Research

ECONOMETRIC IMPACT OF GOVERNANCE AND TRADE LIBERALIZATION ON POVERTY: A CASE STUDY

Muhammad Shahid[1], Mehmood Shah[2], Farhat Parveen[3] & Adiqa Kiani[4]

Abstract

Both reformed governance and trade liberalization reduces poverty while instability of foreign exchange and the inflation rate causes increase in the poverty. In this study, we examined governance and liberalisation's effect on poverty alleviation by using Time Series data. We applied Auto Regressive Distributive Lag (ARDL) technique to conclude the empirical results. The econometric study revealed a statistically significant and negative effect of governance and trade liberalization on poverty alleviation. This study will assist the government to make comprehensive policies for poverty alleviation, especially for Pakistan.

Keywords: Governance, poverty, trade liberalization, foreign exchange rate, inflation

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1-Department Economics at Govt. Post Graduate College Bhakkar, Punjab, Pakistan
2-Department of Economics Gomal University D.I Khan, Pakistan
3- Government College for Woman Darya Khan, Pakistan
4- Department of Economics, FUUAST, Islamabad, Pakistan

Introduction

In any economy government establishes transparent legal frame order, rule of law, effective institution, civil justice, criminal justice transparent, accountable system, and investment environment where the country can utilize the available resources for poverty alleviation. But unfortunately the economy of Pakistan is facing worst governance situation in the form of terrorism, corruption, weak institutions, poor law and order situation which is not only affecting the economic growth but is also making the country poorer (World Development Report , 2001).

In 1994, the World Bank elaborated governance in three dimensions such as; to shape political region, the procedure which authority is exercised to organize economic and social resources of the country, and the government capability to prepare economic policies, and adopt proper implementation of those policies to achieve economic objectives. Asian Development Bank has stated four factors of good governance namely: accountably, participation, transparency, and predictability.

Governance is also defined as the traditions, norms and institutions that determine the how rule of law and political power is exercised by government. in a country.

The three most important indicators of governance index, the Terrorist Activity, Violent Crime, and Political Instability are debated to depict the real picture of Pakistan economy. The sub indicators of GPI Terrorist Activity Index is at 4.5, Violent Crime index at 4.0 and Political Instability Index at 3.25 reflects the less peaceful position of Pakistan after Afghanistan in the world ranking economy in 2013. Furthermore the GPI is also high at 3.16 and global Ranking score is 157th out of 162 countries response the most risk is facing economy, among the world ranking presented in Table 1 and shown in Figure 1.

Table.1:

Governance indicators

	Years	Terrorist Activity Index (1-5)	Violent Crime Index (1-5)	Political Instability Index (1-5)	Global Peace Index (1-5)	Ranking Score
Pakistan	2008	4.0	4.0	4.25	2.886	132/138
	2009	4.0	3.5	4.25	3.087	140/143
	2010	4.5	3.5	4.00	3.153	143/148
	2011	4.5	3.0	3.25	3.07	149/153
	2012	4.0	3.5	3.25	3.00	153/158
	2013	4.5	4.0	3.25	3.106	157/162

Source: Global Peace Index Institute for Economics and Peace (2013).

Figure 1:

Governance based on three indicators
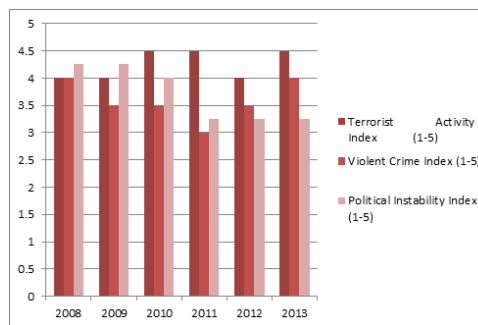
The above figure reflects that the graph of terrorist activity index is at peak point and touching the highest terrorism figures while the further two indices position like violent crime and political instability position also worst. It is damaging the credibility before the world that discouraging investment activities and pushing the economy in to poverty.

