Article

Quality of Governance, Corruption and Absolute Child Poverty in India

Journal of South Asian Development
10(2) 148–167

SAGE Publications
sagepub.in/home.nav
DOI: 10.1177/0973174115588844
http://sad.sagepub.com

Adel Daoud[1]

Abstract

Mundle, Chakraborty, Chowdhury and Sikdar (2012) developed the first quality of governance (QoG) measures to assess the performance of India's states. The present article builds on Mundle et al.'s (2012) framework by analyzing the relationship between their QoG measures and absolute child poverty in India. The empirical analysis also includes corruption indicators from Transparency International to test the relative importance of corruption and governance for combating child poverty. I combine macro (states) and micro data (children) with multilevel statistical models to achieve this task. A key finding is that governance has more explanatory power than corruption. Further, among Mundle et al.'s *six* measures, the BORDA measure performs consistently better and explains about 60 per cent of the between-states variation: one unit improvement in BORDA yields about 1 per cent decrease in absolute child poverty. The sensitivity of this inference is tested with regards to severe education, shelter and food deprivation.

Keywords

Good governance, India, child poverty, corruption, economic development

Introduction

Good governance has been in the limelight of both academic research and policy debates for several decades. It is somewhat surprising, therefore, that one of the first frameworks for defining as well as measuring the Quality of Governance (QoG) for India's states was developed only recently. Mundle et al.'s (2012) effort covered 17 of India's 29 states (and seven union territories); even if their framework

[1] Visiting Scholar in the Economics Department, The New School for Social Research, New York.

Corresponding author:
Adel Daoud, University of Gothenburg, Department of Sociology and Work Science, Box 720, 405 30, Göteborg, Sweden.
E-mail: Adel.daoud@sociology.gu.se

does not include all of India's territory, it represents a significant step in the right direction (cf. DARP, 2009; Debroy & Bhandari, 2008). They introduce six alternative QoG measures that all claim to capture the same thing, but vary in construction. A key research question is how well these measures perform in explaining poverty in general and child poverty in particular. This article proposes that a useful QoG measure should be able to explain much of the variation in child poverty across India (Halleröd, Rothstein, Daoud & Nandy, 2013; Holmberg & Rothstein, 2014; Rothstein, 2011).

Accordingly, I will assess the performance of Mundle et al.'s (2012) QoG measures. The following analysis will focus on absolute child poverty in India as defined by Gordon, Nandy, Pantazis, Pemberton and Townsend (2003) and combines macro (state indicators) and micro (child and household indicators) level data. So far, few studies have used actual micro data to investigate QoG effects (cf. Halleröd et al., 2013). My analysis also brings in and accounts for variation in economic development and corruption across Indian states.[1]

Why is it important to evaluate the QoG approach of Mundle et al. in India? There are at least three reasons: (i) How much of India's poverty is this novel approach to measuring governance able to explain? (ii) What theoretical assumptions underpin this understanding of good governance? (iii) How can the approach be improved? While policy and politics matter for combating poverty in India (Harriss, 2005), we know much less about to what extent governance matters.

The overall aim of this article is to contribute to our understanding of the relationship between governance and child poverty in India. The rest of the article is organized as follows: The second section reviews the theoretical debate about governance and positions the Mundle et al. approach within this debate. This section describes current child poverty perspectives and my motivation for adopting the Bristol approach. The third section presents the research design, the macro and micro data used and descriptive statistics on child poverty in India. The results are presented in the fourth section. Based on the findings, the article ends in the fifth section with thoughts on policy and directions for future research.

Theoretical Framework: Good Governance—What It Is and Why It Is Important

According to Agnafors (2013), governance studies can be divided into four theoretical strands (and their combinations). To start with, (i) QoG as economic efficiency refers to an understanding that equates QoG with economic performance and what is beneficial for the economy. These approaches assume that a high-quality government enables market forces, lets business flourish, and protects economic freedoms (taxation, property rights etc.). Many developing countries, including India, are then seen to have low or medium level of QoG since their economic performance is moderate or often poor (on a per capita basis). The disadvantage of this type of definition is that countries can achieve high economic performance based on other factors than institutions for example by geographical luck (e.g., Equatorial Guinea, Saudi Arabia and oil); some researchers would also

hesitate to ascribe high QoG to countries such as China despite the fact that it is performing well economically (Rothstein, 2014b).

(ii) QoG as empirical indicators: These approaches define QoG mainly by aggregating a selection of institutional indicators. These quantitative indicators attempt to capture various attributes of the state and the government of a country. Kaufmann, Kraay and Mastruzzi's (2010) approach is instructive and represents QoG in six dimensions: rule of law, control of corruption, government effectiveness, regulatory quality, political stability and absence of violence, and voice plus accountability. Their analysis is based on more than 400 variables from a variety of sources covering as many countries as possible. After aggregation and normalization, a distribution of QoG for most countries can be derived. This and similar approaches have been criticized for being imprecise and politically biased (Agnafors, 2013; Arndt, 2008; Weiss, 2000); however, it remains one of the most popular approaches and facilitates comparative research.

QoG as impartiality: Championed mainly by Bo Rothstein, the argument is that governing institutions should be evaluated in terms of their neutrality to implement and exercise public power. High QoG is thus reflected in institutions that exercise power (i.e., rule of law or implementation of policy) neutrally and without biasing or bending the rules to placate certain interests or individuals.

The merits of this approach are that it focuses on procedural norms; its weakness is that little is said about the content of the rules. The rules can be formulated in a strongly partial way, discriminating between citizens (e.g., in the Apartheid system). Hence, the QoG as impartiality approach evaluates the output side and fails to evaluate the input side of governance, that is, policy and politics.

