DEMOCRACY AND EDUCATION SPENDING:
Has Africa's Move to Multiparty Elections Made a Difference for Policy?

by

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Discussion Paper
No. DEDPS/37
February 2003

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Abstract

While it is generally recognized that electoral competition can have a major influence on public spending decisions, there has been little effort to consider whether the move to multiparty elections in African countries in recent years has led to a redistribution of public expenditures between social groups. In this paper I develop a hypothesis, illustrated with a simple game-theoretic model, which suggests that the need to obtain an electoral majority may have prompted African governments to devote greater resources to primary schools. I test this proposition using panel data on electoral competition and education spending in thirty-five African countries over the period 1981-1996. The results show that democratization has indeed been associated with greater spending on primary schools, and these findings are robust to controls for unobserved country effects. They are also supported by evidence from recent country cases. Though the reemergence of multiparty democracy in Africa has not led to a wholesale transformation of economic policies, these findings nonetheless suggest that it may be having a significant impact in individual policy areas.

Keywords: primary education, political economy, democracy, and electoral competition.

JEL Nos.: H52, I28, and O11.

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1. Introduction

At the time of the African democracy movements of the 1990s opinions varied widely about the effect of democratization on economic performance and on economic policy. While some authors hoped that democracy would be associated with improved economic performance, other observers were less optimistic, suggesting that the adoption of the formal trappings of representative democracy would have only a limited impact. With several years of hindsight, we can begin to ask whether and how policies adopted by elected African governments have differed from those pursued by authoritarian regimes. In order to address this question in a tractable manner, this paper focuses on one specific, but important area of government policy - public spending on education. I ask whether the move to multiparty electoral competition in many African countries during the 1990s has prompted governments to spend more on education, and more on primary education in particular. Recent African experience provides us with a natural experiment for testing this hypothesis; if during the 1980s free elections were almost absent in Africa, during the 1990s a number of African countries have moved towards a system where elections are more free and more open to participation of multiple candidates. Anecdotal evidence suggests that in several cases electoral competition has prompted sitting governments to devote greater budgetary resources to primary education. The Ugandan President's decision in 1996 to establish free universal primary education was made in the middle of an election campaign. In Tanzania and in Kenya a similar political context has prompted Presidents to announce a move to free universal primary education This paper uses panel data on education spending and electoral competition to ask whether the above experiences are isolated events, or whether they are instead reflective of a more general phenomenon. I also support my statistical findings by presenting qualitative evidence which shows that education spending has been a salient issue in a number of recent African election campaigns.

The logic underlying my hypothesis is that contested elections may have prompted African governments to be more responsive to the demands of the rural groups that form the majority of citizens in almost all African countries. Under authoritarian regimes, in contrast, rulers will need to be relatively more responsive to urban groups, which can present a more credible threat of political unrest, following Bates (1981). There are strong reasons to believe that when compared with urban groups, rural groups in Africa are more concerned with spending on primary education relative to secondary and tertiary education. I develop my argument by drawing implications from literature on the politics of economic policy in African countries under authoritarian rule, compared with observations about the possible effects of electoral competition on political participation in Africa. I then formalize the argument using a simple game-theoretic model. One objective of this modeling exercise is to show that one does not need to assume that election outcomes are necessarily respected in order for multiparty democracy to have an effect on policy outcomes.

My modeling approach also helps to identify the conditions under which an increase in political competition in African countries *might not* lead to increased spending on primary education. For example, increased electoral competition will have no impact on education spending if African voters have little means of subsequently holding their elected representatives accountable by voting out of office those who fail to keep promises. Likewise, if education is not a salient issue with the electorate when compared with other concerns, then the introduction of democracy will have little effect on spending in this area. This identification of assumptions helps suggest when exactly my argument will apply, and it does so more precisely than would a more simple argument such as suggesting that "democracy prompts governments to cater to large constituencies".

I test my argument using cross-section time-series data covering 35 African countries over the period 1981-1996. The results show that when

they are subject to multiparty competition, African governments have tended to spend more on education, and more on primary education in particular. These results are statistically significant in OLS estimates, in fixed effect estimates which control for unobserved country effects, and in instrumental variables estimates which account for the possibility that one or more of the explanatory variables may be endogenous. My results are robust to the inclusion of a number of control variables, and I also consider a number of problems including serial correlation, sample selection bias, failure to control for electoral fraud, and the possibility that the observed effect of electoral competition may vary according to the type of electoral system (PR vs. majoritarian) . In my estimates the effect of electoral competition is also substantively significant. A move from an unelected government to one elected in multi-party competition is estimated to result in an increase in education expenditures by 1.4% GDP in the OLS estimates.

In the remainder of the paper I first proceed in section 2 by considering theoretical arguments about the link between electoral competition and public spending. Section 3 then considers evidence from several recent country cases. Sections 4 and 5 then present cross-country data on education expenditures and political competition, and Section 6 presents panel data estimates of the effect of electoral competition on education spending. Section 7 considers alternative specifications, omitted variables, and other robustness issues. Section 8 concludes

2. Electoral competition and education spending

I begin from the basic assumption that governments in political systems with competitive elections face fundamentally different threats to their rule compared with autocratic governments. In an autocracy, the principal risk for a leader is that he or she will be overthrown by force. In

countries where there are free elections contested by multiple candidates, rulers may still fear losing office through force, but they also need to anticipate the possibility of being voted out of office. In an autocracy, leaders will logically need to pursue policies that will satisfy those groups that can credibly threaten to use force to obtain what they want. When there are competitive elections, in contrast, rulers are more likely to face incentives to pursue policies that satisfy a majority among the electorate.

In African countries where governments are not obliged to compete in free elections, it is commonly argued that urban groups find it easier to organize and protest against government policies than do those who live in rural areas. In a seminal contribution, Bates (1981) argued that rural groups in Africa face greater costs of collective action because they tend to be distant from a country's capital, they are geographically separated, and they are frequently divided by language and/or ethnicity. Urban groups in contrast, have the advantage of being more geographically concentrated. According to Bates, differential costs of collective action between urban and rural groups helped explain why the economic policies adopted by African governments during the 1960s and 1970s tended to exhibit an urban bias. So, for example, governments taxed agriculture while subsidizing imported food items consumed largely by urban groups.[1]

While Bates (1981) did not directly consider education spending, his theory has clear predictions for this area of government policy. To the extent that urban groups in Africa tend, on average, to have more years of schooling than their rural counterparts, they are more likely to be concerned about government spending on secondary schools and universities, as well as spending on primary schools. Rural groups, on the other hand, should place much greater weight on primary school spending alone. Likewise, university students in some African countries have historically been one of the groups

[1] This argument about an urban-rural divide may be modified if there are possibilities for transfers within families between urban and rural dwellers.

that has been most willing to demonstrate publicly against governments whose policies they oppose. The same can hardly be said for primary school students. These factors suggest that education spending in autocratic African countries will be biased against primary education. Evidence of skewed education policies in African countries is readily available; during the 1980s the ratio between public education spending per university student and spending per primary school student was significantly higher in Sub-Saharan Africa than in other regions.[2] Existing evidence also suggests that there is a significant urban-rural gap with regard to levels of primary school enrollment in African countries.

In the last fifteen years a number of African countries have moved away from autocracy and towards a system of selecting governments through elections. Analysts of African politics have for some time debated whether democratization is likely to lead to significant changes in economic policy and in economic performance. Callaghy (1993) launched an early caution against the assumption that political reform in African countries would necessarily result in fundamental changes in economic policies. Herbst (1993) has highlighted the continuing obstacles to political mobilization of rural African groups in a democratic context.[3] More recently Bayart (2000) has taken a pessimistic view suggesting that the (re)introduction of the formal trappings of democracy in African countries has had little real impact apart from exceptional cases such as Mali. Van de Walle (2001) has arrived at a more nuanced conclusion, arguing that democratization in Africa has not yet resulted in a fundamental shift in the types of political pressures that African leaders face, yet it may nonetheless have initiated more long-term changes in the politics of economic decision making.[4] It is worth noting that debates about the effect of democratization on economic policy have, of course, not

[2] Pradhan (1996) shows that this ratio stood at 65.3 for the average African country in 1980 and 44.1 in 1990. In Latin America the relevant figures were 8.0 and 7.4 for 1980 and 1990 respectively. In South Asia the relevant figures were 30.8 and 14.1 for 1980 and 1990 respectively.