Trade liberalization is the most helpful in poverty alleviation; in the process of trade with the world Heckscher-Ohlin (H-O) model can provide guidance for developing countries from what they produce and what they should not produce. The developing countries like Pakistan can export abundant resources like unskilled labor, cement, sugar, grain, textile, garments, sports goods, live stocks, ammunition

etc. In international market they can charge reasonable price which will be more than domestic market. Such higher price of abundant resources will be helpful in importing advanced technology in different sectors to minimize the poverty level. For more liberalization Pakistan made many bold steps in cutting down the tariff rates from 225% in 1990 and further in previous 10 years average tariff rate came down from 65% to just 11% (World Bank, 2002a).

At present, the governance and trade liberalization has become the burning and hot issue of Pakistan which has pushed the economy towards poverty. Rough and round estimate of Pakistan terrorism cost is $100 billion while Pakistan received $10 billion in terms of coalition support fund in different forms. Pakistan gained $2.1 billion in terms of grant, $1.2 billion in budget support; $1.5 billion in debt concession which is 14% of the total cost of terrorism and 86% expenditures has to be faced by the domestic economy which pushed the economy to deeper poverty. (The economic Survey of Pakistan 2012-2013, Pakistan defense 2010-11)Trade liberalization is very crucial for the economic growth which not only affected by the bad governance but also by the anti-Pakistan elements in foreign media portraying Pakistan as a destabilized state; worsening the economic situation. As a result, foreign investors, tourists, business men and policy makers were shocked which curtailed foreign direct Investment from 5.4 billion dollar to just 741 million in 2007-08 (Mahmood and Ehsanullah 2012). Further the domestic investors were also forced to outflow their investment to Bangladesh, Sri Lanka and Saudi Arabia. This made the country poorer raising the poverty line.

The word poverty is derived from the Latin word "Pauper" means the people who are unable to have clean water, specific standard of food, health, and education. Those people are poor who are earning less than two dollar per day (United Nation Organization UNO). Governance problems and limited trade openness has been the two main reasons behind poverty in Pakistan for the last two decades. These factors have detracted and destabilized the economy from developmental path and pushed the economy towards backwardness. Poverty forces the people to crime and corruption push the country to trade and foreign exchange gapes. In such situation the role of the government is confusing and the country is unable to utilizing the

available resources. In many theoretical and empirical works on governance and trade liberalization its effect on poverty has been controversial. Some studies advocate governance reforms and trade openness as crucial factors for economic growth and poverty reduction while others opposed trade liberalization strict governance discourages the growth and raises the poverty level in the poor countries. (Dollar & Kraay 2004),Aman Ullah & Ahmad(2006), Beck, Demirgüç-Kunt, & Levine, 2000; Dollar, 2005).

The poverty condition of four provinces is a very miserable as 88 % population of Baluchistan, 51% of Khyber Pakhtunkhwa, 25% of Punjab's population and 51% of Sindh Inhabitants have fallen in deprivation and poverty. In 2007 the 30.5 million people in Pakistan are living a very poor quality of life. The number of people living below the poverty line increased up to 64 million in 2010.(Social Policy Development Centre Report, Pakistan Planning and Commission Report (2011), Economy 2011).UNDP also discussed the poverty of Pakistan that 65 % of population is poor and 35.5 million are living very poor life as we can say beneath the poverty line. 107 developing countries of the 40% highly declared to poverty and among 43 countries Pakistan has been the most exposed to poverty (World Bank Report 2011; Group 2012).Against this background it is the first study in Pakistan which debated governance and trade liberalization as the main pillars of poverty alleviation in Pakistan and finds the relationship between governance, trade liberalization and its econometric impact on poverty. Though better governance and trade liberalization results in the poverty reduction; previous studies did not pay much attention to these burning problems.

