

## **Democracy and Primary School Attendance in Africa**

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It has been argued that governments elected in open electoral competition will have greater incentives than their authoritarian counterparts to provide primary education for their citizens. The difficulty with testing this hypothesis using cross-country data is that if we observe a positive correlation between electoral competition and primary school attendance, we will not know whether this implies a causal relationship or, alternatively, whether this simply means that other, potentially unobserved, country-level factors produce both democracy and broad education provision. This short paper reports results of an empirical test that attempts to deal with this problem by using individual-level data on education provision and subjective assessments of government performance for African countries. My results show that changes in primary education provision are strongly correlated with assessments of government performance, even when controlling for unobserved country-level factors, and I suggest that this provides partial support for the idea of a causal link between democracy and education provision.

## 1. Introduction

One of the core issues in the political economy of development involves empirically assessing whether and when governments in democracies have a greater incentive to provide basic public services when compared with governments in autocratic systems. Among the different basic services that a government can provide, primary education certainly ranks as one of the most important. The reasoning behind the argument why rulers in democracies might prioritize primary education is straightforward. In poor countries access to primary education is likely to be a potentially salient political issue for large segments of the population, and if democratically elected governments seek to capitalize on this issue to maximize their support, then they should logically devote greater budgetary resources to primary education when compared with their autocratic counterparts. So we should expect to observe a positive correlation between democracy and primary education provision. There are, however, two potential problems with this argument.

First, the argument that democracy will lead to broad primary education provision is dependent on several assumptions that may not be satisfied in developing countries, and in particular in the poorest developing countries, the majority of which are located in Africa. Incumbents may choose to cultivate support through narrow clientelistic mechanisms rather than broad programs like free provision of primary education. Voters may select candidates based primarily on ethnic or regional affiliation, not their policy performance. Finally, members of the public may also lack the information necessary to judge government policies in the area of education. There are a number of recent contributions that highlight the above issues.<sup>1</sup>

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<sup>1</sup> See Humphreys and Bates (2005), Habyarimana et al (2006), Keefer and Khemani (2003), Keefer and Vlaicu (2005), van de Walle (2003, 2001), Wantchekon (2003), and Reinikka and Svensson (2004).

The second problem is that an observed correlation between democracy and education may simply imply that other country-level factors simultaneously lead both to democracy and to broad education provision. This problem is particularly likely to arise with studies using the sort of aggregate country-level data that is most common in comparative political economy. Empirical measures of both democracy and education provision often exhibit little variation over time, particular if a relatively short time span is considered. This means that even if one has time-series cross-section data, it may be difficult to use country fixed effects in a regression to control for the possibility that both democracy and education provision are driven by unobserved country-level factors.<sup>2</sup> To take two examples, these factors could involve historical legacies of the type emphasized by Acemoglu, Johnson, and Robinson (2001) or, alternatively, aspects of a country's level of "modernization" that might influence both democracy and education. As a result, we will be uncertain whether a correlation between democracy and education provision implies that the former causes the latter. We might also think that the causal arrow could run in the opposite direction, from education to democracy, generating a simultaneity bias in the regression estimate. Even when one sets aside these potential problems, there have been relatively few cross-country studies that investigate whether democratically-elected developing country governments tend to be associated with broader primary education provision than their authoritarian counterparts.<sup>3</sup>

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<sup>2</sup>This point has also been made by Besley and Kudamatsu (2006) and Ross (2006) with respect to the correlation between democracy and health indicators like infant mortality.

<sup>3</sup>The exception here is the paper by Brown (2000). Stasavage (2005) considers political determinants of education spending in African countries, but not educational enrollments. Brown and Hunter (1999) consider education spending and regime type in Latin America.

