

Governance Performance of Indian States

Changes between 2001–02 and 2011–12

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Building on a methodology developed in an earlier paper, the results of an exercise in ranking Indian states based on five sets of criteria—infrastructure, social services, fiscal performance, justice, law and order, and quality of the legislature—are presented to show how states have fared relative to each other between 2001–02 and 2011–12. What emerges is that five of the six best-performing states of 2001 were also the best performers in 2011. Similarly, four of the six worst performers of 2001 were also among the worst performers of 2011. A consequence of such stickiness of rankings at the top and the bottom is growing regional disparity between the more- and less-developed states.

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The main purpose of this paper is to help develop a usable framework for evaluating the performance of state governments in the delivery of core public services.

The Indian Constitution lays down the jurisdiction of different tiers of government in the Seventh Schedule under Article 246. There is some overlap, especially for subjects in the concurrent list, and in recent years, a few subjects of the union government have fallen into the jurisdiction of the states. Nevertheless, the constitutional demarcation of subjects that are the responsibility of the union and those that are the responsibility of the states is very clear.

The 1991 liberalisation reforms largely covered subjects in the union list. The focus of second-generation reforms has subsequently shifted to state subjects. The awards of successive finance commissions, especially the most recent, Fourteenth Finance Commission, have also considerably enhanced the fiscal autonomy of the states, better enabling them to make their own choices in public action. Moreover, the performance of incumbent state governments is now beginning to count, alongside the arithmetic of traditional identity politics, in determining electoral outcomes.

These are welcome developments. They have helped to promote performance competition among states. Such competition works best when consumers, in this case voting citizens in states, are well informed and have the necessary data to objectively assess the performance of state governments. Performance league tables of state governments of the kind proposed in this paper are intended to facilitate such objective assessments, thereby promoting performance competition among state governments.

Concept of Governance

There are varying conceptions of “governance.” These range from a simple statist interpretation, governance is what governments do, to a much wider interpretation of governance as the way in which individuals, groups, and institutions, both public and private, manage their affairs and resolve conflicts of interest in an orderly manner (Weiss 2000; DARPP 2009; Shome 2012). For this paper, which attempts to assess the performance of state governments in India, the statist interpretation is the most appropriate. Further, following Fukuyama (2013: 351), governance may be defined as, “a government’s ability to make and enforce rules, and to deliver services.”

This statist interpretation has a historical lineage going back two and a half millennia, stretching across different regions of

the world. In its concept of governance, the *Arthashastra*, the authoritative Indian text on statecraft dating back to the fourth century BCE, states that the king must exercise coercive authority (*danda*) but also outlines the principles for its fair application to serve the common good (*dharma*).¹ This *danda-dharma* duality, the importance of authority and an order preserving government to ensure peace, security and prosperity of the people, was also evident in other contemporary philosophies of governance in geographies stretching from China's Shang empire in the east to the then centre of the western world in Greece, that is, Plato's concept of the optimal Athenian state (Spengler 1969).

This core concept of good governance, the duality of authority and service, has survived over the centuries through Machiavelli,² Hobbes (1981), Adam Smith (1970), and many other philosophers of statecraft down to our own times, adapted to our own conditions. Kenneth Arrow (1974) described this as authority combined with responsibility and Fukuyama (2013: 351) has recently defined governance as "a government's ability to make and enforce rules and to deliver services." Similar concepts of governance have been articulated, and its quality assessed, in seminal studies by La Porta et al (1999) and Besley and Persson (2011) among others. While adopting the Fukuyama definition for this paper it is noted that the authority of a government (ability to make and enforce rules) is not an end in itself but a means to an end, which is, delivering services.

This distinction is critical in choosing an approach for evaluating the quality of governance. Fukuyama outlines four broad approaches: procedural measures, capacity or input measures, output measures, and measures of bureaucratic autonomy. He argues that good governance will follow a path of optimal balance between bureaucratic capacity and bureaucratic autonomy, with the desired level of autonomy rising with increasing bureaucratic capacity.

While the above proposition is in itself reasonable, Fukuyama has not provided any method or calibration rule for measuring the two variables capacity and autonomy. More importantly, he has not provided any precise explanation of how these two variables relate to the two core components of his own definition of governance, that is, authority and service delivery. In other words, he has not specified the functional rule that relates bureaucratic capacity and autonomy to either authority or service delivery, or some combination of the two that can be described as the quality of governance as per his definition.

The difficulty with Fukuyama's proposal for evaluating the quality of governance is that procedure, bureaucratic capacity or bureaucratic autonomy are not ends in themselves but only means to an end, that is, inputs. The only result is the delivery of services. That is the output. Indeed, as noted, even the first part of Fukuyama's dual concept of governance, authority is not an end in itself but a means to an end, that is, service delivery. Hence, it is the contention of this paper that output, the quality of service delivery, is the appropriate measure of the quality of governance. It is necessary at this point to address some of the concerns that led Fukuyama to reject the output measure of quality of governance. His main difficulty with the output

measure is that important service outputs like education and health are not simply the consequences of public action, a concern that may be shared by others. However, this concern is based on a flawed interpretation of Fukuyama's own definition of governance.

Recall that in his definition, service delivery is not a function of governance, but itself the constitutive element of governance. As such, the determinants of the quality (including level) of service delivery are not relevant to the quality of governance in his definition. The level or quality of service itself is the quality of governance. The other elements, or inputs, are to be seen as determinants of the quality of governance.

However, it is not the contention of this paper that governance inputs such as bureaucratic capacity, processes, etc, are unimportant. On the contrary, if objective measures are available for such inputs, that would be excellent. Relating the quantity or quality of inputs to service delivery outputs would then enable us to assess the "efficiency" of governance. However, governance inputs should not be confused with outputs.

Governance, defined as service delivery, is closely correlated with economic development as Besley and Persson (2011), La Porta et al (1999) and many others have emphasised. To put it differently, outputs of service delivery such as education, healthcare, infrastructure, etc, are all significantly correlated with per capita gross domestic product (GDP), the latter being taken as a proxy measure for the level of development.

