

# Constitutions and the growth-elasticity of poverty

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## Abstract

Increasing per capita incomes are generally associated with decreasing poverty rates. After the UN Millennium Declaration, a big research effort has focused on the responsiveness of poverty to growth using the concept of growth-elasticity of poverty: the percentage change in poverty associated with a 1 percent growth in per capita income. This paper investigates, with help of new data, the heterogeneity around a well known average relationship. The main focus is on the effect of the constitution, in particular the form of government and the electoral rule, which has not previously been explored in the literature.

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# 1 Introduction

1.4 billion people, or one quarter of the developing world, currently live at the margins of survival on less than \$1.25 a day.<sup>1</sup> The developing world outside China is not on track to reach the Millennium Development Goal on poverty.<sup>2</sup>

Increasing per capita incomes are generally associated with decreasing poverty rates. Although this does not necessarily make growth the best, or only, tool for poverty reduction, a big research effort has focused on quantifying the responsiveness of poverty to growth, using the concept of growth-elasticity of poverty: the percentage change in poverty associated with a 1 percent growth in per capita income. Many factors can affect how growth translates into poverty reduction. Understanding more about this can help make the effort for poverty reduction more effective.

Fundamentally, the way growth translates into poverty reduction has to do with what share of the income produced in the country accrues to different groups in the population, in other words, the country's distributional features. But more generally, since income distribution and inequality are not given, the list of factors that have the potential to affect the growth-elasticity of poverty either directly or indirectly is much longer. The initial conditions that enable different individuals to benefit from growth episodes (education, health); the sectoral composition of growth generation (agriculture, manufacturing or service sector); the protection accorded to different stakeholders in society are but a few examples.

This paper focuses mainly on how the relation between growth and poverty is influenced by the institutional setting of a country, and specifically by the constitutional arrangement. The constitution is the fundamental rule that aggregates voters preferences into political outcomes, such as the relative power of various decision-makers, which in turn affect policy choices. A burgeoning literature on the economic effects of constitutions is building an expanding map from constitutional arrangements into empirically frequent and theoretically justified policy sets. This paper is an attempt to use this map to establish a link between a country's constitution and

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<sup>1</sup>Chen and Ravallion (2008).

<sup>2</sup>China has already achieved the goal of halving the 1990 poverty headcount, several years in advance.

its growth-elasticity of poverty.

The main result of the empirical analysis conducted here concerns two aspects of the constitution: the electoral rule and the form of government. Poverty appears to be less responsive to growth in countries where a majority of the legislators are elected under plurality rule. On the other hand, poverty appears to be more responsive to growth in countries with a constitutional arrangement that tends to result in a strong executive. These findings suggest that the type of incentives provided to the political leaders by the constitutional arrangement, and the resulting types of policies, can make the efforts for poverty reduction more or less effective.

The remainder of the paper is organized as follows: section 2 introduces the relationship between growth and poverty. Section 3 presents one possible approach to studying it empirically, and gives a quick overview of the data. Section 4 starts with exploring the variation by region and income group, together with other covariates that have been identified by previous studies. Section 5 constitutes the main novelty of the paper. It starts with a brief overview of the theoretical predictions in terms of the links between constitutions and policies or other political outcomes which are relevant in the present context; discusses how the fight against poverty relates to them; finally reports the empirical results. Section 6 concludes the paper.

## 2 Growth and poverty reduction

In September 2000, the international community chose to set the "Millennium" goal for poverty reduction in terms of the poverty headcount: the share of people living below (the PPP equivalent of) \$1 a day was to be halved by 2015, as compared to the 1990 level.<sup>3</sup> Perhaps the most intuitive approach for assessing different countries' progress and projecting their future prospects in this respect is to relate this measure to growth in GDP per capita. Many empirical exercises have been performed with the goal of evaluating, for example, if continuing with the recently observed rate of growth, a given country would succeed halving the poverty rate, or estimating how

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<sup>3</sup>30% of the developing world population fell under this definition of poverty at the time.

fast growth would be necessary given the observed elasticity of poverty to growth.<sup>4</sup>

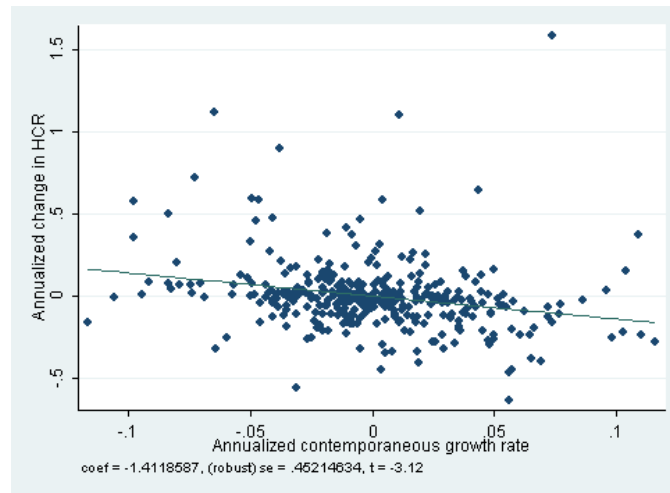


Figure 1: Annualized changes in poverty and growth, whole sample

Abstracting from inequality, rising average incomes should be mechanically associated with a decreasing number of poor people, when the definition of poor is in absolute terms, related to a fixed monetary threshold. It has indeed been observed that economic growth is distributional neutral on average in developing countries, in the sense that, among growing developing economies, inequality rises as often as it falls.<sup>5</sup> We should hence observe a strong negative relation on average between mean income increases and poverty rate reductions in developing countries. Figure 1 plots this relationship for 96 countries in the "Low income", "Lower middle-" and "Upper middle income" groupings of the World Bank in the last 3 decades. A regression line that fits the cloud is also shown. The relation is indeed negative, but not tight: the estimated slope is at -1.41, but with a White standard error of 0.45 around it, the 95% confidence interval implies that the poverty reduction corresponding to a 1% increase in the growth rate could be anywhere between 2.3% and 0.5%.

The heterogeneity around the average relation can be exploited to learn more

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<sup>4</sup>See for example Besley and Burgess (2003), Dalgaard and Erickson (2009) and Bigsten and Shimeles (2007).

<sup>5</sup>Ferreira and Ravallion (2008).

about the circumstances in which growth is more or less beneficial for poverty reduction. The fact that the effect of growth on poverty is so much larger in some economies than in others calls for a deeper investigation. Data availability and quality has increased since the most recent overview, by Ferreira and Ravallion (2008). New household surveys have become available, and moreover the poverty lines for developing countries have been recompiled, taking into account both the new surveys and most importantly the updated purchasing power parity (PPP) estimates following the 2005 round of the International Comparison Program (ICP) price surveys.<sup>6</sup> Finally, we now have data for several more countries, importantly including China and India. Chen and Ravallion (2008) report extensively on the global trends in poverty that emerge from these new data.

### 3 Empirical specification and data

A general way to investigate the variability in the growth-elasticity of poverty is through regressions of the form

$$\log p_{it} = \eta \log y_{it} + \sum_{j=1}^J \beta_j X_j + \sum_{j=1}^J \gamma_j X_j * \log y_{it} + \delta_t + \alpha_i + \varepsilon_{it} \quad (1)$$

where  $p_{it}$  is the poverty headcount ratio and  $y_{it}$  is income per capita for country  $i$  in year  $t$ , so that (the absolute value of)  $\eta$  is the average growth-elasticity of poverty.  $\delta_t$  is a year effect, to take into account the fact that the data are irregularly spaced over time, and the error term includes country-specific effects,  $\alpha_i$ . In the set of controls  $X_j$  it is possible to allow for several factors to have both a direct effect on poverty and an effect on the elasticity, interacting them with the log income. The variation in these factors is not of a nature that can justify causal inference. By measuring these covariates at the beginning of the period, and by controlling for country and year

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<sup>6</sup>Before 2008, the global poverty measures had been anchored to the 1993 round of ICP, that was known to have a number of problems. An independent evaluation (Ryten (1998)) identified a number of methodological concerns with it, including problems with quality standards for international comparability of consumption goods, which have been addressed in the last round.

fixed effects, I can control for the most obvious omitted variable problems. However, the results should be viewed as primarily suggestive. For the constitutional features, I supplement the analysis with an instrumental variables (IV) approach, borrowed from Persson and Tabellini (2003). This set of results is more robust and, if we are willing to believe the exclusion restrictions, can be interpreted as the causal effects of the constitutions.

