

## **Institutional quality and poverty measures in a cross-section of countries**

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**Abstract.** We provide cross-country empirical evidence on the link between measures of institutional development and of poverty over the period 1960–1990. We find that the more efficient the institutions, the lower the degree, severity, and incidence of poverty. We provide both ordinary least squares and two-stages least squares estimates, and show that our results are robust for an overall measure of institutional development as well as for an index of risk of expropriation and quality of the bureaucracy.

**JEL classification:** O10, O17

**Key words:** Institutional Quality, Poverty, Lorenz Curves, Headcount Index, FGT Measures.

### **1. Introduction**

This paper makes two contributions. First, it provides empirical evidence on the link between institutional quality and poverty, extending our understanding on how these two variables may be associated. Such a question is not trivial as there appears to be a growing conventional wisdom that they are independent, reflected in the fact that a sentiment opposing institutional reform and favoring populist policies has, once again, gained some support in many reforming coun-

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tries, particularly in Latin America<sup>1</sup>. At the very least, this could be extremely costly not only for political stability in the medium run, but also for economic performance, as previous research by Mauro (1995), Clague (1997), and others can attest.

Second, this paper builds on previous work on the link between institutional efficiency and income inequality, an issue first pursued by Chong and Calderón, (2000). These researchers find that in richer countries, the higher the quality of a country's institutions, the more equal the distribution of income. For poorer countries, however, they find that the higher the quality of institutions, the worse the distribution of income. They argue for the possibility that in the developmental path of less developed countries income inequality may actually have to worsen before improving when an institutional reform is first introduced. Another explanation they mention is the existence of poverty traps in the development path of less developing countries.

That inequality increases when institutional efficiency improves does not necessarily mean that poverty will also increase. Poverty may well decrease in spite of worsening distribution of income, provided that the income share of the richer groups of the society increases by a larger proportion than that of the poorer groups. Thus, stylized facts regarding income inequality may not necessarily be extended to absolute poverty. The key question is what are the stylized facts associated with poverty.

This paper is organized as follows. The next section provides an overview of the recent relevant literature. The third section describes the empirical methodology and the poverty measures employed. The fourth section presents our findings. We find a significant and robust positive association between improvement in the quality of institutions and reduction in poverty incidence. Thus, according to this result, institutional reform may be worth pursuing. Finally, Section 5 concludes and gives some policy recommendations.

## 2. Overview of the literature

Olson (1996) explains that the key elements in economic development are policies and institutions. While industrialized economies seem to have achieved most of their potential, many developing countries do not appear to have fulfilled theirs, sometimes in spite of their vast resources. The problem, Olson argues, is that poor countries do not have a well developed structure of incentives to bring forth productive cooperation. Such a structure depends on economic policies as well as on the quality of the institutional arrangements; for instance, legal systems that enforce contracts impartially and make property rights secure over the long run, political structures, constitutional provisions, and good enforcement systems to monitor the extent of special-interest lobbies and cartels.

The argument provided by Olson to explain differences among countries may also be applied to understand income differences *within* a country. Biased institu-

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<sup>1</sup> The Economist (1996)

tions where contracts are not enforced impartially but in favor of specific groups, property rights that are not well secured but where special-interest lobbies have the upper hand, corrupt bureaucracies that discriminate against the poor in such a way that political and economic disparity is reinforced according to political power and connections, and other institutional maladies (Klitgaard, 1988), may produce great disparity of incomes, where a small elite reaps most of the benefits of economic development while a large majority may have their incomes decline. This may produce both a more unequal distribution of income and higher absolute poverty to the lower shares of the population. Olson's argument gives an indirect mechanism to understand the link between institutional quality and poverty.

