
بسم الله الرحمن الرحيم

THE ROLE OF GOVERNANCE QUALITY IN THE EFFECTIVENESS OF CAPITAL INFLOWS IN Pakistan

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‘INTRODUCTION’

- Foreign capital & governance has an important role in development process of poor countries.
- Pakistan being a developing nation is facing shortage of funds necessary to spur economic growth, Side by side it is facing the down fall in the quality of governance [Biboh (2007)]
- Moreover, due to low earned revenues & high government expenditures, its reliance upon foreign capital has increased. [Mallick (2004)]
- Therefore foreign capital & Governance Quality has an important role in development process of poor countries

CAPITAL INFLOWS AND THE ECONOMY OF PAKISTAN

i. Foreign aid

- Pakistan is receiving huge amount of aid from developed countries and different international financial institutions.
- In 1960s & 1970s this aid was given on easy terms & conditions. [SBP Report, (2010-11)]
- But now despite of more dependency on foreign aid (FA) Pakistan is facing difficulties in getting more aid and it is mainly because of **two reasons**:

a. The rate of interest on these loans & credits is increasing day by day
b. The repayment period for these loans is also being reduced. [Khalid, et al.,(2012)]

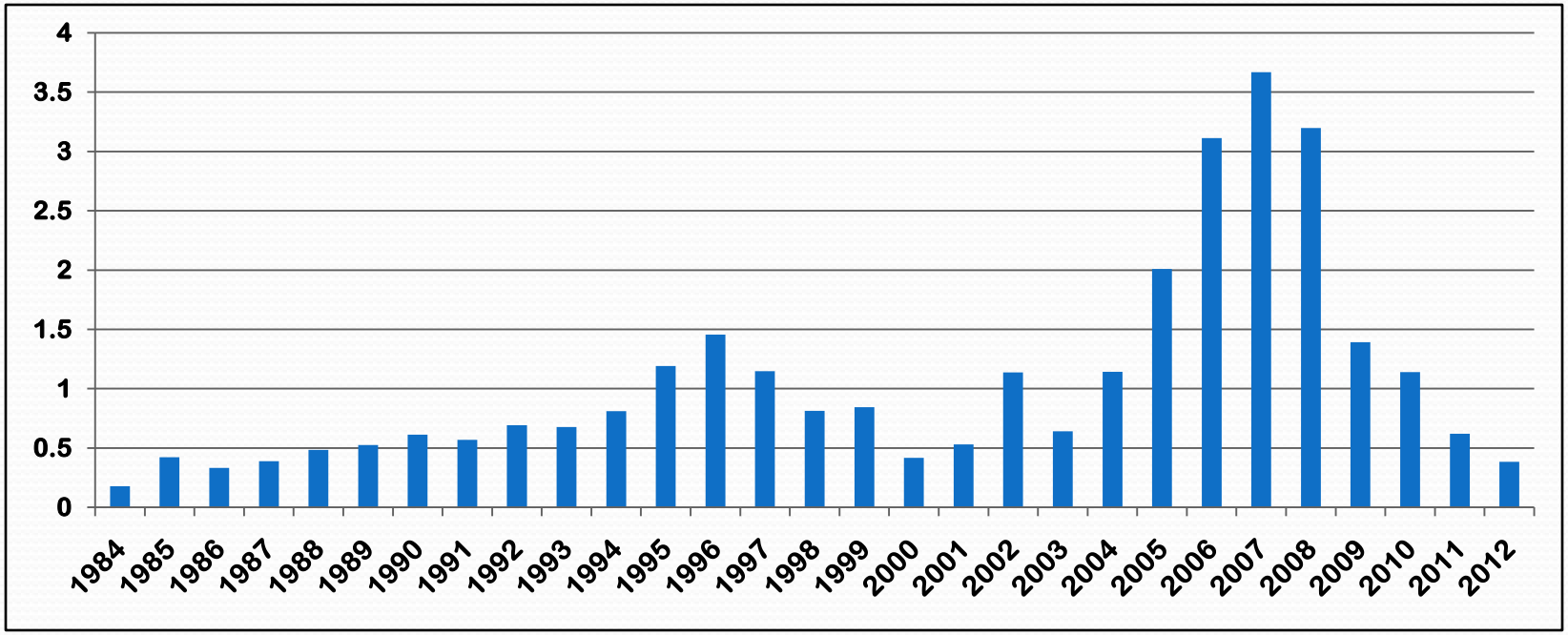
- With reference to Pakistan on one hand it is found that aid has proved to be helpful in stimulating growth