The main objectives of the study are as follows:
1. To analyze the governance problems and trade liberalization which is declaring and exposing the country poor.

2. To examined, trade liberalization and factors which affects poverty in the short and the long run along with inclusion of some economic variables.

3. To recommend the policy measures that are useful in improving governance, trade liberalization in reducing poverty in the case of Pakistan.

Empirical Literature Review Governance and Poverty

Rizk (2012) revealed the impact of governance, public spending expenditure on schooling, primary male and female school enrollment, expenditure on health, economic growth, foreign aid on poverty by using panel data of 71 developing countries of different geographic areas. The study emphasizes the vital role of governance in poverty reduction. The research also purposes implementation of monitoring, supervision and knowledge management for improved governance.

DIXIT (2012)analyzed relation between FDI and governance by taking data for the period from 2008 to 2010. Three governance indicators namely rule of law, effective government and elimination of corruption and their impact was shown on FDI. He also showed algebraic function and introduced two types of costs. First is the cost which the foreign firm has to face due to bad governance and second is the cost which firm bears to take up new technology with domestic firm. He explained if the value of $r = 0$ there is good governance and the cost of the foreign firm were low then the profit of the firm will be maximized. On the other hand if the value of $t = 0$ and the cost of the foreign firm becomes low, the firm's profit will be high. As whole, the value of $(r, t) = 0$, there will be perfect governance and foreign firms' profit will be maximized. So it is governance which caused high profit, high growth and poverty alleviation.

Akram, Wajid, Mahmood, & Sarwar(2011)examined effect of poor governance and income inequality on poverty by using data for the period of 1984 to 2008. On data ARDL technique to co integration was used to find out the result. The research concludes that poor governance enhance poverty while study suggests governance reforms are recommended in a country.

Aman Ullah & Ahmad(2006) launched an empirical study by taking of developed and developing 71 countries group data and expressed the impact of corruption on income inequality. The research resulted that one point increase in corruption in a country raises inequality by 1.3 percentage point. The study also examined that income inequality depressed the economic and corruption encourage the income disparity.

Adejumobi(2006) conducted an empirical study and found that poverty and inequality are the results of poor governance prevailed in a country. Better governance with effective institutions, legal frame order, and efficient government empowers the poor citizen to indulge in government policies. Further through governance implementation poverty can be alleviated and can make the poor voice effective.

Gupta, Davoodi, & Alonso-Terme(2002) conducted a research for finding the relation between corruption and income inequality. The study shows that adopting policies not only reduce the level of corruption but also helps in decreasing the income inequality.

Unsworth, Martín, & O'Neill(2006) investigated the pivotal role of governance for poverty reduction in the previous decade. He saw that all formulated policies and agendas for raise in the level of economic development proved failed. The Washington consensus also exposed figures in failure about policies for poverty reduction. The study recommends governance measures for poverty alleviation.

Pasha & Policy(2000)investigated nine factors for good governance as efficient intuitions, balanced growth, reliability and consistency, management to tackle crisis, instant delivery of service, preference government interest, sovereignty and integrity and fiscal and economic management. He proposed that better economic management in different sectors can reduce poverty and encourage economic growth.

Empirical Literature Review on Trade Liberalization and Poverty

Bharadwajet. al (2014) conducted theoretical and econometrical research discovers the relations of trade liberalization with economic development and impact the of economic growth on poverty by using cross country regressions. The study minimizes the controversial results and confirms trade liberalization reduces poverty.

Dollar(2005),Harrison(1996) and Harrison, (1996)showed the effect of trade openness on economic development in their experiential studies. They found statistical significance and positive result of trade

liberalization on economic development. Further economic growth is a crucial factor for poverty reduction.

Agenor(2004) introduced the globalization index to test the linear and nonlinear effect of trade liberalization on poverty. The study concluded the U- shape correlation between trade openness and poverty. The slow process of trade openness is unable to improve the condition of the poor while on the other side the fast process of trade liberalization when surpasses the thresh hold point caused poverty reduction.