QoG as normativity: A more contentious approach to QoG, is to insist on some sort of moral standpoint that governance around the world ought to contain (cf. Agnafors, 2013; Rawls, 1999; Walzer, 1984). This would evaluate not only the output side of governance (impartiality) but also the input side (the moral standards of rule of law and exercise of power). One of the main problems of this approach is to find a moral common denominator applicable to all societies around the world (and time) which can be quantified, weighed and implemented. The Universal Declaration of Human Rights (UDHR) can be seen to represent one such morality. It is true that the choice of certain indicators may entail normative considerations (see *QoG as empirical indicators*) but *QoG as normativity* refers to something more profound. This approach does not only refer to the normative issue of choosing between various indicators but it forces us to device the indicators in such a way that they measure some moral aspect. This could, for example, refer to the amount of institutional discrimination of individuals with regards to their gender, age, class or caste.

I will abstain from evaluating each of the above on merit and drawback—they all contain valuable points (see Agnafors, 2013) but register that defining QoG too narrowly becomes problematic. Scholars like Rothstein argue that it is a fallacy to fuse economic efficiency with QoG (Holmberg & Rothstein, 2014).

I argue that Mundle et al.'s (2012) approach is a hybrid. It comes close to the first (economic efficiency) and second (empirical) definition of QoG with some elements of the fourth (normativity), while missing the third (impartiality). Their starting point has a moral content since 'Good governance implies that authority

must be deployed and even necessarily based on a larger purpose—the good of the people being governed' (Mundle et al., 2012, p. 41) taking guidance from the ancient Indian treatise on statecraft, the *Arthashastra*. Good governance is to maintain balance between the coercive authority (*danda*) and implementing governance to achieve a common good (*dharma*). The latter suggests intent and a commitment to base their QoG approach also on a normative foundation.

Still, Mundle et al.'s *approach* is strongly anchored in the idea of *QoG as economic efficiency.* Even if per capita gross state domestic product (GSDP) correlates strongly with other developmental indicators (e.g., education or health), this does not mean that it should be included under a definition of QoG. However, Mundle et al. believe in this mutual interdependence (Mundle et al., 2012, p. 46). The theoretical inspiration of their framework is Besley and Persson's book *Pillars of Prosperity* (2011) which in turn draws on Adam Smith's conception of wealth and development; however, their approach is not restricted to these. They include three developmental states (theoretical dimensions) measured by 18 indicators. These three are the executive, the judiciary and the legislature. The executive pillar has four dimensions: delivery of infrastructure services, delivery of social services, fiscal performance and maintenance of law and order; the judicial pillar is measured by the delivery of legal services; the legislative pillar captures the quality of the legislature. See Table 1 for an overview.

Mundle et al. use a range of indicators to construct their measures without theoretically articulating what each measure is operationalizing in terms of normativity. In this sense they mimic Kaufman et al. since

> … the coverage of six dimensions correspond fairly closely to the pillars or dimensions of governance identified by Besley and Persson (2011), La Porta et al. (1999), Kaufman et al. (2007) and others, reflecting a broadly shared understanding of what constitutes good governance in a developmental context. (2012, p. 45)

Accordingly, they select indicators opportunistically depending on what data sources are available (2012, p. 45), which is forgivable for an exploratory study and when data is scarce. In a well-developed framework, however, one would need indicators that more closely match with theory. As the measures are developed currently it is not clear why we should have exactly 18 indicators and not more or less. Nevertheless, the central interest of this article is to analyze the explanatory power of Mundle et al. QoG measures when applied to a concrete empirical problem.

Child Poverty

There are a variety of ways of measuring child poverty. One can rely on household income (such as the World Bank dollar a day method or the India national poverty lines) or a myriad of other types of non-income based measures, such as: under-five mortality, primary school enrolment, malnutrition (wasting, stunting, underweight) and access to improved sanitation or water facilities (White et al., 2003). Non-income or deprivation-based measures have advantages over income-based ones (Gordon & Nandy, 2012, p. 7; see Ravallion, 2010; Reddy & Pogge,

Table 1. Quality of Governance Indicators

	Governance Performance Index					
Dimensions	Infrastructure Service Delivery	Social Service Delivery	Fiscal Performance	Law and Order	Judicial Service Delivery	Quality of Legislature
Indicators	Water supply and sanitation 1 Households with safe drinking water (%) 2 Households with improved sanitation (%)	Health 1 Infant mortality rate 2 Maternal mortality rate 3 Life expectancy at birth	Development expenditure as percentage of total expenditure	Rate of violent crimes	Trials completed in 1–3 years as of % total trials in all courts	Proportion of MLAs with serious criminal charges pending (%)
	Per capita power consumption	Education 1 Literacy rate 2 Gross enrolment rate 3 Average years of schooling	Own revenue GSDP ratio	Complaints registered against police per person		Proportion of women MLAs (%)
	Road length per square kilometre			Police strength per lakh population		

Source: Mundle et al. (2012, p. 46).

2010). Deprivation-based approaches will direct attention to what actually matters, that is, whether the child is well-nourished, healthy and educated: which in turn lays the foundation for this child to develop and flourish freely.