For the empirical analysis, I use a sample of 96 countries, all for which two or more records on the poverty headcount is available over the period 1980-2008. Table 8 in the appendix reports all the countries and years along with the main characteristics that are relevant for the analysis. There are on average 4.5 observations per country, irregularly spaced over time. The average distance between two consecutive observations is 3.3 years.

Poverty and income measures, along with the geographic classification of countries, are from the World Development Indicators. As a definition of democracy I use the PolityIV index, ranging between -10 (strongly autocratic) and 10 (strongly democratic). I take a threshold of 5 for defining democracy as a binary indicator. This is relatively common in the literature and splits the sample evenly: 51% of the country-year observations in the sample are democratic according to this definition. 29% of the countries are above the threshold for the whole length of the period, while 40.5% never are; the others switch.

The classification of the electoral rules is from DATAVINE/Harvard CID and the World Bank (Beck et al. (2004)). I restrict the definition to countries that are also classified as democracies, i. e. have a polity score above 5. A country is defined to have a majoritarian electoral rule if the plurality rule is used to assign the majority of seats in the lower house.<sup>7</sup> 64% of country-year observations in my sample have a majoritarian electoral rule in this definition, 13 countries changed it during the period.

Systems with presidents who are elected directly or by an electoral college (not by

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<sup>7</sup>Some countries have a mixed system, where different shares of the seats are assigned following the plurality, respectively the proportional rule. Different rules may be used for the senate and lower house, when the legislature is composed of two chambers.

the legislature), are defined as presidential. 83% of observations have a presidential form of government, 21 changed during the period. 36% of the countries have both these features. From the same source are also variables that identify the presence of term limits in office, the district size, the fractionalization of the government and the legislature and closed list systems. The index of executive constraints is from the Polity database.

## 4 Beyond averages

### 4.1 Geographic variation

I start my investigation of the heterogeneity in the growth-elasticity of poverty looking at the geographic variation. Figure 2 shows the total changes observed in the headcount ratio over the period, from the earliest to the latest observation available for each country, and the contemporaneous changes in GDP per capita, organized by regions of the world.<sup>8</sup> There are relatively few arrows pointing up outside of Sub-Saharan Africa (SSA), which means that absolute poverty decreased almost everywhere during the last 3 decades. The picture for SSA looks more mixed. In some regions the arrows look steeper (big gains in poverty with little contribution from growth) and in others flatter (fast growth periods with limited progress in poverty reduction).

Previous literature has found support for systematic differences in the response of poverty to income growth at the geographic level. Table 1 reports the elasticities estimated in Besley and Burgess (2003) (BB). BB estimate separate regressions for each region, and thus cannot include country fixed effects, due to the limited number of observations. East Asia and Pacific region has the largest growth-elasticity of poverty<sup>9</sup>, followed by Latin American and the Caribbean, South Asia and finally Sub-Saharan Africa, while the estimates for the remaining two regions are not significantly

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<sup>8</sup>South Africa and Botswana are excluded from SSA for the purpose of this graph because of a difference in scale for income.

<sup>9</sup>Remember that the elasticity is the absolute value of the coefficient, so a more negative coefficient indicates a bigger elasticity

different from zero. These estimates do not show, however, whether the regional elasticities are significantly different from each other.

Table 1: The elasticity of poverty to growth across regions in a previous study

	Poverty Headcount
Whole sample	-0.73** (0.25)
East Asia and Pacific	-1.00** (0.14)
Europe and Central Asia	-1.14 (1.04)
Latin America and Caribbean	-0.73** (0.29)
Middle East and North Africa	-0.72 (0.64)
South Asia	-0.59** (0.36)
Sub-Saharan Africa	-0.49** (0.23)
Countries	88

Source: Besley and Burgess (2003). Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

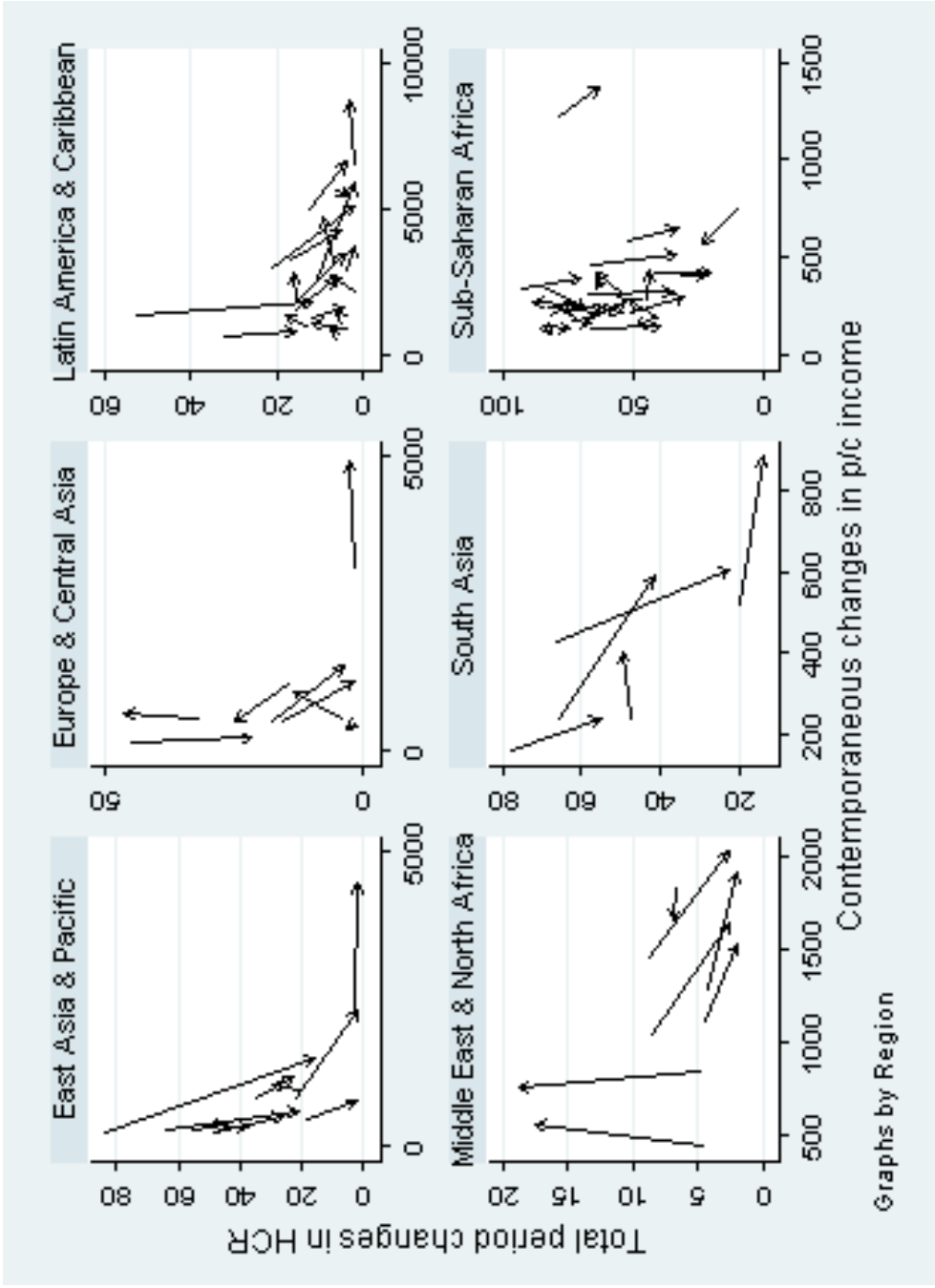


Figure 2: Total changes in poverty and growth, by region

Table 2 reports my regression estimates. As mentioned above, my sample goes up to 2008, and includes many new waves of household surveys. Moreover my data are based on the new \$1.25-a-day international poverty line. The specification with interaction terms allows me to use all the observations and estimate the *difference* in the elasticity across regions, controlling for country fixed effects. The average elasticity is around 1, similar to previous estimates, implying that, on average, a 1 percentage point increase in the growth rate is associated with a 1 percent reduction in the poverty headcount. Columns (3) and (4) allow for region-specific intercept and slope, using interaction terms. Without fixed effects, the excluded region, East Asia and Pacific, together with the Middle East and North Africa, would have the highest growth-elasticity of poverty. The worst performer would be, even in this case, Africa south of Sahara, while the remaining three regions would be somewhere in the middle. It is immediately clear though that, when allowing for country-specific heterogeneity, the difference across regions becomes insignificant.