This closed correlation is partly because service delivery outputs and per capita GDP are dependent on the same underlying determinants. It is also partly because these outputs and per capita GDP are mutually and causally interdependent. As a consequence, governance quality and development tend to move together over time or across geographies. Besley and Persson (2011) refer to this phenomenon as the emergence of "development clusters."³

Thus, two states may have an identical package of governance inputs, for example, authority, bureaucratic capability, autonomy and processes, but different levels of service delivery if their levels of per capita gross state domestic product (GSDP) are different. Hence, if we are interested in analysing the pure impact of governance inputs on governance outputs (service delivery), then we need to control for the impact of development. This has important implications for the measurement of governance.

Method of Rating Governance Quality

Exercises in rating the quality of governance fall into two broad methodological categories. One category consists of analyses based on large data processing. A wide range of indicators bearing on the quality of governance are processed into measures of five or six major dimensions of governance. The indicators include data from official sources and private sources, secondary data as well as survey data, objective data as well as perception data, data from large random surveys as well as responses from a few selected observers, and so on.⁴

The other parsimonious approach is to focus on a small set of carefully selected variables that best capture different

dimensions of the quality of governance, or some particular aspect of it. Thus, Transparency International (2014) focuses on the corruption aspect of governance and produces the annual Corruption Perceptions Index, the United Nations Development Programme (UNDP 2014) focuses on human development, Freedom House (2015) assesses governance from a libertarian perspective, and so on. The earlier cited studies by La Porta et al (1999) and Besley and Persson (2011) are two important examples of this parsimonious approach. They assess the overall quality of governance in a country based on a small set of selected indicators.

Most of these studies assess the quality of governance at the country level, though they may also be capturing some aspects of governance at the subnational levels in the country rating. The data they draw on are also mostly available at the country level. Subnational assessments of the quality of governance are quite rare.

India is an exception to this pattern. Several state-level assessments have been published in recent years, though most focus on specific aspects of state-level governance. The first overall governance ratings for Indian states was published in 2012 (Mundle et al 2012), and the present study is an update of that earlier exercise.⁵ Debroy et al (2013) have adapted the methodology of the Heritage Foundation's Economic Freedom Index for countries to rate Economic Freedom in Indian states since 2005. Bhandari (2012) rated states in terms of their delivery of infrastructure, education and health services (Bhandari 2012). Malhotra published his state-level Policy Effectiveness Index in 2014 (Malhotra 2014). Earlier this year, the Asian Competitiveness Institute at Lee Kuan Yu School of Public Policy, Singapore, produced its competitiveness index for Indian states. Most recently, the World Bank (2015) produced its ease of doing business index for Indian states.

Our study belongs to the "parsimonious" genre of governance rating studies. This is partly because the kind of voluminous data of different varieties used for the "large data" exercises simply would not be available at the state level in India. But it is also because, in our view, assessing governance based on a limited number of strategically selected and objective key indicators is more transparent and efficient.⁶ Broadly similar approaches have been followed by Besley and Persson (2011), Debroy et al (2013) and Malhotra (2014). However, there are differences in the choice of indicators as well as in the methods of analyses and aggregation of indicators.

Our choice of governance indicators is derived from the three pillars of the state, that is, the executive, the judiciary,

and the legislature. However, given the context of a developmental state, the emphasis is on the executive branch of government that is responsible for delivering most public services either directly or indirectly. Moreover, the choice of indicators has been limited to official data on objective variables. No data on perceptions of "experts" or even random sample perception surveys have been used.

Fourteen indicators have been selected that capture delivery of five broad classes of outputs, namely, infrastructure, social services, fiscal performance, justice, law and order, and quality of the legislature (Table 1). It needs to be emphasised, that only those indicators have been used that relate to outputs in the domain of state governments.

To illustrate, in the case of infrastructure, we have only selected that category of roads for which the state government is responsible, standard state highways, not total highway kilometres in a state nor minor and village roads for which the panchayat is responsible. For the same reason, we have chosen state highway density rather than an alternative like village connectivity, since providing that "last mile" connectivity is the responsibility of the panchayat rather than the state government. We have combined state highway density with the availability of power, for which again the state government is responsible. Similarly, for fiscal performance, we have taken only the states own tax revenue effort and the share of development expenditure relative to total expenditure in the state's annual budget.

Finally, as noted earlier, we have largely limited our choice to output data. Process or input data have generally not been used. The only exception is quality of legislature. While the number of laws passed in a session or in a year can be a measure of output, it is difficult to quantify either the quality of the laws passed, or their importance. It was felt that the quality of the legislators themselves, whether they have serious criminal charges or not, and the share of women legislators might be a better measure of the quality of the legislature.

Reciprocals have been taken in the case of negative indicators such as infant mortality rate (IMR) to make all indicators unidirectional. Furthermore, since the indicators have different dimensions, they have all been transformed to a uniform (0, 1) scale to make them comparable. Subindicators for an output, for example, social services, have been averaged to arrive at a state's score for that output and the output scores have in turn been averaged to arrive at the governance performance index (GPI) for the state.

Table 1: List of Indicators

Services	Infrastructure	Social Services	Fiscal Performance	Justice, Law and Order	Quality of Legislature
Indicators	Road	Health	Development expenditure ÷ Total expenditure (%)	Proportion of trials completed in less than 3 years (%)	Proportion of MLA's with serious criminal charges pending (%)
	Standard state highway (in kms) per 100 km ² of area	1 Infant mortality rate 2 Maternal mortality rate 3 Life expectancy at birth			
	Power	Education	Own tax revenue ÷ GSDP (%)	Rate of violent crimes (number per lakh population)	Proportion of women MLA's (%)
	Per capita consumption of electricity (kWh)	1 Literacy rate 2 Gross enrolment rate 3 Average years of schooling			

In our earlier paper (Mundle et al 2012) we had used different methods of aggregation to construct the GPI for states in order to verify the sensitivity of governance rankings to choice of aggregation rule: principal component analysis (PCA), Borda scoring, and averages of averages. This time we have only used the average of averages method of aggregation because we found this the simplest and most transparent aggregation rule. However, we have verified that the broad governance ranking of states, especially the best and worst performers, is similar using the PCA technique.⁷

Finally, to control for the impact of development on governance outputs, we have projected the expected value of a given indicator in a state for its level of development (GSDP), and taken the average of deviations from predicted indicator values to arrive at the state's development adjusted governance (DAG) score for that output. The sectoral DAG scores have then been averaged to arrive at the "development adjusted governance index" (DAGI) for the state.⁸

Governance Performance of States

Our empirical exercise covers 19 major states for which all the required data was available for our reference period. Together they account for 96% of the population. The methodology described earlier has been applied to arrive first at the individual output scores, and then the overall GPI for each state in 2001–02 and 2011–12. The same has been done for the DAG scores of individual service delivery outputs and the overall DAGI for each state. The empirical results have been presented in Table 2 through Table 7.