[3] See also Widner (1993) for an in-depth study of rural political mobilization.

[4] See also the discussion in Lewis (1996).

been limited to African countries. Brown and Hunter (1999) and Kaufman and Segura-Ubiergo (2001) have recently conducted empirical investigations about the effect of regime type on public spending in Latin America.

While democratization has yet to lead to a wholesale reorientation of economic policy in African countries, if we are to determine whether electoral competition has had *any* impact it may be more productive to focus on changes in individual economic policy areas. This provides the logic behind my focus on education spending. Given that the majority of electors in almost all African countries live in rural areas, if we follow the above arguments, then one would expect politicians to become more responsive to the demands of rural groups when they are subject to electoral competition. This could include meeting demands for increased primary education spending. To the extent that demands for primary education are met by increasing education expenditures rather than reallocating priorities within the education budget, one would expect to observe an increase in overall education spending as well.

Any argument that democracy will lead to higher levels of education spending in African countries does depend upon several assumptions which may or may not be fulfilled. Education spending must be a salient issue for voters, candidates must face incentives to implement promises regarding education spending once elected, and voters must have information at their disposal which allows them to judge whether promises have been kept. Finally, it must not be possible for incumbents to "buy off" potential opponents. One of the purposes of developing the formal model in the next sub-section is precisely to identify these assumptions and to make them explicit.

A simple formalization of the argument

Consider a society divided into two types of voters: those from rural areas and those from urban areas, with the rural group forming a majority.[5] In this society decisions must be made between devoting available revenues to primary education p to university education u and to a third category of expenditures x. The distribution of expenditures must meet an exogenous revenue constraint (normalized to unity) as presented in equation 1 below.

Voters from rural areas prefer available revenues to be spent on primary schools, and they have a standard quadratic loss function, as presented in equation 2. Voters from urban areas prefer revenue to be spent on university education, and they also have standard quadratic loss function. The incumbent's utility depends upon both primary school spending, secondary spending, and on the resources devoted to the third category of expenditures. I keep the definition of this third category of expenditures deliberately vague in order to make the model applicable either to corruption (in which case x would be personal consumption) or to the financing of some sort of government activity from which rural and urban voters derive no utility.

$$p + u + x = 1 \qquad (1)$$

$$L_{rural} = (1 - p)^2 \qquad (2)$$

$$L_{urban} = (1 - u)^2 \qquad (3)$$

$$L_{incumb} = (1 - p)^2 + (1 - u)^2 + (1 - x)^2 \qquad (4)$$

I distinguish between two different scenarios for policy choice. In the case *without* electoral competition the incumbent must face the risk of being overthrown if urban voters are sufficiently dissatisfied with the chosen spending policy. If urban voters choose to revolt, then with probability q

their revolt is successful and all revenues are spent on university education. With probability *1-q* the revolt fails, urban voters receive disutility of 1, and then the incumbent's spending policy is maintained. I assume that all players observe the probability of successful revolt *q*. In the case *with* electoral competition the incumbent still faces the risk of being overthrown through violence, but he or she now also faces a challenge from another candidate.[6] For simplicity, I assume that the challenger has the same loss function as the incumbent. Since rural voters are assumed to make up the majority, the expenditure proposal that minimizes their expected loss will win the election. In the case where challenger and incumbent propose the same policies, the election is decided by a coin toss. The sequence of play in the two scenarios is as follows:

Without electoral competition	**With electoral competition**
1. The incumbent chooses a distribution of expenditures	1. The incumbent proposes a distribution of expenditures
2. Urban voters choose whether to revolt.	2. A challenger proposes a spending policy.
	3. An election occurs and the winner's proposal is implemented.
	4. Urban voters choose whether to revolt.

I begin by identifying the sub-game perfect equilibrium in the case without electoral competition. Here the preferences of rural voters are irrelevant for the incumbent, because there is no risk of being unseated in the election, and rural voters do not possess an option of revolting against spending policies. As a result, at stage 1 the incumbent faces two options.

[5] I use the distinction between "urban" and "rural" here, but in principle the argument could apply to any two groups provided that one is in the majority, the other can pose a more credible threat of unrest, and the two groups have different preferences over spending.

[6] Election outcomes where there is a threat of unrest have previously been modelled by Ellman and Wantchekon (2000)

The first possibility is to minimize his or her loss subject to the revenue constraint (in which case the incumbent will divide expenditures evenly between the three items $p = u = x = \frac{1}{3}$). Alternatively, the incumbent can compromise by offering urban voters their reservation payoff (the minimum level of spending on universities necessary to dissuade them from revolting) and then distribute the remaining revenues between primary schools and "other" spending. Given that the urban group's expected loss from revolting is 1-*q*, their reservation constraint will be satisfied as long as $u \geq 1-(1-q)^{\frac{1}{2}}$.[7] This constraint is actually satisfied by the allocation $u = \frac{1}{3}$ as long as $q \leq \frac{5}{9}$, and as a result for this range of probabilities the incumbent will not need to compromise. When the probability that revolt will succeed is high ($q > \frac{5}{9}$) the compromise strategy would involve allocating the minimum university expenditures necessary to satisfy this constraint ($u = 1-(1-q)^{\frac{1}{2}}$). The incumbent would then divide remaining expenditures evenly between primary schooling and other spending $p = x = \frac{1}{2}(1-q)^{\frac{1}{2}}$. The ruler will prefer to pursue the compromise strategy as long as the following inequality is satisfied. The right hand side of the inequality represents the expected loss for the incumbent from not compromising while the left hand side represents the loss from compromising by satisfying the urban group's reservation constraint.

$$2(1-\tfrac{1}{2}(1-q)^{\frac{1}{2}})^2 + 1 - q < \tfrac{4}{3}(1-q) + 2q \qquad (5)$$

The inequality in expression 5 is in fact satisfied for all $q > \frac{5}{9}$, so whenever the probability that revolt will succeed is high, the ruler will adopt the compromise strategy.[8]

In the case with electoral competition incumbent politicians face different incentives. They still face a potential risk of being unseated by a

[7] I assume that when urban voters are indifferent between revolting and not revolting they will choose the latter option. This has no consequence for the core results.

[8] The fact that revolt never occurs in equilibrium here is an artifact of the assumption of perfect information about *p*. If I assumed more realistically that either the incumbent or urban voters are uncertain of the value

revolt, but in addition they face the risk of losing the election. The election will be won by the candidate whose proposal provides a lower expected utility loss for rural voters, given that they are in the majority. The key question, then, is whether at stage 3 rural voters would prefer a proposal that gives them their ideal policy p=1, or alternatively, whether they would prefer a compromise proposal that provides urban voters with their reservation payoff and then devotes remaining revenues to primary schools. As before, the compromise proposal would involve setting $u = 1-(1-q)^{\frac{1}{2}}$ and then devoting remaining revenues to primary schools, so $p = (1-q)^{\frac{1}{2}}$. Rural voters will prefer the compromise proposal as long as the following inequality is satisfied. The left hand side of the inequality represents their loss from compromising while the right hand side shows their expected loss from not compromising.

$$(1-(1-q)^{\frac{1}{2}})^2 < (1-q)(0)+q \qquad (6)$$

This inequality is satisfied for all $0<q<1$, and as a result the policy proposal that minimizes the expected loss of rural voters is $p = (1-q)^{\frac{1}{2}}, u = 1-(1-q)^{\frac{1}{2}}, x = 0$. We can then compare the equilibrium share of primary school spending with and without electoral competition. Primary school spending is higher in the case with electoral competition for all values of q. More specifically, when $q > \frac{5}{9}$, primary school spending is exactly twice as high under electoral competition as in the case without a multiparty election. When $q \le \frac{5}{9}$ primary school spending is also higher when there is electoral competition. Finally, the model also predicts that the overall education budget (primary + university) will be higher when there is electoral competition, since competition between incumbent and challenger will prompt them not to propose spending on other items.

