999)].

In the above tabulation, general interpretations of Institutional Quality variables are discussed. The empirical objectives of this paper are as follows:

- To analyse trend of Institutional Quality (CIM Variable) in different periods of governments for Pakistan.
- To assess empirically long run relationship among Infrastructure investment, Institutional Quality, and Economic growth.
- To assess the direction of relationship among Infrastructure investment, Institutional Quality, and Economic growth.

LITERATURE REVIEW

The infrastructure plays a vital role to boost productivity of different economies [Ford and Poret (1991)]. The public infrastructure investment is important for increasing economic growth of the country. In the case of US, the non-military public investment is far more important in increasing aggregate productivity than military spending. The core infrastructure such as street lights, highways, airports etc., contributes more to productivity than other form of infrastructure [Aschauer (1989)]. The investment in

transport sector has reduced share of domestic transport and it also reduces transport cost associated with passenger movement. Improved safety and reliability of transport operations and reduction in environmental and accident cost. The transport sector development has positive impact on macro aggregates such as growth and exports [Siddique and Pant (2012)].

The consequences of infrastructure investment on per capita were studied which concluded that the infrastructure induces the long run growth effects, like telephones, paved roads and electricity generating capacity provided close to growth maximising level on average, but in some countries over-supplied and in some under-supplied [Canning and Pedroni (2004)]. In contrast to above results, investment in infrastructure may result into negative consequences. The main reason behind this is that there was no consideration given to poor during investing in infrastructure. In order to get rid of such problem, infrastructure reforms are undertaken in the context of appropriate market and regulatory frameworks [Jerome and Ariyo (2004)]. Similarly, another study revealed that lower infrastructure investment reduced the quality of institutes related to power generation sector. It lead to lower supply of electricity by power plants and resulted into infrastructure failure in Nigeria [Adenikinju (2005)]. Hence, weak institutions are a bad sign for economy because institutions play an anchor role in the success or failure of economic reforms [Addison and Lutz (2003)]. Even the countries with abundant quantity of natural resources need institutional quality because the impact of natural resources on economic growth is non-monotonic in institutional quality [Boschini, *et al*. (2003)].

Siddique and Pant (2012) studied to quantify the impacts of development of transport sector in Pakistan. This study used different observational parameter that includes cost of transportation such as congestion, pollution, and accident. This model measures benefits by the change in prices in the transport sector. The study concluded that tax financed investment has reduced share of domestic transport and cost of nonfactor services in the total value of commodities. Along with that it also reduces transport cost associated with passenger movement. Improved safety and reliability of transport operations and reduction in environmental and accident cost. The transport sector development has positive impact on macro aggregates such as growth and exports.

After doing literature review, a gap was found which needed to be addressed, as there was no study earlier conducted to observe the impact of infrastructure investment and institutional quality on livings standards of people of Pakistan. Therefore, this research paper is conducted with a suitable methodology to empirically test the main objectives. The presence of institutional quality and infrastructure investment together helps us to understand about living standards of the people of Pakistan.

DATA AND THEORETICAL MODEL

Data Description

Country

For this study, we consider Pakistan which is a developing country. The role of government credibility and infrastructure investment play a vital role in determining the living standards of people, especially for a developing country.

Variables

The variables used in this model are GDPC, CIM, DEXP, OP, and POP. These variables are defined as given below.

The Gross Domestic Product Per Capita (GDPC) is an indicator that determines the per capita income in the economy, as GDP is considered the total income produced by an economy. Mathematically, GDP is divided with its population to know the GDP per capita. Its data is observed from the World Developmental Indicator (WDI) and its unit is current LCU. The second variable is CIM that is self-calculated which is defined as the proportion of money supply that is not held in the form of currency i.e. kept in the bank accounts and other financial assets. The ratio of CIM ranges from 0-1 and indicates the faith of Investor in government ability and willingness to enforce financial contracts. It gives picture of government role and performance in regulating banks [Knack and Kugler (2002)]. Further to this, we made some changes in main formula to improve strength of variable. Originally, formula for Contract Intensive Money (CIM) was M2-C/M2, where M2 is broad money indicator and C is currency. We used M1, narrow money, instead of currency 'c' that improved strength of variable as now we observe ratio of time deposits or savings with M2 (broad money). It depicts that when people have higher faith in governments (or progress of general institutions) then they will invest in that economy. Otherwise, they would not be investing so by aforementioned changes we observed time deposits or savings instead of just currency. Development expenditure is the variable that shows only developmental expenditures in millions and data was extracted from the State Bank of Pakistan web site. The Trade Openness (TO) shows openness of trade and it is found from World Developmental Indicator (WDI) in the trade percentage contribution in GDP. Finally, the population is taken as final variable that is taken from Pakistan Economic Survey (PES) and it is measured as millions unit.