Pedersen (1997) uses a public choice analytical model to study a social structure where capitalists in the private sector and bureaucrats in the public sector exploit agricultural producers, confiscate the benefits of foreign aid, and marginalize the poor. His basic explanation relates to the distribution of political influence, and the political processes that determine the distribution of such an influence. The distribution of political influence between the private interest groups in his model is determined by the extent of their rent-seeking and what this researcher calls "political endowment". The final distribution will depend on the extent to which political decision makers manipulate the budget of the public sector to their advantage. An implication of Pedersen's model is that the distribution of income may worsen along with an increase in poverty as long as the private interest group is able to exert enough political influence to maximize its rents.

Another theoretical model that links political influence and distribution of income is due to Bourguignon and Verdier (1997). These researchers develop a model where the public decisions are taken by majority vote but where only the educated part of the population is allowed to vote. Initially, an oligarchy of educated and politically active individuals rule the country and the decision it has to make is to foster growth, by subsidizing the schooling of the less educated and consequently inactive majority. By doing so, the ruling elite gains an educational externality, at the risk of losing some political control and income given the fact that the newly educated individual will now be allowed to vote and thus, will tax away the ruling elite. For a given set of conditions, their model may generate a 'political' Kuznets curve due to political rights redistribution (see Chong, 1999; Acemoglu and Robinson, 1997). When the set of conditions is not met a Kuznets curve may not occur and the uneducated may be trapped in poverty.

A somewhat counterintuitive explanation on the link between institutional quality and poverty is provided by Chong and Calderón (2000). They argue that an institutional reform may impose high transaction costs on the poorest and consequently may first increase poverty before reform decreases it. The informal mechanisms used to make the "system work" will no longer be useful as new, formal, mechanisms may have to be learned to survive. Especially for the poor, the transaction costs of this transition may be relatively high. Eventually, improvements in the quality of institutions will reduce poverty. Better institutions and lower uncertainty will ultimately improve the mechanisms, the effectiveness,

and the efficiency of public service delivery, especially in the rural areas and marginal urban ones.

### 3. Data and methodology

The development variables are from the World Development Indicators (World Bank, 1996). The institutional quality data come from International Country Risk Guide (ICRG), a private organization. The measures employed are: (i) Risk of Expropriation, defined as the risk that the rules be abruptly changed; (ii) Repudiation of Contracts by the Government, defined as the risk of a modification in a contract taking the form of postponement, scaling down or repudiation of a contract due to change in government priorities; (iii) Law and Order Tradition, defined as the degree to which citizens are willing to accept the established institutions to make and implement laws and adjudicate disputes; (iv) Corruption in Government, defined as the degree to which the officials will be more likely to demand illegal payments; and, (v) Quality of Bureaucracy which represents the degree of autonomy from political pressure, strength, and expertise to govern without drastic changes in policy or interruptions in government services. These measures come from surveys of experts; the different variables are assigned a score which results in subjective measures of a particular type of institutional inefficiency. Among the many researchers who used these data are Knack and Keefer (1995), Clague (1997), and Chong and Calderón (2000)<sup>2</sup>. We follow these researchers and rescale the institutional measures from zero to six<sup>3</sup>. Similarly, we take averages for each variable for the period 1982–1990, where zero means “lowest quality” and six implies “highest quality”<sup>4</sup>. Thus, if for a particular country, the score is “six” this means that the country has very low levels of corruption and vice-versa if the score were “zero.” Similarly, an overall index is also created by calculating the simple averages of each of the measures.

The poverty indicators we use are members of the generic class of additive indices proposed by Foster, Greer, and Thorbecke (1984). As it is well known, this class of measures has the form

$$P_x = 1/n \sum_{i=1}^q [(z - y_i)/z]^x, \quad (1)$$

where  $x$  is a non-negative parameter,  $z$  is the poverty line or threshold income below which someone is considered poor, and  $y_i$  is a measure of living standard.

<sup>2</sup> As has been pointed out by these and other researchers, the fact that this type of organizations are able to sell this kind of information year in and year out in exchange for high fees speaks in favor of the reliability of the data.

<sup>3</sup> When running regressions researchers typically take the average of the ICRG measures instead of controlling for all single indices. This, because of the high correlation among them.

