ROLE OF INSTITUTIONS IN ECONOMIC PERFORMANCE: AN EMPIRICAL STUDY ON INTERSTATE DIFFERENCES IN INDIAN STATES WITH REFERENCE TO JHARKHAND

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Abstract
        Existence of good institutions plays a very important role in economic performance. Though the term 'institutions' covers a very wide spectrum, this paper considers the legal aspect and extent of state intervention as important components of institutions. However political institution has also been identified as an important factor that affects industrial growth and development. This paper empirically examines the significance of these factors in explaining variations in the per capita GDP of the Indian states and the extent of industrial development across them. The study further uses the different indices of institutions for a comparative analysis among the states with reference to Jharkhand. Empirical findings suggest that the extent of state intervention is significant in explaining the variations in State Gross Domestic Product (SGDP) growth whereas legal institutions and political institutions both play a highly significant role in explaining variations in the extent of industrial development across the Indian states.

Introduction

Development economics of different countries or different states tries to find out the answer of a basic question why different countries or different states within a country grow differently resulting into different degrees of income inequalities. Ayami (1997) discusses the cross country comparison and finds that governance and institutions which are country-specific factors, play a dominant role in determining the growth of a country.

Even countries with similar resource endowments have experienced sharply different economic growth because of country-specific governance and organizations. Examples are North Korea versus South Korea, Kenya versus Tanzania, and India versus Pakistan.

A well maintained setup of institutions encourages components of economic development to participate in fair and productive economic activities and discourages rent-seeking and illegal activities in an economy. Poor institutions force the economy to a low-level equilibrium due to the disincentives created by the non productive role of the economic agents (Dash and Raja, 2009). The literature that focuses on the role of a government or state maintains that the interventionist activity of the state influences the economic outcomes to a considerable extent (Buchanan and Tabellini, 2005) .The enforcement of efficient legal institutions, protection of property rights and well-enforced rule of law have been recognized as prerequisite for economic prosperity.

The role of a state is gauged by two important performers : the existing quality of governance and the extent of state intervention in economic activities. The quality of governance can be judged by the enforcement of the rule of law, fiscal management, and expenditures on development-related activities (Schaefer and Raja, 2006). It is found that the state acts as a grabbing hand rather than a helping hand; it redistributes and appropriates the wealth instead of generating and protecting it. Thus, due to its self-interested character, if the governments were given policy powers that influenced the market, it would fail to bring about effective economic development (Kaufmann et.al., 2002).The political institutions of a nation determine its economic outcomes indirectly by influencing economic institutions (Acemoglu et.al., 2001). A politically unstable society makes investments risky and uncertain by frequently changing the Government and its decisions. Political instability discourages investments and productive economic activities (Barro, 1991, Alesina et.al., 1996, Brunetti and Weder, 1998, and Svensson, 1998).

Empirical findings suggest that the extent of state intervention is significant in explaining the variations in state's SGDP growth whereas legal institutions and political institutions both play a significant role in explaining variations in the extent of industrialization across the states. The study

further uses the formulated indices of institutions for a comparative analysis among the states considered with reference to Jharkhand.

**Brief Introduction of Jharkhand**

Jharkhand is the newly carved out resource rich state in India, having immense potential for industrialization endowing large deposits of minerals, which may prove to be a launching pad for various industries. Around 40 percent of the total minerals are available in Jharkhand. The State is the exclusive producer of cooking coal, pyrite and uranium. It ranks first in the production of coal, mica, copper and kyanite in India.

It is the country's most mineral rich state, with mining and quarrying accounting for 14.3 percent of the GSDP (as compared to 2.3 percent for the rest of India), and manufacturing for 27 percent (as compared to only 17 percent for all India in 2004). Forestry, from which the state derives its name, contributes only about 1.3 percent of the GSDP. It is interesting to note that the shares of industry, agriculture and services have remained more or less constant and hence the growth of the state has come to a hault, over the last 10 years, with industry contributing nearly 50 percent and both agriculture and services sector contributing 22 percent and 28 percent respectively year after year (Figure 1.1).
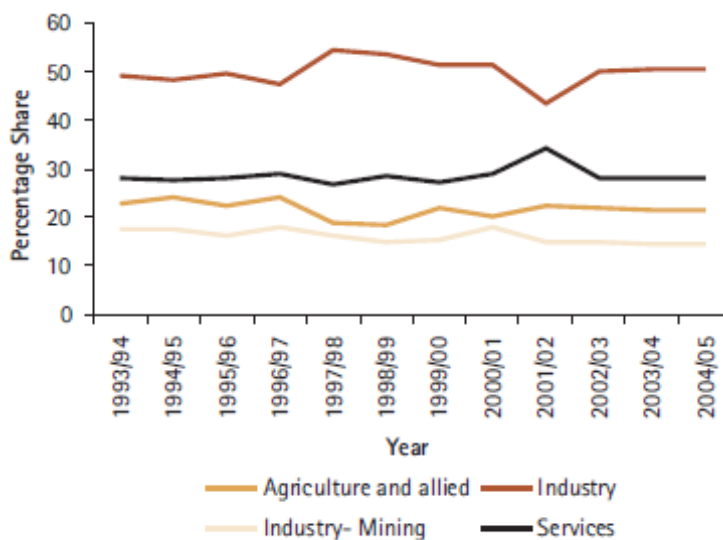
Source: Central Statistical Organisation
Figure 1.1- Sectoral Shares in GSDP