Infrastructure: The first thing to note is the vast difference across states in the level of infrastructure provided.⁹ Thus, road density in Karnataka in 2011 at 10.8 km per 100 km² was about five times that of road density in Odisha at only 1.95 km

per km². Similarly, power availability in Bihar increased about threefold from 36 kWh per capita in 2001 to 117 kWh in 2011. Despite this it was only about one-fifteenth of the power available in Gujarat of 1,559 kWh per capita.

Other aspects of interstate comparative performance in delivering infrastructure are presented in Table 2. The top-six states for infrastructure delivery in 2001 were Gujarat, Maharashtra, Punjab, Kerala, Haryana, and Tamil Nadu in that order. By 2011, Punjab had dropped to seventh position, while Karnataka had moved up to third position.

At the lower end, Chhattisgarh, Uttar Pradesh, West Bengal, Uttarakhand, Assam, and Bihar were the six worst performers in 2001. By 2011, Odisha and Madhya Pradesh had slipped to the bottom category while West Bengal and Chhattisgarh had moved up out of the bottom category.

Between 2001 and 2011, the maximum relative improvement in delivering infrastructure was recorded in Uttarakhand, which moved up nine ranks. Here, the density of state highways rose from less than 1 km per 100 km² in 2001 to over 4.5 km per 100 km², an increase of close to 400% in 10 years. Power supply in Uttarakhand went up from 284 kWh per capita to 930 kWh over the same period, an increase of 227%. Uttarakhand is followed by West Bengal and Karnataka, which moved up five and four ranks respectively. In contrast, the maximum relative deterioration was recorded in Jharkhand, which dropped down six ranks compared to 2001. Here, state highway density barely increased from 2 km per km² in 2001 to 2.4 km per km² in 2011. Power availability increased from 364 kWh per capita to 750 kWh per capita over the same period, an increase of around 100%. Jharkhand is followed by Punjab and Odisha, which dropped by four ranks each.

When infrastructure delivery is adjusted for the level of development, there is a dramatic improvement in the relative positions of Bihar and Uttar Pradesh, which moved up 15 and 10 ranks respectively. Both are low-income states, hence the expected level of infrastructure availability is quite low. Allowing for this legacy of low development, the actual performance of both state governments, especially Bihar, during this period in improving the quality of infrastructure was clearly exceptional. Two other states that significantly improved their DAG^{infra} ranking after adjusting for their level of development are Madhya Pradesh, which moved up six ranks, and Jharkhand, which moved up five ranks.

Quite the opposite applies in the case of Uttarakhand and Himachal Pradesh, both of which dropped 10 ranks when the infrastructure output score is adjusted for development. Both these are relatively high-income states, and the expected availability of infrastructure is much higher than what has been actually provided.

However, allowance must be made for the fact that these are both mountainous states, with much of their territory falling in the high Himalayas, and a low density of population. Building roads and delivering power in these remote districts with difficult terrain is particularly challenging. Moreover, in the case of Uttarakhand, it was noted that the actual level of infrastructure provision recorded a vast improvement between

Table 2: Infrastructure Delivery Ranks

2001		2011		DAG ^{infra} 2011	
Rank	States	Rank	States	Rank	States
1	Gujarat	1	Gujarat	(0)	1 Karnataka (+2)
2	Maharashtra	2	Maharashtra	(0)	2 Gujarat (-1)
3	Punjab	3	Karnataka	(+4)	3 Bihar (+15)
4	Kerala	4	Tamil Nadu	(+2)	4 Maharashtra (-2)
5	Haryana	5	Kerala	(-1)	5 Tamil Nadu (-1)
6	Tamil Nadu	6	Haryana	(-1)	6 Punjab (+1)
7	Karnataka	7	Punjab	(-4)	7 Uttar Pradesh (+10)
8	Himachal Pradesh	8	Uttarakhand	(+9)	8 Madhya Pradesh (+6)
9	Andhra Pradesh	9	Himachal Pradesh	(-1)	9 Kerala (-4)
10	Jharkhand	10	Andhra Pradesh	(-1)	10 Haryana (-4)
11	Odisha	11	West Bengal	(+5)	11 Jharkhand (+5)
12	Rajasthan	12	Chhattisgarh	(+2)	12 Chhattisgarh (0)
13	Madhya Pradesh	13	Rajasthan	(-1)	13 Odisha (+2)
14	Chhattisgarh	14	Madhya Pradesh	(-1)	14 Rajasthan (-1)
15	Uttar Pradesh	15	Odisha	(-4)	15 West Bengal (-4)
16	West Bengal	16	Jharkhand	(-6)	16 Andhra Pradesh (-6)
17	Uttarakhand	17	Uttar Pradesh	(-2)	17 Assam (+2)
18	Assam	18	Bihar	(+1)	18 Uttarakhand (-10)
19	Bihar	19	Assam	(-1)	19 Himachal Pradesh (-10)

Figure in parenthesis indicate "the change in ranks in 2011 with respect to 2001, and the change in ranks in DAG^{infra} 2011 with respect to 2011."

2001 and 2011, moving it up by an impressive nine ranks from 17th to eighth position in infrastructure provision.

Other states that slipped significantly in their DAG ranking for infrastructure (DAG^{infra}) include (undivided) Andhra Pradesh, which slipped six ranks, and Kerala, Haryana, and West Bengal, which slipped four ranks each.