In this paper I propose an empirical test that can help deal with the above two problems. If we want to be able to control for unobserved country-level factors, then one possibility is to consider data from sub-national units while simultaneously including country fixed effects in a regression. As I describe below, it is possible to obtain high quality data on rates of primary school attendance in different regions of African countries. The problem, of course, is that while education outcomes vary from region to region, the openness of competition for national political office is not something that will vary within the same country. It is possible, however, to use other indicators that will vary from region to region, and even from individual to individual, in order to explore another observable implication of the democracy-education hypothesis. In order for an increase in the openness of electoral competition to give presidents an incentive to increase levels of primary education provision, it should be the case that actual changes in primary education provision have a significant effect on assessments of a president's job performance. The alternatives, already referred to above, are that satisfaction with a president will depend primarily on ethnic or regional affiliations, or that the members of the public may lack information about education outcomes. One might also add the possibility that the public will believe that a president has little actual control over education outcomes on the ground, in which case education provision might also have little influence on assessments of presidential job performance. If any of these factors dominate, then we should expect to not observe a strong correlation between changes in primary education provision and public assessments of presidential job performance. This would imply that we would also expect increased electoral competition to have little effect on primary education outcomes.

For data on primary education provision, in this paper I rely on survey results from the Demographic and Health Surveys (DHS) project. These surveys provide information on primary school attendance of 6-10 year olds for 28 African countries. These survey data, while little used by political scientists, are invaluable because they arguably provide a more accurate picture of

developments in primary education provision than do sources on education enrollments that are based on estimates produced by education ministries. Existing education enrollment data provided by UNESCO and the World Bank are constructed using the latter method. The DHS data measure whether children are actually attending school, as opposed to whether they are simply officially enrolled. The DHS data also allow for examining the effect of variations in primary education, both between countries and between regions within individual countries. This is particularly important because of the possibilities this creates for controlling for unobserved country-level heterogeneity in a regression. It is also of substantive interest because there is as much variation in attendance rates within African countries as between them. I combine the DHS data on primary education with data from Round 1 of the Afrobarometer project that record individual assessments of presidential job performance (Bratton et al 2005).

I begin in Section 2 by estimating a cross-sectional regression using country-level data, investigating whether there is a positive correlation between openness of electoral competition and rates of primary school attendance. I find that this is indeed the case, even when controlling for several other potential determinants of education outcomes. However, for the reasons outlined above, it is uncertain whether this result reflects an underlying causal relationship. Section 3 moves to considering individual-level data, investigating whether actual changes in primary education provision are positively correlated with individual assessments of presidential job performance. It demonstrates that this correlation exists even after controlling for country fixed effects, and the substantive magnitude of this effect is sizeable. These estimates should also be free from a simultaneity bias attributable to education's effect on democracy; we would not expect one individual's assessment of presidential job performance to have an influence on an entire region's level of primary school attendance.

While my empirical findings derive from a specific set of countries, they also have potential implications for broader debates about the link between democracy and education in the developing world. They suggest that democracy can be a powerful force prompting governments to provide certain basic services, even in the context of very poor countries that may be characterized as having “weak” economic and political institutions. My results using individual-level data parallel those found by Kudamatsu (2006) using data from the DHS surveys to examine the correlation between democracy and infant mortality in Africa.

## **2. Aggregate evidence on democracy and primary school attendance**

The first step in my analysis is to consider whether aggregate cross-country data show that recent African democracies have sent a larger proportion of children to primary school than have non-democracies. Recent evidence from individual country cases suggests a possible link between electoral competition and primary education provision.<sup>4</sup> However, it has not yet been established that there is a systematic correlation between regime type and primary education provision for African countries. Considering primary enrollment data for the period up to the 1980s, Brown (2000) found that Africa was different from other regions in the developing world in that there was

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<sup>4</sup> In Uganda in 1996 and Malawi in 1994, incumbent presidents during election campaigns made promises, which were subsequently followed through on, to abolish all fees for primary schooling. In 2001 Tanzania’s President also abolished primary school fees, following an election promise, and at the beginning of 2003 Kenya’s newly elected President also carried out an election pledge to abolish all primary school fees. On the Ugandan case see Stasavage (2005). See *The Guardian*, Dar es Salaam, November 1, 2001 for Tanzania’s experience. On the Kenyan government’s recent decision see “Free Primary Education is on, Says President Kibaki”, *Daily Nation*, Nairobi, 3 January 2003, as well as “Free Education: Kenya’s Schools Overwhelmed”, *The East African*, Nairobi, 20/1/03.

no clear correlation between regime type (democracy vs. non-democracy) and enrollment levels. One reason for this finding might be that before the 1990s, very few African countries could be classified as democracies. One other problem with investigating primary enrollments across countries, as Brown emphasizes, is that there are known to be potentially serious sources of measurement error. The “primary enrollment” and “primary completion” rates collected by UNESCO and reported by agencies like the World Bank rely on self-reporting by individual developing country governments, and they are based on estimates produced by central education ministries rather than household surveys.