"The level of industrialization has not translated into high levels of income for the state".
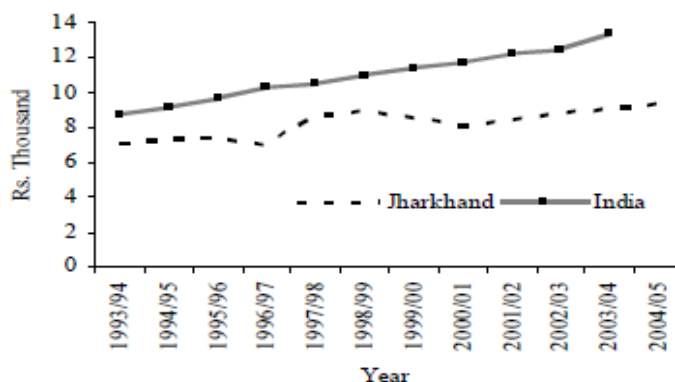
Source: Central Statistical Organisation
Figure 1.2-Growth Gap between Jharkhand and rest of India

The gap between the growth of income between Jharkhand and the rest of India has been widening as the state's per capita income has grown only at 3.4 percent per annum compared to 4.8 percent for all India between 1993/94 and 2003/04 (Figure-1.2).

Jharkhand has the major industrial activity in large and medium sector in the state, which so far has taken place in Chotanagpur region. Considerable investments have been made both in public and private sector in basic and heavy industries during previous planning periods with marginal spread effects in the state. All these facts though might suggest a pleasant state of affairs but in Jharkhand, nearly 80% large and medium scale industries is seen in districts of Hazaribagh, Dhanbad, Bokaro, Ranchi and Purbi Singhbhum which also cumulatively accounts to 68% of the state urban population reflecting that the industrial development is limited and confined to the Chotanagpur region and is almost untouched for the Santhal Pargana region which is also having a huge mineral base. The state has experienced a modest growth rate of 2.4 percent per year in GSDP over the last decade, as estimated from the NSS survey. With one of the highest levels of poverty incidence in India, the state needs to accelerate the overall growth rate.

Organisation of the Paper

The paper is organized as follows: the following section is devoted to a discussion of the literature on the role of institutions and the quality of governance in Indian context and identifies the gaps that this study attempts to fill. The third section describes the objectives of this study. The fourth

section contains data and the methodology used. The fifth section contains the empirical analysis and the results. The sixth section contains the discussion of the results and the conclusion.

The literature review

The significant positive role of the institutions on the economic development have been established by a number of cross-country empirical studies in explaining the disparity in growth rate and standards of quality of life across different countries over a time (Aron, 2000; Rodrik et.al., 2004; Hall and Jones, 1999; Clague et.al., 1999; Svensson, 1998; Levine, 1998; La Porta et.al., 1999; Mauro, 1995; Knack and Keefer, 1995 and 1997; Barro, 1991 and 1996; Scully and Slottje, 1991).

According to Chong and Calderon (2000), a country's institutional framework is an important factor for not only its economic performance but also the way, how income is distributed among its members. In many researches, information regarding the quality of institutions is generally taken from the International Country Risk Guide (ICRG) and the Business Environment Risk Intelligence (BERI).

Most of the abovementioned studies suggest that economic performance can be guaranteed only when a country-specific institution is adopted successfully.

Institutions and Governance in India

Many scholars have linked institutions with economic outcomes from different perspectives. Douglas North (1989 and 1990) finds that the institutions are country-specific and they determine the level of future economic growth of the country, whereas scholars such as Bardhan (2004 and 2005) are more concerned about the problems caused by the existing dysfunctional institutions and their persistence in underdeveloped countries or states.

The quantification of institutions in India was undertaken in a study by Subramanian (2007) in which the legal efficiency, rule of law and customs administration were taken as indicators of institutional quality or institutional outcomes. The broad conclusion is that the core institutions of democracy and an independent judiciary have created the prerequisite for economic growth, but that India could get this growth only after a proper policy orientation.

The role of institutional qualities in promoting economic growth are significant factors across the Indian states has begun to gain the attention of scholars only recently.   Most of the studies centred on the economic performance across Indian states, only suggest that there is a variation in the institutional quality but they haven't been tested statistically. The study

performed by Indicus Analytics (2004) and Debroy and Bhandari (2004) are limited to the ranking of the states or whether that ranking has changed during different time periods for the purpose of investment attractiveness, but the significance of the institutions has not been tested over economic performance. Various institutional indices, are calculated based on a perception survey. Development indicators, such as the level of industrialization, also show a high variation.

