

An Application of Rules of Governance and Economic Growth: A case study Asian Countries

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Abstract

This study attempts to investigate the impact of governance indicators on economic growth some of selected Asian countries. The governance data was selected for world governance indicator 2016 and Real GDP data was drawn from World Bank database. The study covered the 21 Asian countries and chose panel data approach, feasible generalized least square model. This study found that if we spend more on political stability, government effectiveness will increase the output. The results also give the evidence that corruption has negative relationship with growth. It also conclude that accountability and law & order have significant impact on overall economy growth. The study suggests the policy that, to enhancing growth, rule of governance must be strong.

Keywords: Governance, Economic growth, political stability, panel data framework

1 Table of Contents

Abstract	2
2 Introduction:	4
2.1 Objective of this study:	6
2.2 Hypothesis:	6
2.3 Theoretical Framework:	7
2.4 Organization of the study:	7
3 Literature Review:	8
4 The model description:	9
4.2 Research framework	9
5 Empirical Results:	10
5.1 Descriptive Statistics	11
5.2 OLS, Fixed Effect	11
5.3 Feasible generalized least square model	12
6 Policy Implications:	13
7 Conclusion	13
8 References	16
9 Appendix	17

2 Introduction:

Economic increase and political balance are deeply interconnected. On the one hand, the uncertainty associated with a volatile political environment may additionally reduce funding and the rate of monetary improvement. However, negative economic performance may cause government collapse and political unrest.

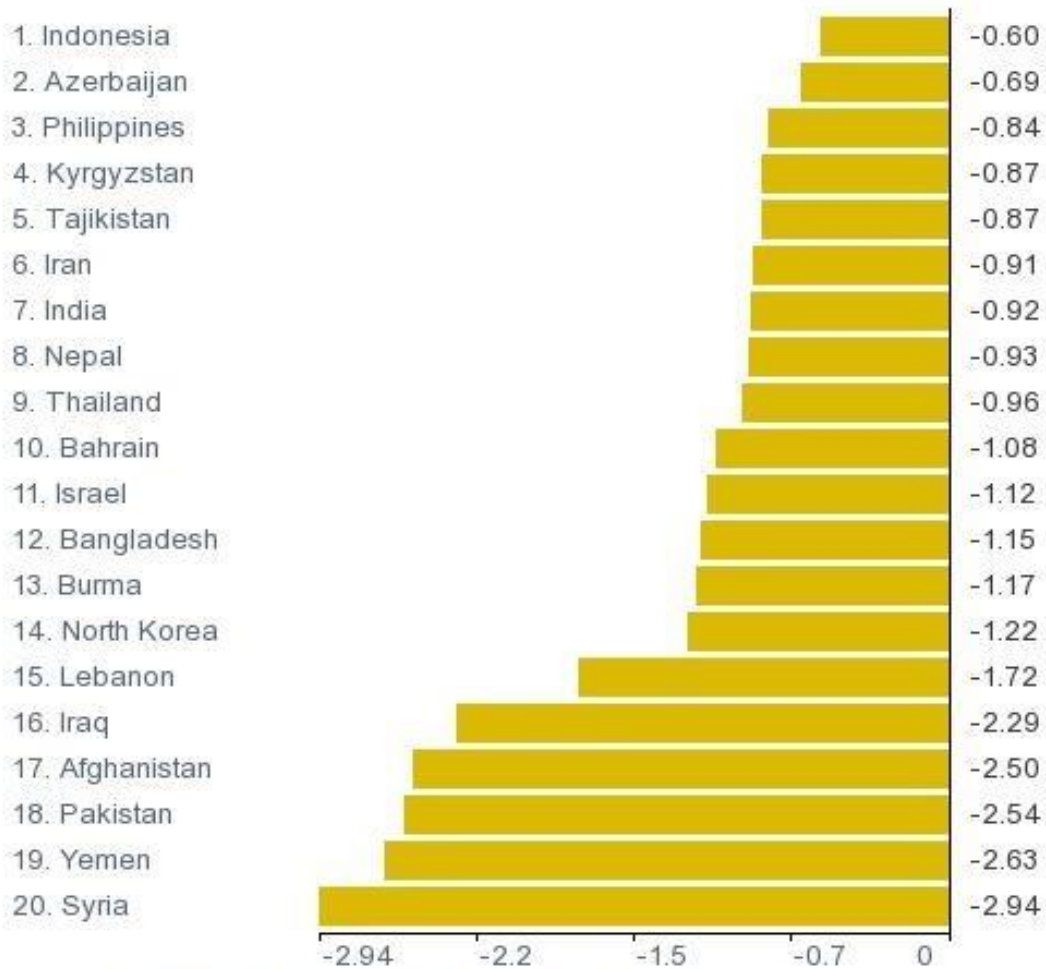
The complexity of nexus among political stability and increase is mediated within the conflicting and certified assumptions of the connection among those two standards. One set of assumptions asserts that political balance stimulates monetary growth through developing situations suitable for the numerous and numerous elements of boom. Balance investments, encourages private zone and ensures easy transactions of all financial activities like manufacturing, exchange, financial savings, productiveness and so forth. The corruption in developing countries is growing rapidly because of absence of law and accountability. The accountability for strengthening the democracy is lacking in developing nations. So, it is weakening the roots of democracy and is the threat for nation. Weak institutions and law order are a major part of political unrest.