Alkire and Foster's Multidimensional Index (from the Oxford Poverty and Human Development Initiative) (Alkire & Santos, 2011) and the Bristol method are the two most well-known deprivation-based approaches to child poverty. They are also amenable to quantitative analysis (cf. Minujin et al., 2006). Two main limitations with the Multidimensional Index is that it is not based on a well-defined theory of poverty (see Gordon & Nandy, 2012) and that it does not measure poverty at the child level but rather at the household level. Even if household approaches adjust for household composition, they do not easily lend themselves to a convincing within-household analysis. While the Bristol method has its own limitations (cf. Roelen & Gassmann, 2008, p. 15) it does provide one of the most complete approaches to measuring child poverty. An important strength of the Bristol Method (Gordon et al., 2003; Minujin & Nandy, 2012) is that it is based on internationally agreed definitions of poverty. It was developed in collaboration with the UNICEF, which used it to assess absolute poverty among children around the world (UNICEF, 2004). The approach implements the internationally accepted definition of poverty—adopted at the 1995 World Summit on Social Development in Copenhagen, which states that absolute child poverty is '…a condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services' (United Nations, 1995).

In the Bristol approach, if a child experiences two or more severe deprivations of any of the seven dimensions, that child is in a state of absolute poverty. The indicators included in this method are defined in Table 2. In this table, one can

Table 2. Definitions of Severe Child Deprivation

Child Deprivation
Water: Children who only have access to surface water (e.g., rivers) for drinking or who lived in households where the nearest source of water was more than 15 minutes away. Children < 18 years old.
Food: Children whose heights and weights for their age were more than –3 standard deviations below the median of the international reference, that is, severe anthropometric failure. Children < 5 years old.
Shelter: Children in dwellings with more than five people per room and/or with no flooring material. Children < 18 years old.
Sanitation: Children who had no access to a toilet of any kind in the vicinity of their dwelling, that is, no private or communal toilets or latrines. Children < 18 years old.
Health: Children who has not been immunized against diseases or young children who had a recent illness involving diarrhoea and had not received any medical advice or treatment. Children < 5 years old.
Information: Children who have no access to radio, television, telephone or newspaper at home. Children 3 to 12 years old.

Source: Adopted from Gordon et al., 2003, p. 8.

also see how severe deprivation is operationalized and according to what age group. The principal idea behind the concept of severe deprivation is: basic human needs that have not been satisfied and that are highly likely to hamper a child's development and well-being. One should note that in the age of information, the delegates of the World Summit on Social Development agreed that access to information is one of the essential dimensions of child poverty.

Hypotheses

Based on the above discussion, the main research question posed in the study is 'which of the indicator(s) of Mundle et al., relative to corruption, perform best statistically with respect to explaining absolute child poverty?' This can be articulated further in terms of the following three hypotheses. First, higher QoG in an Indian state leads to lower prevalence of absolute child poverty. Second, motivated by Rothstein's argument that QoG is the opposite of corruption (2014a) more corruption in an Indian state, leads to higher prevalence of absolute child poverty. Third, the effect of good governance on child poverty depends on the level of economic development of that state so that more developed states should have better QoG. This assumption is motivated by the fact that the definition of the measures of Mundle et al. follows a strong version of QoG *as economic development.* The more developed an Indian state is economically (state GDP per capita), the stronger the association between QoG and absolute child poverty will be.

Research Design and Data

Absolute Child Poverty

Using the most recent (2005/06) round of India's National Family Health Survey (NFHS-3), which provides data that are representative both nationally and at the state level, I operationalize the Bristol method. Table 3 presents the proportion of children in each state of India living in absolute poverty and the proportions of the different deprivation types in 2005/06. The picture is not unfamiliar; absolute child poverty is lowest in Kerala and highest for children in Orissa, Bihar, Jharkhand and Chhattisgarh. Table 4 reports the correlations between the poverty and deprivation measures: one central observation is that food and sanitation stand out as the two measures that correlate most strongly with absolute child poverty.

In all of the following statistical models, absolute child poverty is used as dependent variable, except for the robustness analysis where education, shelter and food deprivation feature. Each variable will be treated as a linear probability variable, which means that its scale is continuous and is meaningful between zero (null per cent poverty) and one (100 per cent poverty).

Table 3. Absolute Child Poverty and Severe Deprivation by State, 2005/06 (in per cent)

	State	Absolute	Water	Food	Education	Shelter	Sanitation	Health	Information
1	Kerala	4	2	10	1	13	4	5	2
2	Andhra Pradesh	27	4	17	7	46	33	6	4
3	Punjab	30	1	16	8	47	33	12	5
4	Maharashtra	30	3	21	4	55	34	7	4
5	Tamil Nadu	32	5	15	1	43	48	3	2
6	Assam	41	5	21	7	80	23	28	16
7	West Bengal	42	3	18	12	67	36	13	13
8	Haryana	47	12	21	9	55	55	10	16
9	Gujarat	48	6	27	7	60	52	13	14
10	Karnataka	49	14	24	8	52	62	12	7
11	Madhya Pradesh	60	16	33	12	68	59	11	19
12	Uttar Pradesh	60	1	30	16	74	59	9	8
13	Rajasthan	63	15	26	16	62	73	21	27
14	Orissa	67	10	22	11	68	77	19	17
15	Bihar	68	2	33	31	77	66	15	22
16	Jharkhand	71	15	31	19	73	75	15	27
17	Chhattisgarh	72	8	26	9	74	78	9	14

Source: Author's calculation.
Note: States are sorted on absolute child poverty: from lower to higher proportions.