Fiscal governance plays an important role in promoting economic growth. But when fiscal governance is measured by fiscal deficit, it may not be a good indicator as it is not directly linked to the level of development of the states and as because the poorer states showing revenue surpluses and small fiscal deficits actually did so by sacrificing or compromising on development expenditures (Rao, 2005). Bhide, Chadha and Kalirajan (2005) while assessing the overall growth across Indian states found institutional quality play a significant role. However, the proxy for institutions that is used is the state growth rate (SGDP). This is based on the assumption that states having a higher growth are also the ones with better institutions.

The number of studies conducted is very few on India and Indian states, if the country-specific institutions and economic performance is concerned at a broader regional level.

Institutions and Industrial Performance in India

Poor institutions can restrict the economy from using efficient production techniques, whjch in turn would force the country to remain at the 'low-equilibrium' trap with low per capita income for a long time, which is the case in India until recently (Dreze and Sen, 1997).

Several interesting questions are raised based on this argument, about India's productive efficiency, technological progress and overall growth process during the pre-reform period of 1991. It may be noticed that the government industrial policy did not produce the expected results of increasing employment and reducing the interregional income disparity, though the industrial output increased as discussed by Rosen (1992).

To study the role of institutional qualities on the industrial performance it is necessary to understand the growth path followed by India over a number of years since independence. The basic organisational setup followed in India for its industrialisation process has been the heavy dependence on public sector units and a limited entry for new private sector firms and also to stop expansion of existing firms in the production of low priority areas. Capital goods such as Steel and Cement were given to public sector enterprises, while consumer goods and other low priority production were given to private sector. Public sector industries instead of making profits have in fact accumulated huge losses over the years. As a result,

instead of being a source of reinvestible surplus, they have become only a source of liability to the economy. Lack of profitability in the public sector has been partly the result of a low rate of capacity utilization.

In conclusion, it may be stated that most of the study of institutions and economic performance across the Indian states has only been done with a view to ranking the Indian states and observing whether this ranking has stayed over time or changed. The use of perceptional indices, however, has many problems associated with it and may not give an accurate picture. The question of whether the perceptional indices correlate with the prevailing ideas on the institution-economic development linkage has not been studied so far. Using fiscal deficit as an indicator of fiscal governance would also show misleading results; hence, under index of fiscal governance, different variables are required to be considered. This paper is an attempt to answer these issues and raise striking questions on the role of governance and the linkages between institutions and economic performance.

Objectives of the study

Most of the earlier research works, on institutions and economic performance across the Indian states, have been performed either with a view to ranking the states or to observe whether this ranking has changed over time. Though the method using perception indices has many problems associated with it, however whether these indices correlate significantly with the economic development, has not been studied so far. This study is as an attempt to fill this gap and raise pertinent questions on role of different institutions in economic performance. Consequently the following objectives are framed-
1. To study the role of different components of institutions in economic performance of the Indian states, analysing the significance levels using multiple OLS Regression techniques.
2. To comparatively analyse the economic performance of the Indian states, with reference to Jharkhand, based on the different indices of institutions formulated.

The data and methodology

In this paper four most economically developed Indian states have been considered from each of the four zones of India namely West Bengal from East Zone, Maharashtra from West Zone, Punjab from North Zone and Tamilnadu   from South Zone and   a comparison has been made with reference to Jharkhand. In this process various proxies are used to find out how significant is the components of the Institutions-i) Legal institutions, ii) State intervention as an institutions and iii) Political Institutions, over three dimensions of economic development namely per capita income, percentage

growth in SGDP and level of industrialisation, which are collected from various secondary data sources. To perform this cross-sectional study, data for the time period of seven years (from 2004-05 to 20010-11) have been collected. Seven proxies of institutions are used to capture three dimensions of the institutional aspects in the economic activities. This paper formulates institutional indices based on secondary data for the time period of seven years (from 2004-05 to 2010-11) and uses statistical methods to test the hypothesis that institutions affect economic performance. This method however ignores the issues that are associated with obtaining information that is perception-based.

The common problem for such type of cross-section analysis is multicollinearity. Principal component analysis (PCA) is used to solve this problem. PCA is applied to the proxies who are having high correlation amongst each other. Since the units of measurement of different correlated variables are different, the rotated correlation matrix is used to get the corresponding weight.

After standardizing the data, it is multiplied with the weight as suggested by PCA to arrive at the corresponding indices or composite indices. Finally, three principal components are retained which have extracted 93.8 percent of variance of the dataset. The obtained weights are multiplied by the corresponding standardized values of the variables to arrive at the indices.