## 4.2 Income and inequality

Although figure 1 does not seem to suggest non-linearities in the relationship between changes in poverty and changes in income, nevertheless this relationship might be different with respect to income *levels*. In other words, similar changes in income might have a different impact on poverty reduction if income changes from a low level or from a relatively high level. Table 3 estimates separately equation 1 for data intervals with an initial income above and below the sample median of \$1355. The elasticity is slightly different, and is larger in poorer countries than in relatively richer countries. However, when all the countries are pooled together and country-specific heterogeneity is taken into account, the difference based on initial income is not significant.

Similarly, we might also wonder if, even when inequality is not rising, a high initial level of inequality can stifle prospects for pro-poor growth. Ravallion (2001) argues that what counts is not the rate of growth but the distribution-corrected growth rate, defined as  $(1 - G_{i,t-\tau}) * \log y_{it}$ , where  $\tau$  indicates the beginning of period.

Table 2: The elasticity of poverty to growth across regions

	(1)	(2)	(3)	(4)
	OLS	FE	OLS	FE
LogGDP	-0.881*** (0.0706)	-0.859*** (0.191)	-1.360*** (0.157)	-1.080*** (0.369)
LogGDPXECA			0.506*** (0.187)	0.568 (0.423)
LogGDPXLAC			0.515** (0.211)	-0.666 (0.501)
LogGDPXMENA			0.274 (0.242)	-0.828 (0.658)
LogGDPXSA			0.519* (0.297)	0.461 (0.480)
LogGDPXSSA			0.778*** (0.206)	0.193 (0.456)
$R^2$	0.588	0.292	0.795	0.316
Countries	96	96	96	96
Observations	558	558	525	525

Notes: The dependent variable is the log of the poverty headcount. All regressions include time effects. Columns(3) and (4) allow for region-specific intercept and slope. ECA stands for Europe and Central Asia, LAC stands for Latin America and the Caribbeans, MENA stands for the Middle East and North Africa, SA stands for South Asia and SSA stands for Sub-Saharan Africa. Starred coefficients indicate a slope significantly different from the excluded group, East Asia and Pacific. Robust standard errors clustered at the country level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The last column of table 3 shows that the elasticity of poverty with respect to this measure is larger. This implies that the elasticity of poverty to growth declines as the extent of initial inequality rises. Using the estimates in table 3, a country with high inequality (Gini index=60%) is expected to reduce poverty by .56 percent for each percentage point increase in the growth rate. For a country with low inequality (Gini index=20%), this estimate is 1.12 percent.

Table 3: Effect of initial income and inequality

	(1)	(2)	(3)	(4)
	High income	Low income	Joint	Inequality
Log GDP	-0.986** (0.386)	-0.907*** (0.233)	-0.990*** (0.376)	
LogGDPXLow income			0.0910 (0.435)	
Distribution-corrected income growth				-1.686*** (0.389)
$R^2$	0.155	0.199	0.218	0.334
Countries	36	68	96	90
Observations	247	278	525	173

Notes: The dependent variable is the log of the poverty headcount. All regressions include time effects. Low or high income is defined with respect to the sample median of \$1355. Column (1) and (2) estimate separate regressions, column (3) pools together all the observations with an interaction term. The definition of distribution-corrected growth is from Ravallion (2001). Robust standard errors clustered at the country level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

### 4.3 Other contextual effects

Previous studies have identified a number of other factors that may help to understand the relationship between changes in growth and poverty, because they affect the incomes of the poor. Ideally, this should be investigated with help of microdata, in order to directly observe incentives and constraints, behaviors and choices that lead to income generation at the individual level. Bourguignon et al. (2004) and a

series of case studies<sup>10</sup> identify, through micro-simulation exercises on survey data, a role for factors like returns to schooling, labor force participation by women, the flexibility of the labor market.

To keep to a global perspective, though, we are confined to macroeconomic factors, due to both limited availability and problems with comparability of microdata across countries. Among such macroeconomic factors, existing studies have focused on the sectoral composition of growth, literacy and health conditions, social spending, and the inflation rate.

In all the previous studies, the poverty impact of sector-specific growth rates was found to vary substantially and significantly across sectors, but the relative sector ranking was not the same in different countries. For example, agricultural growth was the most effective in China (Ravallion and Chen (2007) and Montalvo and Ravallion (2010)) while it was the service sector to play the most important role in India and Brazil (Datt and Ravallion (1998), Ravallion and Datt (2002) and Ferreira et al. (2010)). Using cross-country data and the same method of analysis as above, with country fixed effects and interaction terms, I find that the growth-elasticity of poverty has been smaller in countries where the growth of value added in the manufacturing sector was faster than average. Allowing for region specific slopes, this effect seems to be strongest for the East Asia and Pacific region. Results are shown in table 4.

Moreover, countries with a higher than average inflation rate also experienced a smaller impact of growth on poverty during the period considered. This is a repeated finding both in the cross-country (Easterly and Fischer (2001) and Dollar and Kraay (2002)) and in the case study literature, for the cases of Brazil, China and India (respectively Ferreira et al. (2010), Ravallion and Chen (2007) and Datt and Ravallion (1998)). The interpretation put forward by Easterly and Fischer (2001) is that the poor are less able to hedge against inflation, as they are likely to hold relatively more cash, while Datt and Ravallion (1998) argue that a continuing higher rate of inflation erodes real wages over time.

No other factor has a significant effect on the growth-elasticity of poverty in my analysis.

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<sup>10</sup>Robilliard et al. (2002), Chen and Ravallion (2004), Ferreira et al. (2003)

Table 4: Other contextual effects

	(1)	(2)	(3)
	Value added in manufacturing		High inflation
LogGDP	-0.924*** (0.239)	-1.070*** (0.203)	-1.032*** (0.229)
LogGDPXManuf.	0.0958** (0.0460)	0.134* (0.0818)	
LogGDPXInflation			0.0958** (0.0431)
LogGDPXECA		-0.0166 (0.0280)	
LogGDPXLAC		-0.0367 (0.0265)	
LogGDPXMENA		-0.0226 (0.0280)	
LogGDPXSA		-0.0296 (0.0244)	
LogGDPXSSA		-0.0142 (0.0235)	
$R^2$	0.327	0.220	0.336
Countries	96	96	96
Observations	525	525	525

Notes: The dependent variable is the log of the poverty headcount. All regressions include sample-specific year effects. Column(2) allows for region-specific intercept and slope. ECA stands for Europe and Central Asia, LAC stands for Latin America and the Caribbeans, MENA stands for the Middle East and North Africa, SA stands for South Asia and SSA stands for Sub-Saharan Africa. The excluded group is the East Asia and Pacific region. Robust standard errors clustered at the country level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## 5 The effect of constitutions

In this section, I focus on the effect of constitutions, which is the main innovation of this paper.

An important component of a country's institutional arrangement is the design of the constitution. There is by now a large literature on the economic effects of constitutions. While the intermediate link from constitutional design to political and institutional outcomes is generally left to the political scientists, the economic literature on the topic focuses mostly on the reduced form relation from constitutions to economic policies and long-term economic outcomes. In particular, areas that have been explored are the size and composition of public expenditure, fiscal policy, trade policy, regulation, corruption, growth. A comprehensive overview is given in the works of Persson and Tabellini (2000, 2003 and 2005).

The question asked in this paper is similarly of the reduced form type. Assuming that the constitution aggregates a society's preferences into policies by affecting policymakers' constraints and incentives, will the sets of policies resulting from different constitutional designs have different impacts on a long-term outcome such as the extent to which economic growth benefits the poor?