Table 4. Correlations between Absolute Poverty and Underlying Deprivation Measures

	Absolute	Water	Food	Education	Sanitation	Health	Shelter
Absolute							
Water	0.52*						
Food	0.86***	0.44					
Education	0.71**	0.14	0.75***				
Sanitation	0.93***	0.61**	0.73***	0.57*			
Health	0.44	0.28	0.32	0.39	0.22		
Shelter	0.83***	0.23	0.77***	0.64**	0.61**	0.61**	
Information	0.78***	0.61**	0.71**	0.72**	0.65**	0.67**	0.67**

Source: Author's calculation.
Notes: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.
Correlations calculated on the mean aggregated on state levels.

Quality of Governance and Corruption Indicators

In collaboration with the Centre for Media Studies, Transparency International India (TII) has produced sub-national assessments of corruption in India: I used two different measures to operationalize corruption. The first measure is based on the opinions of national and international experts and their assessments of corruption in India and is from the 2005 report (Centre for Media Studies, 2005). The second measure, from the 2008 report (TII_2008), is based on the opinions and experience of corruption of people living in below poverty line households (Centre for Media Studies, 2008). This distinction is important since work by the OECD Metagora project (OECD, 2008) suggests that measures of national corruption based solely on 'expert' opinion may overestimate the corruption experienced by ordinary citizens. This needs to be kept in mind when comparing the results between TII_2005 and TII_2008. These two corruption measures are not the primary focus of this article but provide a reference point about the relative importance of governance since much of the literature is concerned with the adverse effects of corruption (Charron, 2010).

Since the TII_2008 measure was collected after NFHS-3, I have to assume that poverty and corruption levels were fairly stable during these years.

Generating the six Mundle et al. measures proceeds in three steps. The first involves defining the dimensions to measure and identifying the indicators to operationalize each dimension. Mundle et al. defined six underlying dimensions measured by a total of 18 indicators. These six dimensions were: infrastructure service delivery, social service delivery, fiscal performance, law and order, judicial service delivery, quality of legislature (see Table 1 for the 18 indicators).

The second step is to define how to aggregate and weight these six dimensions. Since there is no clear-cut and 'correct' way of doing this, Mundle et al. (2012) used three alternative computation methods: (i) principal component analysis, (ii) average of the sum of ranks and (iii) average of the averages of

ranks (Mundle et al., 2012, p. 47). *Principal component analysis* is a multivariate technique that reduces high dimensionality of data to a few uncorrelated principal components. Mundle et al.'s measure is obtained by linearly combining the 18 indicators in such a way that a new composite variable (one dimensional) is generated. *Average of the sum of ranks* is a variant of the Borda count method (henceforth BORDA) and represents a voting count system where individuals score one point for being ranked last, two for being ranked second last and so forth. This method allocates scores not according to the top ranked positions but rather on the most broadly accepted individual. Accordingly, Mundle et al. adopted this technique by awarding 17 points to the state ranking highest on an indicator, 16 to the second and so on, until the bottom ranked state received 1 point. This procedure was repeated for each indicator, for each of the six dimensions: the sum of each indicator is then taken and the average score obtained for these six measures. *Average of the averages of rank* is a variant of the previous method but instead of summing up the points for each indicator under each dimension, one takes the overall average instead.

The third step involves producing the six measures. The first three measures were obtained by directly applying the principal component rank, BORDA ranks, and the average of the averages of ranks. The last three measures are transformations produced by regressing out the effect of the natural logarithm of state GDP per capita in order to create measures adjusted for current levels of economic development. This filters out the concern that states may gain better QoG ranking by virtue of being more developed. To distinguish these six measures, the following terminology is used: principal component rank; principal component rank transformed; BORDA; BORDA transformed; average of average rank; average of average rank transformed.

Table 5 presents descriptive statistics for the six QoG and the two corruption measures. Except for TII_2008 which is treated as a nominal variable,[2] the rest are ordinal or numeric. Table 5 indicates that the two BORDA measures (BORDA and BORDA transformed) and the two average of averages (average of averages rank and average of averages rank transformed) measures are very similar in terms of scale, spread and central tendency. The TII_2008 is the most complete variable and is based on 29 state and territories; TII_2005 included 20; whereas the rest only 17.

Modelling Strategy

The following modelling design strategy was adopted to test the three hypotheses. First, I defined the regression models according to:

Testing for main effect of governance and corruption (GOV) on Deprivation (d):

$$y_{(d)ikjz} = \beta_{0kjs} + \beta_1 X_{GOV} + \beta_4 X_{controls} \quad (1)$$

$$\beta_{0kjs} = \beta_0 + h_k + c_j + s_z$$

Table 5. Basic Descriptive Statistics

	TII_2005	TII_2008	Principal Component Rank	Principal Component Rank Transformed
Number of states	20	29	17	17
Min	240.00	1.00	–1.12	–0.82
Max	695.00	4.00	0.91	0.71
Range	455.00	3.00	2.03	1.53
Median	493.50	2.00	0.07	0.06
Mean	488.95	2.34	0.00	0.00
Std. Dev.	104.77	1.17	0.56	0.43
	BORDA Rank	BORDA Rank Transformed	Average of Average Rank	Average of Average Rank Transformed
Number of states	17	17	17	17
Min	14.92	19.17	4.08	5.06
Max	36.25	35.00	12.17	11.78
Range	21.33	15.83	8.09	6.72
Median	24.33	27.33	9.14	9.06
Mean	27.00	27.00	9.00	9.00
Std. dev	6.73	4.60	2.19	1.62

Source: Author's calculation.

Notes: The categories of TII_2008 are alarming (=4), very high (=3), high (=2) and moderate (=1). They refer to the levels of corruption (Centre for Media Studies, 2008, p. 5).