From the report of global competitiveness Pakistan, Afghanistan and Bangladesh had low growth and competitiveness because of mainly those factors: Government instability, corruption and inefficient government. The relationship between growth and stable government was traced by (Alseina, 1992). He found out that nations with high government collapse growth in those nations were significantly low. Political unrest creates uncertainty among policy makers. Firms and companies adopt a policy of 'wait and watch' and decided not to invest. The instability directly affects the productivity as well.

In 17 sustainable development goals, there is on number 16 "peace, justice and strong institutions" in which it is stated that, "The rule of law and development have a significant interrelation and are mutually reinforcing, making it essential for sustainable development at the national and international level."

Here we capture the political instability in some specific Asian country. In China, absence of violence and terrorism is constantly decreasing because politically they are stable than other countries and there is less/absence of violence/Terrorism. But we can see that Pakistan was continuously politically unstable in fig 1. Moreover, ranging from -2.5 to 2.5 overall most of Asian countries lie below 0 and have high evidence of political instability.

Political stability index (-2.5 weak; 2.5 strong), 2015
(points, Source: The World Bank)



Source: TheGlobalEconomy.com, The World Bank

Political stability index

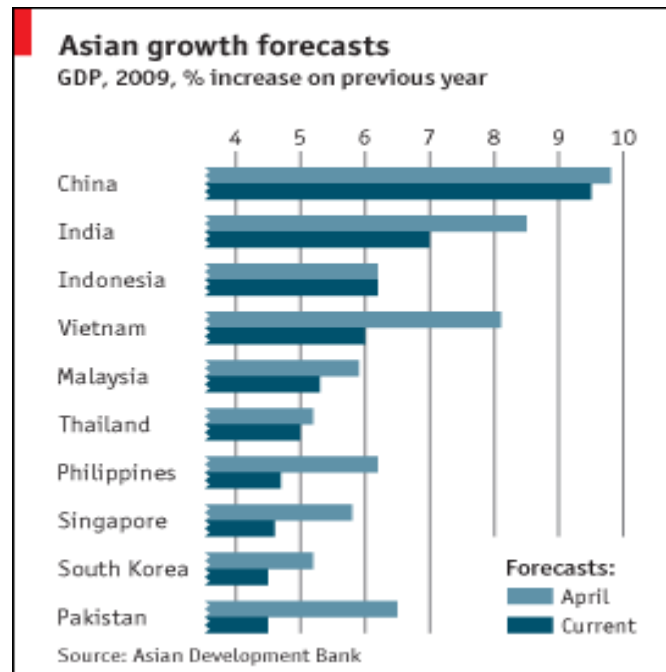
How growth related with Stability?

In many Asian countries, economic development is affected by weak governance and the strong corruption in the region. Corruption now becoming the widespread problem in the all nation and it had negative influence on the economic performance of the regions (Richard, 2003).

Moreover, governance is one of the main challenges in this regions in destroying domestic investment, private sector and foreign inflows for rapid growth. (Akanbi,

2010) states that bad governance is enhancing the unstable political environment in most of south Asian countries and is creating hurdle in the path of economic growth.

As in Fig 2 we can see that those Asian countries who were in bottom of Political stability indicator had low GDP growth. As china has great rule of governance, so the GDP growth is high in this region.