First of all, the question arises whether democratic institutions per se play a role: are more democratic countries better at channeling growth towards poverty reduction goals? The literature on the effects of democracy and democratization is large and rather inconclusive. In particular, while a great deal of literature is available on the relationship between democracy and economic growth, surprisingly little is known about the relationship between democracy and poverty (a summary of the debate is given in Varshney (2000)). Although previously untested in this setting, we can formulate the hypothesis that, by and large, democratic institutions give more voice to the people, and more marginalized groups, such as the poor, get representation and protection more easily in a democratic country.

Moving beyond the effect of democracy per se, in Persson (2005) we find the claim that "the form of democracy, rather than democracy vs. non-democracy per se, may be one of the missing links between history, current policy and economic

development". Can we observe, in this particular setting, any effect on poverty reduction related to the form of democracy? I refer here to the two most widely studied features of constitutional design: the form of government and the electoral rule. What should we expect in terms of poverty reduction outcomes from these constitutional features?

One first area of analysis regards the mapping from constitutions to the composition of public spending. Persson and Tabellini (2003), henceforth PT, discuss the theoretical effect of constitutions, which are in essence different ways to aggregate conflicting interests into policies, relating to three different classes of interests that are at stake in different policy choices: the interests of the many (so-called broad-based programs or general interest policies); the interests of a specific group, variously defined (special interest policies); finally, the interests of the political elite (corruption, rent seeking, agency issues in general). Most of the literature surveyed in PT predicts - and their own empirical investigation supports this claim - that less spending for broad-based programs will be associated with presidential constitutions. Two features of this form of government encourage the political leaders to resort more often to special interest policies: a more effective separation of powers and the absence of a confidence requirement. These two features generate several institutional veto players, whom the leader has incentive to target with pork barrel in exchange for support (see, e.g., Persson et al. (2000)).

A second area is related to the effectiveness of policies and political leadership. In this respect, different features of the presidential constitution might pull in opposite directions. The separation of power is argued to generate a status quo bias, for the difficulty to have reforms approved, and hence less effective policymaking (see Linz (1994) and Tsebelis (1995)). A similar effect can be associated with the possibility of a divided government, case in which the president and the congressional majority do not belong to the same party. This case is only possible in presidential regimes while it is ruled out in parliamentary regimes (see, e.g., Alt and Lowry (1994)). On the other hand, the fixed term in office typical of presidential regimes should reduce the policy myopia and allow more room for long term interventions (a mechanism similar to Svensson (1998)).

Summing up, the theoretical predictions about the presidential constitution are unambiguous about the preference for special interest policies at the expense of broad-based programs, but less clear in terms of policy effectiveness.

Coming to the electoral rule, the winner-take-all feature of the plurality rule has, in first approximation, the effect to focus the electoral competition on narrower constituencies. This can lead to a preference for special interest at the expense of general interest policies. The point is made theoretically in Persson and Tabellini (2000), and empirical evidence on the composition of spending under alternative electoral rules is provided in PT. More recent quasi-experimental and experimental micro-evidence is provided in Gagliarducci et al. (2008) and Fréchette et al. (2009).

There are more details about the electoral rule. The first feature considered more closely in the literature is the size of the electoral district, i.e. the number of representatives elected in each district. On the one hand, larger districts mean that the candidates seeking election must appeal to a larger constituency: this pulls in the direction of general interest policies. Moreover, a smaller district size might result in the selection of a lower "quality" candidate. In other words, the voters might support a representative for ideological reasons, notwithstanding her low quality, only because the competition is stiffer in smaller districts. One example of this mechanism is modeled in Myerson (1993). A second feature whose effects have been considered in the literature is the ballot structure, and in particular the use of closed lists. In principle, the fact that the voters can express preferences on individuals rather than a list decided by the party should affect the personal accountability of the candidate. While this has no clear implications in terms of the composition of spending, the implications are clear with respect to outcomes like corruption or electoral spending cycles (Persson and Tabellini (2000), Kunicova and Rose-Ackerman (2005)). Stretching slightly this argument, these predictions can be extended to a broader idea of "quality" of the candidate.

Summing up, the theoretical predictions about the electoral rule are that the assignment of seats according to the plurality rule and smaller electoral districts should be associated with less preference for broad-based policies. Moreover, the use of closed lists and a smaller district size make more likely the selection of lower

quality candidates, which in turns can affect the quality and effectiveness of.

Finally, the combination of the two constitutional features can deliver different effects. In particular, parliamentary regimes with majoritarian electoral rules are more likely to produce single-party majority governments (Taagepera and Shugart (1989), Persson and Tabellini (2003)), which in turn can have an ambiguous effect: a good leadership can be, in this situation, more effective, since it is unrestrained, while the converse holds for an incompetent or corrupt leadership. On the other hand, this system might lead to larger swings in the ideological preferences of the government at election times compared to systems where coalition governments are more common (Alesina et al. (1997), Persson and Tabellini (2003)).

Related to this last point, one further interesting concept is what Aghion et al. (2004) call "insulation" of leaders, or the degree to which, once elected, the executive power can or can not be restrained. The expected effect of this variable is subject to the same sort of ambiguity: unrestrained power is good only if in good hands.

How does poverty reduction fit in this framework? A first set of predictions can be derived from the previous results on the composition of spending. According to the classification of policies given above, a policy strategy for poverty reduction can be considered a broad-based program, akin to redistribution.<sup>11</sup> As such, it is expected to receive less support if the executive power has the characteristics associated with a presidential regime, or the legislators are elected under a majoritarian rule. The assumption needed for the empirical analysis performed below is that a weaker support for these policies will result and be observable in terms of slower rates of poverty reduction corresponding to the same growth in income, controlling for other factors, i.e. in a smaller (in absolute value)  $\eta$  in equation (1).

With respect to quality of political leaders and policies, under the plausible assumption that poverty reduction requires deep reforms, effective policies and a consistent effort over time, the selection of lower quality politicians and a reduced effectiveness of policies can be expected to be associated with a smaller elasticity of

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<sup>11</sup>There is no clear consensus on the most effective policy menu to address poverty reduction. In particular, redistribution systems of the kind existing in most western countries are not fully functional in many developing countries at the present. Complementary interventions in very different areas are needed in most cases, but we can broadly think of them as social policies.

poverty to growth. The predictions in terms of quality and effectiveness from the above discussion are clear for closed lists and district size, but ambiguous both for the presidential regime, the single-party rule, and also for the "insulation" of the executive power. However, they can be tested empirically.

## 5.1 Empirical results

Table 5: Effect of democratic institutions

	(1)	(2)	(3)
	Democracies	Autocracies	Joint
Log GDP	-0.978*	-0.678***	-0.739***
	(0.510)	(0.202)	(0.215)
LogGDPXDemocracy			-0.126*
			(0.0709)
$R^2$	0.226	0.435	0.336
Countries	56	67	92
Observations	294	211	505

Notes: The dependent variable is the log of the poverty headcount. Democracies are defined by having a value 5 or greater in the Polity index. Column (1) and (2) estimate separate regressions, column (3) pools together all the observations with an interaction term. All regressions include regime-specific year effects. Robust standard errors clustered at the country level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The sample includes both democratic and non democratic countries, so I can separate the effect of the form of democracy from the democratic rule per se. As depicted in table 5, the elasticity of poverty to growth is larger<sup>12</sup> in democracies compared to autocracies. This is consistent with the claim that poor people get more voice and more weight in the political process in a democratic country. The difference between the two subsamples is significant, as evidenced by the interaction term in the third column of the table. The effect is robust to controlling for regional effects, both in the intercept and the slope. The size of the coefficient can be interpreted as follows. Consider a non-democratic fast-growing country like Tajikistan, where GDP

<sup>12</sup>Remember that the elasticity has to be read in absolute values.

per capita has been growing at an average rate of almost 7% in the last 10 years. Projecting the same average growth rate in the future up to 2015, and applying to this the average elasticity of autocracies, Tajikistan can be expected to reduce its poverty rate to 12.7% from the 2004 value of 21.5%. If we apply to the same growth rate the average elasticity of a democratic country, instead, Tajikistan's poverty rate would be predicted to fall to 9.9%. This is a difference of 180 thousand people.