Social service delivery: Once again we note very large variations across states. For example, in education, the gross enrolment rate in Himachal Pradesh in 2011–12 had already reached 100%, whereas it was only 63.7% in Assam.¹⁰ In health the maternal mortality rate in 2010–12 was 66% (per one lakh live births) in Kerala as compared to 328 in Assam, and the IMR in Kerala was 12 (per 1,000 live births) in 2011 compared to 59 in Madhya Pradesh.¹¹

Five of the six states that were the best performers in social service delivery in 2001 remained at the top in 2011: Kerala, Tamil Nadu, Maharashtra, Himachal Pradesh, and Punjab. Gujarat slipped from fifth rank in 2001 to ninth rank in 2009, while West Bengal moved up from ninth rank in 2001 to sixth rank in 2011. At the lower end, the worst six performers in 2001 were Uttarakhand, Rajasthan, Madhya Pradesh, Jharkhand, Bihar, and Uttar Pradesh. By 2011, Madhya Pradesh and Rajasthan moved up from this category, while Odisha and Chhattisgarh slipped down to it (Table 3).

Between 2001 and 2011, the largest relative improvement was recorded by Uttarakhand, which moved up six ranks, followed by Madhya Pradesh, which moved up four ranks. The largest relative decline in social service was recorded in Assam, which dropped nine ranks, followed by Gujarat, which dropped by four ranks.

As is the case in infrastructure, so also in social services, some dramatic shifts are noted when governance performance is rated after correcting for levels of development. In the DAG

ranks for social service delivery (DAG^{social}), Bihar and Uttar Pradesh moved up by 16 ranks and eight ranks respectively, while Haryana dropped nine ranks to the bottom and Gujarat dropped eight ranks to number 17 out of 19 states. In some cases the high or low levels of service delivery are attributable to relatively high or low levels of per capita income rather than the quality of administrative inputs per se. In other words, there is a strong legacy effect, the cumulative effect of past development resulting in large per capita income differences among states and its impact on social service delivery. When adjusted for that, the performance of some of the better-off states looks pretty poor while some of the poorer states appear to be punching well above their weight.

Fiscal performance: For fiscal performance, the two indicators selected are those which are in the control of the state governments: the proportion of total state government expenditure allocated to development expenditure, that is, economic and social services, and the states own tax effort, that is, the ratio of the state's own tax revenue to GSDP. It is arguable that these variables are input rather than output indicators. While revenue and expenditure are indeed inputs for the delivery of other public services, insofar as the delivery of fiscal service itself is concerned, they are indicators of outputs.

On the expenditure side, Gujarat had the highest share of expenditure allocated to development services in 2001 at 70.4%, followed by 67% in Karnataka. By 2011, it had been overtaken by Chhattisgarh, which led with 75.1%, as well as Karnataka, Andhra Pradesh, and Madhya Pradesh all of which were spending more than 70% of total expenditure on development services¹² compared to 69.8% in Gujarat.

At the other end Punjab, which was at the bottom with a development expenditure share of only 43.4% in 2001 was still at the bottom with 48.8% in 2011.

In general, the development expenditure share increased in all the states except Gujarat and Kerala. The maximum improvement over the decade was recorded in Bihar, with an increase of over 43% in the share of development expenditure, followed by an increase of about 34% in Odisha.

In terms of the states' own tax effort, Karnataka and Tamil Nadu were the best in 2001 with ratios of over 8%, and they were still the best performers in 2011 with ratios of 10% and 9% respectively. The weakest performers in 2001 were Bihar and Jharkhand with ratios of only 3.8%. In 2011, the two worst-performing states were West Bengal and Jharkhand with ratios of 4.6 and 4.8 respectively. All states improved their tax effort over the decade except Haryana and Uttarakhand. The improvement was led by Madhya Pradesh, with an increase of almost 70% in its own tax effort ratio, followed by an improvement of nearly 52% in the case of Assam. However, Assam started from a low base ratio of only 4% in 2001.

In overall fiscal performance, as measured by a composite index that combines the spending behaviour of states with their tax effort, the six-best fiscal performers in 2001 were Karnataka, Gujarat, Haryana, Andhra Pradesh, Tamil Nadu, and

Table 3: Social Service Delivery Ranks

2001		2011		DAG ^{social} 2011	
Rank	States	Rank	States	Rank	States
1	Kerala	1	Kerala	(0)	1 Kerala (0)
2	Himachal Pradesh	2	Tamil Nadu	(+2)	2 Bihar (+16)
3	Maharashtra	3	Maharashtra	(0)	3 West Bengal (+3)
4	Tamil Nadu	4	Himachal Pradesh	(-2)	4 Tamil Nadu (-2)
5	Gujarat	5	Punjab	(+1)	5 Himachal Pradesh (-1)
6	Punjab	6	West Bengal	(+3)	6 Maharashtra (-3)
7	Karnataka	7	Karnataka	(0)	7 Punjab (-2)
8	Haryana	8	Uttarakhand	(+6)	8 Karnataka (-1)
9	West Bengal	9	Gujarat	(-4)	9 Uttar Pradesh (+8)
10	Assam	10	Haryana	(-2)	10 Madhya Pradesh (+2)
11	Andhra Pradesh	11	Andhra Pradesh	(0)	11 Jharkhand (+5)
12	Chhattisgarh	12	Madhya Pradesh	(+4)	12 Andhra Pradesh (-1)
13	Odisha	13	Rajasthan	(+2)	13 Rajasthan (0)
14	Uttarakhand	14	Chhattisgarh	(-2)	14 Uttarakhand (-6)
15	Rajasthan	15	Odisha	(-2)	15 Chhattisgarh (-1)
16	Madhya Pradesh	16	Jharkhand	(+1)	16 Odisha (-1)
17	Jharkhand	17	Uttar Pradesh	(+2)	17 Gujarat (-8)
18	Bihar	18	Bihar	(0)	18 Assam (+1)
19	Uttar Pradesh	19	Assam	(-9)	19 Haryana (-9)

Figure in parenthesis indicate "the change in ranks in 2011 with respect to 2001, and the change in ranks in DAG^{social} 2011 with respect to 2011."

Chhattisgarh (Table 4).¹³ By 2011, Madhya Pradesh had moved into this category as the third-best performer, gaining six ranks, while Haryana moved out of this category, dropping four ranks.