1. In TII_2005 (corruption composite index), higher values imply more corruption or worse governance (Centre for Media Studies, 2005).
2. For all Mundle et al. governance measures, lower numbers imply worse governance or less corruption (Mundle et al., 2012).

Testing for a moderation effect of GDP on Corruption on Deprivation:

$$y_{(d)ikjz} = \beta_{0kjz} + \beta_1 X_{GDP} + \beta_2 X_{GOV} + \beta_3 X_{GDP} * X_{GOV} + \beta_4 X_{controls} \quad (2)$$

$$\beta_{0kjz} = \beta_0 + h_k + c_j + s_z$$

Notations:

d = refers to the deprivation measures, $d \sim$ [absolute child poverty, education, food, and shelter]

GOV = The corruption and QoG measures, GOV ~ [TII_2005, TII_2008, BORDA, BORDA transformed, average of average rank, average of average rank transformed, principal component rank, principal component rank transformed].

GDP = economic development, GDP ~ [GDSP per capita]

Controls = a set of control variables ~ [child gender, urban–rural, religion of the household, caste of the household, adults–children ratio in the household].

Residuals and indices = h_k is the random term for the household level, c_j is the random term for the cluster level, s_z is the random term for the state level. Equivalent, the indices *i, k, j, z* are: the *i*th child in the, *k*th household, in the *j*th cluster, in the *z*th state.

I defined two base models: one for analysing the main effect of QoG and corruption (Equation 1); the other for analysing the interaction effect of economic development on QoG and corruption (Equation 2). In both base equations, absolute child poverty is measured on the child level (hence the indices *i* to *z*). All models are random intercept multilevel models (four levels; children nested in households, nested in geographical clusters and finally nested in states), weighted (according to the National Family Health Survey weighting procedure) and defined as linear probability models. I ran these two base models, alternating the focal independent variables (eight different), with a set of control variables, which were: the child's gender, location of the household (urban–rural), religion of the household, caste of the household, adults–children ratio in the household. This produced 16 different models in total. For the modelling and data management, I used MLwiN's iterative generalized least square estimator (Rasbash, Charlton, Browne, Healy & Cameron, 2013) and controlled the work flow with R2MLwiN (Zhang, Charlton, Parker, Leckie & Browne, 2015) in the R environment (R Development Core Team, 2013).

Results

None of the interaction models turned out with a significant statistical effect. These results can be observed in the first two tables (models 2, 4, 6 and 8, in respective table) in the online appendix. This suggests that state GDP per capita does not have a moderating effect on governance or on corruption. I did not follow up with any marginal effect plots to investigate the distribution of the effect since it is unlikely that there is any substantive effect in this situation (cf. Brambor, Clark & Golder, 2006).

Table 6 summarizes the main results of the multilevel regression analysis for the non-interaction (main effect) models. Table 6 reports only the coefficients for the relevant variables to facilitate comparisons with complete results available in the appendix, the two first tables (models 1, 3, 5 and 7, in respective table). If the variables are measuring the same dimensions of governance, which Mundle et al. (2012) contend, they should have similar effects. Even with limited coverage, four of Mundle et al.'s (2012) measures show a statistically significant effect. While the two principal component rank measures have insignificant effects,[3] a unit of improvement in BORDA (and BORDA transformed) is associated with a decrease in absolute child poverty by a proportion of –0.01. This means that if a state increases its BORDA score by one unit, this state will decrease its absolute child poverty by 1 per cent. The average of average ranks measures have a somewhat stronger association with absolute child poverty with both measures having an estimated effect of –0.03. The TII_2005 measure also shows a significant,

Table 6. Main Effects of Governance and Corruption on Absolute Child Poverty

	Coef.	Std. Err.	p-Value
TII_2005	0.001	0.0004	.
TII_2008:alarming	0.08	0.06	
TII_2008:high	0.09	0.08	
TII_2008:very_high	–0.004	0.07	
Average of average	–0.03	0.01	***
Average of average transformed	–0.03	0.01	**
BORDA	–0.01	0.01	*
BORDA transformed	–0.01	0.01	*
Principal component	–0.01	0.07	
Principal component transformed	0.05	0.09	

Source: Author's calculation.

Notes: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, $p < 0.1$.
All coefficients are taken from a non-interaction fully specified model with absolute child poverty as dependent variable. Each row represents the result from a separate model—full details are given in the online appendix Tables 1 and 2. Accordingly, only the controlled effect from the governance measure is presented here.

albeit relatively weak effect. The TII_2005 has a positive sign because higher values are associated with more corruption. The TII_2008 ordinal variable does not show any significant results in spite of the superior sample coverage.

Restricting attention to coefficients provides an incomplete picture of explanatory power. Another valuable source of information is provided by the amount of variance explained. In a multilevel framework, this draws attention to the partitioning (in per cent) of variance across the four levels (state, cluster, household, child). This can be done using a variance component model[4] (VPC) which decomposes the total variance and then compare the result to how much each and every QoG measure explains variation in a bivariate model,[5] see Table 7. The state-level variation (between states) of absolute child poverty only accounts for 12.4 per cent; 87.6 per cent of the variation is within states. This suggests that any

Table 7. Variance Component Coefficients

	Portioned Variance	
Level	Variance in %	Variance Coef.
State	12.4	0.03
cluster	37.5	0.09
household	41.1	0.10
child	9.0	0.02

Source: Author's calculation.

Note: Variance Coef. refers to the variance coefficients in a random intercept model; *Variance in %* refers to the portion of the variance coefficient partitioned at a particular level. It is calculated as (the variance of a given level)/(sum of all variance).