GDP growth in Asia region

2.1 Objective of this study:

The focus of this study to find out does government indicators such as Law & order, Regulatory Effectiveness, Political stability, Corruption and Accountability impact economic growth of Asian region.

2.2 Hypothesis:

H1: Political stability has Strong relationship with Economic growth.

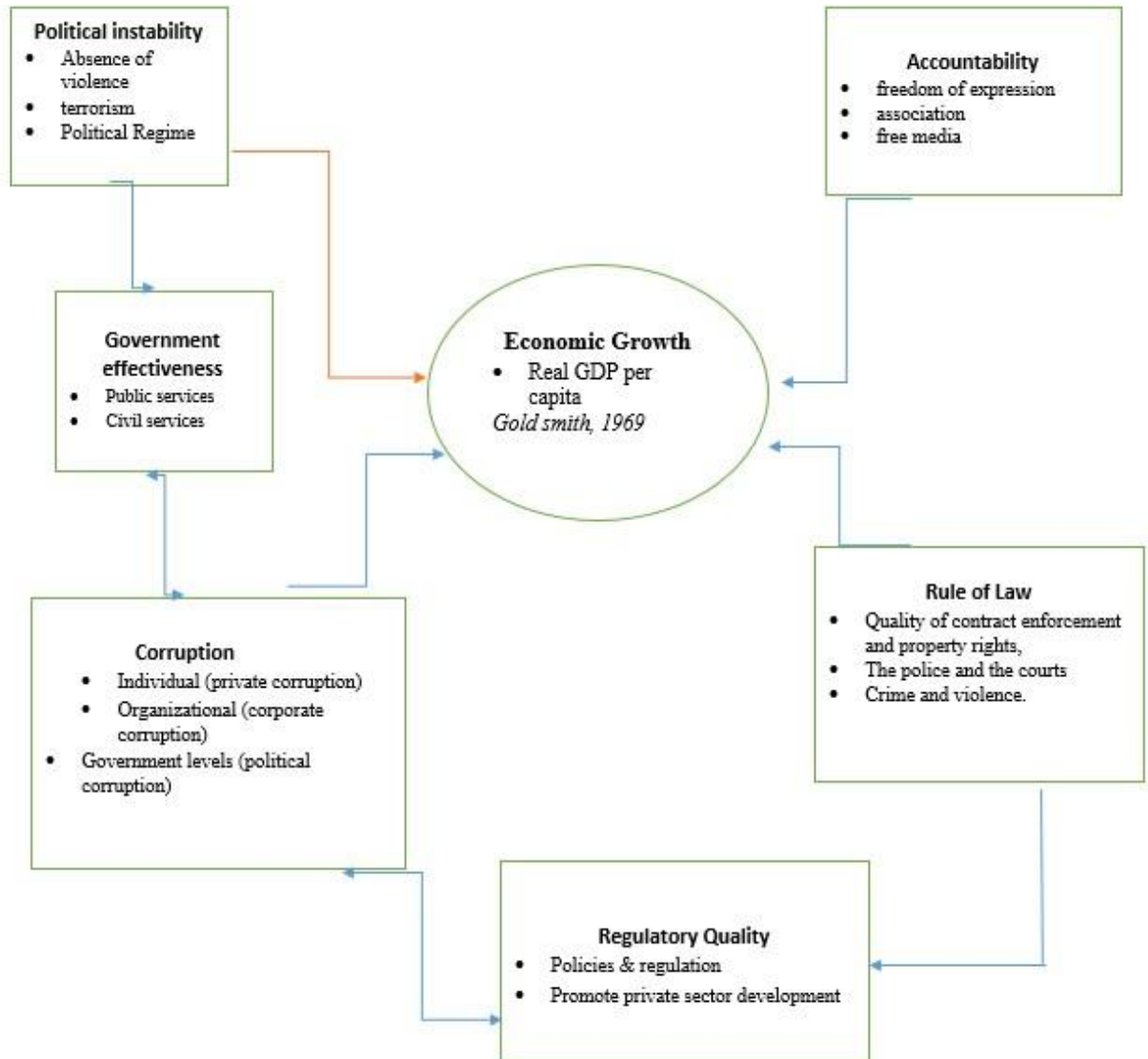
H2: Corruption has negative impact on Economic growth

H3: Weak Law and regulatory quality have negative impact on Economic Growth

H4: Accountability and Government Effectiveness have positive increase impact on growth.