Data Source

The Time series data was used for all the variables. All the data was obtained from the WDI, and PES (various editions).

Sample Size

To estimate infrastructure investment and institutional quality impact on the living standards in Pakistan, data over annual frequencies from 1984-2013 was used on various variables that was obtained from the above mentioned sources.

METHODOLOGY

Methods of Estimation

Unit Root Tests

This ADF test stands for Augmented Dickey Fuller, it was applied to analyse stationary of the data set. In case of time series data, stationarity remains an issue and ADF test is applied to know unit root presences and avoid chances of inaccurate

estimates. This test tells us about integration of order i.e., I(0), I(1), or higher for which we know how many times it is needed to be differenced to get data stationarity. This test possesses three levels of equations that are related to constant, trend, and trend and intercept analysis.

$$\Delta M_t = \gamma M_{t-1} + \sum (\delta_j \Delta M_{t-j}) + e_t \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

$$\Delta M_t = \alpha + \gamma M_{t-1} + \sum (\delta_j \Delta M_{t-j}) + e_t \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (2)$$

$$\Delta M_t = \alpha + \beta t + \gamma M_{t-1} + \sum (\delta_j \Delta Y_{t-j}) + e_t \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

Where, t is the time index, α is an intercept constant called a drift, β is the coefficient on a time trend, γ is the coefficient presenting process root, i.e. the focus of testing, p is the lag order of the first-differences autoregressive process, e_t is an independent identically distributes residual term.

The difference between the three equations concerns the presence of the deterministic elements α (a drift term) and βt (a linear time trend).

Co-integration Test: The Johansen-Juselius (JJ) Method

This test was given by Johansen (1988, 1991, 1992) and Johansen-Juselius (1990, 1992). This test was helps in finding more than one co integration vectors conditional to variables number more than two. Such technique is used because sometimes variables may form several equilibrium relationships in the model. So Johansen approach is used for multiple equations. When, we have Integration of Order (1) for all variables, we applied the Johansen-Juselius (JJ) Method. With the help of following equation, we describe Johansen-Juselius (JJ) Method given below,

$$\Delta Z_t = \Pi_J Z_{i-j} + \Phi j \Delta Z_{i-j} + \ldots . \Phi k\text{-}j \Delta Z_{i-k+1} + \delta + e_i$$

The important parameter here is matrix Π of the Johansen-Juselius method. The matrix Π can be substituted as $\Pi = \alpha\beta$, where β is the co integrating vector and α is the speed of adjustment vector. The maximum eigenvalue test (λmax) and the trace test (λtrace) are employed to test for the value of γ on the basis of the number of significant eigenvalues of Π. The above mentioned test statistics are distributed as X2 with the degrees of freedom (n-k) where γ is the value of rank and N represents the number of endogenous variables. If the values calculated are less than the critical values at the proper degrees of freedom and significance level then null hypothesis are accepted.

VAR (Vector Auto Regressive) Analysis

This test of Vector Auto Regression (VAR) estimates linear interdependencies among multiple time series. The VAR analysis treats each variable symmetrically in structural sense with its equation explaining its evolution based on its own lags and other variables lags. The VAR analysis helps to calculate long run coefficient values of parameters.

If we consider z-th order VAR, represented as VAR(z), is

$$M_t = c + A_1 M_{t-1} + A_2 M_{t-2} + \ldots + A_z M_{t-z} + E_t$$

Where, the l-periods back observation M_{t-l} is called the l-th lag of M, c is a $k \times 1$ vector of constants (intercepts), A_i is a time-invariant $k \times k$ matrix and e_t is a $k \times 1$ vector of error terms satisfying.

Granger Causality Test

The standard Granger causality test observes the casual relationships among two variables. It examines that whether current changes in variable y can be explained by past changes in other variables like u, v, and w etc., along with the explanations provided by past changes in y itself. The variables are interchanged to see the causality in other directions. There are possible few relationship types,

Unidirectional causality: x granger causes u, v and w.
Bidirectional causality: different variables causing in two directions.
Independence: neither variable causes each other.

The variables x, u, v, and w must be stationary for implication of standard Granger Causality test. The standard Granger causality regressions based on properly differenced stationary variables because most of the variables are non-stationary in their level forms. The mathematical equation for Granger causality will be considered with p and q lags as given below,

$$Y_{t.} = \alpha + \varphi_1 Y_{t-1} + \beta_1 X_{t-1} + \beta_2 X_{t-2} e_t$$

As β_1 and β_2 are measure of the influence of X_{t-1} and X_{t-2} on $Y_{t..}$ If $\beta_{1\,=}\, 0$ so X does not indicate a Granger cause Y. X Granger causes Y if any or all of $\beta 1, \ldots, \beta q$ are statistically significant.