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of p (or both), it would be possible for revolt to occur in equilibrium. See Ellman and Wantchekon (2000) and Wantchekon (1999) for considerations of imperfect information and revolt.

Primary School Spending Under Different Scenarios

	Without competition	**With electoral competition**
$q \leq \frac{5}{9}$	$\frac{1}{3}$	$(1-q)^{\frac{1}{2}}$
$q > \frac{5}{9}$	$\frac{1}{2}(1-q)^{\frac{1}{2}}$	

The model I have presented here is obviously a very simplified description of the electoral process in any African country. However, precisely because I have made the simplifying assumptions explicit, the model can help identify the conditions where increased electoral competition *will not* result in increased spending on primary schools. First of all, the result above depends upon the assumption that if elected, both the incumbent and the challenger will have an incentive to implement the set of policies proposed during the election campaign. This is most likely to occur when a leader seeks to implement a promise in order to subsequently be re-elected by the electorate, or to see his party returned to power. The next section provides an example of this type of incentive mechanism in Uganda. However, if leaders care little about the future (they have short time-horizons) one could observe a succession of promises by candidates to increase spending on primary schools, followed by failure to deliver on this promise. [9]

A second condition under which electoral competition will not influence education spending is if other issues dominate voters' choice of candidate. The simple framework here assumes that the only salient issue is how to divide up expenditures between primary schools, higher education, and other consumption. This does not imply that education has to be the most prominent issue in an electoral campaign in order for democracy to result in higher spending in this area, but the issue does need to have at least

[9] See Fearon (1998) and Ferejohn (1986) for a discussion of retrospective voting rules that could be used to enforce commitment to a campaign promise.

some salience with voters. The next section contrasts recent experience in Uganda, where primary education has been a highly salient issue with the electorate, with Malawi where other issues, and in particular regional divisions, have dominated voting.

Finally, the model above also assumes that it is impossible for the incumbent to coopt the challenger with side payments. If the incumbent could transfer part of x to the challenger in exchange for the challenger not declaring a candidacy (or not waging a serious campaign), then it might be possible for both incumbent and challenger to improve on their expected loss. In the static context presented here, it would not actually be subgame perfect for the challenger to stick the agreement; he or she would instead have an incentive to accept the transfer and then wage a serious campaign anyway. In a context of repeated elections, however, it would be possible to sustain such collusion. There is clear evidence that such collusion between incumbents and challengers has taken place in some African countries.[10]

What the above discussion suggests then is that increased electoral competition may be associated with greater spending on primary education, but that this outcome depends on several assumptions about the democratic process that may not always be fulfilled. As previously argued, however, the model does not assume that outcomes of democratic elections are necessarily respected, since one group here retains the option of revolt. This is an important point, because it is implausible to assume otherwise. Nor does the model rely on implausible assumptions about the information available to voters for monitoring whether campaign promises are kept. African rural voters may not necessarily have access to full statistics on public spending on education, but they are able to easily observe whether new schools are built in

[10] In Gabon, the President, Omar Bongo, has granted sizeable public allowances to all opposition parties, as well as other perks such as four-wheel drive vehicles in exchange for limits on competition. See Stephen Smith, "Omar Bongo propose à l'opposition gabonaise la 'gestion collective' de l'État", *Le Monde*, January 21, 2002.

their district, whether new teachers are hired, and especially, whether fees for schooling are reduced.

One final theoretical issue involves the possibility that the model I have presented here could apply to other world regions. I have framed the model in terms of a particular division between African rural and urban groups that was emphasized by Bates (1981). One can nonetheless identify a more general underlying hypothesis – in any society that moves towards more free and open electoral competition one should expect that this would be accompanied by a reorientation of public spending towards those groups which posts a potential electoral threat and which did not previously pose a credible threat of influencing a government through non-electoral means. This would depend upon the above assumptions about salience of a particular issue and *ex post* incentives for politicians being fulfilled.

3. Evidence from recent African elections

Though the main empirical tests presented in this paper are based on cross-country data, more detailed evidence from individual African election campaigns can also be used to demonstrate that primary education can be a salient issue, and that electoral competition can prompt governments to reorient resources towards primary schools. This section briefly reviews recent experience in Uganda, Malawi, Tanzania and Kenya that supports the subsequent statistical results and which also help identify important differences between countries that the quantitative tests might not capture. The contrast between Uganda and Malawi in particular suggests that when voters split sharply along regional lines, election winners may have less of an incentive to deliver on national issues like universal primary education, precisely because it is less salient to voters. This is consistent with the theoretical model developed above. The four country cases also shed light on several other aspects of the theoretical model. For one, in all four countries

debates about primary education, and in particular the abolition of school fees, have received widespread press and radio coverage. This shows that voters have information necessary to monitor government performance in this area. In addition, the Ugandan example suggests how the desire for re-election can create incentives for an incumbent to meet campaign promises regarding education spending.

Uganda since 1996 is a clear case of an African country in which the establishment of multi-candidate elections has helped result in a reorientation of government spending towards primary education. Despite the atypical aspect of Uganda's "no-party democracy", where political parties exist but cannot officially campaign for candidates, the country's 1996 presidential election was a hotly contested one, which saw the incumbent, Yoweri Museveni, challenged by Paul Ssemogerere, the leader of Uganda's Democratic Party. Though most observers before the election believed Museveni stood a good chance of winning, he was not expected to walk away with the election.[11] As part of a series of manifesto commitments, Museveni promised if elected to implement a Universal Primary Education (UPE) program that would abolish primary school fees for four children in every family.[12] Though this promise was not initially intended to be the centerpiece of Museveni's campaign, it received a very favorable response from the electorate. The popularity of the UPE program provides one plausible explanation why Museveni was able to both win the election by a large margin, attracting 74% of the vote, and even outpolling Ssemogerere in the opposition candidate's own region of Buganda. This was certainly the conclusion drawn by many of Museveni's close advisors, as they urged Ugandan Ministry of Finance officials to find the necessary funds to finance the UPE program, arguing "we won the election because of the UPE pledge,

[11] According to one report, several foreign diplomats in Kampala predicted Museveni would win 60% of the vote, and a pre-election poll forecast a similar outcome. See Ottemoeller (1998) p.100.
[12] See Yoweri Museveni, "Tackling the Tasks Ahead", 1996 election manifesto.

so we have to come up with the money for it.[13] Since 1996 the Ugandan government has significantly reoriented expenditures toward primary education. Overall public education expenditures increased from 20.2% of recurrent government expenditures in the three years before UPE to an average of 26.3% of expenditures in the three years after the program was announced.[14] There is clear evidence that the UPE program has contributed to Museveni's overall popularity, as 87% of the Ugandans surveyed in 2000 by the Afrobarometer research project reported that their government was handling education issues "fairly well" or "very well" (Bratton, Lambright, and Sentamu, 2000). Not surprisingly given this positive reaction, when beginning his 2001 re-election campaign, President Museveni chose to remind voters that he had successfully delivered on his 1996 UPE pledge.[15]