Table 8. The Explained State Level Variance (in %) of Absolute Child Poverty by Governance and Corruption Measures

	TII_ 2005	TII_ 2008	Average of Average	Average of Average Trans.	BORDA	BORDA Transformed	Principal Component Rank	Principal Component Rank Transformed
Absolute poverty	41.00	26.10	43.50	23.30	60.60	41.70	28.70	5.50

Source: Author's calculation.

Notes: 1. *Explained* refers to explained state-level variance. State-level variance calculations are computed in the following manner: take the state-level variance from the VPC model (i.e., 0,03) and compare how much variance reduction has occurred for each model. That is a/0,03, where a is the new state-level variance. Subtract a/0,03 from 1 to get variance explained, that is (1- a/0,03).

2. All models are bivariate regressions (no controls). Linear probability models were used, estimated with Iterative generalized least square as implemented in MLwiN.

state-level measure can at most explain 12.4 per cent, which is a relatively small portion. This strongly suggests that future research should not only develop QoG measures that focus on the state level but rather attempt to measure variation in within-state governance all the way down to the local Panchayat level.

Table 8 shows that, of the 0.03 state-level variance (the 12.4 per cent of the total variation), BORDA is able to explain 61.1 per cent, which is the strongest association; followed by average of averages rank (44.1 per cent), BORDA transformed (41.5 per cent) and the TII_2005 (41.3 per cent). The next section presents robustness checks of these results to a change in the dependent variable and thus to how child poverty is measured.

Robustness Checks

Is the main inference—that BORDA explains most variance followed by average of the averages rank which has the strongest association—sensitive to how child poverty is measured? To test this, I chose three other dependent variables that are sufficiently different from each other with respect to age sample and measurement: shelter, education and food (see Table 2 for definitions). The first is measured on the household level and included children of all ages (0–17 years); whereas the last two are measured on the child level but defined for different age groups: education covers children that are 6–17 years and food deprivation 0–5 years.

The robustness analysis suggests that the results mostly hold: BORDA harbours most statistical explanatory power followed by average of averages rank. The association is fairly robust across the alternative deprivation measures. For BORDA and *absolute poverty* the parameter is –0.01 with a standard error of 0.006;[6] for *education* it is still –0.01 with a standard error of 0.002, with less uncertainty; for *shelter* deprivation it becomes stronger and –0.02 with a standard

error of 0.007, with somewhat increasing uncertainty; for *malnutrition* the effect is still negative but indistinguishable from zero. For average of average ranks and *absolute poverty* the effect is –0.03 with a standard error of 0.01; for *education* the average of average ranks coefficient weakness to –0.01 with a standard error of 0.004, with higher uncertainty; for *shelter* it runs to –0.03 again with a standard error of 0.01; for malnutrition it weakens again to –0.01 once more with a standard error of 0.004. Hence, except for malnutrition regressed on BORDA, the results are fairly stable both in terms of effect and statistical uncertainty across different deprivation measures (and samples).

Moreover, and as reported in Table 9, BORDA still explains most state level variance (in bivariate correlations), on average 61.1 per cent. The second best measure is still the average of averages rank 46.9 per cent; followed by the TII_2005 corruption measure, which explains 44.9 per cent. The principal component rank is the worst performing measure, explaining only 9.3 per cent on average.

Of the Mundle et al. measures, average of averages rank is the only measure that is consistently statistically significant in a fully specified model against food, education and shelter deprivation; BORDA fails on food deprivation: the details are reported in the online appendix in Tables 3 through 5. Further, BORDA harbours most statistical power followed by the average of averages rank; of the two corruption measures, TII_2005 is the most consistent and starkest.

Discussion and Conclusion

The research presented in this article has attempted to answer, which among the QoG measures of Mundle et al., relative to corruption, that best explain absolute child poverty. This was followed by testing of three main hypotheses:

1. Higher (better) levels of QoG in an Indian state, leads to lower prevalence of absolute child poverty.
2. More corruption in an Indian state, leads to higher prevalence of absolute child poverty.
3. The more developed an Indian state is economically (state GDP per capita), the stronger the association between QoG and absolute child poverty.

The results support the first hypothesis in that higher QoG in Indian states is associated with less child poverty. Of the six QoG measures, four support the first hypothesis (both BORDA ranks and both average of averages ranks measures). For the other two, both principal component ranks measures, there are no or weak associations. While all six QoG measures have the same underlying 18 indicators these results demonstrate susceptibility to the aggregation method applied which future research and policy needs to pay careful attention to.

The statistical analysis shows that BORDA and average of the average ranks are the strongest measures, in that order. The transformed versions of these two did not perform very well. BORDA explained most child poverty variation; on

Table 9. Explained State Level Variance (in %) by Governance and Corruption Measures across Alternative Child Poverty and Deprivation Definitions

	TII_2005	TII_2008	Average of Average	Average of Average Trans.	BORDA	BORDA Transformed	Principal Component Rank	Principal Component Rank Transformed
Absolute poverty	41.00	26.10	43.50	23.30	60.60	41.70	28.70	5.50
Education deprivation	46.70	22.80	49.80	17.10	65.50	12.10	36.40	12.70
Food deprivation	44.10	43.10	45.90	20.90	50.70	26.40	27.20	6.40
Shelter deprivation	47.80	32.40	48.50	33.00	67.30	47.70	36.30	12.40
Mean variance explained	44.90	31.10	46.90	23.60	61.10	32.00	32.20	9.30

Source: Author's calculation.