- But on the other hand it is also observed that aid has also substituted domestic savings. Which has resulted in more aid dependency in case of Pakistan. [SBP Report, (2010-11)]

ii. Foreign Direct Investment(FDI)

- FDI is also very important for the growth of any economy as major portion of the net inflows in the country consist of FDI.

FDI Situation In Pakistan Over The Years
(FDI AS A PERCENTAGE OF GDP)



OBJECTIVES OF THE STUDY:

- **Firstly,** to evaluate the governance quality's role in the effectiveness of capital inflows in Pakistan
- **Secondly,** to analyze that if the economic growth of the country is boosted by FDI and foreign aid or not? And it is also aimed to check whether there exist causality amongst the governance quality, foreign capital inflows, domestic investment and growth

SECTION-II

LITERATURE REVIEW

Title / Author/ Year	Empirical approach / region	Main Findings
Foreign aid, External Debt & Economic Growth Nexus in Low – Income Countries: The Role of Institutional Quality *Qayyum, Unbreen; Haider, Adnan (2012)	• 60developing countries • Haussmann Test • Endogeneity System GMM • Fixed effect and Random Effect models	• Foreign capital's productivity will be high if Governance Quality is good. • Good governance & Foreign aid affect economic growth positively • Improvement in Governance Quality means low corruption, high quality of bureaucracy & sound rule of law • These factors will reduce the economic cost of transaction & will create favorable environment for investment.

Institutions, macroeconomic policy & FDI: South Asian countries case * Azam, M. et al., (2011)	• 7 South Asian Economies • Haussmann test, • Fixed effect • random effect	• Good institutional quality plays a key role in attractiveness of FDI inflows.
Aid and FDI: International Evidence *karakaplan, et al., (2005).	• 97 countries • GMM, • Sargant test, • M2 test, • Wald test	• Countries that receive aid also become more likely to receive FDI but this happens especially in case of good governance

Nexus between FDI and Foreign aid : The case of five Asian economies. *Changsheng Xu, etal., (2010)	• 5 Asian economies • C.I • Granger causality tests	• Receiving aid in the shape of human capital & infrastructure development encourages FDI • Long run relationship between FDI, aid for human capital & infrastructural development holds in Nepal, India, Bangladesh, and Sri Lanka but not in case of Pakistan.
Aid & growth regression *Hansen and Tarp (2001)	• Panel data • GMM	• Aid has positive impact on growth via investment and this result is not conditional on good policy.

The impact of FDI and trade on economic growth *Alireza, et al., (2002)	• 42 Developing countries • TSLS	• FDI stimulates domestic investment • Positive interaction of FDI & trade promotes growth. This relation is enhanced by sound macroeconomic policies & institutional stability.

‘METHODOLGY AND DATA SOURCES ’

- Models & Choice of variables
- Data sources
- Estimation techniques

ECONOMETRIC MODEL SPECIFICATION

Model

- **Whether Governance Quality and capital inflows are associated with economic growth or not?**

$$Y_t = \beta_0 + \beta_1 FA_t + \beta_2 GQ_t + \sum \beta_j X_{jt} + \mu_t$$

- X_{jt} is a vector of control variables including: FDI,, Domestic investment (DINV) and Exchange rate (ER)

$$Y_t = \beta_0 + \beta_1 FDI_t + \beta_2 FA_t + \beta_3 GQ_t + \beta_4 ER_t + \beta_5 DINV_t + \mu_t$$

EMPIRICAL RELATION BETWEEN THE VARIABLES

- Aid affect the per capita income of the country **positively** and sometimes **adversely** depending upon the Governance Quality of the country (Roodman,2004)
- DINV is **positively** related to per capita income [(Hansen & Trap(2001)]
- FDI is **positively** related to growth [Unbreen, et al,. (2012)]
- Exchange rate influences growth adversely because of unfavourable trade balance in Pakistan [Chaudhry (2012)]. Exchange rate has a significant negative effect on economic growth in Pakistan [Ahmed (2013)].