In Malawi in 1994, as had happened in Uganda in 1996, the winning candidate in a presidential election moved soon after his victory to make good on a campaign pledge of abolishing primary school feels. The Malawian government also moved quickly to spend more on primary education in order to compensate schools for the loss of fees. Primary education spending as a percentage of GDP jumped from 1.5% in 1994 to 2.6% in 1995. However, unlike in Uganda, the Malawian government failed to sustain this increased spending, in particular after 1999 when education spending dropped dramatically.[16] As a result, the move towards multi-party competition in Malawi, which saw Bakili Muluzi win the first multi-party elections in 1994, has not resulted in a durable reorientation of public expenditures towards primary education. There appear to be two possible explanations for this outcome. First of all, Malawi in the late 1990s suffered from much greater macroeconomic instability than Uganda. This complicated any attempt to increase education spending. Secondly, one might also argue that precisely

[13] Interviews with former Ugandan officials, December 2002.
[14] based on World Bank data.
[15] *The New Vision*, Kampala, March 9th, 2001.
[16] See "Malawi: Public Expenditures, Issues and Options", World Bank, Public Expenditure Review, September 200.

because voting in presidential elections in Malawi has been highly polarized along regional lines, President Muluzi faced less of an incentive to deliver on this issue in order to be reelected. In the 1994 presidential contest Muluzi won 78% of the vote in Malawi's southern region, but only 27.5% of the vote in the central region, and only 4.5% of the votes in the North.[17] In Uganda in 1996 there was also a clear regional pattern of voting, with President Museveni, receiving his highest share of votes in the west of the country, but Museveni also won over 50% of the vote outside his home region. In contrast, the Malawian results suggest that regional affiliation almost completely determined choice of candidate. Given the regional pattern of voting in Malawi, which remained very similar in the 1999 election, it would seem unlikely that either of President Muluzi's election victories have depended upon his stance on national issues like primary education spending.[18]

In addition to the Ugandan and Malawian examples, there is also more recent evidence from Tanzania and Kenya that electoral competition can help lead to a reorientation in policy priorities towards primary education. It is too early to judge to what extent either of these cases represents a true reorientation in policy – that will only be made clear if there is a sustained increase in public spending on primary education to compensate for the abolition of fees – but it is nonetheless interesting to note that in both cases the promise of free primary education clearly struck a chord with the electorate.

In Kenya, during the December 2002 election campaign the National Rainbow Coalition of Mwai Kibaki made abolition of primary school fees a manifesto commitment. In contrast, the candidate of Kenya's ruling KANU party claimed that Kibaki would never be able to find the money necessary to

[17] Results reported by Wiseman (2000). See Posner (1995) and Chirwa (1998) for discussions of regionalism in Malawian politics.

[18] One could, of course, still argue that he had a strong incentive to deliver services like public education to voters in his own home region, but the focus here is on the extent to which electoral competition generates a reallocation of spending on a national basis.

deliver on his promise.[19] While Kibaki's eventual victory was attributable above all to dissatisfaction with Kenya's outgoing President, Daniel Arap Moi, during the course of the campaign one observer suggested that Kibaki's promise of free primary education drew more applause from voters than any other issue.[20] After his election Kibaki waited only a few days after assuming power before making good on his promise, a decision that drew heavy press coverage.

A similar sequence of events occurred in Tanzania. During the campaign leading up to the October 2000 presidential elections, a number of candidates promised to reduce or abolish fees for primary school attendance. Among these was the incumbent, Benjamin Mkapa, who was successfully reelected. A few months after his election victory, President Mkapa announced that his government would abolish all primary school fees.[21] He subsequently made his plans more concrete by saying that the Tanzanian government would increase education's share of the recurrent budget to 25% and that 62% of this sum would be devoted to primary education.[22]

4. Data on education spending

In order to test my argument about democracy and education spending on a cross-country basis, it would be useful to have data on total government spending on education, as well as government spending on primary education. In the regressions that follow I consider overall education spending, in addition to primary school spending, because data coverage on overall education spending is more complete. If primary school spending is increased, unless this increase is financed exclusively by a transfer from other areas of the education budget, then increased primary school spending will also result in an observed increase in overall education spending. Data on the different components of education spending has been compiled by UNESCO

[19] "Narc answers Uhuru over remark", *East African Standard*, December 8th, 2002.
[20] See "Primary Schools in Kenya, Fees Abolished, Are Filled to Overflowing", *New York Times*, 7 January 2003.
[21] *Sunday Observer* (Dar es Salaam) April 1, 2001.

for a number of African countries.[23] These data are also reported in the World Bank's *World Development Indicators*. Given that there is little if any African education spending data available for the years before 1981, in this study I have concentrated on the period 1981-96. I have compiled data on total education spending for 35 countries for which the average number of annual observations available over the period is 10. Likewise, data on primary education expenditures is available for 33 countries with an average of 6 annual observations over the period.

Figure 1 presents African averages for overall public spending on education as a share of GDP, in addition to public spending on primary education as a share of GDP. As can be seen, after a decline during the 1980s, in the early 1990s African governments increased their outlays for education and for primary education in particular. While Figure 1 is useful for presenting cross-country trends, it masks the fact that there has also been considerable variation in patterns of education spending across countries. Table 1 presents summary statistics for four key measures of education spending. For each of these four variables, between-country variation is quite significant.

Cross-country data on education statistics may be subject to a number of potential biases and collection errors. Behrman and Rosenszweig (1994) have argued this for enrollment data collected by UNESCO. In order to consider this possibility, I compared the UNESCO data for overall public spending on education with that reported by the IMF in its *Government Finance Statistics* publication, as well as with data collected by Mingat and Suchaut (2000) for African countries. The UNESCO data are in fact very highly correlated with data from both of these other sources, and there are almost no cases of large discrepancies.[24] While the IMF and Mingat and Suchaut (2000)

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[22] *The Guardian,* Dar es Salaam, November 1, 2001.
[23] UNESCO *Statistical Yearbook*.
[24] The simple correlation coefficient between the UNESCO data and the Mingat and Suchaut data was 0.92, while the correlation coefficient with the IMF data was 0.82.

do not report statistics for primary education spending, given that primary education spending (in %GDP) is very highly correlated with overall public spending on education, this result should also increase confidence in the UNESCO primary education data.[25]

5. Measuring electoral competition

Researchers in recent years have compiled a number of different cross-country indices of democracy, political rights, and political competition. It has become increasingly frequent for economists and political scientists to include these political variables in cross-country regressions on subjects such as the determinants of economic growth. Two of the most frequently used indices of this sort are the Gastil indices of political and civil liberties. However, as emphasized by Bates (1995), the Gastil index remains a very uncertain tool for quantitative research, because the methodology used to compile it is not made public. Another problem is that the Gastil indices and other indices, such as the Polity III measure of democracy, appear to measure very broad features of a country's political system (democracy vs. authoritarianism).

Fortunately for the purposes of this study, a Harvard-based group of researchers has compiled specific data on the openness of recruitment of chief executives and legislators in African countries.[26] This data set is highly correlated with existing measures of electoral competition, such as the Polity III dataset's measure of the openness of executive recruitment, but it has the advantage of being constructed from objective indicators.[27] For executive

[25] One final data issue concerns donor financing. The UNESCO data on education spending is based on a questionnaire distributed to governments on an annual basis. Until very recently the questionnaire has not asked governments to distinguish between education spending that is financed by revenues and education spending financed by donors. For the majority of African countries in the sample this may not pose an issue, as a recent World Bank report (2001) has suggested that "official development assistance represents only 3-4 percent of total expenditure on education in Africa". For some countries, however, and notably post-conflict states, donor-financed education expenditures may represent up to half of all public expenditures on education. If in filling out their UNESCO questionnaires governments such as these did not include donor-financed education spending in their calculations, it would introduce a degree of measurement error.

[26] See Bates (1995) as well as Ferree and Singh (1999).

[27] The pairwise correlation coefficient with the relevant Polity III measure is 0.72 for African countries.

recruitment the data collectors asked five questions relevant to the degree of competitiveness:

1. Is there a chief executive?
2. Was the executive elected?
3. Was the executive the only candidate in the election?
4. Were multiple political parties allowed to contest the election?
5. Did candidates from more than one party contest the election?