2.3 Theoretical Framework:

Theoretical framework



2.4 Organization of the study:

The rest of the study organized as: Section2 discusses the literature review in the support of hypothesis, Section3 discusses the data source and the model specification, section 4 will be based on empirical results, section 5 will give the suggestion of policies and future directions, section6 will conclude the study.

3 Literature Review:

The study of (Alseina, 1992) states that political stability is the one of main cause of weak government structure. Political unrest can derail the democracy and maybe frequent elections, parties' conflict and in result regime will be in power which may lead to fall economic growth.

It may also upset the legal environment and financial markets. The social political unrest also creates adverse effects on overall system. Decrease in private investment creates risk and uncertainty and decreases the volume of foreign investment. When investment falls, the development decreases and increases the size of unemployment in case low income, inflation and high prices for both capital and good markets. Many other studies have also stated that political unrest lead to fall growth. Regime changes and democracy have significant relationship (Alseina,1992).

(Ali, hassan, & Hashmi, 2013) Studied political factors and economic factors who contribute to decrease the growth and low investment in Pakistan. They also discussed the corruption, political instability and regulatory quality they had major reason of low investment and poor growth performance. The high political instability creates risky environment for countries to invest and for better return.

(Barro, 2013) Emphasis on corruption free environment. He found that if country is corruption free and violent then investors will invest more, and it will lead to the economic growth of an economy. It also increases the level of standard of the masses. He quoted more that democratic environment and corruption Free States are always favorable for public and investors

Furthermore, (Omoteso, 2009) finding states that the impact of corruption and other governance indicators on growth in some selected economics for 1990- 2004, panel data framework, that investigate corruption has negative effect on transitional economics. The study result also supported the Mauro's results that corruption has negative impact on economic growth. Based on dynamic general Equilibrium model, (blackburn, 2006) conclude that growth and corruption have negative relationship.

4 The model description:

The economic growth is used as a real gross domestic product (GDP) per capita (y) and it is assumed that it affects the political stability and terrorism (POS) as well as other governance indicators in the economy such as corruption (COR). Law and order (LAW), Government effectiveness (EFF) accountability (ACCT) and regulatory quality (REG). Thus the Growth model is specified where the economic growth is affected by:

$$Y = f(POS, LAW, ACCT, COR, EFF, REG)$$

$$\text{Economic growth} = \alpha + \beta_1 POS + \beta_2 LAW + \beta_3 ACCT + \beta_4 COR + \beta_5 EFF + \beta_6 REG$$

Table of variables its full names and source

Table 1

Variables Representation	Variable Name	Proxy for	Source
<i>Ln GDP</i>	Real Gross domestic product per capita	Economic growth	WDI (2002-2016)
<i>POS</i>	Political stability and absence in violence/ Terrorism	Political stability	WGI (2002-2016)
<i>COR</i>	Control of corruption	Corruption	WGI (2002-2016)
<i>EFF</i>	Government Effectiveness	Effective Government policies	WGI (2002-2016)
<i>ACCT</i>	Voice and Accountability	Accountability	WGI (2002-2016)
<i>LAW</i>	LAW and Order	LAW	WGI (2002-2016)
<i>REG</i>	Regulatory Quality	Regulatory Quality	WGI (2002-2016)

4.2 Research framework (info about the number of cross-sections and time periods)

For the purpose of this research, specific 21 Asian countries and 15-time periods will be taken. The time period has been taken from the year 2002 to 2016.

The detail of 21 countries is as follows:

Table 2

Number of Countries	
Sr. No.	Countries
01	Afghanistan
02	Sri Lanka
03	Bhutan
04	Malaysia
05	India
06	Pakistan
07	Nepal
08	Bangladesh
09	China
10	Singapore
11	Georgia
12	Indonesia
13	Cyprus
14	Iran
15	Iraq
16	Jordan
17	Kazakhstan
18	Oman
19	Maldives
20	Philippines
21	Turkey

5 Empirical Results:

In this study, we are finding out the relationship between governance indicators: corruption, political stability, effectiveness, accountability, law and regulatory with growth of economy. We are taking a total of 315 observations for this model. Here we firstly did the descriptive statistics of the all variables. Mean and standard deviation of all the variables are given in table 3.