RESULTS AND DISCUSSIONS

In this chapter, the results are discussed of the above mentioned methodology. Following are the results of above mentioned tests:

Unit Root Tests Results

We apply Augmented Dickey fuller test to determine the stationarity of the variables. Table 4.2 shows the results of ADF tests.

Table 1.1

Augmented Dickey Fuller (ADF) Test

	ADF Test	
Variables	Level	1st Difference
GDPC	1.760880	–3.497348**
DEXP	–1.485990	–2.801917***
CIM	–1.425500	–4.164978*
OP	–2.484238	–6.371949*
POP	1.62722	–97.69536*

Note: *, **, *** significant at 1 percent level, 5 percent level, 10 percent level.

Based on the ADF test, all variables on constant appear to be non-stationarity at levels but stationarity at first difference. Hence, it is concluded that these variables are integrated of order 1 i.e. I (1).

Johansen Cointegration Analysis

If all the variables are stationary at first difference or higher order we can use co-integration. The relationship among institutional Quality, infrastructure investment, and living standards of people in the model was determined using co-integration methodology given by Johansen and Juselius (1990). The study finds that there exists statistically significant relationship among aforementioned variables. Table 4.3 shows results of Johansen's test for co-integration test.

Table 1.2

Determination of the γ (Π) *based on* λ_{max} *and* λ_{trace} *Test Statistics*

Eigenvalues	λ_{max} Statistics	λ_{trace} Statistics	Critical Value λ_{max}	Critical Value λ_{trace}	Prob.
0.971300	74.56777	161.6084	33.87687	69.81889	0.0000
0.884688	45.36231	87.04065	27.58434	47.85613	0.0000
0.670772	23.33111	41.67833	21.13162	29.79707	0.0014
0.551741	16.85006	18.34722	14.26460	15.49471	0.0181

Source: Eviews 6.

This starts with comparison of trace statistics, Max-Eigen statistics and critical values. The value of trace statistics is greater than Max-Eigen statistics and similarly for critical value exceeds 95 percent in trace from Max-Eigen statistics respectively. The null hypothesis is rejected clearly as shown in this table by probability values that are highly significant and alternative hypothesis is accepted which means that there exist long run relationship among variables. Hence, it is concluded that there exist four co-integration relationship equations in this study.

VAR (Vector Auto Regressive) Analysis

After the results of Johansen co-integration, we apply VAR (Vector Auto Regressive) analysis to do multivariate analysis with their long run coefficient results. These coefficients helps us to determine effects of variables on dependent variable i.e., GDP per Capita. The model equation for VAR analysis given below with result table,

GDPC = C(1)*GDPC(-1) + C(2)*GDPC(-2) + C(3)*CIM(-1) + C(4)*CIM(-2)
+ C(5)*LDEXP(-1) + C(6)*LDEXP(-2) + C(7)*LPOP(-1)
+ C(8)*LPOP(-2) + C(9)*TRD(-1) + C(10)*TRD(-2) + C(11)

Where, two lags are considered for every variable i.e. GDP per capita, Institutional Quality (CIM), Infrastructure Investment (Log DEXP), Population (Log POP), and Trade (TRD).

Table 1.3

VAR Results

Variables	Coefficient	P-values
GDPC(-1)	0.842001	0.0016
CIM (-1)	607.2476	0.0167
CIM (-2)	355.4430	0.2280
DEXP (-1)	16.58484	0.4612
DEXP (-2)	0.125277	0.9959
LPOP (-1)	–5299.707	0.8087
LPOP (-2)	5437.402	0.7979
TRD (-1)	0.622353	0.8977
TRD (-2)	–0.052966	0.9914
Constant	–2317.302	0.8601
R-squared	0.985467	Durbin-Watson
Adjusted R-squared	0.976918	stat1.923294

In the above table, we consider coefficients of aforementioned model, which comprises of only two significant variables; GDPC (–1) and CIM. The coefficient of GDPC (last year) affects GDP per Capita (Current) with 0.84 magnitudes. Similarly, institutional quality (last year) is affecting dependent variable GDP per capita for with coefficient of 607.24 magnitudes. The coefficients of other variables are satisfactory but p-values are not significant for which we don't consider their effects as significant. The R-squared and Adjusted R-squared values are high and show 'Goodness of fit' of the model with a satisfactory value of Durbin-Watson stat.