Table 6: Effect of constitutional features

	(1)	(2)	(3)
	Electoral rule	Form of government	Combination
Log GDP	-2.015* (1.013)	0.663** (0.261)	-0.999* (0.524)
LogGDPXMaj	1.818* (1.047)		
LogGDPXPres		-2.343*** (0.793)	
LogGDPXParMaj			2.213*** (0.653)
$R^2$	0.473	0.238	0.254
Countries	60	49	56
Observations	258	227	296

Notes: The dependent variable is the log of the poverty headcount. Only observations from democratic countries are included. All regressions include regime-specific year effects. Robust standard errors clustered at the country level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Even larger effects are observable in table 6, which presents the estimation of equation (1) with the constitutional rules as contextual factors.<sup>13</sup> As reported in column (1), a majoritarian electoral rule is associated with smaller growth-elasticity of poverty, which is in accordance to predictions from the theory about the composition of spending. This is not due to geographic concentration of this constitutional

<sup>13</sup>The drop in the number of observations is due to the fact that I only consider here the subsample of democracies, i. e. observations for which the polity index is above 5.

feature, as the effect is robust to controlling for regional effects both in the intercept and the slope. In countries with a majoritarian electoral rule, growth has a significantly smaller effect on poverty reduction, smaller by a factor of ten: the point estimates are at -2 for proportional and -.2 for majoritarian countries, although the 95% confidence intervals are consistent with much smaller, respectively much larger values. This is a big difference. A majoritarian country like Brazil has been growing at an average of 1.03% per year between 1990 and 2004. Projecting forward the same growth rate up to 2015, and keeping everything else equal, Brazil would reduce its poverty rate, from the 2004 level of 11.68% to 11.41% in 2015 with the average elasticity of majoritarian countries. The poverty rate would fall instead to 9.2% with the average elasticity of proportional countries. This makes a difference for several millions of poor people.

Both a presidential constitution and weaker checks and balances on the executive power are associated with a larger growth-elasticity of poverty: one story consistent with these results is related to the effectiveness of a strong leader. An increase in the constraints on the executive to the top value of the Polity measure raises the elasticity only marginally.<sup>14</sup> The presidential constitution has instead a very big and significant impact on the elasticity in relative terms, with a difference of a factor of five between the two subsamples (table 6, column (2)). Again, confidence intervals are consistent with much closer values. Continuing with the example, in Brazil, which currently has a presidential constitution, the poverty rate could be predicted to fall to 9.9% (respectively, 11.28%) by 2015 with the average elasticity of presidential (parliamentary) countries and a constant growth rate.

When both presidential form of government and majoritarian electoral rule are present together, it is the electoral rule to have the stronger influence: the elasticity is smaller for these countries, compared to the three other possible combinations. These differences, however, are washed away by country specific heterogeneity.<sup>15</sup> In countries that have both a parliamentary constitution and a majoritarian electoral rule, instead, poverty is significantly less responsive to growth, as shown in table 6,

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<sup>14</sup>Results not reported.

<sup>15</sup>Results not shown.

column (3). One theory consistent with this result would be the one in Alesina et al. (1997), referred above, according to which these countries are typically subject to large swings in the ideological preferences of the government at election times, which somehow would introduce more instability in policies.

Table 7: Effect of constitutional features, IV estimation

	(1)	(2)	(3)
	Electoral rule	Form of government	Combination
Log GDP	-2.528*** (0.658)	-0.701* (0.415)	-1.784*** (0.295)
LogGDPXMaj	1.304* (0.727)		
LogGDPXPres		-1.110** (0.497)	
LogGDPXParMaj			1.059** (0.500)
<hr/>			
$R^2$			
Countries	39	37	37
Sargan-Hansen ( $p$ -val)	0.265	0.626	0.586
Observations	262	260	260

Notes: The dependent variable is the log of the poverty headcount. Only observations from democratic countries are included. All regressions include regime-specific year effects. Robust standard errors clustered at the country level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

As argued above, once country and year fixed effects are included, the constitutions are close to randomly assigned. However, a plausible instrumental variable strategy has been proposed, in PT, to isolate some truly exogenous variation in constitutional rules and estimate their effects in terms of size and composition of public spending and other economic outcomes. This strategy offers a valuable complement to the fixed effect analysis even in this context. In table 7, the selection of the constitution is predicted, in the first stage, using seven IV: three indicators plus a continuous variable for the age of the constitution, the fraction of the population

whose mother tongue is English or another European language, and the distance from the equator. The exclusion restrictions are somewhat more sensible for the first four, implying that the timing of adoption of the constitution has no direct effect on the rate of poverty reduction between 1980 and 2008. Assuming the exogeneity of these four, the validity of the other instruments can be tested. The Sargan-Hansen test fails to reject the overidentifying restrictions for the full set of instruments (p-values reported in in table 7). The results of this analysis confirm the previous analysis and lend support to the FE estimates discussed above.

The results in terms of the other details of the constitution are more mixed and difficult to reconcile with a consistent interpretation.<sup>16</sup> The elasticity is larger in countries where the executive is subject to term limits. Larger districts and closed list are also associated with a larger elasticity of poverty to growth. Finally, I also looked at the fractionalization of the government and the legislature, a measure for the probability that two randomly picked members of the cabinet, respectively the legislature, belong to two different parties. The elasticity is smaller with bigger fractionalization, and this supports once more the interpretation about the greater effectiveness of a strong undivided leadership facing less veto players. There are relatively few observations for these measures, though, so these results are less robust.

The findings of this analysis can be summarized as follows: economic growth contributes to poverty reduction to a significantly larger extent in democratic countries, and within democracies, in countries that have a proportional as opposed to a majoritarian electoral rule or a presidential as opposed to a parliamentary form of government. How can we interpret these results? Maybe there is no need to stress that the interpretation cannot be normative, in the sense of recommending constitutional reforms. A regime change is a complicated process with many interactions and partly unforeseeable consequences. Nevertheless, we observed that, even within democratic systems, the way representatives are elected and the balance of power between political institutions have an impact on how well policies are able to address broad social issues like poverty reduction. Under some constitutional arrangements, economic growth seems to "trickle down" to a lesser extent, and hence pro-growth

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<sup>16</sup>Results are not reported.

policies should be complemented by other more direct interventions in support of the poor.<sup>17</sup>

## 6 Conclusions

The importance of understanding the fine details around the average positive relationship between economic growth and poverty reduction is recognized since long. This paper offers a new take on it. In particular, I explore for the first time if and how this relationship is affected by the institutional framework of the country, meaning by this the constitution.

I use new data since the most recent overview on the topic, although the lag in data availability implies that the impact of the recent food and fuel price crises and the global financial crisis are still not reflected in these estimates. Many scholars believe that some of the gains in terms of poverty reduction that are visible in these new data have already been undone during the very last couple of years. Newer and better data, in particular more abundant and more comparable micro-data, will in the future allow to answer more questions and provide better guidance in the design of effective policies for poverty reduction.

The main results provided in this study can be summarized as follows: during the last three decades, poverty has been on average less responsive to growth in countries with a majoritarian electoral system and high inflation rates, and more responsive to growth in democracies and in particular presidential democracies. Although these results are primarily descriptive, they can nevertheless be accompanied by a normative recommendation: economic growth in itself is not enough to achieve goals of poverty reduction; this is true in some cases more than others, and I stressed here the case of countries with particular constitutional features; especially in these cases, pro-growth policies need to be complemented by more direct interventions in support

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<sup>17</sup>In a forthcoming book, Kenworthy (2011) shows that, in 20 industrial countries, when a positive relation is observed between average income growth and growth in the incomes of the bottom-decile household, this is overwhelmingly due to the transfer component of the latter. In other words, even in rich, democratic western countries, no "trickle down" would have happened without redistribution!

of the poor.