Other states that significantly improved their relative fiscal performance by 2011 include Odisha, which moved up seven ranks, Chhattisgarh and Uttar Pradesh which moved up four ranks each, and Bihar moved up three ranks.

The worst fiscal performers in 2001 were Assam, Uttar Pradesh, Odisha, Punjab, West Bengal, and Bihar. Odisha and Uttar Pradesh moved out of this category by 2011, having significantly improved their performance as noted above. Two states that slipped into this bottom category, their relative fiscal performance having declined significantly are Kerala

Table 4: Fiscal Performance Ranks

2001		2011		DAG ^{fiscal} 2011	
Rank	States	Rank	States	Rank	States
1	Karnataka	1	Karnataka	(0)	1 Karnataka (0)
2	Gujarat	2	Chhattisgarh	(+4)	2 Chhattisgarh (0)
3	Haryana	3	Madhya Pradesh	(+6)	3 Madhya Pradesh (0)
4	Andhra Pradesh	4	Andhra Pradesh	(0)	4 Andhra Pradesh (0)
5	Tamil Nadu	5	Tamil Nadu	(0)	5 Tamil Nadu (0)
6	Chhattisgarh	6	Gujarat	(-4)	6 Gujarat (0)
7	Maharashtra	7	Haryana	(-4)	7 Haryana (0)
8	Uttarakhand	8	Maharashtra	(-1)	8 Maharashtra (0)
9	Madhya Pradesh	9	Odisha	(+7)	9 Odisha (0)
10	Kerala	10	Rajasthan	(+1)	10 Rajasthan (0)
11	Rajasthan	11	Uttar Pradesh	(+4)	11 Uttar Pradesh (0)
12	Himachal Pradesh	12	Uttarakhand	(-4)	12 Uttarakhand (0)
13	Jharkhand	13	Himachal Pradesh	(-1)	13 Himachal Pradesh (0)
14	Assam	14	Assam	(0)	14 Assam (0)
15	Uttar Pradesh	15	Kerala	(-5)	15 Kerala (0)
16	Odisha	16	Bihar	(+3)	16 Bihar (0)
17	Punjab	17	Jharkhand	(-4)	17 Jharkhand (0)
18	West Bengal	18	Punjab	(-1)	18 Punjab (0)
19	Bihar	19	West Bengal	(-1)	19 West Bengal (0)

Figure in parenthesis indicate "the change in ranks in 2011 with respect to 2001, and the change in ranks in DAG^{fiscal} 2011 with respect to 2011."

Table 5: Justice, Law and Order Ranks

2001		2011		DAG ^{lawor} 2011	
Rank	States	Rank	States	Rank	States
1	Punjab	1	Gujarat	(+6)	1 Madhya Pradesh (+6)
2	West Bengal	2	Andhra Pradesh	(+1)	2 Andhra Pradesh (0)
3	Andhra Pradesh	3	Uttarakhand	(+12)	3 Chhattisgarh (+3)
4	Chhattisgarh	4	Punjab	(-3)	4 Uttarakhand (-1)
5	Tamil Nadu	5	Tamil Nadu	(0)	5 Gujarat (-4)
6	Himachal Pradesh	6	Chhattisgarh	(-2)	6 Tamil Nadu (-1)
7	Gujarat	7	Madhya Pradesh	(+4)	7 Rajasthan (+1)
8	Haryana	8	Rajasthan	(+8)	8 Karnataka (+1)
9	Odisha	9	Karnataka	(+1)	9 Punjab (-5)
10	Karnataka	10	Himachal Pradesh	(-4)	10 Haryana (+1)
11	Madhya Pradesh	11	Haryana	(-3)	11 Bihar (+7)
12	Assam	12	Kerala	(+1)	12 Odisha (+2)
13	Kerala	13	West Bengal	(-11)	13 Himachal Pradesh (-3)
14	Maharashtra	14	Odisha	(-5)	14 Kerala (-2)
15	Uttarakhand	15	Jharkhand	(+2)	15 Jharkhand (0)
16	Rajasthan	16	Maharashtra	(-2)	16 West Bengal (-3)
17	Jharkhand	17	Uttar Pradesh	(+2)	17 Uttar Pradesh (0)
18	Bihar	18	Bihar	(0)	18 Maharashtra (-2)
19	Uttar Pradesh	19	Assam	(-7)	19 Assam (0)

Figure in parenthesis indicate "the change in ranks in 2011 with respect to 2001, and the change in ranks in DAG^{lawor} 2011 with respect to 2011."

and Jharkhand. Kerala moved down by five ranks while Jharkhand moved down by four ranks. Relative fiscal performance also declined significantly in three other states, that is, Gujarat, Haryana and Uttarakhand. The relative position of these states also declined by four ranks each.

Finally, it turns out that fiscal performance was not significantly related to the level of development. Consequently, there was no change in the fiscal performance rankings of states based on the DAG^{fiscal} scores.

Justice, law and order: In India, perhaps the most important dimension of justice denial for citizens is the inordinate delay in completion of trials, which go on for years. As the saying goes, justice delayed is justice denied. Hence, the proportion of trials completed within three years has been chosen as a strategic indicator of justice delivery. For maintenance of law and order, or the provision of a peaceful and secure environment for citizens, the indicator selected is the reciprocal of the number of violent crimes per lakh population, a negative indicator (Table 5).¹⁴

The best-performing states for delivery of justice, law and order in 2001 were Punjab, West Bengal, Andhra Pradesh, Chhattisgarh, Tamil Nadu, and Himachal Pradesh. Unfortunately, there was subsequently a sharp deterioration in the relative performance of West Bengal and also Himachal Pradesh. Their relative positions declined by 11 and four ranks respectively. Two states that moved into the top category by 2011 include Uttarakhand, which moved up by as many as 12 ranks, and Gujarat which moved up six ranks. Rajasthan is another state that significantly improved its relative performance over the decade, moving up by ranks.

The worst performers in delivery of justice, law and order in 2001 were Maharashtra, Uttarakhand, Rajasthan, Jharkhand, Bihar, and Uttar Pradesh. Of these Uttarakhand and Rajasthan moved out of the category by 2011, thanks to significant improvement in their relative performance as already noted. They were replaced by Odisha, which moved down by five ranks, and Assam which went right to the bottom with a drop of seven ranks.