Since the proxy of the Creditors' Property Rights Protection receives the highest weight in the first principal component, the resulting index is named the Index of Property Rights. The second highest weight in the first component is for Average Disposal rate of cases per court, for which the resulting index is named Index of Legal Efficiency.

Similarly, the second principal component suggests for the three indices-named as i) the State as a provider of necessary infrastructure- a combination of two variables -named surfaced road as a proportion of total roads and percentage of households having access to a telephone , ii) Index of Economic Freedom-which is a measure of total Govt. Expenditure as a percentage of SGDP and iii) Index of Fiscal Governance- prepared combining two variables named revenue expenditure as a percentage of total expenditure and interest payment as a percentage of total expenditure.

The third principal component, which has the highest weight to Transmission and Distribution (T&D) Loss considered as a proxy for the Index of Rule of Law. The second highest weight in third component is for the number of times the president's rule imposed which when combined with the next highest value for coalition government generates the Index of Political Stability.

The resulting seven indices no longer have the problem of multicollinearity and can be used together in a regression equation. The details of the dependent and independent variables are discussed below.

The Dependent Variables
For better understanding and proper gauging the economic development of states, three dimensions of it are considered based upon the following justifications-
(i) *Per capita state gross domestic product.* This is an overall measure of economic development and is used routinely in many studies. The set of institutions is regressed over this variable and the results are discussed in Model-1.
ii) *Percentage SGDP growth rate* among the states is the second variable considered. This is a measure of the comparative percentage growth year wise, of the state GDP, in different states, reflecting the economic growth rate. The set of institutions is regressed over this variable and the results are discussed in Model-2
(iii) *Index of industrial development is* considered as the third variable because the extent of industrialization has significant linkage effects that influence the level of development. It is measured as the ratio of the contribution of the secondary sector to total state GDP. The set of institutions is regressed over this variable and the results are discussed in Model-3.

Selection of the Proxies and the Formulation of the Indices to be referred for independent variables
The components of institutions and the justified selection of the corresponding proxy variables are discussed in Table 1.1.

Table 1.1:Institutions and the Selection of the Proxies		
Institutions	**Components of the Institutions**	**Description of the Proxy Variables**
1.Legal Institutions	1 a) Index of Legal Efficiency	• *Disposal rate of cases per court* has been considered as a proxy which covers the efficiency level of the legal institutions. A higher value is an indication that pendency is less with a quicker disposal of cases resulting into prevention of productive activities.
	1 b) Index of Property Rights	It is the measure of the degree of risk that banks face across the states. one of the aspects of property rights which is considered as a proxy for this study is the *Credit-deposit ratio of commercial banks.* The credit deposit (CD) ratio is a measure of the effectiveness of the credit delivery system.
	1 c) Index of	-

	Rule of Law	This is a perception institution and most of the cross country studies have used the rule of law indices prepared by international agencies like ICRG, BERI and the World Bank. This study has used *Transmission and distribution (T & D) loss as a percentage of total generation* as a proxy for rule of law with the following justification- T & D losses occur due to two reasons- (i) loss due to transmission which is a technical phenomenon and (ii) loss due to theft which is mainly due to illegal connection of electricity from the transmission. If it is assumed that the loss due to technical reasons would be uniform throughout the state as the technology of generation and distribution does not vary significantly across the country. If the rule of law will be poorer, the probability of being caught will be very low and people will find that power theft is very easy. Hence this can be taken as a proxy for rule of law.
2. State Intervention as an Institutions	2 a) Index of Economic Freedom	This index reflects the extent to which the state is involved in economic activities. The proxy considered for this index is the *Ratio of total expenditure to state gross domestic product (SGDP).* A high value of the ratio of *total expenditure to state gross domestic product (SGDP) shows greater extent of intervention of state in various economic activities which may result into more scope of corruption or rent seeking.*
	2 b) Index of Fiscal Governance	A poor fiscal governance may not attract the the private economic agents for the productive economic activities. Two proxy variables are considered to capture this index- *(i)Revenue expenditure as a percentage of total expenditure-* a high ratio value indicatesthat more resources are utilised for generating revenue which is redistributive for the development of the state.a low value indicates an inefficient utilization of the resources and a poorfiscal management. (ii) *Interest payments as a percentage of total expenditure-* if a large amount is devoted to the interest payments on debts, then few amount is left for the developmetal activities reflecting a poor fiscal management of the state.