Table 3

5.1 Descriptive Statistics		
Variables	Mean (Std Dev)	Min (Max)
Real Gross domestic product per capita	11.26451 (2.705584)	7.039847 (18.20689)
Political stability and absence in violence/ Terrorism	-.6678034 (1.10041)	-3.180798 (1.528321)
Control of corruption	-.2499095 (.8714632)	-1.638287 (2.241867)
Government Effectiveness	-.0316055 (.8301608)	-1.94748 (2.241407)
Voice and Accountability	-.5371245 (.6577597)	-2.050344 (1.117119)
LAW and Order	-.2453544 (.8037017)	-1.896632 (1.832003)
Regulatory Quality	-.1852146 (.8483003)	-1.99022 (2.260543)

From the table 3, from the review years the region has most of achieved Gross domestic product on average 11.25, thus the region least performed in term of political stability and terrorism an average of -0.66, out of max of 1. Apart, all the governance indicators are less than 0, which means that at on average, this region has a pathetic or weak structure of rule of governance and its impact on development and Economic growth in this region.

Table 4

5.2 OLS, Fixed Effect		
	OLS (P values)	Fixed Effect (P values)
Control of corruption	-.5577239 (0.238)	.0946495 (0.251)
Government Effectiveness	2.763094 (0.000)	.3109536 (0.000)
Political stability	.4999097 (0.021)	-.0362815 (0.312)
Regulatory Quality	-2.187149 (0.000)	-.0736404 (0.305)
LAW and Order	-1.924729 (0.004)	.0965338 (0.314)
Voice and Accountability	.3231175 (0.220)	.2191633 (0.000)

<i>GDP Per Capita</i>	10.84252 (0.00)	11.40152 (0.000)
------------------------------	--------------------	---------------------

Test that all $u_i=0$: F (20, 288) = 2404.58

Prob > F = 0.0000

The above results are mainly of Pooled OLS and Fixed effect which shows that the F-statistic of the entire model is significant and Fixed effect approach is more consistent than Pooled OLS.. The results of the model Fixed effect show that if all other things remain constant then Gross domestic product will increase by 11.40 % in this region. Terrorism have insignificant impact on all the countries with negative sign. These results also conclude that corruption have negative impact on overall economy. As we know from the literature that corruption and regulatory have negative relationship with growth (Mauro, 1995). As we see if 1% increase in Law and order the GDP will increase by 0.096 %.

The value given below the table (Redundant effect model) is conclude that Fixed effect is better than OLS because fixed effect is more consistent approach to solve the problem of hetero.

In appendix table of diagnostics of Fixed effect showed that there is still problem of cross sectional hetero and autocorrelation. To resolve the problem we use feasible generalized least square model which is our final model. In appendix we can see in the table Feasible least square model panel autocorrelation problem is solved.

Table 5

5.3 Feasible generalized least square model	
	fglshetauto
<i>Control of corruption</i>	-.99476723***
<i>Government Effectiveness</i>	1.6063112***
<i>Political stability</i>	.58358828***
<i>Regulatory Quality</i>	-1.1017976***
<i>LAW and Order</i>	-1.397849***
<i>Voice and Accountability</i>	.61671888***
<i>GDP Per Capita</i>	10.668387***

legend: * p<.05; ** p<.01; *** p<.001

From the above table, growth and governance measures have significant relationship with each other. If there is political stability in these region the GDP

will increase by 0.5 % and have significant impact on development. These region highly effected by corruption and control of corruption in these region will give significant impact on overall economy. Corruption is now becoming the widespread problem in all the nations and it had negative influence on the economic performance of the regions (Richard, 2003). As literature review is supporting that corruption and regulatory quality have negative relationship with growth (Mauro, 1995) the law and order situation as you know is worst in these regions. If law and order work properly and regulatory quality improves they both will have significant impact on region. There is negative impact of those variable in growth because in Law& order (global economy, 2015) these regions are in worst situation, they are falling in bottom.

6 Policy Implications:

From the results we can say that, political stability and government effectiveness are growth enhancing feature in these regions and Law & order retarding the growth. These finding also support the results of (sekkat, 2005). There is also evidence that corruption will have negative impact on this region. Form the results the policy makers should make better policies to enhance the growth and spend more to strengthen the political stability and government effectiveness.

As strengthening the policies to make better civil services and public services the development will increase and create better environment for the domestic investor as well as foreign private investors. The region basically involved those countries how have high political instability, as they have low productivity low manufacturing and slow development.