<sup>4</sup> The ICRG variables are not available for the full period, but since 1982, only. Given the fact that these variables tend to move slowly in time, the average for this period is believed to represent the period 1960–1990 relatively accurately. Knack and Keefer (1995), Clague (1997), Mauro (1995), and others, follow this same approach.

The poverty measures we use are three, when  $x = 0, 1$ , and  $2$ . In other words, we use the headcount index, the poverty gap index, and the Foster-Greer-Thorbecke  $P_2$  index, respectively. The first is a measure of prevalence of poverty and is defined as the proportion of the population for whom a certain measure of living standard is less than an specific poverty line (Ravallion, 1992). The main limitation of this measure is that it cannot measure how poor are the poor. For instance, someone in the neighborhood of the poverty line threshold level is not in the same situation as someone with no income at all (Kakwani, 1980). The second poverty measure, or poverty-gap index, deals with this limitation. This measure is based on the aggregate poverty deficit of the poor relative to the poverty line. It depends on the distance of the poor below the poverty line and thus gives a better indication of depth of poverty (Ravallion, 1992). A shortcoming of this index is that it does not take into account any possible inequality among the poor. This measure will be unaffected by transfers from someone poor to someone less poor. To address this last problem, we also use the Foster-Greer-Thorbecke  $P_2$  measure which is an indicator of the severity of poverty and helps compare policies that aim to reach the poorest. (Ravallion, 1992)<sup>5</sup>.

In (1) it is clear that the critical variable required in order to obtain the different indices mentioned above is the poverty threshold,  $z$ . Poverty lines vary according to the criteria employed, the geographic location considered, and the degree of development of a society. The group considered poor in the United States may not be considered poor in, say, Peru. When doing intercountry comparisons, there is agreement that the issues related with comparability are more important than issues related with the precise objective criteria to be employed in order to construct poverty lines (Ahluwalia et.al., 1979; Ravallion, 1992). This is the approach we also take.

To construct an absolute poverty line that is comparable among countries we follow a methodology first employed by Ahluwalia, et.al., (1979) and more recently used by Psacharopoulos and Arriagada (1986) and Londono and Talvi (1997). We exclude all the OECD countries from our original country sample and keep 49 countries. This avoids problems of different poverty concepts in developed countries as compared to underdeveloped ones. The focus on the latter also allows us to use absolute poverty lines, which do not vary with changes in living standards, and which are considered more appropriate for less developed countries (Ravallion, 1992).

We follow Ahluwalia (1976) and use India as our reference case. These researchers argue that a typical poverty line is defined by the total consumption expenditure needed to ensure a daily supply of about 2250 calories per person, which ranges around forty and fifty percent of the total population (Ahluwalia, 1976). They set the poverty level to be applied across countries as the income per head accruing to the forty-fifth percentile which, they explain, yields conservative and comparable estimates of poverty<sup>6</sup>. We follow a similar approach, but use

<sup>5</sup> For additional details please see Ravallion (1992) or Kakwani (1981)

<sup>6</sup> As has been frequently pointed out, the definition of a poverty line is arbitrary and should be taken with caution. An obvious weakness of our approach is that there might be wide variation in calorie

Arriagada and Psacharopoulos' (1986) criteria and set the poverty level as the income per head accruing to the fifty-first percentile of the Indian population<sup>7</sup>.

Using a recent data set on income distribution by Deininger and Squire (1996), and data on the equivalent purchasing power conversion rates and average per-capita income from Summers and Heston (1991) we calculate poverty lines for 1990 for each country in our sample through estimations of parametrized Lorenz curves<sup>8</sup>. Finally, the headcount, poverty gap and Foster-Greer-Thorbecke  $P_2$  measures are easily computed from the estimated poverty lines.