After controlling for development impact, two states moved up significantly in their relative performance ranking. Madhya Pradesh went right to the top with a gain of six ranks and Bihar went up by seven ranks. Punjab, Himachal Pradesh and West Bengal, which had already moved down in their relative performance between 2001 and 2011, shifted down further by several ranks after controlling for development. The relative position of Gujarat also shifted down in the DAG^{lawor} scores.

Quality of legislature: As noted, in the case of legislative services we have not attempted to measure an output, which is problematic, but the quality of the legislature, which is an input. The indicators used for this purpose are the reciprocal of the proportion of members of legislative assembly (MLAs) with serious criminal records, a negative indicator, and the proportion of women among MLAs, which in our view is a positive indicator of the quality of legislators.

The states that had the lowest proportion of MLAs with serious criminal charges pending in 2001, around 10% or less, were Assam, Punjab, Chhattisgarh, Karnataka, Uttarakhand, and Andhra Pradesh.¹⁵ By 2011, the proportion of such MLAs had risen slightly in most of these states but was still under 10%, except in Karnataka, where the proportion went up sharply to over 17%. The other state that recorded a sharp increase in the proportion of MLAs with serious criminal charges during this period was West Bengal, where the proportion rose from about 11% to nearly 26%.

The states with the highest proportion of MLAs with serious criminal records in 2001, ranging from about 15% to over 29%, were Madhya Pradesh, Odisha, Uttar Pradesh, Maharashtra,

Jharkhand, and Bihar. The proportion rose even higher in these states in 2011, ranging from around 20% in Maharashtra to nearly 33% in Bihar.

The states with the highest proportion of women MLAs in 2001, amounting to only 8% to 10%, included Assam, Bihar, Tamil Nadu, Gujarat, Andhra Pradesh, and Madhya Pradesh. Women's representation improved in a little over the decade, ranging at the high end from 11.6% in West Bengal to 14.5% in Bihar in 2011.

Women's representation in 2001 was very poor at 6% or less in Karnataka, Maharashtra, Kerala, Uttar Pradesh, Uttarakhand and Punjab. It remained below 6% in most of these states even in 2011, and also fell below this level in Himachal Pradesh. However, women's representation increased to 12% in Punjab. Other states where the representation increased significantly included Rajasthan and Chhattisgarh.

The earlier two indicators were combined into a composite index of the quality of legislature, and states were ranked according to this composite score (Table 6). The six states that were ranked at the top in 2001 were Assam, Punjab, West Bengal, Tamil Nadu, Chhattisgarh, and Andhra Pradesh. Of these the relative quality of legislature deteriorated quite significantly by 2011 in West Bengal and Tamil Nadu. Their ranks dropped by nine and 10 positions respectively. Two states where the quality of legislature improved significantly over this period, bringing them into the top category of states are Rajasthan and Uttarakhand. Rajasthan moved up by seven ranks and Uttarakhand by eight ranks.

The quality of legislature is not highly correlated with the level of development; hence we do not see large shifts in DAG^{legis} ranks after correcting for the level of development. However, it should be noted that Bihar dropped down by five ranks, Himachal Pradesh by three ranks, and Assam and Uttarakhand by two ranks each after adjusting for the level of development.

Table 6: Quality of Legislature Ranks

2001		2011		DAG ^{legis} 2011	
Rank	States	Rank	States	Rank	States
1	Assam	1	Assam	(0)	1 Rajasthan (+2)
2	Punjab	2	Punjab	(0)	2 Punjab (0)
3	West Bengal	3	Rajasthan	(+7)	3 Assam (-2)
4	Tamil Nadu	4	Chhattisgarh	(+1)	4 Chhattisgarh (0)
5	Chhattisgarh	5	Uttarakhand	(+8)	5 Andhra Pradesh (+1)
6	Andhra Pradesh	6	Andhra Pradesh	(0)	6 Madhya Pradesh (+1)
7	Gujarat	7	Madhya Pradesh	(+4)	7 Uttarakhand (-2)
8	Bihar	8	Himachal Pradesh	(+1)	8 Gujarat (+2)
9	Himachal Pradesh	9	Bihar	(-1)	9 Haryana (+2)
10	Rajasthan	10	Gujarat	(-3)	10 West Bengal (+2)
11	Madhya Pradesh	11	Haryana	(+1)	11 Himachal Pradesh (-3)
12	Haryana	12	West Bengal	(-9)	12 Kerala (+1)
13	Uttarakhand	13	Kerala	(+2)	13 Tamil Nadu (+1)
14	Odisha	14	Tamil Nadu	(-10)	14 Bihar (-5)
15	Kerala	15	Jharkhand	(+1)	15 Uttar Pradesh (+1)
16	Jharkhand	16	Uttar Pradesh	(+1)	16 Jharkhand (-1)
17	Uttar Pradesh	17	Odisha	(-3)	17 Maharashtra (+1)
18	Maharashtra	18	Maharashtra	(0)	18 Odisha (-1)
19	Karnataka	19	Karnataka	(0)	19 Karnataka (0)

Figure in parenthesis indicate "the change in ranks in 2011 with respect to 2001, and the change in ranks in DAG^{legis} 2011 with respect to 2011."