In order to circumvent these problems, my analysis below relies on an alternative data source for primary school attendance. The Demographic and Health Surveys (DHS) project has in recent years conducted large-scale household surveys in twenty-eight African countries. While they focus on health issues, these surveys also provide valuable data on school attendance for members of each household. Lloyd and Hewett (2003) have suggested that the DHS surveys can provide a useful alternative to the standard primary education attainment statistics collected by UNESCO. One further advantage of the DHS data, which I will exploit in Section 3, is that because it provides information on attendance at the household level, the DHS survey results can be used to consider both cross-country and within-country variation in levels of primary education provision.

Table 1 reports OLS estimates of equation (1). The dependent variable is the percentage of children of age 6 to 10 who are currently attending primary school, based on the DHS survey results. For each of the 28 countries I use aggregate figures derived from the most recently completed survey. Since only one DHS survey is available for the bulk of the DHS countries, I am restricted to a cross-sectional investigation here. A full list of attendance rates is reported in the appendix.

For the regression estimates (though not for the Appendix table) I have rescaled these attendance rates to take account of the fact that starting ages for primary school vary for the sample countries.<sup>5</sup>

$$attend_i = \alpha + \beta_1 regime_i + \beta_2 gdp/cap_i + \beta_3 french_i + \beta_4 aid_i + \varepsilon_i \quad (1)$$

I regress the attendance rate for 6-10 years olds on the binary measure of regime type (democracy/autocracy) developed by Przeworski, Alvarez, Cheibub, and Limongi (2000) and updated in Cheibub and Gandhi (2004). In the first regression I use the variable *regime*, produced by Przeworski and his colleagues, where democracy depends on the presence of multiparty electoral competition, as well as on the fact that a current incumbent party is eventually unseated in an election (the alternation rule). *Regime* takes a value of 0 for democracies. Of the 28 countries in this cross-section, 10 are classified as democracies using this definition (based on the year the DHS survey was conducted). This measure implies that in an African country like Botswana, where the same party has been in power since independence, even though other requirements for democracy have been satisfied, Botswana is nonetheless classified as a non-democracy. Because this classification system excludes many new African democracies in which there has not yet been a change in incumbent government, I also consider a modified version of the Przeworski et al measure, *regime2*, which follows their classification system while dropping the alternation rule. Based on this alternative definition, 20 of the 28 sample countries were democracies at the time the DHS surveys were conducted.

I also include two further covariates in the regressions. First the log of per capita GDP in constant US dollars is included based on the logic that there will be a strong positive correlation between income per capita and primary school attendance. Second, I include a dummy variable for countries that are former French colonies. It has been observed that different colonial powers in

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<sup>5</sup> In 18 of the countries primary school begins at age 6. In the remaining 10 it begins at age 7.

Africa established educational systems with different priorities. For the case of French colonies, it has been argued that there was less emphasis on primary education than was the case in British colonies, and Mingat and Suchaut (2003) and Brown (2000) have provided empirical evidence to support this received wisdom, based on educational attainment data at the time of independence. There is also evidence that educational differences inherited from the colonial period have persisted, and in some cases become magnified over time. Though the reasons for this gap are not fully understood, Mingat and Suchaut (2003) have suggested that the higher unit costs of primary education in Francophone countries (primarily due to higher teacher salaries) may provide one important explanation.

The Table 1 regressions also include aid in % GDP as a control variable. I include aid in order to demonstrate that any conclusions regarding the effect of regime type are not biased by the failure to control for levels of development assistance. However, it is unclear what contemporaneous correlation we should expect to observe between aid and attendance rates in a cross-section. If donors place priority on increasing primary attendance rates, we might expect aid to be positively correlated with attendance. But if aid flows above all to countries that have the poorest education outcomes to date, then we might expect to observe a negative correlation between current aid and current attendance rates. It is also worth observing that in recent cases of African countries that have expanded primary education provision, the bulk of increases in government expenditure appear to have been funded by existing budgetary resources rather than new foreign financing (see World Bank, 2003). A final control variable I considered was the level of ethnic fractionalization, based on Posner's (2004) measure of "politically relevant ethnic groups". This variable was not statistically significant in any specification and was excluded from the reported results.