- Foreign aid to production sectors & economic infrastructure contributes to economic growth by increasing domestic investment (DINV) (Changsheng,(2010)
- AID does not affect DINV directly but it has a direct positive impact on the savings in the economy.
- Improvements in GQ actually stimulate the output & it acts like a catalyst in capital formation.
- Improvement in GQ means low corruption, high quality of bureaucracy, sound rule of law etc. These factors will reduce economic cost of transaction & create favorable environment for investment [Unbreen,(2012)]

DATA DESCRIPTION AND DATA SOURCES

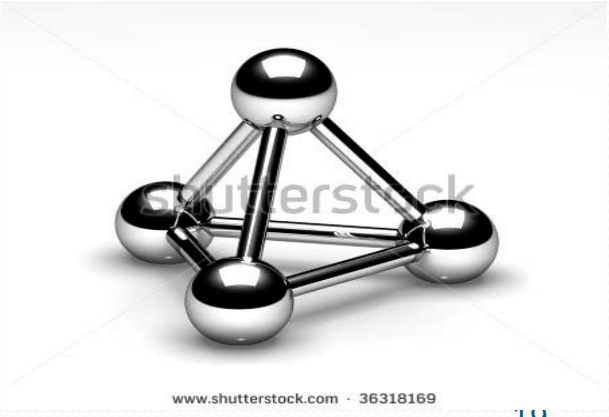
- This study is considering the period **1984 to 2012**
- **Annual frequency data** are gathered from reliable secondary sources.

Table 1: Brief Description of Variables And Data Sources:

S	Variable	Symbol	Description / Unit	Source
1	Economic Growth	GDP	GDP growth,% annual	WDI
2	Foreign Aid	FA	Net official development assistance, as a % of GNI	WDI
3	Foreign Direct Investment	FDI	FDI net inflows, as a % of GDP	WDI
4	Domestic Investment	DINV	Gross fixed capital formation, as a % of GDP	WDI
5	Exchange Rate	ER	Official exchange rate per US$. (log form)	WDI
6	Governance Quality	GQ	Six indexes (average). Including corruption, Law & order conditions, Quality of Bureaucracy, Govt. Stability, Democratic Accountability and Investment Profile	ICRG: by (PRS Group)

ESTIMATION TECHNIQUES:

- **Johansen (2001) cointegration approach** and the **Toda and Yamamoto (T-Y) causality testing procedure** are basically employed for obtaining the desired results
- T-Y relies on **modified wald test** for estimating the direction and significance of causality between the variables.



Toda and Yamamoto Procedure

First Stair: Structural Lags (k) & Order of Integration Determination [d(max)]

Second Stair: Lag Augmented VAR System

Third Stair: Inferences from Modified Wald Test

- AIK and SBC
- ADF unit root test
- lag augmented VAR system with a total of P = {k+ [d (max)]} lags and co integration among the variables is estimated
- Making causal inferences from Wald test, applied to the first i coefficients in the lag augmented system

Advantages of Utilizing T-Y Methodology

T-Y procedure has many advantages over other methodologies.

1. T-Y test GNC hypothesis in level VAR's without caring about whether variables are integrated, co integrated or not.

2. Yamada and Toda (1998) indicates that T-Y is the most stable one because it controls better the Type-I error probabilities than the other causality methods based on VAR_L, VAR_D and VECM.

3. The VECM approach involves the pre-testing through unit root and cointegration test so it suffers from size distortions and it can lead to mistaken decisions about the causality.