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## A Sample

Table 8: Sample

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Albania	2002	< 2	1319.49	ECA	7	1	0
	2004	< 2	1466.31	ECA	7	1	0
	2005	< 2	1541.04	ECA	9		
Argentina	1992	< 2	6877.86	LAC	7	0	1
	1996	< 2	7497.73	LAC	7	0	1
	1998	< 2	8210.8	LAC	7	0	1
	2002	9.92	6425.13	LAC	8	0	1
	2004	8.4	7486.15	LAC	8	0	1
	2005	4.5	8097.42	LAC	8		
	2006	3.39	8699.01	LAC	8		
Armenia	1999	18.03	584.082	ECA	5	1	1
	2001	10.99	683.453	ECA	5	1	1
	2002	14.97	774.797	ECA	5	1	1
	2003	10.63	883.449	ECA	5	1	1
	2007	3.65	1425.3	ECA	5		
Azerbaijan	2001	6.32	714.401	ECA	-7	1	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Bangladesh	2005	< 2	1182.92	ECA	-7		
	1986	43.03	242.41	SA	-5		1
	1992	66.77	265.239	SA	6	1	0
	1996	59.35	292.664	SA	6	1	0
	2000	57.82	334.573	SA	6	1	0
Belarus	2005	49.64	400.703	SA	6		
	1995	< 2	920.034	ECA	0	1	1
	1997	2.66	1061.63	ECA	-7	1	1
	1998	< 2	1156.3	ECA	-7		1
	2000	< 2	1273.05	ECA	-7		1
	2001	< 2	1337.85	ECA	-7		1
	2002	< 2	1411.76	ECA	-7		1
	2005	< 2	1871.39	ECA	-7		
Bolivia	2007	< 2	2252.48	ECA	-7		
	1997	18.94	993.813	LAC	9	1	1
	1999	24.7	1005.43	LAC	9	1	1
	2002	22.81	1010.38	LAC	9	1	1
	2005	19.62	1115.98	LAC	8		
Bosnia-Herzegovina	2007	11.86	1124.96	LAC	8		
	2004	< 2	1766.11	ECA			1
Brazil	2007	< 2	2105.93	ECA			
	1982	17.52	3248.03	LAC	-3	1	0
	1983	20.86	3066.46	LAC	-3	1	0
	1984	20.56	3157.31	LAC	-3	1	0
	1985	17.51	3336.38	LAC	7	1	0
	1986	12.29	3530.12	LAC	7	1	1
	1987	16.68	3586.27	LAC	7	1	1
	1988	17.66	3515.96	LAC	8	1	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	1989	14.59	3566.52	LAC	8	1	1
	1990	15.49	3354.75	LAC	8	1	1
	1992	13.29	3281.75	LAC	8	1	1
	1993	12.97	3382.55	LAC	8	1	1
	1995	10.51	3609.49	LAC	8	1	1
	1996	11.43	3631.74	LAC	8	1	1
	1997	11.98	3698.14	LAC	8	1	1
	1998	11.03	3644.6	LAC	8	1	1
	1999	11.15	3600.25	LAC	8	1	1
	2001	10.96	3697.23	LAC	8	1	1
	2002	9.81	3743.3	LAC	8	1	1
	2003	10.43	3735.97	LAC	8	1	1
	2004	11.68	3899.41	LAC	8	1	1
	2005	7.76	3974.82	LAC	8		
	2006	7.36	4086.34	LAC	8		
	2007	5.21	4290.53	LAC	8		
Bulgaria	1992	< 2	1490.89	ECA	8	0	0
	1994	< 2	1514.14	ECA	8	0	0
	1995	2.02	1563.94	ECA	8	0	0
	1997	< 2	1351.73	ECA	8	0	0
	2001	2.64	1658.15	ECA	9	0	0
	2003	< 2	1839.76	ECA	9	0	0
Burkina Faso	1998	70.03	216.84	SSA	-4	0	1
	2003	56.54	245.064	SSA	0	0	1
Burundi	1998	86.43	114.462	SSA	-1	0	1
	2006	81.32	109.183	SSA	6		
Cambodia	2004	40.19	369.508	EAP	2	0	0
	2007	25.84	486.699	EAP	2		

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Cameroon	2001	32.81	648.291	SSA	-4	1	1
Chile	1990	4.37	3067.02	LAC	8	1	1
	1994	2.6	3912.57	LAC	8	1	1
	1996	< 2	4504.62	LAC	8	1	1
	1998	< 2	4822.81	LAC	8	1	1
	2000	< 2	4877.88	LAC	9	1	1
	2003	< 2	5174.68	LAC	9	1	1
	2006	< 2	5869.65	LAC	10		
China	1984	69.4327	258.721	EAP	-7		0
	1987	54.0292	341.023	EAP	-7		0
	1990	60.1817	391.655	EAP	-7		0
	1993	53.6871	536.36	EAP	-7		0
	1996	36.3714	716.248	EAP	-7		0
	1999	35.6283	882.556	EAP	-7		0
	2002	28.3631	1105.96	EAP	-7		0
	2005	15.9205	1464.11	EAP	-7		
Colombia	1988	11.03	2096.97	LAC	8	0	1
	1989	8.36	2125.71	LAC	8	0	1
	1991	8.27	2217.39	LAC	9	0	1
	1995	11.23	2464.61	LAC	7	0	1
	1996	13.54	2470.54	LAC	7	0	1
	1998	16.1	2481.09	LAC	7	0	1
	1999	16.54	2336.43	LAC	7	0	1
	2000	16.77	2364.75	LAC	7	0	1
	2003	15.36	2467.81	LAC	7	0	1
	2006	16.01	2789.08	LAC	7		
Costa Rica	1986	10.38	2851.77	LAC	10	0	1
	1990	9.16	3111.48	LAC	10	0	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	1992	8.44	3316.31	LAC	10	0	1
	1993	7.9	3477.29	LAC	10	0	1
	1996	7.08	3545.73	LAC	10	0	1
	1997	4.52	3650.28	LAC	10	0	1
	1998	3.96	3859.38	LAC	10	0	1
	2000	4.41	4056.73	LAC	10	0	1
	2001	3.53	4012.52	LAC	10	0	1
	2003	5.61	4221.76	LAC	10	0	1
	2005	2.37	4501.22	LAC	10		
	2007	< 2	5123.72	LAC	10		
Cote d'Ivoire	1986	4.11	742.242	SSA	-9	1	1
	1987	8.68	712.326	SSA	-9	1	1
	1988	13.76	694.531	SSA	-9	1	1
	1993	17.79	589.478	SSA	-7	1	1
	1995	21.09	595.791	SSA	-6	1	1
	1998	24.06	649.276	SSA	-6	1	1
	2002	23.34	567.959	SSA	0	1	1
Croatia	1999	< 2	4543.89	ECA	1	1	1
	2000	< 2	4817.07	ECA	8	1	1
	2001	< 2	4986.03	ECA	8	1	1
	2005	< 2	5991.93	ECA	9		
Dominican Rep.	1989	12.16	1949.44	LAC	6	1	1
	1992	4.6	1935.22	LAC	6	1	1
	1996	5.87	2227.17	LAC	8	1	1
	1997	6.71	2364.86	LAC	8	1	1
	2000	4.41	2717.68	LAC	8	1	1
	2003	6.12	2786.35	LAC	8	1	1
	2005	4.98	2993.34	LAC	8		