Notes: 1. Calculations were done in the following manner: first, unexplained state-level variance was taken from a null multilevel model (three levels for shelter; four levels for the other); second, bivariate multilevel models with alternating dependent variables were produced to calculate explained variance per governance/corruption measure (four dependent variables multiplied by eight focal governance as well as corruption measures, results in 32 models); third, calculation were made by the following formula, (1-(explained_state_variance)/(unexplained_ state_variance))*100.

2. Linear probability models were used, estimated with iterative generalized least square as implemented in MLwiN.

3. All models (including for the corruption variables) were calculated using the subsample that applies to the measures of Mundle et al.

average 61 per cent of all possible variation. It has a stable association of about –0.01, which means that for each point an Indian state improves its BORDA score, it will reduce child poverty by that proportion (viz. 1 per cent). Average of average ranks displayed a stronger association with child poverty (–0.03) but explains less of the variance, namely, 47 per cent. The model predicts that for each point an Indian state improves on the average of average rank scale, the state will reduce child poverty by 3 per cent. These results are fairly stable across different types of child deprivations (viz. education, shelter and food deprivation)—with some variation in association. It is not surprising that the results from using these two measures resemble each other, they use kin aggregation methods. BORDA is based on the averages of the *sum* rank; whereas the average of average is using the *mean* rank. Accordingly, summing the rank rather than taking the mean produces a slightly better result in terms of explained variance while the mean produces a somewhat stronger statistical effect.

The QoG measures fare better in explaining child poverty than corruption measures do. The strongest of the two corruption measures, TII_2005, produces mixed results. It explains almost as much state-level variance as the average of average ranks (41 per cent) but has weak association and is sensitive to changes in deprivation measure. This leads me to conclude that although the second hypothesis cannot be rejected, the relative strength between QoG and corruption measures tips clearly in favour of the former.

Another noteworthy point is that TII_2005 and TII_2008 produce very different results. Asking the poor (as for TII_2008) delivers a very different result compared to asking the experts (the TII_2005). Asking the poor yields statistically insignificant results and could suggest that expert knowledge is better in capturing corruption and its effects on child poverty. This begs the question of whether 'poor people are reporting something else than experts when it comes to corruption?' It seems so. Every day (petit) corruption may not, therefore, be as harmful for child poverty as corruption that exists at the institutional or governance level. But much more solid knowledge is required before persuasive policy conclusions can be arrived at.

Finally, the level of economic development of an Indian state does not moderate the effect of QoG on absolute child poverty. This is somewhat surprising since existing research typically reports moderating effects (Halleröd et al., 2013). This could reflect the limited sample available covering only 17 of India's 29 states. One conclusion is the need to devote more (both policy and research) resources to expand to and continuously measure all of India's states, as already acknowledged by Mundle et al. The absence of a relationship could, alternatively, be correct. As discussed earlier, Mundle et al.'s indicators rest on the premise that QoG should promote economic development and efficiency. In line with Rothstein and Agnafors, there is no necessary a link between good governance and economic efficiency: the latter can, for example, be a beneficial but is not a necessary consequence of good governance. This could account for why the third hypothesis is invalid altogether.

Another recommendation is that we need sub-state governance indicators—ideally at the local Panchayat level—since most of the absolute child poverty

variations are within states (87.6 per cent) and little between states (only 12.4 per cent). Such sub-state measures do not guarantee additional explanatory power, but it is not unreasonable that sizeable local institutional and other variations (e.g., agroecological) within a state determines the level of poverty (see, e.g., Palmer-Jones & Sen, 2003). If BORDA was able to explain 61 per cent of between Indian state child poverty, a similar BORDA should be able to explain a considerable portion of child poverty within a given state. In addition, the role of policy and politics needs to be analyzed in parallel with good governance. For example, John Harriss (2005) set out to examine the effect and balance of class and caste power in state governments, and their impact on rural poverty reduction achievements. He approached the question realising fully the importance of taking into account caste/class distinctions, and also considered the issue of 'accommodationism' (between caste/class groups) which is a key ingredient of the Indian political system. This has both between-state as well as within-state implications that need to be carefully unpacked.

The role of politics highlights why it is important to include concepts from Rothstein's *QoG as impartiality* (the output and receiver of governance distinction). This is unfortunately completely missing from the definitions and indicators of Mundle et al. We thus need measures that enables us to capture whether India's governing institutions are partial. If so, to what degree are they partial and with respect to what dimensions: caste, gender, age or social class? Lastly, how is this partiality affecting equality and poverty? The extant measures do not capture this.

Notes

1. Good governance is after all the anti-thesis of corruption (Rothstein, 2014a).
2. Technically, TII_2008 is an ordinal variable. We will here treat it as a nominal in order to see differences between categories more clearly.
3. There is a bivariate effect for both measures.
4. Only the intercept defined, with no control variables. This is thus an unconditional mean model.
5. I compare against bivariate models since this provides pure uncorrelated (with other variables) results.
6. The deviation in standard error is due to rounding.

Supplemental Material

The online Appendix is available at http://sad.sagepub.com/supplemental

References

Agnafors, M. (2013). Quality of government: Toward a more complex definition. *American Political Science Review*, *107*(03), 433–445. doi:10.1017/S0003055413000191.

Alkire, Sabina; Santos, María Emma (2011). Acute multidimensional poverty: A new index for developing countries, Proceedings of the *German Development Economics Conference*, Berlin, No. 3.

Arndt, C. (2008). The politics of governance ratings. *International Public Management Journal*, *11*(3), 275–297. doi: 10.1080/10967490802301278.

Besley, T., & Persson, T. (2011). *Pillars of prosperity: The political economics of development clusters*. Princeton, NJ: Princeton University Press.