Table 7: Governance Performance Index and Development Adjusted Governance Indices

GPI 2001			GPI 2011			DAGI 2011			
1	Gujarat	0.66	1	Gujarat	(0)	0.65	1	Chhattisgarh (+7)	0.64
2	Tamil Nadu	0.6	2	Tamil Nadu	(0)	0.61	2	Madhya Pradesh (+11)	0.63
3	Punjab	0.6	3	Andhra Pradesh	(+3)	0.59	3	Karnataka (+3)	0.62
4	Kerala	0.57	4	Kerala	(0)	0.59	4	Tamil Nadu (-2)	0.61
5	Haryana	0.55	5	Punjab	(-2)	0.58	5	Andhra Pradesh (-2)	0.61
6	Andhra Pradesh	0.53	6	Karnataka	(+1)	0.57	6	Gujarat (-5)	0.6
7	Karnataka	0.51	7	Uttarakhand	(+7)	0.56	7	Punjab (-2)	0.58
8	Maharashtra	0.5	8	Chhattisgarh	(+2)	0.54	8	Rajasthan (+4)	0.58
9	Himachal Pradesh	0.5	9	Haryana	(-4)	0.53	9	Kerala (-5)	0.57
10	Chhattisgarh	0.48	10	Maharashtra	(-2)	0.5	10	Bihar (+8)	0.55
11	West Bengal	0.44	11	Himachal Pradesh	(-2)	0.5	11	Uttarakhand (-4)	0.5
12	Assam	0.43	12	Rajasthan	(+4)	0.5	12	Haryana (-3)	0.5
13	Madhya Pradesh	0.38	13	Madhya Pradesh	(0)	0.49	13	Maharashtra (-3)	0.46
14	Uttarakhand	0.36	14	Assam	(-2)	0.35	14	Himachal Pradesh (-3)	0.46
15	Odisha	0.35	15	West Bengal	(-4)	0.34	15	Uttar Pradesh (+4)	0.45
16	Rajasthan	0.34	16	Odisha	(-1)	0.31	16	West Bengal (-1)	0.43
17	Jharkhand	0.27	17	Jharkhand	(0)	0.3	17	Odisha (-1)	0.42
18	Uttar Pradesh	0.19	18	Bihar	(+1)	0.29	18	Assam (-4)	0.41
19	Bihar	0.16	19	Uttar Pradesh	(-1)	0.29	19	Jharkhand (-2)	0.41

Figure in parenthesis indicate "the change in ranks under 2011 is with respect to 2001, while the change in ranks under DAGI 2011 is with respect to GPI 2011."

Quality of governance: The scores for individual service delivery outputs have been pulled together to yield the overall GPI and DAGI in Table 7. The two main features that stand out from composite GPI and DAGI ranks is the relative stability of the composition of best- and worst-performing states, and the sharp changes that appear when the rankings are adjusted to control for the impact of development. Thus, Gujarat, followed by Tamil Nadu, were the two best-performing states in 2001 as well as 2011. Also, five of the six best-performing states in 2001 remained the best-performing in 2011: Gujarat, Tamil Nadu, Andhra Pradesh, Kerala, and Punjab. At

the other end, four of the six worst-performing states in 2001 remained the worst-performing in 2011: Odisha, Jharkhand, Uttar Pradesh, and Bihar.

West Bengal and Assam slipped down to the bottom category in 2011, while Rajasthan and Uttarakhand moved out of this category. In fact these were the two states that gained the most in their relative ranking, with Uttarakhand moving up seven ranks and Rajasthan by four ranks. The maximum decline in relative rankings were noted in Haryana and West Bengal, both of which dropped four ranks each.

The rankings adjusted for development impact, *DAGI*, result in some sharp changes in relative ranks. Madhya Pradesh, Bihar and Chhattisgarh are the biggest gainers, going up by 11 ranks, eight ranks and seven ranks respectively. Conversely, Gujarat and Kerala drop down by five ranks each and Uttarakhand and Assam drop down by four ranks each. Thus, in addition to the quality of administrative inputs, a positive or negative development legacy seems to have a strong cumulative impact on the quality of governance measured as service delivery.

It was mentioned earlier that there are several studies available now that evaluate state-level performance. These are evaluations from different perspectives: economic freedom, competitiveness, ease of doing business, policy effectiveness. It is interesting to compare how the states measure up when viewed through these different lenses and our own evaluation of states in terms of service delivery. It turns out that there is a high level of similarity according to these different criteria.

We have here compared the relative rankings for the set of 19 states that were covered in our study. Though the different studies evaluate state performance by different criteria, the composition of best- and worst-performing states is remarkably robust. Thus, the top three best performers are the same in Mundle et al (2016) and Debroy et al (2013): Gujarat, Tamil Nadu, and Andhra Pradesh. The same three states appear in the group of six best-performing states in three out of the five studies. Karnataka also appears in the best performing group in three studies (Table 8).

At the other end the same six states appear in the group of worst-performing states in both Mundle et al (2016) and

Debroy et al (2013): Assam and Bihar appear among the bottom six in all five studies. Bengal, Odisha, and Jharkhand appear in the bottom six in three out of the five studies. The main outlier among the studies is Jharkhand, which appears among the top six in the World Bank ranking but in the bottom six in all other rankings.

Though most of these studies do not purport to assess the overall quality of governance in a state, they do touch on some aspect of governance or another. For instance, economic freedom, competitiveness, and ease of doing business all look at some aspects of efficiency in the business environment. Hence, the robustness of the rankings across studies points to the close quality correlation between different aspects of governance. Several studies have pointed out that development and the quality of governance are also highly correlated as we noted earlier. These correlations point to the importance of “development clusters,” the mutual interdependence between development and governance discussed above that was originally identified by La Porta et al (1999) and Besley and Persson (2011) among others.

Conclusions

Governance has been defined to mean different things in different contexts. In this paper, it has been defined to mean service delivery, a concept of governance originally developed over two millennia ago in the *Arthashastra* that has been maintained over the ages down to our own times (Arrow 1974; Fukuyama 2013). Governance measured as service delivery has been used to rate the performance of state governments during the period 2001–02 to 2011–12.

Such rating of state government performance acquires a special significance in the context of India’s maturing democracy where the performance of governments is increasingly playing a role alongside traditional identity politics in determining election outcomes. Significantly empowered by the devolution and grant awards of successive finance commissions, the states are increasingly competing with one another in terms of performance. Transparent and objective rating of state government performance is important for nurturing such competition.

The choice of service delivery outputs as the measure of governance quality clearly implies their priority compared to inputs such as governance capacity, institutions and processes. If these inputs impact outputs, then they will be reflected in the outputs and should not be double counted along with the outputs. If they do not effect outputs, then perhaps they do not count for much. What would it mean to say a government is excellent in its institutions, capacity, and processes if those inputs do not result in a high level of service delivery outputs.