2 c) Index of State as a provider of Necessary Infrastructure		.The role of infrastructure in industrial development and hence in economic outcomes is well established by various studies. Two variables are considered to captyre this- (i) *Ratio of surfaced (paved) roads to total roads.* This indicates the quality of road infrastructure and a higher ratio represents the maintenance of good transport facilities by the state. A developed road infrastructure reduces the total transaction costs of economy by saving time and minimizing transportation costs, which attracts the investment projects. (ii)*Percentage of the population accessing telephone connections.* An efficient telecommunications system will reduce the costs of communication and will make transactions cheaper and quicker.
3.Political Institutions	Index of Political Stability	Two variables are used in order to capture the political scenario of major Indian states. • *Number of times the President's rule was imposed.* The imposition of the President's rule indicates a poor political scenario in a state. President's rule is generally imposed when none of the political parties gets a majority or if the party in power fails to maintain law and order in the state. If this happens frequently, then a state will fail to attract economic investors and economic outcomes will always be unsatisfactory • *Number of times the Chief Ministers headed a coalition form of government.* The main problem with a coalition government is that it is not necessarily stable and mere for survival of the coalition government development in all fields are sacrificed by the politicians. Reversal of policies may create an environment whisc distracts the investment scenario.Hence a high value will suggest high degree of political instability resulting into less development

Empirical analysis and the results
Regression Results
      Multiple ordinary least squares regression analysis is used to analyse the statistical significance level of the different indices and to explain the variations in the different components of economic performance across the states. The results are discussed in Table 1.2.

Table 1.2: Regression Results			
	MODEL 1	MODEL 2	MODEL 3
Dependent Variables / Independent Variables	**PCI**	**SGDP**	**LID**
Index of Legal Efficiency	2.251 (1.972)*	-0.7319 (-0.5716)	-1.359 (-2.346)**
Index of Political Stability	-1.844 (-0.702)	-1.997 (-0.678)	4.807 (3.6068)***
Index of Rule of Law	-5.326 (-1.1969)	8.755 (1.754)*	9.836 (4.355)***
Index of Property Rights Protection	-0.81055 (-0.936)	3.215 (3.311)***	4.486 (10.212)***
Index of State as a provider of infrastructure services	-0.0888 (-0.797)	0.603 (0.485)	2.775 (4.937)***
Index of Fiscal Governance	-87.43 (-1.518)	178.89 (2.769)**	63.683 (2.179)**
Index of Economic Freedom	144.45 (1.777)*	-259.66 (-2.848)***	-97.314 (-2.359)**
Intercept	17.079*** (5.635)	7.038*** (8.173)	15.06*** (24.424)
R-Squared	0.677	0.5937	0.917
Adjusted R-Squared	0.544	0.4264	0.883
F-Statistics	5.094**	3.549*	26.776***
Degree of Freedom	(7,5)	(7,5)	(7,5)

Abbreviations: PCI: Per Capita Income, SGDP: Percentage Growth in State Gross Domestic Product, LID: Level of Industrial Development
Notes: The figures below coefficient measures within parenthesis are the t-statistics values
*** Significant at 1% significance level
** Significant at 5% significance level
* Significant at 10% significance level

      The estimated regression results, after regressing the indices of the set of institutions over the different components of economic performance are displayed in Table 1.2.

      The results in Model 1 suggest that the State Per Capita Income has a low explanatory power as reflected by the low value of adjusted R^2. This model explains only 66.7 percent variance in per capita income among the states. In this model most of the indices appear with negative sign except the Index of Legal Efficiency and Index of Economic Freedom though both have positive coefficient values but significant at 10 percent significance level.

In Model 2, it is observed that it is a weak model as reflected by the comparative low value of adjusted R^2 which explains only 59.4 percent variations. The major finding of this model is the Index of Property Rights which is highly significant and the Index of Fiscal Governance which is significant at 10 percent significance level showing the positive correlation with the degree and quality of state intervention in economic performance.

In Model 3, the set of institutions are regressed over level of industrial development and it is found to be satisfying all the criteria of a good fit model with a very high explanatory power covering around 88.3 percent variance in it. The Indices of Political Stability, Rule of Law, Property Rights and State Infrastructure do affect the level of industrial development and hence the overall economic performance of the states, suggested by the positive values of coefficients, is highly significant at 1percent level of significance. In this model Index of Fiscal Governance is also significant at 10 percent level of significance showing that states cannot overlook or ignore this for a better level of industrialisation.

Surprisingly the Index of Legal Efficiency and Index of Economic Freedom both have negative signs in   Model 3, which is against the expectations but the values are significant at 5 percent level of significance suggesting these indices somehow do affect the level of industrial development in the states considered.

The intercept in all the three models are also highly significant suggesting the initial level of economic growth is positively influenced by the all the models considered and hence by all the components of institutions.