#### 4. Results

Table 1 presents basic summary statistics of our estimated poverty measures using parametrized Lorenz Curves. The poverty line estimates, as explained above, were calculated based on an income per head accruing to the fifty-first percentile of the population. Table 2, on the other hand, show simple correlations for the institutional and poverty measures. Regardless of the particular type of institutional measure or poverty index, the corresponding sign is always negative. Given the high correlation among institutional measures (see footnote 3) it is not surprising to find that the simple correlation between the poverty measures and each institutional measure is somewhat similar. Overall, the institutional quality average measure, has a correlation of -0.44 with the headcount index, -0.32 with the poverty gap measure, and -0.29 with the Foster-Greer-Thorbecke  $P_2$  measure.

**Table 1.** Summary statistics

	Average	Std. Deviation	Minimum	Maximum	Observations
Headcount Index	0.502	0.201	0.052	0.896	49
Poverty Gap	1.582	1.033	0.000	3.445	49
FGT $P_2$	1.039	0.827	0.000	2.963	49

Based on the empirical literature on determinants of poverty (Ahluwalia, 1979; Londono and Talvi, 1997; and others) we estimate the following reduced form regression for our cross-country sample for the period 1960-1990:

intake depending on the level of expenditure. Moreover, caloric requirement for the same individual may change over time. On the other hand, purchasing power ratios may vary for different income groups within a country. Finally, this income based approach makes no allowance for achievement of minimum levels for essential public services (Ahluwalia, et al., 1979). In our favor, we should mention that for a subsample of available countries (28) we computed the correlation between our estimated poverty measures and those available from household surveys from the World Bank, adjusting for caloric intake when necessary, and found that it was 0.89 for the headcount index.

<sup>7</sup> All the results are robust to local change of the absolute poverty line. This is expected given the fact that the country ranking does not change. Also, this result is consistent with that of Ravallion (1992).

<sup>8</sup> Following Datt (1992), we order Deininger and Squire's data according to per-capita income quintiles and calculate parametrized Lorenz curves using the generalized quadratic model of Villaseñor and Arnold, (1989) and Kakwani's Beta Model (Kakwani, 1980). We use the estimation that best adjusts to the data.

**Table 2.** Institutional development and poverty simple correlation

	Headcount Index	Poverty Gap Index	FGT $P_2$ Index
Repudiation of Contracts	-0.4584	-0.3422	-0.1880
Risk of Expropriation	-0.4451	-0.3248	-0.1997
Corruption in Government	-0.2594	-0.1573	-0.3719
Law and Order Tradition	-0.3210	-0.1824	-0.1870
Quality of Bureaucracy	-0.4060	-0.3597	-0.2380
Institutional Development	-0.4429	-0.3187	-0.2919

**Table 3.** Ordinary least squares cross-country regressions, 1960–1990

	Headcount Index	Poverty Gap Index	FGT $P_2$ Index
Constant	0.170 (1.038)	0.803 (0.813)	0.590 (0.674)
Institutional Development	-0.055 (-3.367)	-0.257 (-2.857)	-0.169 (-2.210)
Primary Education	-0.205 (-2.471)	-1.157 (-2.385)	-1.125 (-2.609)
Fertility Rate	0.021 (1.451)	0.029 (0.319)	0.071 (0.842)
Initial GDP Per Capita	-0.037 (-3.112)	-0.213 (-2.782)	-0.214 (-2.990)
Gini Index	0.007 (3.656)	0.029 (2.512)	0.028 (2.588)
Ethnolinguistic Fractionalization	0.001 (1.717)	0.007 (1.747)	0.007 (1.801)
Government Spending	0.008 (3.074)	0.038 (2.910)	0.035 (0.005)
Observations	45	45	49
Degrees of Freedom	37	37	41
R-Squared Adjusted	0.391	0.384	0.386
Repudiation of Contracts	-0.036 (-2.804)	-0.146 (-2.088)	-0.091 (-1.409)
Expropriation Risk	-0.050 (-4.121)	-0.234 (-3.471)	-0.167 (-2.908)
Corruption in Government	-0.019 (-1.105)	-0.107 (-1.104)	-0.057 (-0.724)
Law and Order Tradition	-0.019 (-1.438)	-0.0817 (-1.125)	-0.029 (-0.453)
Bureaucratic Quality	-0.039 (-3.609)	-0.1843 (-2.973)	-0.152 (-2.894)