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	2006	3.96	3264.72	LAC	8		
	2007	4.426	3490.89	LAC	8		
Ecuador	1994	15.87	1335.15	LAC	9	0	1
	1998	14.92	1382.14	LAC	9	0	1
	2003	10.49	1419.45	LAC	6	0	1
	2005	9.78	1589.09	LAC	6		
	2007	4.69	1680.5	LAC	5		
Egypt, Arab Rep.	1996	2.46	1250.35	MENA	-6	1	0
	2000	< 2	1422.73	MENA	-6	1	0
	2005	< 2	1539.21	MENA	-3		
El Salvador	1995	12.68	1972.44	LAC	7	1	1
	1996	14.99	1985.51	LAC	7	1	1
	1997	13.11	2052.18	LAC	7	1	1
	1998	13.48	2114.14	LAC	7	0	1
	2000	12.77	2209.16	LAC	7	0	1
	2002	14.16	2280.12	LAC	7	0	1
	2003	14.25	2324.45	LAC	7	0	1
	2005	10.97	2423.67	LAC	7		
	2007	6.43	2621.65	LAC	7		
Estonia	1993	< 2	2744.22	ECA	6	0	0
	1995	< 2	2945.86	ECA	6	0	0
	1998	< 2	3742.38	ECA	6	0	0
	2000	< 2	4144.38	ECA	9	0	0
	2001	< 2	4479.69	ECA	9	0	0
	2002	< 2	4858.22	ECA	9	0	0
	2003	< 2	5229.64	ECA	9	0	0
	2004	< 2	5680.38	ECA	9	0	0
Ethiopia	1995	60.52	114.957	SSA	1		1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Georgia	2000	55.58	124.851	SSA	1	1	0
	2005	39.04	149.657	SSA	1		
	1997	4.58	605.163	ECA	5	1	1
	1998	6.9	631.82	ECA	5	1	1
	1999	8.65	657.88	ECA	5	1	1
	2000	9.59	678.302	ECA	5	1	1
	2001	9.24	719.829	ECA	5	1	1
	2002	15.1	768.589	ECA	5	1	1
	2003	17.27	867.084	ECA	5	1	1
	2005	13.44	998.488	ECA	7		
Ghana	1989	49.37	217.197	SSA	-7		1
	1992	51.07	225.377	SSA	-1		1
	1998	39.12	247.048	SSA	2	1	1
	2006	29.99	302.384	SSA	8		
Guatemala	1989	39.33	1435.54	LAC	3	1	1
	1998	15.65	1673.09	LAC	8	1	1
	2000	13.06	1717.66	LAC	8	1	1
	2002	16.92	1738.59	LAC	8	1	1
	2006	11.7	1811.17	LAC	8		
Guinea	1994	36.77	334.294	SSA	-5		1
	2003	70.13	394.911	SSA	-1	1	1
Guinea-Bissau	1993	52.11	182.376	SSA	-6		1
Honduras	2002	48.83	146.55	SSA	5		1
	1989	39.72	1078.26	LAC	6	1	0
	1990	43.5	1049.23	LAC	6	1	1
	1992	33.33	1083.14	LAC	6	1	1
	1994	28.28	1078.22	LAC	6	1	1
	1997	15.6	1138.08	LAC	6	1	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	1999	14.44	1101.15	LAC	7	1	1
	2003	18.1	1195.69	LAC	7	1	1
	2005	22.19	1294.09	LAC	7		
	2006	18.19	1352.79	LAC	7		
Hungary	1989	< 2	4383.7	ECA	4	1	0
	1993	< 2	3606.44	ECA	10	1	0
	1998	< 2	4212.68	ECA	10	1	0
	1999	< 2	4403.46	ECA	10	1	0
	2000	< 2	4689.61	ECA	10	1	0
	2001	< 2	4893.09	ECA	10	1	0
	2002	< 2	5122.96	ECA	10	1	0
	2004	< 2	5622.86	ECA	10	1	0
India	1983	55.5111	252.609	SA	8	1	0
	1988	53.5928	296.627	SA	8	1	0
	1994	49.4019	351.867	SA	8	1	0
	2005	41.6442	588.721	SA	9		
Iran, Islamic Rep.	1990	3.85	1292.16	MENA	-6	1	1
	1994	< 2	1394.96	MENA	-6	1	1
	1998	< 2	1527.98	MENA	3	1	1
	2005	< 2	1924.39	MENA	-6		
Jamaica	1990	< 2	3159.36	LAC	10	1	0
	1993	3.82	3617.77	LAC	9	1	0
	1996	< 2	3646.81	LAC	9	1	0
	1999	< 2	3468.98	LAC	9	1	0
	2002	< 2	3521.83	LAC	9	1	0
	2004	< 2	3721.3	LAC	9	1	0
Jordan	1992	2.77	1660.04	MENA	-2	1	1
	1997	< 2	1709.6	MENA	-2	1	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	2003	< 2	1901.47	MENA	-2	1	1
	2006	< 2	2246.62	MENA	-2		
Kazakhstan	1996	4.98	1043.73	ECA	-4	1	1
	2001	< 2	1397.29	ECA	-4	1	1
	2002	5.15	1534.17	ECA	-6	1	1
	2003	3.12	1671.21	ECA	-6	1	1
	2007	< 2	2332.29	ECA	-6		
Kenya	1994	28.55	409.47	SSA	-5	1	1
	1997	19.57	410.758	SSA	-2	1	1
	2005	19.72	423.64	SSA	8		
Kyrgyz Rep.	1993	18.61	303.638	ECA	-3		1
	1998	31.84	261.241	ECA	-3	1	1
	2002	34.03	288.874	ECA	-3	1	1
	2004	21.81	324.369	ECA	-3	1	1
	2007	3.42	352.537	ECA	3		
Lao PDR	1997	49.32	290.813	EAP	-7	1	0
	2002	43.96	347.152	EAP	-7	1	0
Latvia	1993	< 2	2271.33	ECA	8		0
	1995	< 2	2364.05	ECA	8	0	0
	1996	< 2	2477.31	ECA	8	0	0
	1997	< 2	2727.39	ECA	8	0	0
	1998	< 2	2903.61	ECA	8	0	0
	2002	< 2	3854.11	ECA	8	0	0
	2004	< 2	4538.9	ECA	8	0	0
	2007	< 2	6296.23	ECA	8		
Lesotho	1993	56.43	369.958	SSA	8		1
	1995	47.59	393.335	SSA	8	1	0
	2003	43.41	435.426	SSA	8	1	0

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Lithuania	1996	< 2	2684.61	ECA	10	1	1
	1998	< 2	3148.9	ECA	10	1	1
	2000	< 2	3267.36	ECA	10	1	1
	2001	< 2	3505.7	ECA	10	1	1
	2002	< 2	3759.49	ECA	10	1	1
	2004	< 2	4492.78	ECA	10	1	1
Macedonia	2000	2.94	1783.09	ECA	6	1	0
	2002	< 2	1706.49	ECA	9	1	0
	2003	< 2	1750.63	ECA	9	0	0
	2006	< 2	1962.8	ECA	9		
Madagascar	1993	72.49	256.119	SSA	9	1	1
	1997	72.04	243.873	SSA	8	1	1
	1999	82.32	249.635	SSA	7	1	1
	2001	76.34	261.351	SSA	7	1	1
	2005	67.83	246.352	SSA	7		
Malaysia	1987	2.39	2174.66	EAP	4	1	0
	1989	< 2	2459.94	EAP	4	1	0
	1992	< 2	2949.97	EAP	4	1	0
	1995	2.08	3604.01	EAP	3	1	0
	1997	< 2	4043.64	EAP	3	1	0
	2004	< 2	4458.56	EAP	3	1	0
Mali	1994	86.08	189.203	SSA	7	1	1
	2001	61.18	252.41	SSA	6	1	1
	2006	51.43	286.236	SSA	7		
Mauritania	1993	42.79	416.462	SSA	-6	1	1
	1996	23.4	432.692	SSA	-6	1	1
	2000	21.16	415.237	SSA	-6	1	1
Mexico	1992	4.48	5168.6	LAC	0	1	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	1994	3.33	5309.08	LAC	4	1	1
	1996	6.98	5063.81	LAC	4	1	1
	1998	8.01	5512.59	LAC	6	1	1
	2000	4.82	5934.98	LAC	8	1	1
	2002	3.73	5852.99	LAC	8	1	1
	2004	2.8	6048.41	LAC	8	1	1
	2006	< 2	6413.71	LAC	8		
	2008	3.95	6592.09	LAC	8		
Moldova	1997	15.11	382.076	ECA	7	0	1
	1999	44.18	346.016	ECA	7	0	1
	2001	33.02	376.436	ECA	8	0	0
	2002	17.08	406.739	ECA	8	0	0
	2004	8.14	467.98	ECA	8	0	0
	2007	2.38	547.066	ECA	8		
Mongolia	1998	34.15	450.216	EAP	10	1	1
	2002	15.47	479.068	EAP	10	1	1
	2008	2.24	735.338	EAP	10		
Morocco	1991	2.45	1229.11	MENA	-8	1	1
	1999	6.76	1266.47	MENA	-6	1	1
	2000	6.25	1270.33	MENA	-6	1	1
	2001	6.25	1349.56	MENA	-6	1	1
	2007	2.5	1647.87	MENA	-6		
Nepal	1996	68.44	206.517	SA	5	1	0
	2004	55.12	235.152	SA	-6	1	0
Nicaragua	1998	21.76	715.506	LAC	8	0	1
	2001	19.42	782.906	LAC	8	0	1
	2005	15.81	842.781	LAC	8		
Niger	1994	78.17	169.378	SSA	8	1	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Nigeria	2005	65.88	168.401	SSA	6		
	1993	49.19	366.768	SSA	-7		1
	1996	68.51	364.301	SSA	-6		1
Pakistan	2004	64.41	426.999	SSA	4		1
	1991	64.71	476.68	SA	8	1	0
	1997	48.14	519.43	SA	7	1	0
	1999	29.05	526.231	SA	-6	1	0
	2002	35.87	537.26	SA	-5		1
Panama	2005	22.59	605.738	SA	-5		
	1991	16.88	3151.15	LAC	8	1	1
	1995	11.47	3467.02	LAC	9	1	1
	1996	12.44	3493.11	LAC	9	1	1
	1997	7.17	3644.89	LAC	9	1	1
	2000	11.5	3938.08	LAC	9	1	1
	2001	13.81	3886.6	LAC	9	1	1
	2002	10.79	3900.3	LAC	9	1	1
	2004	9.2	4215.54	LAC	9	1	1
	2006	9.48	4736.96	LAC	9		
Paraguay	1995	12.69	1486.95	LAC	7	0	1
	1998	19.63	1447.38	LAC	6	0	1
	1999	14.33	1396.11	LAC	7	0	1
	2002	17.23	1294.84	LAC	7	0	1
	2005	9.3	1359.18	LAC	8		
Peru	2007	6.45	1458.83	LAC	8		
	1990	< 2	1657.33	LAC	8	0	1
	1994	5.74	1845.27	LAC	1	0	1
	1996	8.59	1982.89	LAC	1	0	1
	2001	15.13	2023.72	LAC	9	0	1