Comparative Analysis of the Institutions at State Level with reference to Jharkhand

Table 1.3 :Indices of Institutions by States							
STATES	I_LEG_EFFI	I_POLI_STAB	I_RULE_LAW	I_PROP_RIGHT	I_STATE_INFRA	I_FISC_GOV	I_ECON_FRDM
JHARKHAND	-0.055	0.090	0.085	-0.084	-0.139	0.002	0.003
MAHARASHTRA	0.027	-0.024	0.000	0.031	0.061	-0.007	-0.005
PUNJAB	-0.014	-0.019	-0.035	-0.008	0.155	0.004	0.002
TAMILNADU	-0.056	0.007	0.004	0.002	0.046	-0.001	0.000
WEST BENGAL	0.037	-0.024	-0.009	-0.024	-0.161	0.005	0.001

Abbreviations: I_LEG_EFFI ,Index of Legal Efficiency; I_POLI_STAB, Index of Political Stability; I_RULE_LAW, Index of Rule of Law; I_PROP_RIGHT, Index of Creditors' Property Rights; I_STATE_INFRA,

Index of State as a provider of necessary Infrastructures;   I_FISC_GOV, Index of Fiscal Governance; I_ECON_FRDM, Index of Economic Freedom

Comparative analysis of the states based on different indices of Institutions is presented in Table 1.3 and can be summarised, institution-wise as follows –

Legal Efficiency - An efficient legal institution with a quicker disposal rate of cases can help to avoid economic loss and improve economic outcomes. Hence, a higher disposal rate is expected to be positively related with the economic performance. West Bengal has the highest value for this followed by Maharashtra and Punjab. Jharkhand has the one of the lowest value for this reflecting that the legal institutions are not in a satisfactory condition.

Political Stability- Two variables are used in order to capture the index of political stability- *Number of times the President's rule was imposed and number of times the Chief Ministers headed a coalition form of government.* The imposition of the President's rule indicates a poor political scenario in a state.

The main problem with a coalition government is that it is not necessarily stable and mere for survival of the coalition government development in all fields are sacrificed by the politicians. Hence a high value will suggest high degree of political instability. Jharkhand is politically most instable state having the highest value in this index which reflects the truth as here President's Rule was imposed for 2 times and 9 times CM headed a coalition government during 2004-11.West Bengal is politically most stable state for this period followed by Maharashtra.

Rule of Law- The index of rule of law is reflected by the proxy variable- T&D loss. So a higher vale will suggest more loss reflecting poor law and order conditions. Jharkhand has the highest value for this suggesting a very poor condition of law and order within the state. The lowest value is for Punjab stating that the law and order conditions are good followed by west Bengal.

Creditors' Property Rights - For index of property rights proxy is the CD-ratio of the commercial banks across the states which are a measure of the differences in the degree of risk that banks face across different states in India. Hence more is the risk value less is the development. However, Jharkhand has the least value showing it is in the best condition as compared to the other states.

State as a Provider of Necessary Infrastructure- A high value will reflect better infrastructure facilities within the state. Punjab is having the best

infrastructure facilities followed by Maharashtra and Tamilnadu. Jharkhand is lagging here also though West Bengal has the least value.

Fiscal Governance- A dissatisfactory fiscal scenario reflected by lower ratio value fails to attract and create incentives for the private economic agents to participate in productive economic activities. Jharkhand state's position is not comfortable. West Bengal and Punjab has one of higher values, more than that of Jharkhand while the lowest values is for Maharashtra Followed by Tamilnadu.

Economic Freedom- The economic freedom is reflected by CD-Ratio which is the regarded as effectiveness of credit delivery system. However the ratio is significantly influenced by the overall credit delivery environment and banks' lending policy. A higher ratio value indicates more State intervention in the economy and there is a greater scope for corruption and other kinds of rent-seeking activities. The indices values suggest that Jharkhand has the highest value followed by West Bengal. Punjab has the least value showing its high economic development.

        As suggested by indices values, Jharkhand state is lagging in most of the components of institutions like legal efficiency, political stability, rule of law, state infrastructure and economic freedom. However it is in a better condition as far as institutions like property rights and fiscal governance is considered. It can be concluded that Jharkhand- a resource rich state of India which is widely acclaimed as the region of the future, having immense potential for industrialisation with its large deposits of minerals, is lagging in almost all the components of institutions and hence needs to focus on the development of a good quality institutions which plays a significant role in explaining the economic development.

Discussion of the results and conclusion
        From the results it may be concluded that institutions do play a significant role in explaining the economic performance as well as the industrial development across the states under consideration.
        However if political stability, rule of law and state as a provider of necessary infrastructure are removed from the analysis then property rights emerge as a significant factor influencing the economic development. This suggests that while institutional qualities play a strong role in economic development but are overshadowed by quality of governance e.g. political stability, rule of law and state as a provider of necessary infrastructure.
        The measure of quality of governance as the political stability has a very strong effect on the economic performance. It is assumed that a state with low political stability where there is a rule of coalition govt, face a lot of

difficulties in implementing the policies since the political interests of different political parties don't match. All the policies and development are sacrificed only for survival of a coalition government, and enjoying their own political benefits and thus the government works for its own interests rather than in the interests of the people at large. However, this is tested by a proxy variable in this analysis and cannot be controlled by any policy.

The other measure of the quality of governance is the fiscal governance, which also plays an important role. States that spend more on developmental expenditures compared to non developmental expenditures have enjoyed a better level of economic development. The question of why the governments in some states have allocated a lower percentage of developmental expenditures cannot be answered by this analysis.