However, this should not be interpreted to mean that institutions, capacity and processes are unimportant. On the contrary,

Table 8: Comparison of Different States’ Performance Estimates

Public Service Delivery Mundle et al 2015	Economic Freedom Debroy et al 2013	Competitiveness Tan and Rao, LKY 2015	Ease of Doing Business World Bank 2015	Policy Effectiveness Index Malhotra 2014
Six best-performing states				
Gujarat	Gujarat	Maharashtra	Gujarat	Punjab
Tamil Nadu	Tamil Nadu	Tamil Nadu	Andhra Pradesh	Himachal Pradesh
Andhra Pradesh	Andhra Pradesh	Karnataka	Jharkhand	Karnataka
Kerala	Haryana	Gujarat	Chhattisgarh	Haryana
Punjab	Himachal Pradesh	Andhra Pradesh	Madhya Pradesh	Maharashtra
Karnataka	Madhya Pradesh	Uttar Pradesh	Rajasthan	Tamil Nadu
Six worst-performing states				
Assam	Odisha	Himachal Pradesh	Punjab	Kerala
West Bengal	Uttar Pradesh	Bihar	Himachal Pradesh	West Bengal
Odisha	West Bengal	Assam	Kerala	Assam
Jharkhand	Jharkhand	Uttarakhand	Bihar	Madhya Pradesh (+Chhattisgarh)
Bihar	Assam	Chhattisgarh	Assam	Bihar (+Jharkhand)
Uttar Pradesh	Bihar	Jharkhand	Uttarakhand	Odisha

such inputs are arguably the key determinants of the quality of governance. There are a variety of theories about the determinants of good governance. Apart from institutions and capacity; other candidates include the size of government (La Porta et al 1999); political polarisation and fractionalisation (Alesina et al 2003), including ethnic, linguistic or religious fractionalisation (Charron 2009); competition (Greenwood 2004, D' Souza 2011); etc. However, the purpose of this paper was to rate the quality of governance, defined as service delivery, across Indian states, not identify the determinants of governance quality. Hence, this question has not been explored in this paper, other than the interaction between governance and development which is discussed further below.

One of the main empirical results emerging from this exercise is the relative stability over time of groups of good- and bad-performing states. Thus, five of the six best-performing states of 2001, led by Gujarat and Tamil Nadu, were also the best performers in 2011. Similarly, four of the six worst performers of 2001 were also among the worst performers of 2011.

An important consequence of such stickiness of rankings at the top and the bottom is growing regional disparity between the more and less developed states. "Development clusters," combinations of quality service delivery and high per capita income, are emerging among the more developed states in the south and west of the country. They are now pulling away from and leaving behind the less-developed states, especially in the eastern region.

Interestingly, after adjusting for the level of development, some of the less-developed states like Bihar and Chhattisgarh

moved up quite significantly in the service delivery ranking. Evidently, governments in these states are attempting to offset their negative legacy of relative backwardness, delivering a much better quality of services than would be expected at the relatively low level of development of these states.

This has led to the emergence of two quite distinct paths of development in the more and less developed states. In the former state governments mainly play an enabling role, providing good infrastructure, efficient administrative processes, etc, for private enterprise-led development. In some of these advanced states like Tamil Nadu such an enabling role is combined with a high level of social service delivery. But in others, like Gujarat, the challenge is their deficit in social development. Thus, Gujarat tops the list for overall governance and also for infrastructure, but comes lower down the list for social service delivery. It drops down even further when the ratings are adjusted for its level of development.

In the other path, seen in less developed states like Bihar, governments play the dominant role in development since private enterprise is quite weak governments need to drive both public investment-led growth as well as social development. It is a moot question whether this government-led path of development will enable these less developed states to "catch up" with the developed states. Will there be convergence or divergence across Indian states in the years ahead?

The union government and finance commissions have a key equalising role in this context. But whether such equalising interventions will be sufficient for catch up is not clear. If not, regional disparities will continue to widen, with potentially severe political consequences.

NOTES

- 1 See the translation by L N Rangarajan (Kautiliya 1992).
- 2 See the introduction by George Bull to the Penguin edition, Machiavelli (1961). The original treatise in Italian was probably completed around 1515.
- 3 In the literature, the discussion of the relationship between governance and the level of development has also sometimes been extended to growth (Evans and Rauch 1999; Rodrik et al 2004). In a recent paper Wilson (2016) has found a significant relationship between governance quality and growth at the subnational level in China, with causality running both ways. In our earlier paper on the governance performance of Indian states (Mundle et al 2012) we had found a positive but statistically weak relationship between governance and growth.
- 4 The best known example of this is the World Bank's World Governance Indicators or WGI, which is regularly updated (Kaufmann et al 2007). But there are others like the Mo Ibrahim Foundation's Index of African Governance or IAG (Rotberg and Gisselquist 2009; Rotberg et al 2014).
- 5 Governance ratings in the present study are not comparable with the ratings in the earlier study. This is partly because the methodology used earlier has been modified, and also because the underlying data has been revised as often happens in India. Nevertheless, we found that the ranking of states, especially the composition of "winners" and "losers" at the

top and the bottom of the rankings are broadly similar.

- 6 For an assessment of the "large data" approach see Mundle et al (2012). See also Knoll and Zboczyst (2011), Olken and Pande (2011), and Mitra (2013) among others.
- 7 For the results of the PCA test and other technical details please refer to the Technical Note in Appendix 1 in Mundle et al (2016).
- 8 For further details of the methodology adopted the interested reader may referred to Mundle et al (2016), Appendix 1: Technical Note.
- 9 For data see Mundle et al (2016), Appendix 2: Table A5.
- 10 For data see Mundle et al (2016), Appendix 2: Table A6.1.
- 11 For data see Mundle et al (2016), Appendix 2: Table A6.2.

12 For data see Mundle et al (2016), Appendix 2: Table A7.

13 For data see Mundle et al (2016), Appendix 2: Table A7.

14 For data see Mundle et al (2016), Appendix 2: Table A8.

15 For data see Mundle et al (2016), Appendix 2: Table A9.

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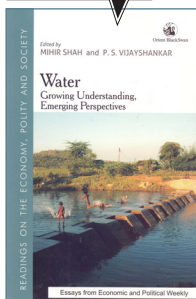
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Water: Growing Understanding, Emerging Perspectives

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