Regression (1) in Table 1 shows that there is a highly significant correlation between regime type and primary school attendance. In an African democracy, the percentage of 6-10 year olds attending school will be roughly 14 percentage points higher than in an autocracy. This is a very large effect. In addition, there is a strong positive correlation between log income per capita and school attendance. Consistent with other studies, one also observes that former French colonies are estimated to have lower attendance rates for 6-10 years olds than those observed in other countries. The size of this effect is particularly large (21 percentage points), even when controlling for other covariates like per capita income and aid.

Regression (2) repeats the exercise while substituting the alternative definition of regime type, *regime2*. We observe here that while the coefficients on per capita income, French colonization, and the primary completion rate in 1990 remain very similar, the coefficient on regime type is now much smaller and it is no longer statistically significant. This suggests that while there is a strong correlation between openness of electoral competition and primary school attendance, this applies only to a relatively strict definition of what constitutes open electoral competition.

In sum, the above results suggest that there is a significant correlation between openness of electoral competition and rates of primary attendance, even when controlling for several potential determinants of education outcomes. However, the ability to control for the many factors that might simultaneously produce democracy and broad education provision is ultimately limited in this type of regression. This provides the main motivation for moving to individual-level data and considering another observable implication of the democracy-education hypothesis, which is the subject of the next section.

### 3. Individual-level evidence on democracy and primary school attendance

Drawing on results from the DHS surveys and from the Afrobarometer project, this section examines whether recent changes in primary education provision are correlated with respondent assessments of overall job performance by a country's president. If increased openness of electoral competition does indeed give governments a greater incentive to provide primary education for their citizens, then we would expect to observe that in those countries in which primary attendance rates have risen in recent years, there should be a higher evaluation of presidential job performance. For countries in which primary education is not yet universal, it seems plausible to expect that *changes* in primary school provision might have a direct effect on assessments of recent presidential job performance. It seems less plausible that the *level* of primary school provision should have a similar effect, because the level of primary school attendance, as emphasized above, is a slow moving variable that will reflect a historical legacy of past government policies. Executives in all twelve of the countries in round 1 of the Afrobarometer survey were subject to multi-candidate elections.<sup>6</sup>

The empirical conclusions I draw from the individual-level data are as follows. There is strong evidence of an effect of democracy on incentives to provide primary education; subjective assessments of presidential performance are significantly higher in those countries where there has been an increase in primary school attendance during the 1990s. Moreover, the substantive effect of

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<sup>6</sup> The test of this observable implication of the democracy-education hypothesis is not contingent on the assumption that the survey countries are full democracies. We should observe that in both non-democracies and democracies changes in primary education provision have effects on a president's approval rating. The difference would be that in the former cases popular dissatisfaction would not translate into a greater risk of election loss. Zimbabwe is the survey country for which one would be most likely to suggest that recent restrictions on political competition have been the most significant.

changes in primary education is large. Since the DHS data on primary attendance are available at the regional level, I am also able to show that this positive correlation holds when one includes country fixed effects in the regression, thus focusing exclusively on within-country variation.

The Afrobarometer surveyors collected data on presidential approval ratings in ten of the twelve survey countries. In each case respondents were asked to rate their president's performance on a four point scale: 1 (strongly disapprove), 2 (disapprove), 3 (approve), and 4 (strongly approve).<sup>7</sup> There were very significant variations in response to this question across countries, as for example 60% of Ugandan respondents gave their president a 4 rating, but this was the case for only 15% of respondents in Zambia. There was also very significant variation in responses between regions within countries. Given the large variations observed in presidential approval both between and within countries, it seems worthwhile to ask whether this variation might be explained in part by different degrees of primary education provision. The appendix provides a list of the country mean responses to the approval question, as well as the fraction "strongly approving" their president's performance.