3. Toda and Philips (1993) exerted that the traditional F-test and Wald tests that are used to determine whether the VAR parameters are stable and jointly zero are only valid for I(1) processes.

SECTION-IV

‘ESTIMATION AND EMPIRICAL RESULTS’

Empirical findings of the model obtained by applying Toda Yamamoto methodology is discussed in later slides.

Table 2: Unit Root Test Results

VARIABLE	WITH INTERCEPT			ORDER OF INTEGRATION
	ADF Stat At level	ADF Stat At 1st diff	CRITICAL VALUES at 5%	
DINV	-1.2710	-4.3956*	-2.9763	I(1)
GDP	-3.1391*	-6.6981*	-2.9718	I(0)
GQ	-1.8274	-4.2534*	-2.9762	I(1)
FA	-2.9731	-6.2595*	-2.9718	I(0)
FDI	-2.5323	-4.2367*	-3.0123	I(1)
ER	-2.6837	-3.9913*	-2.9762	I(1)

Notes: Hypothesis: H_0: unit root; H_1: No unit root

•denotes rejection of the H_0: the series is non stationary.

•ADF unit root test shows that all variables except GDP and FA are stationary at first difference. Therefore maximum order of integration is I(1) i.e. d(max)=1 or m=1.

Table 3: VAR Lag Order Selection Criteria

LAGS	EQU:3.1	
	AIC	SC
0	8.069372	8.357336
1	1.038560	3.054307*
2	**0.447722***	4.191251
* indicates lag order selected by the criteria		

Therefore the optimal lag length (k) for further analysis is found as **‘2’** based on AIC criteria.

Table 4: VAR DIAGONISTIC TESTS

Panel A: VAR Residual Serial Correlation LM Tests

Lags	Equation 1	
	LM-Stat	Prob
1	41.20742	0.2533
4	19.34703	0.9894
8	31.57065	0.6792
12	37.17252	0.4148

H_o: There is no serial correlation

Panel B: Residual Heteroskedasticity Tests (Chi-stats.)

Joint	263.2943	0.2997

H_o: There is no Heteroskedasticity in residuals

Panel C: Residual Normality Tests (Joint Chi-stats.)

Jarque Bera (JB)	9.1989	0.6859

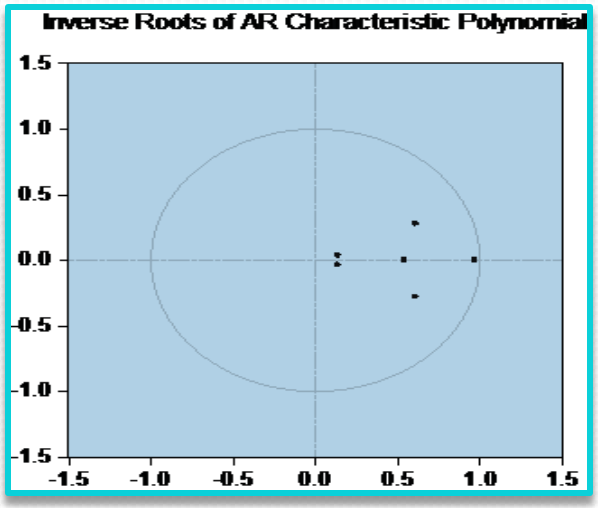
H_o: Residuals are normally distributed

- **Panel A:** As the Prob of (chi-square) appears to be greater than 0.05, the null hypothesis of no serial correlation is not rejected meaning that the residuals have no serial correlation

- **Panel B:** As the Prob (Chi square) that accompanies the amount (Obs*R2) is greater than 0.05 thus the null hypothesis is accepted i.e. There is no Heteroskedasticity in residuals

- **Panel C:** As the Prob values are greater than 5% it leads to the acceptance of null hypothesis i.e. the residuals are normally distributed.