Nissanke (2009)analyzed the impact of trade liberalization on poverty in the rich and the poor countries. The result of trade openness varies in the rich and the poor economies. Further in short this policy can raise the poverty but in the long run openness caused poverty alleviation.

Dollar(1992) debated on the developing countries and categorized the world in to two major economies. The countries which have adopted trade liberalization policy depressed poverty significantly called credible before world. But the economies which are remained at distance with world trade openness became poor and declared incredible. One who is earning more than two dollar is not poor but such numbers are increasing from 2689 million to 2733 million with trade liberalization. Regional dispersion is crucial for economic development and poverty reduction. Asian Development Bank has declared the only region in the world where the poverty has reduced was Asia.

Sachs, et. al (1995),Aidt(2009) andHarrison(1996) empirical studies supported the trade openness for economic growth. Their empirical work was cross sectional of 67 economies of the world with seven explanatory variables. All studies defend the concept trade liberalization for economic growth.

Modeland Data Source

$$LHC = â_0 + â_1 LGOV + â_2 LTOP + â_3 LGDPGR + â_4 LER + â_5 LINF + μ$$
(1)

LGOV = Log of Governance Composite Index based on 12 social, political and Economic Factors to Measure Good Governance. This index value lies from o to 1 low value of index shows good governance and high value of index represents poor governance.

LTOP = Sum of import and export in US $ as percent of GDP is used to measure trade liberalization. LHC =Log of Head Count to measure the poverty level.

LGDPGR = Log of Real GDP Growth Rate
LER = Log of Foreign Exchange Rate.
LINF = Log of Inflation to Measure

Six variables have been used in my research poverty head count, governance, trade openness, real GDP growth rate, foreign exchange rate, inflation rate and data was taken from International Country Risk Guide IRCG and World development Indicator WDI for the period 1986 to 2012.

Explanation of Results

In ARDL technique to co integration unit root test is applied to test the stationary order of the data that none of the variables be at 2nd difference. This technique can be applied when all variables are at 1st difference I (I) or at level I (0) or mixture of both.

Table 4 .1:
Unit Root Test for Stationary Status

Variables	ADF Test-Statistics (at level)	ADF Test-Statistics (at I_{st} Difference)	Stationary Status
LHC	-1.892	-5.952*	I(1)
LGOV	-1.578	-3.510**	I(1)
LTOP	-2.545	-5.217*	I(1)
LGDPGR	-3.425**	-1.819	I(0)
LER	-3.699**	-.0232	I(0)
LINF	-4.031*	-4.248	I(0)

Author's Own Source: Note: * and ** represent significance level at 1% and 5% respectively

Table 4.2

Bound Test

F-Calculated	95% confidence interval		90% confidence interval	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit
5.196	3.254	4.766	2.649	3.952

Author's Own Source:

In Table 4.2 confirms co integration among variables in long run because F-Calculated value is above the range of lower and upper bound values at 95 % confidence interval and 90 % confidence interval which rejects null hypothesis i-e no long run relationship among variables exists and accepts alternative hypothesis i-e long run correlation of variables exits. It confirms co integration of the variables.

Table 4.3

Good-fit Model

R^2	0.899
Adjusted R^2	0.851
D.W-Statistics	2.200
F(18,17)	18.92

Table 4.4 reflects overall good fit of the model as the value of R^2 is .899 shows 89.9 % variation in the model is the result of explanatory variables while other is residual term and adjusted R^2 is attached with degree of freedom. In ARDL technique the value of Durbin Watson not matters.
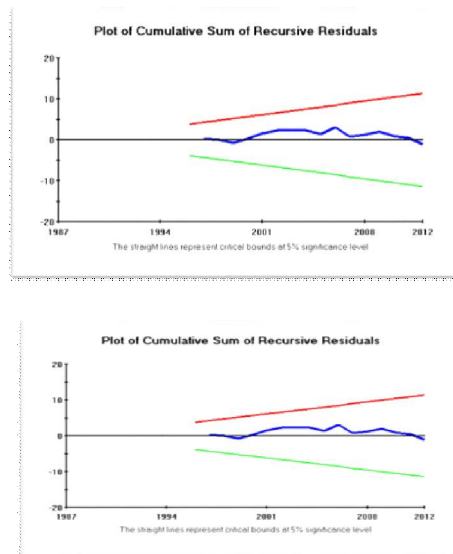
Table 4.4:

Diagnostic Test

PROBLEM	LM-VERSION (P.V)	F-VERSION (P.V)
Serial Correlation	(.233)	(.411)
Functional Form	(.584)	(.672)
Normality	(.460)	Not applicable
Heteroskedasticity	(.879)	(.884)

Author's Own Source:

Lagrange multiplier test responds no serial correlation as the value of LM-VERSION and F-VERSIO is above 10% as Ramsey Reset test concludes correct functional form. Data is normally distributed no chance of heteroskedasticity.

Figure 4.5
Stability Test CUSUM 1 and CUSUM 2

Author's Own Source

Table 4.6:
Long Run Estimation of the Model

Variables	Coefficients	S.E	T-Ratios	P-Values
LGOV	-.666	.348	-1.910	(.043)
LTOP	-.525	0..222	-2.364	(.030)
LGDPGR	-.440	.078	-5.620	(.000)
LER	.325	.070	4.623	(.001)
LINF	.138	.060	2.290	(.035)

Author's Own Source:

The results of long run Governance, Real GDP growth rate and Trade Openness depressed poverty and statistically significant at 1 %, and 5%. On other side Foreign Exchange Rate, Inflation enhances poverty in long run in case of Pakistan.

Table: 4.7:
Error Correction Model Explanations

Variables	Coefficients	S.E	T-Ratios	P-Values
dLGOV	-1.452	.348	-4.172	(.001)
dLTOP	-.421	.171	-2.457	(.024)
dLGDPGR	-.161	.049	-3.282	(.004)
dLER	.260	.072	3.597	(.002)
dLINF	.11	.043	2.533	(.020)
Ecm(-1)	-.801	.125	-6.396	(.000)

Author'ˢ Own Source:

The Table 4.8reflects the short run results and all coefficients are statistically significant at 1 % and 5 % here GOV, GDPGR, TOP reduce the poverty level. While Inflation and Foreign Exchange Rate raises the level of poverty.

The term Ecm (-1) coefficient with negative value corresponds highly significant of the model in short run as well as long run. The value adjustment coefficient means 80.1 % disequilibrium in previous period will converge to equilibrium in current period.

Conclusion

In this research, we made an effort to examine the short-term and the long-term effect of governance and trade liberalization on poverty by using time series data from 1986 to 2012. ARDL an econometric technique was applied to get the econometric effect of governance and trade liberalization on poverty. Diagnostic test found correct functional form, no serial correlation, absence of heteroskedasti city and auto correlation problem. Further Cumulative Sum of Recursive

Residual CUSUM and CUSUM sum of square graph lies within 5% critical bound values confirms no structural breaks and stability of the model. Error correction term ecm (-1) with negative sign showed highly significant of the model.

In the short run the study reveals statistically negative significant impact of governance and trade liberalization on poverty while foreign exchange, inflation increases poverty level .In the long run the empirical research concludes statistically significant impact of governance and trade liberalization on poverty at 1%, 5%, 10% and foreign exchange, inflation encourages poverty level in the case of Pakistan. The error adjust coefficient with negative sign shows highly significant statistically at 1% confirms highly valued model with self-corrected adjustment process.

The study recommends governance reforms, trade links with world for improvement of credibility and investment environment of Pakistan to attract more inflow of FDI for poverty alleviation. It can encourage exports and imports of the country also.

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