The Policy Orientation

From a policy perspective it may be noted that the states should spend on developmental expenditures rather than on non-development expenditures. Low quality of institutions would create a lot of obstacles in realizing the true potential of the states and must not be ignored. The development of the states depends heavily on how efficiently resources are used which is further determined by the quality of governance and the existing policy environment.

Good governance affects the growth and development in manifolds. First, it affects the efficiency of the public and private sector developmental programmes in the state. Poor administration and mismanagement are now widely accepted as the factors reducing the effectiveness of many government programmes. The general 'law and order' –broadly covered by 'rule of law' and 'legal efficiency' is highly responsible factor of governance which creates an environment conducive to investment. A better rule of law and faster disposal rates by courts and police would certainly have a positive impact on the development of the states. The result of good governance will facilitate the infrastructure development which itself is the welcoming door for many other developments in various sectors.

Another channel through which the growth of the state can be stimulated using the quality of governance at the state level is by making the policy environment more business friendly. A new entrepreneur setting of an industrial unit needs thirty separate permissions from different departments responsible for state level clearances, e.g. those related to environment regulations, utilities, health, sanitary and safety inspection, labour welfare regulation, sales tax, etc. The positive development in recent times is that many states have taken initiatives in this area and have introduced simplified procedures and single-window arrangements to improve the business climate. However these are very recent initiatives and the lead has been

taken only by the better performing states. Such type of reforms in the regulatory system is highly needed for the speedy development of the states.

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ANNEXURE-I

Table:1.4 : Correlation Matrix, before applying Principal Component Analysis (PCA)

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	AVG_DI SPO	PRESI_ R	COALI _G	TDLO SS	CD_R	SUR_RO AD	TELE_ HH	REV_E XP	INT_P AY	TOTAL_ EXP
AVG_DI SPO	1 -									
PRESI_R	.136 (.518)	1 -								
COALI_ G	-.137 (.514)	.556** (.004)	1 -							
TDLOSS	-.187 (.371)	.402* (.046)	.625** (.001)	1 -						
CD_R	.586** (.002)	.034 (.872)	-.074 (.723)	-.253 (.223)	1 -					
SUR_RO AD	-.885** (.000)	-.218 (.295)	.071 (.736)	.065 (.758)	-.547** (.005)	1 -				
TELE_H H	.514* (.010)	-.370 (.075)	-.489* (.015)	-.728** (.000)	.214 (.315)	-.389 (.061)	1 -			
REV_EX P	.154 (.462)	.021 (.920)	.116 (.581)	-.028 (.894)	-.161 (.442)	-.146 (.486)	.332 (.113)	1 -		
INT_PA Y	.074 (.725)	-.050 (.814)	-.083 (.693)	-.183 (.380)	-.172 (.412)	-.091 (.667)	.238 (.264)	.875** (.000)	1 -	
TOTAL_ EXP	.153 (.466)	.016 (.941)	.100 (.634)	-.041 (.845)	-.166 (.428)	-.147 (.482)	.329 (.116)	.999** (.000)	.895** (.000)	1 -

Notes: Figures in parentheses represent probability levels
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Abbreviations; AVG_DISPO, Average Disposal rate of cases per court; PRESI_R, number of times the President's Rule was imposed; COALI_G, number of times the CM headed a coalition form of government; TDLOSS, Transmission & Distribution Loss as a percentage of generation; CD_R, credit-deposit ratio of commercial banks across the states; SUR_ROAD, ratio of surfaced roads to total roads; TELE_HH, percentage of population accessing telephone connections; REV_EXP, revenue expenditure as a percentage of total expenditure; INT_PAY, interest payment as a percentage of total expenditure;TOTAL_EXP, ratio of total expenditure as percentage of total state gross domestic product (SGDP)

ANNEXURE-I- continued
Table 1.5: Weights Assigned after applying PCA

Rescaled Component			
	1	2	3
AVG_DISPO	.853	.233	.214
PRESI_R	.055	-.238	.513
COALI_G	-.166	-.315	.363
TDLOSS	-.317	-.489	.522
CD_R	.889	-.379	-.245
SUR_ROAD	-.866	-.187	-.460
TELE_HH	.477	.781	-.383
REV_EXP	.037	.553	.049
INT_PAY	-.014	.486	.096
TOTAL_EXP	.034	.557	.059
Statistics			
Eigenvalues	2.531	1.816	1.522
Percentage of variance extracted (Cumulative)	59.4	81.4	93.8

Abbreviations; AVG_DISPO, Average Disposal rate of cases per court; PRESI_R, number of times the President's Rule was imposed ; COALI_G, number of times the CM headed a coalition form of   government   ;   TDLOSS, Transmission & Distribution Loss as a percentage of generation ; CD_R, credit-deposit ratio of commercial banks across the states