Inverse roots of AR Characteristics Polynomial



The VAR model meets the stability condition as no root lies outside the unit circle in inverse roots of AR characteristics polynomial figure

Table 5: Johansen Cointegration Test

GDPC FDI FA GQ DINV ER					
Unrestricted Co integration Rank Test (Trace Statistics)				Unrestricted Co integration Rank Test (Maximum Eigenvalue)	
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value at 5%	Maximum Eigen	Critical Value at 5%
None *	0.8833	138.4399	95.7537	58.0077	40.0776
At most 1*	0.7226	80.4323	69.8189	34.6210	33.8768
At most 2	0.5588	45.8113	47.8561	22.0912	27.5843
At most 3	0.3953	23.7200	29.7971	13.5821	21.1316
At most 4	0.235139	10.1379	15.4947	7.2376	14.2646

*Denotes rejection of the hypothesis at the 0.05 level.

NORMALIZED COINTEGRATING EQUATION

GDP = 2.17FA + 0.20DINV+ 11.24GQ – 2.28ER + 1.46FDI

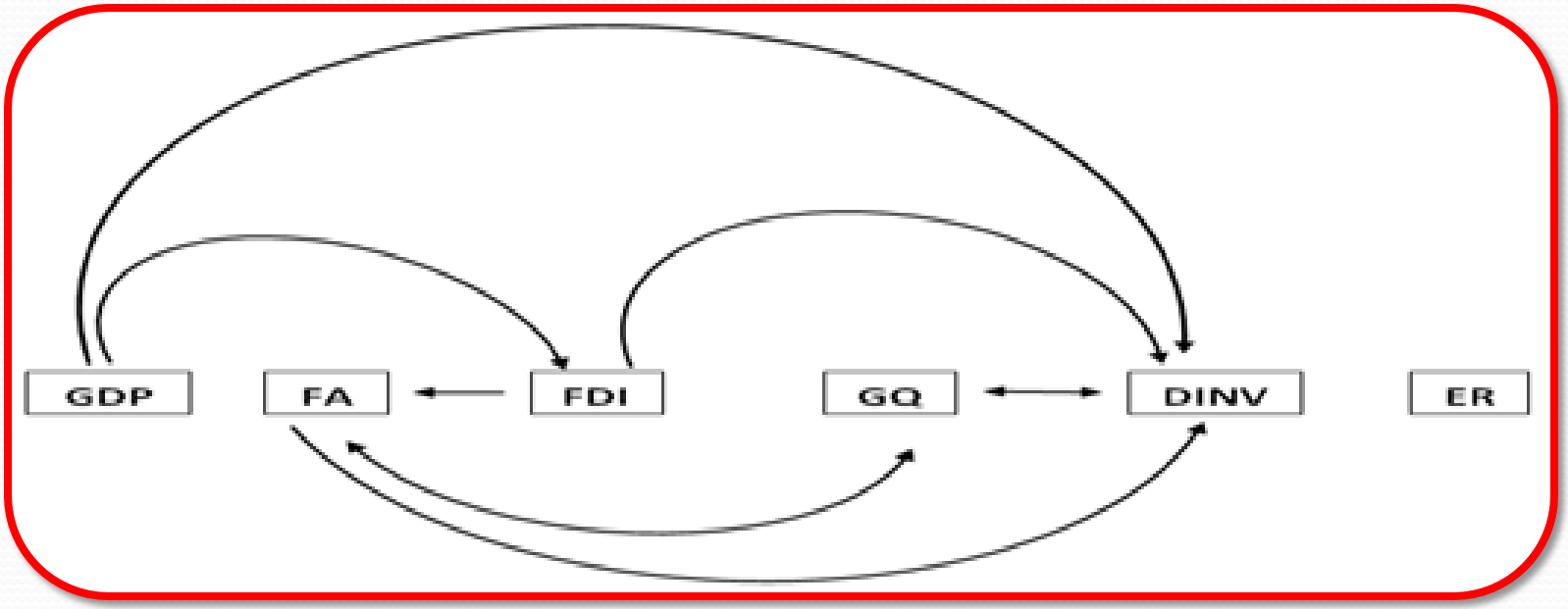
- **Foreign aid, FDI, Domestic investment and Governance Quality are influencing GDP positively, as it is found in each co integrating vector while exchange rate is negatively influencing economic growth**