*Lower panel* shows result of the particular variable (repudiation of contracts, expropriation risk, corruption of government, law and order tradition, bureaucratic quality) in benchmark regression of upper panel instead of institutional development regressor (see equation 2 in text). T-stats in parenthesis.

$$POVERTY = a_0 + a_1 INSTITUTE + a_2 PRIMARY + a_3 FERTILITY + a_4 GDP + a_5 GINI + a_6 ETHNIC + a_7 GOVEXP + \mu, \quad (2)$$

where *POVERTY*, the dependent variable, represents the poverty measure in 1990 (either the headcount index, the poverty gap measure, or the Foster-Greer-Thorbecke  $P_2$  measure)<sup>9</sup>. The explanatory variables are: (i) *INSTITUTE*, our variable of interest. It represents any of the five ICRG institutional measures available, and the average quality index. According to the theoretical work reviewed above, better institutions are believed to help reduce poverty. Thus, the expected sign of the coefficient is negative; (ii) *PRIMARY*, or primary rate of schooling in 1960, which according to the literature, is expected to have a negative sign. For instance, an indirect mechanism may be given through higher economic growth; (iii) *FERTILITY*, or rate of fertility in 1960, is expected to have a positive sign as larger households may have more poverty; (iv) *GDP* represents the gross domestic product percapita in 1960. It is expected to have a negative sign, as initially more developed countries are expected to have less absolute poverty; (v) *GINI*, or Gini coefficient, as used by Ahluwalia (1976) and others. A higher Gini index (higher inequality) is expected to increase poverty. Thus, the sign should be positive (Persson and Tabellini, 1992). A somewhat related variable to the Gini coefficient is, (vi) *ETHNIC*, or degree of ethnolinguistic fractionalization. It was first used by Mauro (1995) to show that fractured societies have lower rates of growth. If consistent with the latter, the sign is expected to be positive. Finally, *GOVEXP* is government expenditure as percentage of GDP. There is not an unambiguous expected sign, as more government expenditures may or may not reduce poverty depending on the quality of the resource allocation.

Ordinary least squares estimates are presented in Table 3. There is a negative and significant relationship between the average measure of institutional quality and the different poverty measures. The more efficient a country's institutions, the lower the level, incidence, and severity of poverty. For instance, a one point increase in the institutional index results in reductions of 0.06 in the headcount index, 0.26 in the poverty gap measure, and 0.17 in the Foster-Greer-Thorbecke  $P_2$  measure. The specific institutional channels through which this association may be given are shown in the second panel of Table 3. Notice that neither corruption in government, nor law and order tradition are significant explanatory variables of poverty. Since poverty and extreme poverty may be more prevalent in rural areas, this finding is sensible. Less Developed Countries tend to have very centralized governments; their reach to rural areas is relatively weak compared to that in urban areas. Thus, the 'official' rule of law may not be the actual order tradition in poorer areas where, as it is known, indigenous and thus, possibly different implicit rules of law patterns, may also be in function<sup>10</sup>. It may not be

<sup>9</sup> Potential endogeneity is minimized by choosing 1990 as the year for the dependent variable.

<sup>10</sup> Examples of institutional arrangements that have been shaped by order traditions particular to a specific poor or rural area are those related with microfinance in developing countries, such as Grameen Bank, and others (Otero and Rhyne, 1996).