These responses provides indications about the degree of political competition, and they are ideally suited for testing my theoretical argument. In practice, in the 35 country sample used in this study there are three groups of countries in terms of levels of electoral competition. In 28% of country-years there is no electoral competition, meaning that the country had an executive but the executive was not elected. In a further 37% of country-years there was an executive who was elected, but only a single candidate contested the election (or in a handful of cases multiple candidates from the same political party contested the election). Finally, in a further 35% of country-years the executive was elected and candidates from multiple political parties stood in the election.[28] Given this distribution, I have created three dummy variables to indicate the level of electoral competition: "no electoral competition", "single-party competition", and "multiparty competition". It is important for purposes of interpretation to note that these variables are coded so that a country where the executive is elected in a multiparty contest is given a value of 1 for the variable "multiparty competition" but a value of 0 for the variable "single-party competition". This ensures that the two variables are

[28] Uganda is one country that is difficult to classify within this scheme. Even though political parties are formally banned from supporting individual candidates in Uganda, the fact that has been widely recognized in presidential elections which candidates are favored by which party argues in favor of classifying Uganda as having multiparty competition, despite the legal restrictions. Due to missing data, no data from Uganda post-1996 was used in the regressions for this paper.

uncorrelated when entered into the regression. The hypothesis developed in Section 2 suggests that education spending, and in particular primary education spending, will be higher in countries with "multiparty competition". In contrast, the theory presented in Section 2 provides no specific argument why countries with "single-party competition" should have different levels of education spending from those countries without any electoral competition (unelected executives). The "single-party competition" variable in the next section's regressions is included primarily as a control. As can be seen in Figure 2, the percentage of African countries with multiparty competition increased very significantly during the 1990s. Table 6 provides a presentation of individual country-years included in the regressions, together with the reported level of electoral competition.

6. Panel estimates of the determinants of education spending

In order to explore the relationship between electoral competition and education spending, I estimated a series of cross-section time-series regressions for African countries using annual data for the period 1981-1996. These involved data concerning both public spending on education in general and public spending on primary education in particular. The regressions in Tables 2 and 4 use spending in percent of GDP as a dependent variable. This would seem to be an appropriate indicator of the resources devoted by government to a particular activity. However, there may be several problems with this method of measurement. For one, it ignores the fact that for exogenous reasons, some governments may have access to lower levels of revenue than others. Second, when spending variables are expressed relative GDP, then changes in relative prices in the economy (between the non-tradeables and tradeables sectors) may lead to apparent changes in spending without a government actually altering its budgetary priorities. Given that there were significant shifts in relative prices in a number of African economies during the sample period, this may be a real concern. To take

account of both of these possibilities, the regressions in Table 3 and Table 5 consider determinants of spending when education spending is expressed as a share of total government spending.

In the regressions in Tables 2-5, each of the spending variables is regressed on several independent variables, including indicator variables for "single-party" political competition, "multiparty" political competition, and dummy variables for elections in the previous, current, and following year. Since the base group here is countries without electoral competition, the "single-party" and "multiparty" variables then capture estimated differences relative to this group. As previously mentioned, the hypothesis developed in Section 2 pertains to "multiparty competition" in particular. The inclusion of the electoral dummies is intended to test the common argument that during electoral `periods governments will face increased pressures to spend. While the number of obvious control variables to use in these regressions is limited, I included the log of per capita GDP as an independent variable, based on the conjecture that governments in richer countries may tend to spend a greater share of their national income on education, while governments in richer countries are also likely to devote a smaller share of their total education spending to primary schools. I preferred a static specification here, that does not include a lagged dependent variable, for several reasons. First of all, I am interested foremost in identifying the long-run effects of changes in political institutions. Second, due to the large number of missing observations, inclusion of a lagged dependent variable, would have significantly reduced the sample size. The discussion of robustness in Section 7 considers whether my results may be biased by serial correlation of the error terms, given that I have not included a lagged dependent variable in the specification.

I also include total overseas aid as a control, based on the fact that when negotiating structural adjustment packages, donors in recent years have frequently suggested that governments should privilege expenditures on key services like education, and in particular primary education. Rather than

arguing that aid is directly allocated to education expenditures, given the earlier observation that direct donor financing of public education in Africa remains limited in most countries, the argument here is that an increased reliance on donor financing may prompt a government to pursue expenditure objectives advocated by donors. The variable "overseas aid" represents total overseas development assistance in % GDP.

Table 2 estimates total government spending on education in %GDP using three different methods. Regression (1) is a pooled OLS estimate which shows that both single-party and multiparty political competition are positively and significantly correlated with total government spending on education. The coefficient on "multiparty competition" is larger than that for "single-party political competition", however. A move to multiparty competition is estimated to result in an increase of total education spending by 1.4% of GDP. Spending on education does not seem to be significantly different during electoral periods according to these estimates. A set of dummy variables for unobserved year effects was not jointly significant in this specification, and so it was excluded.[29]

Regression (2) is a fixed effects model that controls for unobserved country-specific effects. The coefficients on both electoral competition variables remain highly significant, although the coefficient on "multiparty competition" is now smaller in magnitude than in the OLS regressions. The coefficient on "single-party competition" is now actually larger than in the OLS estimates. The election variables remain insignificant, and the coefficient on overseas aid is actually negative and highly significant.

According to regression 2, countries in which executives are elected in multiparty competition are not actually estimated to have higher levels of education spending than are countries where executives are elected in single-candidate competitions. Further observation suggests a clear reason for the

[29] The same was true for all other regressions in the study.

difference between the OLS and fixed effects estimates. The country mean values for education spending, which are subtracted out in the fixed effects model, are positively and significantly correlated with the "multiparty competition" variable, and they are negatively correlated with the "single-party competition" variable. This result is attributable above all to the fact that four countries in the sample have had both multi-party competition and high levels of education spending throughout the period considered (Botswana, Namibia, Senegal, and Zimbabwe). Given that the OLS results strongly suggest that "multiparty competition" has a larger effect on spending than does a move to "single-party competition", the fixed effects result should not be taken as demonstrating that multiparty competition is irrelevant. The fixed effects results should instead be read as suggesting the following: we can reject the hypothesis that the observed difference between countries with elected executives and countries with unelected executives is attributable to unobserved country effects, but we cannot reject the hypothesis that the observed difference between "multiparty competition" and "single-party" competition is attributable to unobserved country effects.

One potential concern with regressions (1) and (2) is that foreign aid in particular might not be pre-determined. Foreign aid might be endogenous to education spending to the extent that countries that spend more on education might subsequently have less need for foreign aid if they enjoy high rates of growth. Likewise, foreign aid might be endogenous if donors give higher levels of assistance to governments that have a track record of prioritizing education. To deal with this issue I also estimated a fixed-effects model where I instrumented for overseas aid using lagged differences of the aid variable. By instrumenting for aid with lagged differences I am ensuring that my instruments are not themselves correlated with country fixed effects. Regression (3) shows that the result with regard to political competition remains essentially unchanged. In addition, the coefficient on foreign aid remains statistically significant and it is actually more negative than in the

fixed effects model without instruments. With this said, interpretations of this result may be complicated by the fact that data on education spending for some countries may not include donor-financed expenditures.

Table 3 estimates government spending on education as a percentage of total government spending using OLS, fixed effects, and fixed effects with instrumental variables. The results are quite similar to the Table 2 estimates. Both "single-party" political competition and "multiparty" political competition are positively correlated with education spending. In the fixed effects estimates the coefficient on "multiparty competition" is somewhat smaller than in the OLS regression, while the coefficient on "single-party competition" is somewhat larger. The coefficient on overseas aid is negative and significant at the 10% level in all three regressions here.