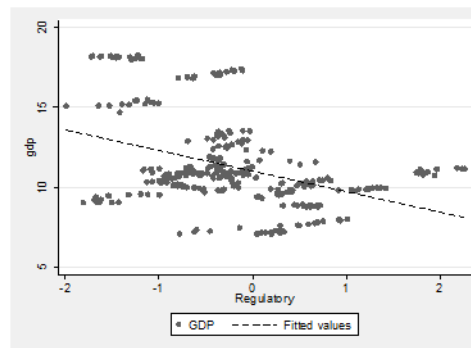
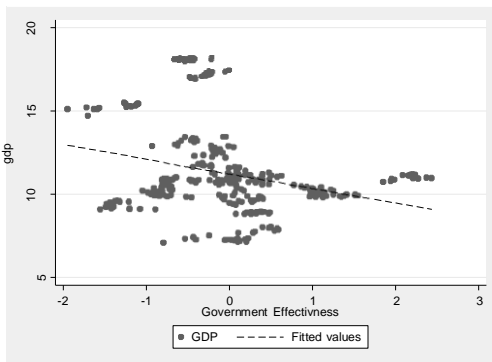
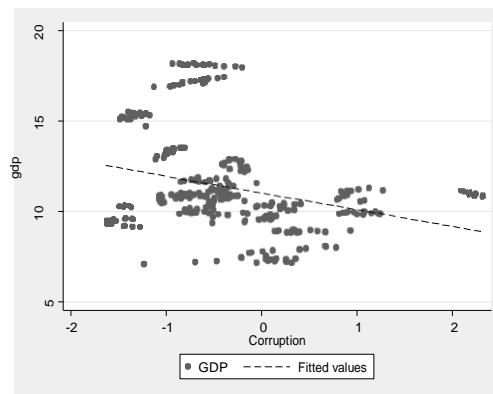
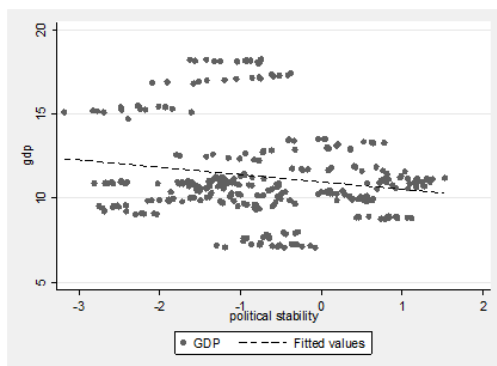
The study concluded that corruption should be controlled to take the high growth as it has negative impact on the output. The governments should make strict policies to improve law and order, freedom of voice, and accountability. By strengthening the law, the corruption will decrease, everyone would know that he will be accountable from his deeds. The study supports the finding of (Ghani, 2011) he stated that, governance measure will work positively in developing countries like (Pakistan, India, Bangladesh, Iran Iraq).

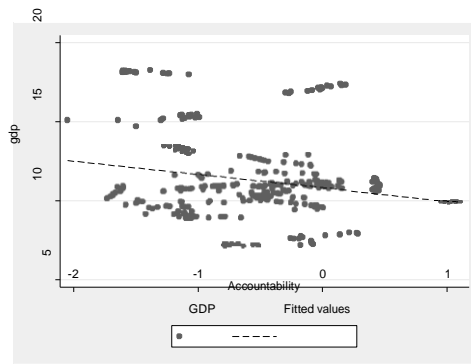
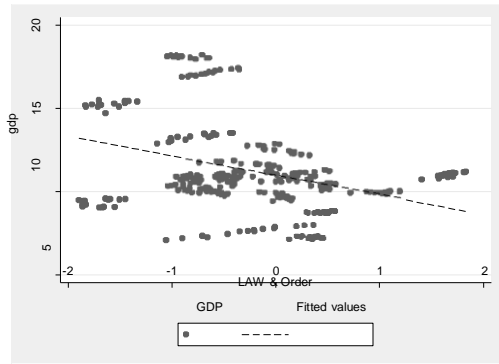
7 Conclusion

This empirical study investigates the relationship between rule of governance and economic growth. It is based on panel data approach by choosing the specific Asian countries to find out the relationship among Governance indicators and

economic growth. The feasible generalized least square model is used to check the relationship, here the study finds out that corruption has bad negative impact on overall region. As corruption free environment is desirable in any economy but if governments invest on better accountability and Law then corruption could be controlled.