There are two main alternatives for judging whether education provision has influenced presidential approval. The first is to examine whether survey responses for overall presidential performance are correlated with subjective responses to Afrobarometer questions regarding

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<sup>7</sup> The precise question for the majority of countries followed the format "What about the way President X has performed his job over the past twelve months. Do you (1) strongly disapprove (2) disapprove (3) approve (4) strongly approve." In Uganda the question wording was "In particular, how satisfied are you with the performance of President Museveni (1) very unsatisfied (2) somewhat unsatisfied (3) somewhat satisfied (4) very satisfied". In Tanzania and Mali the same four options were offered as in Uganda.

government performance in the area of education. Using this method, we observe that performance in the area of education is very highly correlated with overall assessments of job performance for African presidents. However, it is not clear what this indicates. It might be that responses regarding a government's education performance help to determine responses to questions about overall presidential performance. But the reverse could also be true. In responding to questions about performance in specific policy areas, members of the public may be guided by prior opinions about a country's president. As a result, inferences based on this method would be subject to the same sort of simultaneity bias identified by Kramer (1983) who argued that in the US context, biased estimates result from regressing individuals' votes for presidential candidates on individual opinions regarding the state of the economy.

In order to get a clearer sense of whether progress in primary education provision has influenced presidential approval and to avoid the simultaneity problem highlighted above, I investigate whether objective changes in primary education provision, region by region, have been correlated with levels of presidential approval. As previously described in Section 2, the DHS surveys provide data at the regional level on primary attendance. For a number of countries more than one survey wave has been conducted, allowing for observation of how primary school attendance has changed over time. This is the case with six of the same African countries where the Afrobarometer survey asked questions about presidential performance. In addition, for those countries in which only one DHS survey is available, there is an alternative World Bank data source involving changes in the "primary completion rate" during the 1990s (World Bank, 2003).<sup>8</sup> For reasons described in Section 1, this World Bank data may be less reliable than that derived from the

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<sup>8</sup> The primary completion rate is defined as the total number of students who complete primary school in a given year, divided by the total number of children of graduation age in the population.

DHS household surveys, and it is also only available at the country level. When we consider country level data, however, the two sources are nonetheless very highly correlated.

In order to make the most efficient use of information available about primary school attendance, while also attempting to avoid potential biases introduced by missing data, in the regressions that follow I imputed missing values for the DHS data. The multiple imputation model followed the procedure suggested by Honaker *et al* (2003) and King *et al* (2001). It included all regression variables, in addition to the World Bank variable for the primary completion rate. The fact that the World Bank completion rate and the DHS primary attendance rate are so highly correlated should significantly increase confidence in the imputation model.<sup>9</sup>

$$\Pr(\text{performance}_{ijk} = n) = \Pr(\alpha_{n-1} < \beta_1 \Delta \text{attend}_{jk} + \sum \gamma_x \text{controls}_{ijk} \leq \alpha_n) \quad (3)$$

Table 3 presents multiple imputation estimates of equation (3) for the determinants of presidential approval. The estimation method is ordered logit and the dependent variable is the four-category presidential approval variable described above (with  $n \in \{1, 2, 3, 4\}$ ), with higher values indicating higher levels of satisfaction. In this equation  $\alpha$  is used to denote the cut points,  $i$  indexes individuals,  $j$  indexes regions, and  $k$  indexes countries. All regressions use population weights that equalize disparities in the number of observations between countries and between regions within countries. Regression (1) estimates presidential approval as a function of the change during the 1990s in the percentage of 6-10 year olds in a given region that are attending primary school. It also

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<sup>9</sup> I used an imputation model that was multivariate normal, and the “EMis” algorithm was used to generate ten imputed datasets. In two of the twelve Afrobarometer Round 1 countries (Ghana and Nigeria) no question was asked about presidential support because an election had occurred very recently.

includes a number of individual controls including the respondent's education level, gender, age, urban-rural location, whether the respondent has frequent access to radio or newspapers, and finally a poverty indicator.<sup>10</sup> The three education variables here are dummy variables where *primary education* is equal to 1 if the respondent has attended primary school, and 0 for any other level of education (including no education, secondary, or tertiary). The *secondary education* and *tertiary education* variables are coded similarly.