Brambor, T., Clark, W.R., & Golder, M. (2006). Understanding interaction models: Improving empirical analyses. *Political Analysis*, *14*(1), 63–82. doi: 10.1093/pan/mpi014.

Centre for Media Studies. (2008). *India corruption study – 2008: With special focus on BPL households*. New Delhi: Transparency International India.

Centre for Media Studies. (2005). *India corruption study 2005: To improve governance*. New Delhi: Transparency International India.

Charron, N. (2010). The correlates of corruption in India: Analysis and evidence from the states. *Asian Journal of Political Science*, *18*(2), 177–194. doi: 10.1080/02185377.2010.492986.

DARP. (2009). State of governance: A framework of assessment. Department of Administrative Reforms, Public Grievances and Pensions, Government of India, New Delhi.

Debroy, B., & Bhandari, L. (2008). *Economic freedom for states of India 2013*. New Delhi: Excel Books.

Gordon, D., & Nandy, S. (2012). Measuring child poverty and deprivation. In A. Minuji & S. Nandy (Eds), *Global child poverty and well-being: Measurement, concepts, policy and action* (pp. 57–101). Bristol, UK; Chicago, IL: Policy Press.

Gordon, D., Nandy, S., Pantazis, C., Pemberton, S., & Townsend, P. (2003). *Child poverty in the developing world*. Bristol, UK: Polity Press.

Halleröd, B., Rothstein, B., Daoud, A., & Nandy, S. (2013). Bad governance and poor children: A comparative analysis of government efficiency and severe child deprivation in 68 low- and middle-income countries. *World Development*, *48*, 19–31.

Harriss, J. (2005). Do political regimes matter? Poverty reduction and regime differences across India. In P.P. Houtzager & M. Moore (Eds), *Changing paths: International development and the new politics of inclusion* (pp. 232–243). Ann Arbor: University of Michigan Press.

Holmberg, S., & Rothstein, B. (2014). *Good Government: The Relevance of Political Science*. Cheltenham: Edward Elgar Pub.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues (SSRN Scholarly Paper No. ID 1682130). Rochester, NY: Social Science Research Network.

Minujin, A., Delamonica, E., Davidziuk, A., & Gonzalez, E.D. (2006). The definition of child poverty: A discussion of concepts and measurements. *Environment and Urbanization*, *18*(2), 481 –500. doi: 10.1177/0956247806069627.

Minujin, A., & Nandy, S. (2012). *Global child poverty and well-being: Measurement, concepts, policy and action*. Bristol: The Policy Press.

Mundle, S., Chakraborty, P., Chowdhury, S., & Sikdar, S. (2012). The quality of governance. *Economic and Political Weekly*, *47*(49), 41–52.

OECD. (2008). Measuring human rights and democratic governance: Experiences and lessons from metagora. *OECD Journal on Development*, *9*(2).

Palmer-Jones, R., & Sen, K. (2003). What has luck got to do with it? A regional analysis of poverty and agricultural growth in rural India. *The Journal of Development Studies*, *40*(1), 1–31. doi: 10.1080/00220380412331293647.

Rasbash, J., Charlton, C., Browne, W.J., Healy, M., & Cameron, B. (2013). MLwiN Version 2.28. Centre for Multilevel Modelling, University of Bristol.

Ravallion, M. (2010). A reply to Reddy and Pogge. In S. Anand, P. Segal & J.E. Stiglitz (Eds), *Debates on the measurement of global poverty* (pp. 86–101). New York: Oxford University Press.

Rawls, J. (1999). *A theory of justice*. Cambridge, MA: Belknap Press.

R Development Core Team. (2013). R: A language and environment for statistical computing. R Foundation for statistical computing. Retrieved from http://www.R-project.org/, Vienna, Austria.

Reddy, S.G., & Pogge, T. (2010). How not to count the poor. In S. Anand, P. Segal & J.E. Stiglitz (Eds), *Debates on the measurement of global poverty* (pp. 42–85). New York: Oxford University Press.

Roelen, K., & Gassmann, F. (2008). Measuring child poverty and well-being: A literature review. SSRN eLibrary.

Rothstein, B. (2011). *The quality of government: Corruption, social trust, and inequality in international perspective*. Chicago, London: University of Chicago Press.

———. (2014a). What is the opposite of corruption? *Third World Quarterly*, *35*(5), 737–752. doi: 10.1080/01436597.2014.921424.

———. (2014b). The Chinese paradox of high growth and low quality of government: The cadre organization meets Max Weber. *Governance*. doi: 10.1111/gove.12128.

UNICEF. (2004). *The state of the world's children report 2005: Childhood under threat*. New York: UNICEF.

United Nations. (1995). *The Copenhagen declaration and programme of action: World summit for social development 6–12 March 1995*. New York: United Nations.

Walzer, M. (1984). *Spheres of justice: A defense of pluralism and equality* (reprint ed.). New York: Basic Books.

Weiss, T.G. (2000). Governance, good governance and global governance: Conceptual and actual challenges. *Third World Quarterly*, *21*(5), 795–814.

White, H., Leavy, J., & Masters, A. (2003). Comparative perspectives on child poverty: A review of poverty measures. *Journal of Human Development and Capabilities*, *4*(3), 379–396. doi: 10.1080/1464988032000125755.

Zhang, Z., Charlton, C.M.J., Parker, R.M.A., Leckie, G., & Browne, W.J. (2015). *R2MLwiN v0.8-0*. Centre for Multilevel Modelling, University of Bristol.