**Table 4.** Two stages least squares cross-country regressions, 1960–1990

	Headcount Index	Poverty Gap Index	FGT $P_2$ Index
Constant	0.186 (1.157)	0.736 (0.232)	0.721 (0.323)
Institutional Development	-0.076 (-4.266)	-0.289 (-3.265)	-0.225 (-2.956)
Primary Education	-0.215 (-2.008)	-0.956 (-2.366)	-1.103 (-2.954)
Fertility Rate	0.096 (1.785)	0.399 (0.946)	-0.002 (-0.526)
Initial GDP Per Capita	-0.442 (-2.673)	-0.356 (-2.562)	-0.570 (-2.169)
Gini Index	0.006 (3.687)	0.033 (2.986)	0.001 (2.516)
Ethnolinguistic Fractionalization	0.001 (1.695)	0.018 (1.861)	-0.013 (1.712)
Government Spending	0.007 (2.984)	0.022 (3.659)	-0.007 (-2.987)
Observations	43	43	45
Degrees of Freedom	35	35	37
R-Squared Adjusted	0.426	0.406	0.404
Repudiation of Contracts	-0.032 (-2.001)	-0.298 (-3.265)	-0.081 (-2.516)
Expropriation Risk	-0.068 (-3.232)	-0.155 (-3.569)	-0.213 (-1.789)
Corruption in Government	-0.020 (-0.957)	-0.002 (-1.124)	-0.014 (-1.003)
Law and Order Tradition	-0.029 (-1.356)	-0.889 (-1.126)	-0.001 (-0.962)
Bureaucratic Quality	-0.041 (-3.265)	-0.256 (-3.176)	-0.064 (-3.998)

*Lower panel* shows result of the particular variable (repudiation of contracts, expropriation risk, corruption of government, law and order tradition, bureaucratic quality) in benchmark regression of upper panel instead of institutional development regressor (see equation 2 in text). T-stats in parenthesis.

surprising to find that improvements in laws as well as the reduction in corruption appear to have little bearing in the outcomes of the poor. A more direct impact on the poor, according to our findings, may be given by reductions in the risk of expropriation and on improvements in the quality of the bureaucracy. Table 3 shows that improvements in both variables will yield statistically significant reductions in the poverty measures.

A reduction in the risk of expropriation may reduce poverty in many developing countries (though much more in Latin America than in Asia) as potential expropriation of the land, a constant risk for owners, may have resulted in uncertainty because of the permanent danger of limitation in property rights. On the other hand, a better bureaucracy is linked with poverty reduction by a more efficiently and speedily allocating of government resources.

In general, however, the five institutional variables, risk of expropriation, corruption in government, law and order tradition, repudiation of contracts, and bureaucratic quality have a relatively high correlation with one another, and thus, specific, clear cut explanations on the effect of one such variable on poverty may be open to more than one explanation. However, the fact that both, the average index, and some of these factors are robust to changes in specification do show that improvements in institutional efficiency are strongly correlated with poverty reduction.

**Table 5.** Sensitivity analysis

	Institutional Quality	Repudiation of Contracts	Risk of Expropriation	Corruption in Government	Law and Order	Quality of Bureaucracy
<b>Headcount</b>						
Maximum	0.065 (3.059)	0.036 (2.156)	0.071 (4.956)	0.025 (1.120)	0.022 (1.562)	0.521 (3.517)
Minimum	0.031 (3.126)	0.029 (2.065)	0.049 (3.564)	0.012 (0.845)	0.009 (1.286)	0.029 (3.216)
	Robust	Robust	Robust	Fragile	Fragile	Robust
<b>Pov. Gap</b>						
Maximum	0.355 (3.002)	0.212 (3.198)	0.273 (3.200)	0.120 (1.698)	0.012 (1.074)	0.184 (2.902)
Minimum	0.253 (3.698)	0.137 (2.022)	0.228 (3.981)	0.102 (1.110)	0.071 (1.361)	0.176 (2.564)
	Robust	Robust	Robust	Fragile	Fragile	Robust
<b>FGT <math>P_2</math></b>						
Maximum	0.252 (4.479)	0.107 (2.185)	0.180 (2.492)	0.073 (1.005)	0.022 (1.001)	0.206 (2.971)
Minimum	0.158 (2.002)	0.069 (1.516)	0.153 (2.477)	0.036 (1.269)	0.019 (1.984)	0.182 (3.598)
	Robust	Fragile	Robust	Fragile	Fragile	Robust

Ordinary least squares regressions. Numbers in absolute value. T-stats in parenthesis.