In regression (1) for Table 3 the estimated coefficient on the *change primary attendance* variable is positive and statistically significant. Regression (2) repeats the exercise while including a set of country dummies. As a result, this second regression asks whether we continue to observe a positive correlation between presidential approval and *change primary attendance* when we consider only variation between different regions within countries. As can be seen, the estimated coefficient on *change primary attendance* is now smaller, which is not surprising, but it remains positive and statistically significant. With regard to the other variables in the regression, there is a consistent pattern whereby more educated individuals, and those in urban areas are less likely to indicate approval of their chief executive. Those experiencing poverty are also less likely to approve of presidential performance, and finally there is also a gender gap with women being less likely to approve of presidential performance. The heteroskedastic-consistent standard errors that are reported in Table 3 are estimated using clustering at the regional level in order to allow for the possibility that observations are not independently distributed within individual regions.

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<sup>10</sup> The poverty indicator is a continuous variable that was constructed by taking the principal factor of the responses to four Afrobarometer survey questions regarding poverty. I adopted this approach because of the high correlation in the responses to these questions.

While regressions (1) and (2) in Table 3 suggest that changes in primary education provision are correlated with levels of presidential approval, they do not control for the possibility that primary education provision may have been most likely to increase in regions of a country that are “doing well” with regard to a broader set of outcomes. Without controlling for these other outcomes we might overstate the effect of changes in education provision on assessments of presidential performance. Regressions (3) and (4) attempt to deal with this issue by adding two variables to the specification. The variable *performance health* is a subjective response based on a question regarding government performance in the area of basic health provision (higher values indicate greater satisfaction). The variable *performance economy* is a subjective indicator of how well the government has handled the economy. As noted above, regressing an overall approval variable on subjective responses like this may produce biased estimates, since prior opinions about a president may condition a respondent’s statement about how the president has handled the economy. However, while this should lead to an upward bias on the coefficient estimates for *performance health* and *performance economy*, it should, if anything, produce a downward bias on the *change primary attendance* coefficient. As a result, if we conclude that the coefficient on *change primary attendance* remains similar even after including the two subjective performance variables, this still provides useful information about the robustness of the result with regard to primary education. When we include both of these subjective performance variables, we observe that the coefficient on *change primary attendance* remains very similar to those observed in (1) and (2).

Further consideration shows that based on the regressions in Table 3, the estimated effect of a change in primary attendance ratios on presidential approval levels is also substantively significant. If we take regression (1) as an example, the probability that a respondent in a region where the primary attendance ratio has been unchanged will be “strongly approve” is 0.38, setting other variables at their mean values. In contrast, in a region where *change primary attendance* is equal to

+10% (approximately one standard deviation), the estimated probability of responding “strongly approve” increases to 0.44. A comparison of this 6% increase with the country mean values for percentages “strongly approving” of their executive’s performance (Table 3) shows this to be substantively significant when compared with the cross-country differences we observe in assessments of presidential performance.

#### **4. Conclusion**

In this short paper I have provided aggregate and individual-level evidence which supports the idea that democratically-elected African governments have greater incentives than their authoritarian counterparts to provide primary education for their citizens. The argument that democracy reinforces primary education provision in Africa is supported by a strong correlation at the aggregate level between regime type and primary attendance rates. Individual-level data show that Africans in regions where primary attendance rates have risen in recent years are more likely to approve of presidential performance. This result is robust to the inclusion of fixed effects to control for unobserved country-level heterogeneity. Growth in primary school attendance can account for a substantial part of the variance observed in approval ratings for presidents in different African countries. This is consistent with the idea that electoral competition can create incentives for incumbent governments to increase provision of primary education.

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**Table 1: Primary school attendance and regime type in Africa (circa 2000)**

	(1)	(2)
<i>Regime</i>	-14.0 (5.82) .025	
<i>Regime2</i>		-5.72 (5.93) .345
<i>Log GDP per capita</i>	17.0 (3.11) .000	15.1 (3.98) .001
<i>Former French colony</i>	-21.0 (5.41) .001	-21.79 (5.91) .001
<i>Aid in % of GDP</i>	.146 (.200) .473	-.011 (.247) .964
<i>Constant</i>	-27.8 (22.2) .225	-21.3 (27.5) .447
$R^2$	0.67	0.59
Prob>F	<0.01	<0.01
N=	28	28

Heteroskedastic-consistent standard errors in parentheses, with p-values for each coefficient reported below.