Table 4 uses the same specifications as in Tables 2 and 3 but to investigate the determinants of spending on primary education (in %GDP). The coefficients on both electoral competition variables are again positive and statistically significant in the OLS estimates. Based on this regression, establishing multiparty competition would be associated with an increase in primary education spending by 0.8% GDP. In the fixed effects regressions the coefficients for both "single-party" and "multiparty" competition are smaller in magnitude than in regression 1. Finally, the coefficient on overseas aid is again negative and highly significant in all three regressions.

Table 5 reports estimates of the determinants of primary education spending, when outlays are measured as a percentage of total government spending. The results here are again quite similar to those reported in Table 4. Both "single-party" and "multiparty" political competition are associated with higher expenditures on primary education.

In addition to the regressions reported in Tables 2-5, I also considered whether the share of the total government education budget devoted to primary schools was positively correlated with electoral competition. In all

cases this share was estimated to be significantly higher in countries with multi-party competition, though for reasons of space I have not reported these results here.

7. Alternative specifications and robustness

There are a number of issues concerning measurement of my different variables as well as potentially omitted variables, and this section considers each in turn. First of all, the measure of multi-party political competition that I have used may not fully reflect the degree to which presidential elections are free and open. In a number of cases where multiple candidates have contested an election, incumbents have used various means to rig the outcome, by intimidating opponents, by voting fraud, or other means. If failure to account for such restrictions implies a bias in my estimates, it would probably involve a bias against finding that democratic governments spend more on primary education. This would be true to the extent that one might expect governments that engaged in fraud to spend less on primary education. Rather than rely solely on this conjecture, however, I considered the problem further by repeating the regressions from Tables 2-5 while only counting as having "multiparty" competition those countries in which the president was elected with less than 80% of the vote. This was based on the idea that lopsided election outcomes are an indicated of restrictions on political competition in practice. All results in Tables 2-5 remained robust, as they did when I lowered the threshold to 75% and to 70%.

An additional alternative specification in my regressions involves distinguishing between countries that elect representatives based on proportional representation, and those with majoritarian electoral systems. Though the theory developed in Section 2 pertains directly to executives, rather than legislatures, it might be argued that multiparty political competition also gives individual legislators an incentive to take decisions to

spend more on primary education. As a consequence, it might be important to separate out governments where there is multiparty competition and legislators are elected based on proportional representation from those governments where legislators are elected in a first past the post system. A number of studies have argued that incentives for legislators to deliver public services are much weaker in PR systems, given the weaker links between individual representatives and individual constituencies. In order to consider this possibility I re-ran the regressions from Tables 2-5 while creating two "multiparty competition" variables – one for PR countries and one for majoritarian countries. The coefficients on both of these variables remained positive, statistically significant, and of similar magnitude in all cases (tests failed to reject the null that they were not identical).

An additional possible oversight involves the effect of national wage decisions. Wages for teachers are the largest single spending item for education ministries in Africa. Given that decisions regarding civil service wages in African countries are typically made in a centralized manner, it may be the case that education expenditures depend more on the overall remuneration policy of a government than on the priority it gives to education. To consider this possibility I re-estimated the regressions while including an additional variable that represents the average civil servant wage as a multiple of per capita GDP. Data were only available for the period after 1986 (from Leinert and Modi, 1997), resulting in the loss of a number of observations in the sample. The coefficients on the electoral competition variables remained significant in the OLS regressions though not in the fixed effects regressions. It should be noted, however, that this loss of significance is not surprising given that the sample was reduced to half its original size in these re-estimated regressions.

A second potential specification issue concerns my foreign aid variable. Different donors may attach different priorities to education expenditures, yet the variable used in Tables 2-5 aggregates aid from all different donors. As a

result, it may obscure the effects that individual donors may have on education policies. To consider this possibility I re-estimated the regressions while substituting net aid flows from the World Bank for the overall aid variable. The World Bank has been particularly vocal of late in calling for governments to prioritize education expenditures. Interestingly, the coefficient on the World Bank aid variable was always negative and significant in the OLS regressions and negative and generally significant in the fixed effects regressions.

In addition to possible omission or misspecification of relevant variables, given the large number of missing observations in my dataset, there also exists the possibility that the results reported in Tables 2-5 are subject to a sample selection bias. For example, it might be the case that governments in less democratic countries, or in poorer countries, are less likely to provide data on education expenditures. This would be particularly problematic to the extent that a country's likelihood of providing data is correlated with my key explanatory variables regarding political competition. I was able to rule out this possibility for both the data on overall education expenditures and primary education expenditures. The variable "multi-party competition" is only very weakly correlated with the probability of a government not providing overall education data (-0.03) and even more weakly correlated with the probability of not providing primary education data (0.004).

I also considered whether the results reported in Tables 2-5 are affected by serial correlation of the error terms. When I re-estimated the regressions from Tables 2-5, including an AR1 term, the results with regard to the coefficients on "multiparty" political competition and overseas aid were largely unchanged. However, one of the potential pitfalls in dealing with serial correlation by estimating an AR1 term is that in datasets with relatively short time-series, estimates of the autocorrelation parameter are likely to prove imprecise. As a result, Bertrand, Duflo, and Mullainthan (2002) have suggested an alternative method of identifying whether results are biased by

serial correlation. This method provides an estimate of the effect of multi-party competition on education spending that is not biased by serial correlation, since it ignores the time-series dimension of the data. Using this method my results also remained statistically significant.[30]

As a final robustness issue, I investigated the possibility that the results presented above were influenced by outliers. In the Table 2-5 estimates the only significant change after exclusion of outliers (identified based on dfbeta values) involved the coefficient on the "single-party" political competition variable which in regression 1 from Table 2 and 1 from Table 3 became smaller in magnitude and less significant.

8. Conclusion

Though the arrival of multi-party democracy has failed to trigger a wholesale revision of economic policies in African countries, in this paper I have argued that this lack of a general transformation may nonetheless obscure important changes in individual policy areas. Multi-party democracy may logically give African leaders a greater incentive to cater to the demands of rural groups, and in the area of education, rural groups are concerned above all with primary schooling. I have developed this hypothesis with a simple game-theoretic model that does not depend upon the assumption that election outcomes are always respected. Results of cross-country regressions show that governments subject to competition have in fact spent more on education and more on primary education in particular. This result remains robust when controlling for unobserved country effects. It would be interesting for future research to consider whether this pattern of democracy

[30] Following their method, I first regressed each of my education spending variables on a set of country dummies and on all covariates in my regression with the exception of the "multiparty" political competition dummy variable. Then, retaining the residuals for those countries in my dataset for which there was a shift towards multiparty competition, I collapsed the data into two time periods: "before multi-party competition" and "after multi-party competition". I then regressed the residuals on an "after multi-party competition" dummy.

leading to a more equitable distribution of spending between urban and rural groups can also be observed in other areas of policy.

References

Ake, Claude (1996), *Democracy and Development in Africa*, Brookings Institution.

Baker, Bruce and Arnold Hughes (2000), "Democratic Outcomes in Commonwealth Africa", special issue of *Commonwealth and Comparative Politics*, vol.38, no.3, November.

Baltagi, Badi (1995), *Econometrics of Panel Data*

Bates, Robert (1981), *Markets and States in Tropical Africa*, University of California Press.

Bates, Robert (1995), "Democratic Transition in Africa: A First Report on an Empirical Project", Development Discussion Paper no.514, Harvard Institute for International Development.

Bates, Robert and Shantayanan Devarajan (2000), "Framework Paper: Political Economy of African Growth", mimeo, Harvard University.

Behrman, Jere and Mark Rosenzweig (1994), "Caveat Emptor: Cross-Country Data on Education and the Labor Force", *Journal of Development Economics*, vol.44, pp.147-171.

Bertrand, Marianne, Esther Duflo, and Sendhil Mullainthan (2002), "How Much Should We Trust Differences-in-Differences Estimates?", mimeo, MIT.