Table 4 uses the same specification (2) but applies a two-stage least squares method. Instruments are government spending on defense as a percentage of GDP, and the legislative tradition of the country. Similar to Chong and Calderón (2000), increases in defense spending are taken as diversion of resources (Knight, et al., 1996). On the other hand, it has been shown that the legislative tradition of a country is a significant regressor of institutional quality, but not of income inequality (La Porta, et al., 1998; Chong and Calderón, 2000). The results using 2SLS are similar to those using OLS. Corruption and law and order tradition are not significant explanatory variables of poverty, but quality of the bureaucracy, risk of expropriation, and repudiation of contracts are important explanatory variables of poverty indices.

## 5. Sensitivity Analysis

We use the specification (2) and apply Levine and Renelt's (1991) sensitivity analysis. To do this, we include an additional group of controls. We consider about a dozen variables, all from the World Bank (1996). In particular, we use rate of inflation, the standard deviation of the rate of inflation, fiscal deficit, exchange rates, trade volume, international openness, black market premium, and development indicators, such as the number of doctors per inhabitants, number of teachers, the share of industry on GDP, the share of agriculture on GDP, and a few others. Results are shown in Table 5. We find that (i) there is a negative, significant, and robust relationship between the different poverty measures and our overall index of institutional quality; (ii) the specific robust measures are risk of expropriation and quality of the bureaucracy. The other individual measures, such as corruption in government, law and order tradition, and repudiation of contracts are not robust at the five percent significance level.

## 6. Conclusions

Improvements in the quality of institutions of a country has been shown to significantly increase long-run rates of growth (Mauro, 1995; Clague, 1997; and others). As Borner et al. (1992), point out, uncertainties about the rules of the game abridge private investment and growth. Instead of being the anchor that provides stability for exchange, rules and regulations become themselves the main sources of intransparency and instability, creating a breeding ground for rent seeking and corruption. In a recent paper, however, Easterly (1999) shows that growth in developing countries has not improved quality of life when testing 95 indicators covering time periods between 1960 and 1990 and seven variables, among them, education, health, inequality, and others. Does this mean that improvements in the quality of institutions do not raise the quality of life of the poor? In other words, is the conventional wisdom regarding the independence between institutional quality and absolute poverty supported by the evidence?

According to our findings, improvements in institutional quality are associated with improvements in the welfare of the poor. The degree, severity, and incidence of poverty appears to be robustly and negatively linked with the development of better institutions. The mechanisms by which this may occur have been spelled out in previous theoretical work by Olson (1996), Pedersen (1997), Bourguignon and Verdier (1997), and others; institutional reform may reduce the power of special interest groups or minority elite that control the economy, and thus helps lower uncertainty and improve the delivery of public services and allocation in both the marginal urban and rural areas. We showed that at least a lower risk of property expropriation, a better quality of the bureaucracy, and an improved overall quality of the institutions are very likely to reduce poverty.

## Appendix 1

### Countries in sample

Africa	Americas	Asia
01. Algeria	20. Barbados	40. Bangladesh
02. Botswana	21. Costa Rica	41. India
03. Ghana	22. Dominican Rep.	42. Indonesia
04. Cote d'Ivoire	23. El Salvador	43. Jordan
05. Kenya	24. Guatemala	44. South Korea
06. Lesotho	25. Haiti	45. Malaysia
07. Madagascar	26. Honduras	46. Nepal
08. Mauritania	27. Jamaica	47. Pakistan
09. Morocco	28. Mexico	48. Philippines
10. Nigeria	29. Nicaragua	49. Sri Lanka
11. Mauritius	30. Trinidad & Tobago	
12. Senegal	31. Argentina	
13. Sierra Leone	32. Bolivia	
14. South Africa	32. Brazil	
15. Sudan	33. Chile	
16. Tanzania	34. Colombia	
17. Uganda	35. Ecuador	
18. Zaire	36. Guyana	
19. Zimbabwe	37. Paraguay	
	38. Peru	
	39. Venezuela	

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