Further to this we applied Wald test to check joint effect of lag variables on dependent variables. Therefore, we applied the test and found following results,

Table 1.4

Wald Test (Joint Hypothesis)

Variable	Null Hypothesis	P-Value	Result
GDPC (-1) & GDPC (-2)	No Joint Effect of GDPC (-1) and (-2)C(1)=C(2)=0	0.0008	There exist a joint effect of GDPC (-1) and (-2) on GDPC.
CIM (-1) & CIM (-2)	No Joint Effect of CIM (-1) and (-2) c(3)=c(4)=0	0.0417	There exist a joint effect of CIM (-1) and (-2) on GDPC.
DEXP (-1) & DEXP (-2)	No Joint Effect of DEXP (-1) and (-2) c(5)=c(6)=0	0.6097	There exist no joint effect of DEXP (-1) and (-2) on GDPC.
POP (-1) & POP (-2)	No Joint Effect of POP (-1) and (-2) C(7)=C(8)=0	0.1704	There exist no joint effect of POP (-1) & POP (-2)
TRD (-1) & TRD (-2)	No Joint Effect of TRD (-1) and (-2)c(9)=C(10)=0	0.9907	There exist a joint effect of TRD (-1) & TRD (-2)

Similarly, we get two variables that possess joint effect on GDP per Capita; GDPC lags and CIM lags. The other variables like Development Expenditure, Population and Trade are not having joint effect on GDP per capita (Living Standards of People).

GRANGER CAUSALITY MODEL

It is necessary to check the direction of relationship among variable. The results of Granger causality are given below, by considering probability value to accept or reject null hypothesis. Table 1.5 shows alternate hypothesis and probability of all variables.

Table 1.5
Multi Granger Causality Analysis

Alternate Hypothesis	F-statistics	Probability	Accept/Reject
CIM does Granger Cause GDPC	5.85831	0.0123	Accept H1
GDPC does Granger Cause CIM	2.95236	0.0810	Accept H1
GDPC does Granger Cause DEXP	15.5217	0.0002	Accept H1
POP does Granger Cause CIM	4.90462	0.0218	Accept H1
CIM does Granger Cause DEXP	2.68888	0.0985	Accept H1

Source: Eviews 6.

The results obtained from standard Granger Causality test shows that the alternative hypothesis is accepted which means one variable is causing other variable. The table shows Probability value for accepting or rejecting null hypothesis. As Probability values are significant that null hypothesis is rejected. The probability values are considered up to 0.10 or 10 percent but higher than this value is considered insignificant up to 1 or 100 percent.

The results in our study show bi-directional relationships of the living standards of people with institutional quality. Secondly, Institutional Quality (CIM) and infrastructure investment (developmental expenditure) are having uni-directional relationship. Thirdly, population and institutional quality (Contract Intensive Money) are having uni-directional relationship. Fourthly, living standard of people (GDPC) and Infrastructure Investment (Development Expenditure) are having uni-directional relationship.

CONCLUSION AND RECOMMENDATIONS

This study analysed role of Infrastructure Investment (Development Expenditure) and Institutional Quality (CIM) on Living Standards of people (GDPC) for Pakistan. This study used unit root test, Johansen Co-integration, and Granger Causality in methodology. The results of Unit root test showed that all the variables were stationary at 1st Difference i.e. Integration of Order I (1). On the basis of that we applied Johansen Co-integration in which we got 4 long run co-integration equations which proved that there are long run relationships among all variables. Thirdly, we applied VAR analysis for estimating long run coefficients and Wald test for estimating joint effect of variables on dependent variables. In VAR analysis, we got only two variables to be affecting significantly. Finally, Granger Causality to check direction of relationship among variables that which variable is causing other variable. The results of Granger causality shows 5 relationships which are either bi-directional or uni-directional and are given below:

The results in our study show bi-directional relationships of Living Standards of People (GDPC) with Institutional Quality (CIM). Secondly, Institutional Quality (CIM) and Infrastructure Investment (Developmental Expenditure) are having uni-directional relationship. Thirdly, population and institutional quality (Contract Intensive Money) are having uni-directional relationship. Fourthly, living standard of people (GDPC) and Infrastructure Investment (Development Expenditure) are having uni-directional relationship. The VAR analysis tells us Institutional Quality and GDPC of previous year is responsible for effecting significantly on Living Standards of People currently. The Development Expenditure did not contributed significantly in the long run because majority of Development expenditure is focusing more on physical infrastructure rather than social infrastructure like education and health etc.

The study concludes Infrastructure Investment facilitates Institutions to increase their productivity by skilled labour (social infrastructure) and reducing their cost and time (physical infrastructure). It results into increasing economic growth due to its positive influence. Similarly, when economy is open for trade, the competition increases. institutions improve their quality to remain on the path of progress.. The better the institutions are, the higher the output is generated. It leads to higher per capita income of people. Infrastructure investment in the shape of social and physical infrastructure helps people directly and indirectly. It even reduces poverty by enhancing living standards of people, if it targets poor natives.

This study recommends that governments should increase their infrastructure investment, especially social expenditure health, education, action population to improve institutional quality and living standard of people.

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