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Philippines	2002	12.55	2095.5	LAC	9	0	1
	2005	8.18	2350.66	LAC	9		
	2006	7.94	2502.04	LAC	9		
	2007	7.69	2692.17	LAC	9		
	1988	30.48	864.482	EAP	8	1	1
	1991	30.68	874.518	EAP	8	1	1
	1994	28.11	873.625	EAP	8	1	1
	1997	21.61	954.087	EAP	8	1	1
	2000	22.45	977.129	EAP	8	1	1
	2003	21.99	1028.12	EAP	8	1	1
Poland	2006	22.62	1143.16	EAP	8		
	1993	4.19	3039.92	ECA	8	0	1
	1996	< 2	3620.38	ECA	9	0	1
	1998	< 2	4065	ECA	9	0	1
	1999	< 2	4249.8	ECA	9	0	1
	2000	< 2	4454.08	ECA	9	0	1
	2001	< 2	4532.01	ECA	9	0	1
	2002	< 2	4599.55	ECA	10	0	1
Romania	2005	< 2	5223.67	ECA	10		
	1992	< 2	1532.66	ECA	5	0	0
	1994	4.97	1621.72	ECA	5	0	0
	1998	< 2	1632.29	ECA	8	0	0
	2000	3.73	1650.97	ECA	8	0	0
	2001	2.67	1769.59	ECA	8	0	0
	2002	2.86	1887.9	ECA	8	0	0
	2005	< 2	2260.22	ECA	9		
Russian Fed.	2007	< 2	2595.6	ECA	9		
	1996	3.48	1564.12	ECA			

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	1999	2.28	1613.7	ECA			
	2001	< 2	1870.05	ECA			
	2002	< 2	1967.52	ECA			
	2005	< 2	2443.96	ECA			
	2007	< 2	2866.37	ECA			
Senegal	1995	54.11	443.124	SSA	-1	1	1
	2001	44.19	482.724	SSA	8	1	1
	2005	33.5	522.336	SSA	8		
Slovak Rep.	1992	< 2	4133.63	ECA			
	1996	< 2	4773.48	ECA	7	0	0
Slovenia	1998	< 2	9120.16	ECA	10	0	0
	2002	< 2	10665.7	ECA	10	0	0
	2004	< 2	11421.1	ECA	10	0	0
South Africa	1995	21.43	2960.42	SSA	9	0	0
	2000	26.2	3019.95	SSA	9	0	0
Sri Lanka	1991	15.01	593.009	SA	5	0	1
	1996	16.32	727.148	SA	5	0	1
	2002	13.95	883.457	SA	6	0	1
Tajikistan	2003	36.25	178.727	ECA	-3	1	1
	2004	21.49	195.406	ECA	-3	1	1
Thailand	1988	17.2	1154.2	EAP	3	1	0
	1992	5.45	1600.31	EAP	9		0
	1996	< 2	2096.44	EAP	9	1	0
	1998	< 2	1826.91	EAP	9	1	0
	1999	< 2	1895.06	EAP	9	1	0
	2000	< 2	1968.43	EAP	9	1	0
	2002	< 2	2071.92	EAP	9	1	0
	2004	< 2	2304.84	EAP	9	1	0

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
Tunisia	1990	5.87	1500.64	MENA	-5	1	1
	1995	6.48	1651.39	MENA	-3	1	1
	2000	2.55	2033.07	MENA	-3	1	1
Turkey	1994	2.1	3368.44	ECA	8	0	0
	2002	< 2	3901.78	ECA	7	0	0
	2005	2.72	4679.58	ECA	7		
	2006	2.57	4938.4	ECA	7		
Turkmenistan	1993	63.53	777.282	ECA	-9	1	1
	1998	24.82	479.455	ECA	-9	1	1
Uganda	1992	70.01	184.742	SSA	-7	1	1
	1996	64.39	227.645	SSA	-4	1	1
	1999	60.49	247.509	SSA	-4	1	1
	2002	57.37	265.63	SSA	-4	1	1
	2005	51.53	291.392	SSA	-1		
Ukraine	1992	< 2	1141.12	ECA	6		1
	1996	< 2	608.816	ECA	7	1	1
	1999	2.03	594.28	ECA	7	1	1
	2002	< 2	745.039	ECA	6	1	1
	2005	< 2	960.226	ECA	6		
	2008	< 2	1155.85	ECA	7		
Uruguay	1989	< 2	5477.49	LAC	10	0	1
	1992	< 2	6015.58	LAC	10	0	1
	1996	< 2	6708.32	LAC	10	0	1
	1998	< 2	7280.73	LAC	10	0	1
	2000	< 2	6914.36	LAC	10	0	1
	2001	< 2	6665.13	LAC	10	0	1
	2003	< 2	6067.65	LAC	10	0	1
	2005	< 2	7229.47	LAC	10		

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**Table 8 – continued from previous page**

Country	Year	Poverty HR	GDP p/cap	Region	Polity	Maj	Pres
	2006	< 2	7522.28	LAC	10		
	2007	< 2	8060.65	LAC	10		
Uzbekistan	2002	42.33	590.059	ECA	-9	1	1
	2003	46.28	607.725	ECA	-9	1	1
Venezuela	1987	6.51	5030.86	LAC	9	0	1
	1989	2.91	4637.39	LAC	9	0	1
	1993	2.62	5263.65	LAC	8	0	1
	1995	9.35	5119.6	LAC	8	0	1
	1996	14.71	5005.25	LAC	8	0	1
	1997	9.57	5218.15	LAC	8	0	1
	1998	13.97	5132.02	LAC	8	0	1
	2003	18.41	3966.5	LAC	6	0	1
	2005	9.98	5000.08	LAC	6		
	2006	3.53	5401.42	LAC	5		
Vietnam	1998	49.65	364.104	EAP	-7	1	0
	2002	40.05	447.538	EAP	-7	1	0
	2004	24.18	503.268	EAP	-7	1	0
	2006	21.45	575.884	EAP	-7		
Yemen, Rep.	1998	12.88	513.248	MENA	-2	1	0
	2005	17.53	552.438	MENA	-2		
Zambia	1993	65.27	368.857	SSA	6	1	1
	1996	62.07	321.822	SSA	1	1	1
	1998	55.4	308.089	SSA	1	1	1
	2003	64.6	328.557	SSA	5	1	1
	2004	64.29	338.773	SSA	5	1	1