The results also conclude that if policy makers spend more on political stability and government effectiveness then it may lead to high growth. As investors want to spend more on peaceful and politically stable environment. Investment increase the volume of growth increase will lead to reduce unemployment, increase income and make strong financial markets. In below graphs we can see that GDP have negative relationship with all the government measures, this is because as corruption, terrorism, violence increase the growth will be decline as (Alseina, 1992) said in his literature. It may be also because of cross sectional regions. Some of the region conditions may be different in this data like: China, Singapore. The Accountability law and government also had weak relationship. The supporting literature said that the condition of government measures in these regions is weak (global economy,2015). This report also indicates that most regions are below 0 and in negative.





This study also suggests that the country which has high political stability and government measures works properly. The GDP on those countries is also higher. As their financial systems are stronger and there is a high rate of saving, investors want to spend on them. A private sectors plays great role in any economy. If the civil sectors and public sectors work properly in their departments then many of these problems could be solved. Policy makers should make strict policies for accountability of any person, people should have right to freedom of voice and no one should violate the law. So, study suggests that spend more on political stability and government effectiveness to enhance the economic growth.

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World Bank (2016), *World Governance Indicators*, World Bank, Washington, DC

9 Appendix

Descriptive statistics

GDP				
	Percentiles	Smallest		
1%	7.115826	7.039847		
5%	7.254007	7.060157		
10%	8.78952	7.06616	Obs	315
25%	9.82097	7.115826	Sum of Wgt.	315
50%	10.76314		Mean	11.26451
		Largest	Std. Dev.	2.705584
75%	11.81168	18.20689		
90%	15.44746	18.24117	Variance	7.320183
95%	17.40252	18.25497	Skewness	1.091631
99%	18.20689	18.27163	Kurtosis	3.802583
COR				
	Percentiles	Smallest		
1%	-1.579179	-1.638287		
5%	-1.43289	-1.635723		
10%	-1.25881	-1.587331	Obs	315
25%	-.833834	-1.579179	Sum of Wgt.	315
50%	-.4407611		Mean	-.2499095
		Largest	Std. Dev.	.8714632
75%	.1950662	2.241867		
90%	.9346274	2.247644	Variance	.7594481
95%	1.280399	2.32098	Skewness	1.007104
99%	2.241867	2.32558	Kurtosis	3.855079
EFF				
	Percentiles	Smallest		
1%	-1.629893	-1.94748		
5%	-1.331396	-1.718666		
10%	-.9502964	-1.701213	Obs	315
25%	-.5403184	-1.629893	Sum of Wgt.	315
50%	-.0602706		Mean	-.0316055
		Largest	Std. Dev.	.8301608
75%	.3092597	2.241407		
90%	1.120518	2.270797	Variance	.689167
95%	1.563668	2.375459	Skewness	.677956
99%	2.241407	2.436975	Kurtosis	3.761054
POSV				
	Percentiles	Smallest		
1%	-2.768146	-3.180798		
5%	-2.519349	-2.82731		
10%	-2.221302	-2.810035	Obs	315
25%	-1.425789	-2.768146	Sum of Wgt.	315
50%	-.7445893		Mean	-.6678034
		Largest	Std. Dev.	1.10041
75%	.2666191	1.345581		
90%	.8266353	1.368175	Variance	1.210902
95%	1.156484	1.378178	Skewness	-.009039
99%	1.345581	1.528321	Kurtosis	2.157044

REG					
	Percentiles	Smallest			
1%	-1.70872	-1.99022			
5%	-1.5206	-1.804449			
10%	-1.238699	-1.72011	Obs	315	
25%	-.7225809	-1.70872	Sum of Wgt.	315	
50%	-.2887118		Mean	-.1852146	
		Largest	Std. Dev.	.8483003	
75%	.3163688	1.970402			
90%	.9224599	2.1807	Variance	.7196134	
95%	1.423306	2.233457	Skewness	.5370151	
99%	1.970402	2.260543	Kurtosis	3.201925	

LAW					
	Percentiles	Smallest			
1%	-1.847092	-1.896632			
5%	-1.658668	-1.86438			
10%	-1.056348	-1.863189	Obs	315	
25%	-.7777725	-1.847092	Sum of Wgt.	315	
50%	-.346999		Mean	-.2453544	
		Largest	Std. Dev.	.8037017	
75%	.3117011	1.731186			
90%	.5882955	1.813492	Variance	.6459364	
95%	1.216479	1.824775	Skewness	.314256	
99%	1.731186	1.832003	Kurtosis	3.047657	