Table 6: T-Y Causality Test Result

VAR Granger Causality Results/ BLOCK EXOGENEITY WALDS TEST						
Dependent Variable	Independent Variables					
	GDP	FA	FDI	DINV	GQ	ER
GDP	--	0.097 [0.952]	0.696 [0.706]	0.195 [0.906]	0.551 [0.759]	2.483 [0.289]
FA	3.661 [0.160]	--	8.144** [0.017]	2.286 [0.318]	8.277** [0.016]	1.078 [0.583]
FDI	4.439* [0.101]	0.179 [0.914]	--	3.241 [0.198]	0.155 [0.926]	0.5820 [0.748]
DINV	4.501* [0.104]	12.182*** [0.002]	13.549*** [0.001]	--	8.326** [0.015]	2.264 [0.322]
GQ	0.087 [0.957]	24.337*** [0.000]	2.844 [0.241]	6.468** [0.039]	--	0.784 [0.676]
ER	0.650 [0.722]	1.773 [0.412]	3.165 [0.206]	0.632 [0.729]	3.471 [0.176]	--

*Note: ***,** &* denotes significant at 1%, 5% &10 significance level. [...] representing p-value.*

Figure 2: GRANGER CAUSALITY RELATIONSHIP



GQ-FA
GQ-DINV

← Two way causality

GDP - DINV
GDP - FDI
FDI - FA
FDI- DINV
FA- DINV

← One way Causality

- Similarly Ho of no causality from Governance Quality to domestic investment is rejected at 5% significance level while the hypothesis of no causality from Governance Quality to Foreign aid is also rejected at 5% significance level

- So there is a reasonable evidence of bi-directional causality in between GQ and DINV and also in between GQ and FA

- Moreover evidence of one directional causality running from GDP to (FDI and DINV), from FDI to (FA and DINV) and from FA to DINV is also observed

CONCLUSIONS & POLICY IMPLICATIONS

- Foreign capital's productivity is high when governance quality is good because it provides a set of rules for the economy to enhance its growth

- Good Governance reduces the economic cost of transaction and create a favourable environment for investment.

- The evidence from this study demonstrates the statistical importance of capital inflows in determining economic growth of Pakistan but this relation is conditional upon good Governance Quality.

Continued....

- The major emerging outcome obtained from the dynamic analysis is that capital inflows do not have any direct effect on economic growth of Pakistan but it is indirectly helping in the process of growth by accumulation of domestic capital
- The countries who try to maintain a higher rate of GDP becomes able to attract more FDI [Parikshit, et. al (2009)]
- Based on the empirical results from T-Y causality tests it is indicated that GDP growth is granger causing FDI i.e. the results reveals in favour of growth-led FDI rather than FDI-led growth in Pakistan.

•In Pakistan economic growth is attracting FDI and FDI is further enhancing domestic investment and attracting more foreign aid which is further helping in enhancement of rate of investment and governance practices in the country

•Moreover the economies ranked with better governance look attract more foreign flows.

•FDI and FA are not complementary flows rather they are substituting flows in case of Pakistan.

• FA when it comes in form of physical capital can gather domestic capital (Gong et al., 2007) and then it may also function as a substitute to FDI in the host country (Selaya et al., 2008)

Continued....

- Moreover it is very crucial to enhance the Governance Quality in Pakistan and innovations in governance framework are needed to be done for better outcomes..
- The developing countries like Pakistan has a desire to achieve high level of GDP growth, Pakistan can achieve it by encouraging investment in infrastructure because it is a way to extend the economic growth by attracting more FDI and FA. This gesture in turn will enhance capital formation process and consequentially will promote economic growth.

- As capital inflows past trend shows that they are very volatile and erratic channels of funding and perpetually they relies on donor countries deliberate intentions so they sometimes are not helpful in growth process. Therefore is a dire need for finding some stable and viable channels of external funding e.g. initiative of diversified ventures like investment and exports enhancement

Thank you for your attention !

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