Bratton, Michael and Nicolas van de Walle (1997), *Democratic Experiments in Africa: Regime*, Cambridge University Press.

Bratton, Michael, Gina Lambright, and Robert Sentamu (2000) "Democracy and Economy in Uganda: A Public Opinion Perspective", Afrobarometer working paper no.4.

Brown, David and Wendy Hunter (1999), "Democracy and Social Spending in Latin America", *American Political Science Review*, vol.93,pp.779-790.

Callaghy, Thomas and John Ravenhill (1993), *Hemmed In: Responses to Africa's Economic Decline*, Columbia University Press, New York.

Chirwa, Wiseman C. (1998) "Democracy, Ethnicity, and Regionalism: The Malawian Experience, 1992-1996", in Kings M. Phiri and Kenneth R. Ross (eds.) *Democratization in Malawi: A Stocktaking*, CLAIM.

Devarajan, Shantayanan, Andrew Sunil Rajkumar, and Vinaya Swaroop (1999), "What Does Aid to Africa Finance", *World Bank Policy Research Working Paper.*

Ellman, Matthew and Leonard Wantchekon (2000), "Electoral Competition under the Threat of Political Unrest", *Quarterly Journal of Economics*, pp.499-531.

Fearon, James (1999), "Electoral Accountability and the Control of Politicians: Selecting Good Types versus Sanctioning Poor Performance", in Przeworski, Stokes and Manin (1999).

Ferejohn, John (1986), "Incumbent Performance and Electoral Control", *Public Choice*, vol.50, pp.5-25.

Ferree, Karen and Smita Singh (1999), "Institutional Change and Economic Performance in Africa: 1970-1995".

Furley, Oliver (2000), "Democratisation in Uganda", *Commonwealth and Comparative Politics*, vol.38, no.3.

Herbst, Jeffrey (1993), "The Politics of Sustained Agricultural Reform in Africa" in Callaghy, Thomas and John Ravenhill (eds.), *Hemmed In: Responses to Africa's Economic Decline*, Columbia University Press, New York.

Kaufman, Robert R. and Alex Segura-Ubiergo (2001), "Globalization, Domestic Politics, and Social Spending in Latin America", *World Politics*, vol.53 pp.553-587.

Lewis, Pater (1996), "Economic Reform and Political Transition in Africa: the Quest for a Politics of Development", *World Politics*, vol.49, pp.92-129.

Lienert, Ian and Jitendra Modi (1997), "A Decade of Civil Service Reform in Sub-Saharan Africa", IMF Working Paper 97/179.

Mingat, Alain and Bruno Suchaut (2000), *Les Systèmes Educatifs Africains: une Analyse Economique Comparative*, Edition De Boeck Université.

Olson, Mancur (1965), *The Logic of Collective Action*, Harvard University Press.

Ottemoeller, Dan (1998) "Popular Perceptions of Democracy: Elections and Attitudes in Uganda", *Comparative Political Studies*, vol.31, no.1, pp.98-124.

Posner, Daniel (1995) "Malawi's New Dawn", *Journal of Democracy*, vol.6, no.1, pp.131-145.

Pradhan, Sanjay (1996), "Evaluating Public Spending", *World Bank Discussion Papers*, no.323.

Przeworski, Adam, Susan Stokes and Bernard Manin (1999), *Democracy, Accountability, and Representation*, Cambridge University Press.

Reinikka, Ritva and Jakob Svensson (2002), "Local Capture and the Political Economy of School Financing", mimeo, World Bank.

UNESCO, *Statistical Yearbook*, Paris, various years.

van de Walle, Nicolas (2001), *African Economies and the Politics of Permanent Crisis: 1979-1999*, Cambridge University Press.

Wantchekon, Leonard (1999), "On the Nature of First Democratic Elections", *Journal of Conflict Resolution*, vol.43, no.2, pp.245-258.

Widner, Jennifer (1993), "The Discovery of 'Politics': Smallholder Reactions to the Cocoa Crisis of 1988-90 in Côte d'Ivoire" in Callaghy, Thomas and John Ravenhill (eds.), *Hemmed In: Responses to Africa's Economic Decline*, Columbia University Press, New York.

Wiseman, J.A. (2000) "Presidential and Parliamentary Elections in Malawi, 1999", *Electoral Studies*, vol.19, pp.637-646.

World Bank (2001), *A Chance to Learn: Knowledge and Finance for Education in Sub-Saharan Africa*, Washington D.C..

Table 1: Summary statistics on education spending

	Nobs	Mean	Within country stdev	Between country stdev	Min.	Max.
Government spending on education %GDP	324	4.12	0.86	1.91	0.37	10.3
Government spending on primary education % GDP	188	1.93	0.35	1.04	0.34	5.17
Govt spending on education as % of total spending	324	16.3	5.1	3.5	2.6	29.2
Govt spending on primary education as % of total spending	188	7.6	1.4	3.2	1.5	15.7

Figure 1: Trends in government spending on education

(African averages)

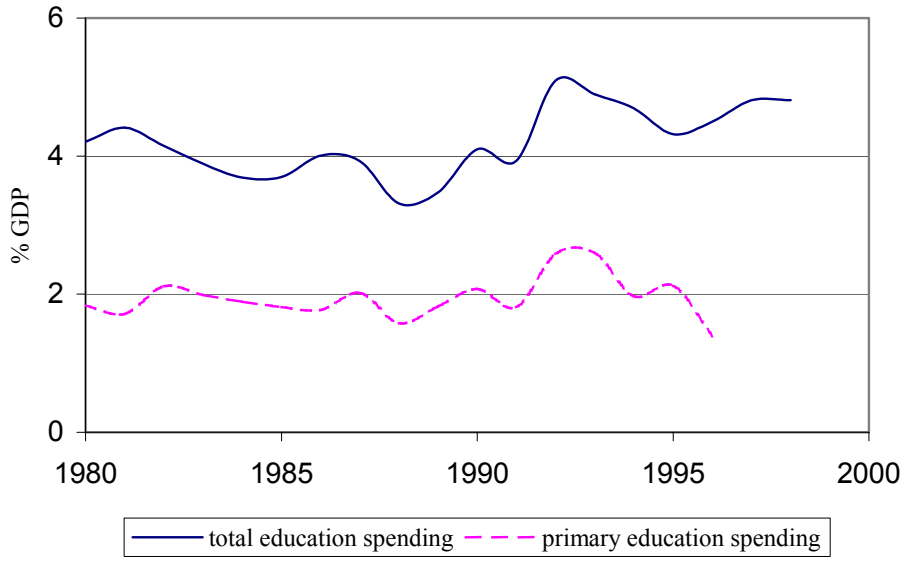

Figure 2: Trends in the openness of political competition

(Percent of countries where executive elected in multiparty competition)

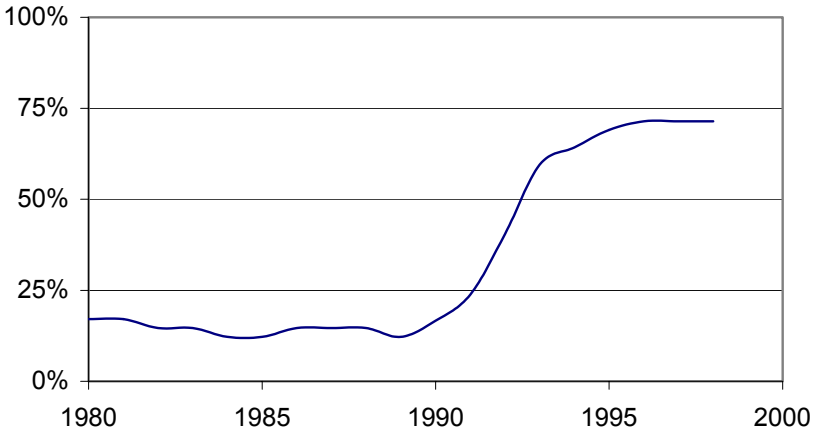

Table 2: Electoral competition and the education budget I

(Dependent variable: govt spending on education, % GDP)