**Table 2: Primary Education Provision and African Presidential Approval**

	(1)	(2)	(3)	(4)
<i>Change primary attendance (in district)</i>	.026 (.006) .000	.013 (.006) .025	.022 (.005) .000	.011 (.005) .053
<i>Respondent has primary education</i>	.035 (.094) .706	.013 (.062) .827	.194 (.084) .021	.063 (.063) .319
<i>Respondent has secondary education</i>	-.370 (.114) .001	-.161 (.073) .029	-.198 (.093) .033	-.090 (.072) .214
<i>Respondent has tertiary education</i>	-.449 (.132) .001	-.337 (.104) .001	-.220 (.109) .044	-.199 (.097) .041
<i>Gender (female)</i>	-.090 (.036) .014	-.088 (.036) .014	-.103 (.036) .005	-.090 (.038) .018
<i>Age</i>	-.003 (.002) .163	.0001 (.0016) .949	.001 (.002) .443	.003 (.002) .072
<i>Rural</i>	.406 (.095) .000	.167 (.059) .005	.280 (.085) .001	.106 (.057) .066
<i>Media radio</i>	.040 (.015) .053	.038 (.013) .004	.023 (.016) .150	.028 (.014) .053
<i>Media newspaper</i>	-.017 (.018) .340	-.023 (.015) .130	-.027 (.017) .117	-.029 (.015) .047
<i>Poverty</i>	-.358 (.056) .000	-.277 (.042) .000	-.139 (.053) .009	-.126 (.044) .004
<i>Performance health</i>			.569 (.036) .000	.554 (.032) .000
<i>Performance economy</i>			.396 (.032) .000	.334 (.023) .000
<i>Cut point 1</i>	-1.36 (.223) .000	-1.75 (.018) .000	.739 (.233) .002	0.52 (0.20) .008
<i>Cut point 2</i>	-.375 (.220) .088	-.651 (.163) .000	1.85 (0.23) .000	1.72 (0.19) .000
<i>Cut point 3</i>	1.19 (0.23) .000	1.11 (0.18) .000	3.63 (0.25) .000	3.65 (0.20) .000
<i>Country Fixed Effects?</i>	No	Yes	No	Yes

N=15,924, Multiple imputation estimates using ordered logit. Heteroskedastic-consistent standard errors in parentheses, with clustering at the regional level.

**Table 3 : Regime Type and Country Means for Attendance of 6-10 Year Olds**

Country	Year DHS survey	Attend	Regime2	Regime	Average presidential performance	Fraction “strongly approving” presidential performance
Benin	1996	41.8	0	0		
Botswana	na		0	1	2.82	0.15
Burkina Faso	2003	26.3	0	1		
Cameroon	1998	70.1	0	1		
CAR	1995	54.8	0	0		
Chad	1997	28.4	0	1		
Comoros	1996	43.2	1	1		
Cote d'Ivoire	1999	49.7	1	1		
Eritrea	2002	50.3	1	1		
Ethiopia	2000	20.8	1	1		
Gabon	2000	93.2	0	1		
Ghana	2003	56.7	0	0		
Guinea	1999	21.6	0	1		
Kenya	2003	89.3	0	0		
Lesotho	na		0	0	2.80	0.44
Madagascar	2003	75.8	0	0		
Malawi	2000	72.2	0	0	2.77	0.30
Mali	2001	32.9	0	0	2.99	0.35
Mauritania	2001	59.5	0	1		
Mozambique	2003	53.3	0	1		
Namibia	2000	81.3	0	1	3.29	0.50
Niger	1998	20.5	1	1		
Nigeria	2003	63.6	0	0		
Rwanda	2000	36.7	1	1		
South Africa	1998	88.6	0	0	2.51	0.12
Tanzania	1999	35	0	1	3.44	0.61
Togo	1998	68.2	0	1		
Uganda	2001	79.1	1	1	3.53	0.60
Zambia	2002	52	0	0	2.69	0.15
Zimbabwe	1999	82.8	1	1	1.85	0.08

Sources: DHS and Afrobarometer surveys. Regime and Regime2 are drawn from Przeworski et al. (2001) and the update by Cheibub and Gandhi (2004). These two variables were coded based on the year the DHS survey was conducted. Attend is the country mean drawn from the DHS surveys.