; SUR_ROAD, ratio of surfaced roads to total roads ; TELE_HH, percentage of population accessing telephone connections ; REV_EXP, revenue expenditure as a percentage of total expenditure ;   INT_PAY, interest payment as a percentage of total expenditure   ; TOTAL_EXP, ratio of total expenditure as percentage of total state gross domestic product (SGDP)

ANNEXURE-I- continued

Table 1.6: Correlation Matrix, after applying Principal Component Analysis (PCA)

	I_LEG_ EFFI	I_POLI_S TAB	I_RULE_ LAW	I_PROP_RI GHT	I_STATE_I NFRA	I_FISC_ GOV	I_ECON_F RDM
I_LEG_EFFI	1 -						
I_POLI_ST AB	.066 (.753)	1 -					
I_RULE_LA W	-.186 (.373)	.528** (.007)	1 -				
I_PROP_RI GHT	.586** (.002)	-.023 (.911)	-.253 (.223)	1 -			
I_STATE_I NFRA	-.745** .000	-.340 (.096)	-.240 (.248)	-.476* (.016)	1 -		
I_FISC_GO V	.132 (.529)	.042 (.843)	-.078 (.711)	-.169 (.420)	-.039 (.853)	1 -	
I_ECON_FR DM	.152 (.469)	.070 (.739)	-.041 (.845)	-.166 (.428)	-.053 (.802)	.994** .000	1 -

Notes: Figures in parentheses represent probability levels
**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Abbreviations : I_LEG_EFFI ,Index of Legal Efficiency; I_POLI_STAB, Index of Political Stability; I_RULE_LAW, Index of Rule of Law; I_PROP_RIGHT, Index of Creditors' Property Rights; I_STATE_INFRA, Index of State as a provider of necessary Infrastructures; I_FISC_GOV, Index of Fiscal Governance; I_ECON_FRDM, Index of Economic Freedom

ANNEXURE-II
VARIABLES, DATA SOURCES AND TIME PERIOD
Table 2.1. Variable list for the index of Legal Efficiency

Variables	Data Sources	Years
1. Average disposal rates of cases per court	Crime in India, ,National Crime Records Bureau (NCRB),2011	2004-11

Table 2.2. Variable list for the index of Political Stability

Variables	Data Sources	Years
1. Number of times the President's Rule was imposed	D.D.Basu,Introduction to the Constitution of India,21st Edition	2013
2.Number of times a coalition government was formed	India, Statistical Reports on General Elections to the State Legislative Assemblies(New Delhi: Election Commission of India,2011)	2004-11

Table 2.3. Variable list for the Rule of Law

Variables	Data Sources	Years
1. Percentage of transmission and distribution (T&D) losses	India, *Annual Report (2011-12) on the Working of State Electricity Boards & Electricity Departments*, Power and Energy Division (New Delhi, Planning Commission, October 2011)	2004-11

Table 2.4. Variable list for creditors' Property Rights Protection

Variables	Data Sources	Years
1. Credit-deposit ratio of scheduled commercial banks per 1 000 population (in tens of millions of rupees).	India, *Report on Trend and Progress of Banking in India* (Mumbai: Reserve Bank of India, 2012)	2004-11

Table 2.5. Variable list for the index of the State as a provider of necessary Infrastructures

Variables	Data Sources	Years
1. Surfaced roads as a proportion of total roads	India, *Statistical Abstract, India 2011*,Ministry of	2004-11

	Statistics and Programme Implementation (New Delhi, Controlled Publications,2012)	
2.Percentage of households that have access to a telephone		2004-11

Table 2.6. Variable list for the index of Fiscal Governance

Variables	Data Sources	Years
1. Interest payment as a percentage of total expenditure	India, *State Finances: A Study of State Budgets* (Mumbai, Reserve Bank of India, 2011-12)	2004-11
2.Revenue expenditure as a percentage of total expenditure	India, *State Finances: A Study of State Budgets* (Mumbai, Reserve Bank of India, 2011-12)	2004-11

Table 2.7. Variable list for the index of Economic Freedom

Variables	Data Sources	Years
1. Total government expenditure as a percentage of SGDP	India, *State Finances: A Study of State Budgets* (Mumbai, Reserve Bank of India, 2011-12)	2004-11

Abbreviation: SGDP, State Gross Domestic Product

Table 2.8. Variable list for Development and Growth Indicators

Variables	Data Sources	Years
1. Per Capita Income	MOSPI Report on selected socio-economic statistics, India 2011	2004-11
2.SGDP Growth Rates	India, *State Finances: A Study of State Budgets* (Mumbai, Reserve Bank of India, 2011-12)	2004-11
3. Level of Industrialisation	*Percentage Share of Secondary Sector in SGDP Growth,* Central Statistical Organisation (CSO)& Ministry of Industry, Government of India, 2013,	2004-11

Abbreviation: SGDP, State Gross Domestic Product