ACCT					
	Percentiles	Smallest			
1%	-1.701171	-2.050344			
5%	-1.600213	-1.74897			
10%	-1.375497	-1.72125	Obs	315	
25%	-1.074038	-1.701171	Sum of Wgt.	315	
50%	-.5052291		Mean	-.5371245	
		Largest	Std. Dev.	.6577597	
75%	-.0903711	1.068028			

Equality Test:

```
. mvtest means gdp cor, by(countrynum)
```

Test for equality of 21 group means, assuming homogeneity

	Statistic	F(df1,	df2)	= F	Prob>F
Wilks' lambda	0.0003	40.0	586.0	911.65	0.0000 e
Pillai's trace	1.9407	40.0	588.0	481.20	0.0000 a
Lawley-Hotelling trace	235.0195	40.0	584.0	1715.64	0.0000 a
Roy's largest root	217.7429	20.0	294.0	3200.82	0.0000 u

e = exact, a = approximate, u = upper bound on F

OLS Regression:

```
. reg gdp cor eff posv reg law acct
```

Source	SS	df	MS	Number of obs	=	315
Model	574.36768	6	95.7279466	F(6, 308)	=	17.10
Residual	1724.1698	308	5.59795391	Prob > F	=	0.0000
				R-squared	=	0.2499
				Adj R-squared	=	0.2353
Total	2298.53748	314	7.32018307	Root MSE	=	2.366

gdp	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
cor	-.5577239	.4713147	-1.18	0.238	-1.485128	.3696802
eff	2.763094	.5488939	5.03	0.000	1.683038	3.843151
posv	.4999097	.2147486	2.33	0.021	.0773497	.9224698
reg	-2.187149	.382081	-5.72	0.000	-2.938968	-1.43533
law	-1.924729	.6684837	-2.88	0.004	-3.240101	-.6093561
acct	.3231175	.2628963	1.23	0.220	-.1941826	.8404175
_cons	10.84252	.2459765	44.08	0.000	10.35851	11.32653

Fixed Effect

```
. xtreg gdp cor eff posv reg law acct, fe
```

```
Fixed-effects (within) regression      Number of obs   =       315
Group variable: countrysnum           Number of groups =       21

R-sq:                                Obs per group:
    within = 0.1687                  min =          15
    between = 0.0895                  avg  =         15.0
    overall = 0.0822                  max  =          15

                                F(6,288)      =       9.74
corr(u_i, Xb) = -0.4184              Prob > F       =     0.0000
```

gdp	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
cor	.0946495	.0822804	1.15	0.251	-.0672978	.2565967
eff	.3109536	.08007	3.88	0.000	.1533569	.4685503
posv	-.0362815	.0358065	-1.01	0.312	-.1067571	.0341941
reg	-.0736404	.0716042	-1.03	0.305	-.2145743	.0672934
law	.0965338	.1012199	0.95	0.341	-.1026907	.2957584
acct	.2191633	.0609205	3.60	0.000	.0992573	.3390692
_cons	11.40152	.0381941	298.52	0.000	11.32635	11.4767
sigma_u	2.9125497					
sigma_e	.18878135					
rho	.99581639	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(20, 288) = 2404.58      Prob > F = 0.0000
```

Normality test

Skewness/Kurtosis tests for Normality						
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	joint Prob>chi2	
resid	315	0.6711	0.0978	2.94	0.2303	

Cross sectional hetro

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: $\sigma(i)^2 = \sigma^2$ for all i

chi2 (21) = 1139.79
Prob>chi2 = 0.0000

Cross sectional auto

```
. xtcd2 residfe
Pesaran (2015) test for weak cross sectional dependence
H0: errors are weakly cross sectional dependent.
    CD = 8.018
    p-value = 0.000
```

Feasible generalized least square model

Variable	fglshet	fglsauto
cor	-.99476723***	-.06619056
eff	1.6063112***	.252288
posv	.58358828***	.15140046
reg	-1.1017976***	-.62732002**
law	-1.397849***	-.56278208
acct	.61671888***	-.03306523
_cons	10.668387***	11.063231***
chi2	260.36996	37.632438
N	315	315