	OLS	**Fixed effects**	**IV- fixed effects**
	(1)	**(2)**	**(3)**
Single-party competition	**.286*** **(.164)**	**.789***** **(.216)**	**.781***** **(.204)**
Multiparty competition	**1.42***** **(.285)**	**.645***** **(.192)**	**.683***** **(.188)**
Election year	-.179 (.153)	.076 (.097)	.068 (.092)
Election previous year	-.243 (.168)	-.043 (.096)	-.041 (.091)
Election next year	-.128 (.171)	.101 (.090)	.106 (.086)
Per capita GDP (log)	.903*** (.149)	.211 (.149)	.201 (.141)
Aid (%GDP)	-.013 (.008)	-.025*** (.009)	-.035*** (.015)
Constant	-1.64* (0.96)	2.60*** (0.91)	2.77*** (0.89)
N=	324	324	324
R^2	0.31	0.13	0.13
H_0:single-party=multiparty	p<0.01	p=0.46	p=0.61
overidentifying restrictions			p=0.38

Standard errors in parentheses (panel corrected standard errors for OLS, heteroskedastic consistent for regressions 2 and 3. Regression (3) instruments for Aid using first four lagged differences. *. **, and *** refer to significance at the 10%, 5%, and 1% levels respectively.

Table 3: Electoral competition and the education budget II

(Dependent variable: % of total govt spending to education)

	OLS	**Fixed effects**	**IV-fixed effects**
	(1)	**(2)**	**(3)**
Single-party competition	**1.14** **(0.85)**	**3.20**** **(1.30)**	**3.19***** **(1.23)**
Multiparty competition	**4.73***** **(0.96)**	**3.84***** **(1.85)**	**3.89***** **(1.12)**
Election year	-.657 (.587)	-.259 (.584)	-.270 (.555)
Election previous year	-.640 (.662)	-.456 (.581)	-.453 (.548)
Election next year	-.490 (.519)	-.118 (.541)	-.111 (.512)
Per capita GDP (log)	1.11** (.428)	1.97** (0.89)	1.96** (0.84)
Aid (%GDP)	-.188*** (.035)	-1.02* (.055)	-.116 (.088)
Constant	10.4*** (3.21)	3.33 (5.50)	3.56 (5.34)
N=	324	324	324
R^2	0.23	0.18	0.19
H_0:single-party=multiparty	p<0.01	p=0.59	p=0.54
overidentifying restrictions			p=0.89

Standard errors in parentheses (panel corrected standard errors for OLS, heteroskedastic consistent for regressions 2 and 3.. Regression (3) instruments for Aid using first four lagged differences. *. **, and *** refer to significance at the 10%, 5%, and 1% levels respectively.

Table 4: Electoral competition and primary education I

(Dependent variable: govt spending on primary education %GDP)

	OLS	**Fixed effects**	**IV-fixed effects**
	(1)	**(2)**	**(3)**
Single-party competition	**.427*** (.158)**	**.297** (.134)**	**.283** (.124)**
Multiparty competition	**.837*** (.199)**	**.254** (.131)**	**.315*** (.127)**
Election year	-.006 (.115)	-.008 (.059)	-.023 (.055)
Election previous year	.176* (.105)	.005 (.056)	.007 (.052)
Election next year	.170* (.092)	.096* (.057)	.113** (.054)
Per capita GDP (log)	.450*** (.065)	-.067 (.164)	-.079 (.152)
Aid (%GDP)	-.026*** (.006)	-.011** (.005)	-.021*** (.008)
Constant	-.973*** (.410)	2.25** (1.00)	2.44*** (0.94)
N=	188	188	188
R^2	0.39	0.09	0.17
H_0:single-party=multiparty	p<0.01	p=0.74	p=0.81
Overidentifying restrictions			p=0.09

Standard errors in parentheses (panel corrected standard errors for OLS, heteroskedastic consistent for regressions 2 and 3.. Regression (3) instruments for Aid using first four lagged differences. *. **, and *** refer to significance at the 10%, 5%, and 1% levels respectively.

Table 5: Electoral competition and primary education II

(Dependent variable: % of total govt spending to primary schools)

	OLS	Fixed effects	IV-fixed effects
	(1)	**(2)**	**(3)**
Single-party competition	**1.22*** (0.50)**	**.901* (.522)**	**.857* (.482)**
Multiparty competition	**2.14*** (0.38)**	**.714 (.512)**	**.905* (.493)**
Election year	.031 (.326)	.036 (.228)	-.010 (.213)
Election previous year	.801*** (.317)	.159 (.220)	.164 (.202)
Election next year	1.06*** (0.36)	.378 (.222)	.431** (.208)
Per capita GDP (log)	.317 (.213)	-.741 (.641)	-.780 (.591)
Aid (%GDP)	-.171*** (.023)	-.036* (.020)	-.069** (.031)
Constant	6.20*** (2.21)	11.8*** (3.91)	12.3*** (3.63)
N=	188	188	188
R^2	0.38	0.02	0.13
H_0:single-party=multiparty	p=0.04	p=0.72	p=0.92
Overidentifying restrictions			p=0.44

Standard errors in parentheses (panel corrected standard errors for OLS, heteroskedastic consistent for regressions 2 and 3.. Regression (3) instruments for Aid using first four lagged differences. *. **, and *** refer to significance at the 10%, 5%, and 1% levels respectively.

Table 6: Countries included in the dataset and levels of political competition

Country	Year	Competition	Country	Year	Competition
Angola	1985-87, 1990	None	Kenya	1981-91	Single Party
Benin	1995	Multi-Party		1992-96	Multi-Party
Botswana	1981-1996	Multi-Party	Madagascar	1981-85, 1987-92	Single Party
Burkina Faso	1981-1990	None		1993	Multi-Party
	1991-1994	Single Party	Malawi	1981-93	Single Party
Burundi	1981, 1987-92	None		1994	Multi-Party
	1985-86	Single Party	Mali	1981-88	Single Party
	1994-96	Multi-Party		1995-96	Multi-Party
Cameroon	1981-91	Single Party	Mauritania	1991	None
Cen Afr Rep	1984-85	None		1992-95	Multi-Party
	1986-1991	Single Party	Mozambique	1982-90	None
Chad	1991, 1994	None	Namibia	1990-96	Multi-Party
Congo, Dem Rep	1981-88	Single Party	Niger	1989-90	Single Party
Congo, Rep	1981-84, 1989-91	None		1991-92	None
	1992-95	Multi-Party		1993-96	Multi-Party
Côte d'Ivoire	1992-96	Multi-Party	Nigeria	1981-83	Multi-Party
Eq. Guinea	1988, 1993	None		1984-95	None
Ethiopia	1983-86	None	Rwanda	1981-84, 1986-89	Single Party
	1987-94	Single Party	Senegal	1981-84, 1990, 1992-94	Multi-Party
	1995-96	Multi-Party	Sudan	1983-84	Single Party
Gabon	1984-87, 1992	Single Party		1985	None
	1994-95	Multi-Party		1986-88	Multi-Party
Gambia	1981-85, 88, 90-91, 93	Multi-Party		1989-91	None
	1994-96	None	Swaziland	1981-82, 1985-96	None
Ghana	1981	Multi-Party	Togo	1981-87, 1988-90, 1992	Single Party
	1984-90	None		1996	Multi-Party
	1992-96	Multi-Party	Uganda	1984	Multi-Party
Guinea	1988-89, 1991-92	None		1987, 1989-91, 1994-95	None
	1993-96	Multi-Party	Zambia	1981-90	Single Party
Guinea-Bissau	1987	Single Party		1991-95	Multi-Party
			Zimbabwe	1981-93	Multi-Party