3. Determinants of learning outcomes for primary education: A case of Uganda

Joseph Muvawala

Abstract
The paper examines determinants of learning outcomes in primary schools using a Generalized Method of Moments (GMM) estimation technique. Although there is rich literature on the determinants of learning outcome at the primary level, its estimation has proceeded under a strict assumption of policy exogenity. Studies that have employed the production function technique to estimate the influence on learning outcomes of expenditures on “traditional” educational inputs fail to yield the expected positive influence. This paper relaxes the strict assumption of policy exogenity and exploits the first panel dataset to have been constructed on Uganda’s primary schools. The study shows that some of the traditional educational inputs actually yield the expected positive influence on learning outcomes, notably, provision of textbooks, inspection frequency, teacher houses, teacher numbers, teacher training, and the proxy for school environment. The magnitude of the influence on learning outcomes differs across government and private schools. Evidence from the study also indicates that investing in software inputs has a higher positive impact on learning outcomes than do hardware educational inputs.

Key words: Learning outcomes, primary schools, GMM, panel data, panel estimation techniques

Facteurs déterminants des résultats d’apprentissage dans l’enseignement primaire : l’exemple de l’Ouganda

Résumé
Le présent article utilise la Méthode des moments généralisée (GMM en anglais) pour examiner les facteurs déterminants des résultats d’apprentissage dans les établissements d’enseignement primaire. Si la littérature ne manque pas en l’espèce, l’estimation de ces facteurs s’est jusqu’ici basée sur une hypothèse d’exogénéité stricte des politiques. Les études qui utilisent la méthode de la fonction de production pour estimer l’impact des dépenses relatives aux intrants éducatifs « traditionnels » sur les résultats d’apprentissage ne parviennent pas à faire ressortir l’impact positif attendu. Le présent article assouplit l’hypothèse d’exogénéité stricte des politiques et exploite le premier ensemble de données de panel à avoir été constitué sur les établissements d’enseignement primaire en Ouganda. L’étude montre que certains intrants éducatifs traditionnels ont effectivement l’impact positif

1 Joseph Muvawala is a Chief Country Economist with the African Development Bank. The views and conclusions in this paper do not represent the position of the African Development Bank.
attendu sur les résultats d’apprentissage, notamment la fourniture de manuels scolaires, la fréquence des inspections, l’offre de logements aux enseignants, le nombre d’enseignants, la formation des enseignants et l’indicateur du milieu scolaire. L’ampleur de l’impact sur les résultats d’apprentissage varie selon qu’il s’agit d’établissements publics ou privés. Les données de l’étude montrent en outre qu’un investissement dans les intrants éducatifs immatériels a une incidence positive plus forte sur les résultats d’apprentissage que l’investissement dans les intrants matériels.

Mots clés : Résultats d’apprentissage, établissements d’enseignement primaire, GMM, données de panel, méthode d’estimation sur données de panel

1.0 INTRODUCTION

A general consensus has emerged in the literature that in most developing countries the relationship between increased resource allocation to the education sector and improved education outcomes is fairly weak (Pritchett and Filmer 1999). A major finding is that “traditional” education inputs fail to yield the expected positive influence.

The standard conceptual approach usually entails specification of a technical relationship in the form of production functions (Evans et al., 2000), whereby an institution (such as a primary school) is seen as analogous to a firm, transforming inputs into outputs through a production process. Typical inputs in the education production function at the primary level include government expenditures on teaching and the learning atmosphere, especially where the major output is defined in terms of pupils’ numeracy and literacy (Kirjavainen and Loikkanen 1998). Christiansen et al. (2002) argued that where the relationship exists and can be quantified, policy can be constructed to maximize a preferred conceptual outcome. Indeed, considerable empirical research in this area has focused on identifying this technical relationship.

Nonetheless, the literature points to the failure of education production functions to identify the purported/perceived relationship between key policy variables (such as resource spending) and educational achievement (Mayston 1996). Two explanations for the failure of education production functions have been proposed: 1) the validity of the educational production function framework itself and the possibility of econometric misspecification, and 2) the possibility that public policy may not have a measurable impact on educational outcome. Deller and Rudnicki (1997), for instance,
contended that innate ability combined with socio-economic background, may be more important in the educational production process. Nonetheless, Kremer (commenting on Hanushek's article, 1995) maintained that specific inputs, such as provision of textbooks and use of educational radio, have had a demonstrable impact on learning outcomes.

Others have sought to define various dimensions of quality education. For example, the World Bank's Primary Education Policy Paper (1990), using a comprehensive review of research, identified five principal contributors to primary education effectiveness: curriculum, learning materials, instructional time, classroom teaching, and students' learning ability. This review assesses how the research, especially since 1990, has addressed the importance of these and others factors, and offers insight into the circumstances under which the various factors make a difference. However, this paper is not conclusive, as the variables examined are not the only determinants of education outcomes.

Moreover, despite agreement in educational circles that hardware factors are perceived as being key determinants of education outcomes, some ambiguity in the importance of this factor exists. This may be partly explained by evidence suggesting that the quality of facilities may be more important in disadvantaged settings. At any rate, growing evidence suggests that the variability of hardware factors may not diminish their determinant potential.

The role of teachers is generally accepted as crucial to learning outcomes. In most countries, developing and industrialized, teacher salaries account for half to three-quarters of education expenditures, rising as high as 90% in some African countries (World Bank 2002). Given the magnitude of this investment, it is important to know if it affects students' learning outcomes. Beyond that, most studies agree that time spent on teaching is an important condition for learning (Fuller 1986). Another characteristic of high-quality schools is assignment and correction of homework.

At the international level, debate continues about the relevance of class size. Hanushek (1998) summarized the available evidence as inconclusive, and warned against placing too much emphasis on the issue given the high costs involved. Others, however, claim that gains in educational quality will be realized by reducing class size, particularly in the early grades (Biddle and Berliner, 2002). Whatever the results of these studies, which predominantly consider industrialized countries, a negative effect of student numbers might be expected in Africa where the average class size in primary schools is two to three times that in Europe or the United States.
Finally, children’s personal characteristics and background affect their persistence and attainment. These variables include the child’s health and nutritional status, gender and age, and parents’ or caregivers’ attitudes and experience with school. Prior schooling such as early childhood/pre-school programs will shape the child’s response to school.

The literature is not definitive. Different conclusions drawn by different researchers applying different methodologies demonstrate the difficulty of identifying determinants of learning outcomes a priori. Even so, developing countries are spending heavily on inputs, based on the perception that they improve learning. Hence, more research that employs different methodologies and datasets is needed to try to establish which inputs have a positive influence on learning outcomes.

2.0 COUNTRY CONTEXT

In January 1997, the Government of Uganda implemented the Universal Primary Education program. This followed the Education Strategic Investment Plan (ESIP) 1998-2003, which offered a framework for education development in Uganda. ESIP’s priorities included “access and equity in education, improvement in quality, delivery of education services, and capacity development.” (Hallak et al 2000). The objective of the UPE program is to provide the minimum facilities and resources needed to complete primary education. Under the program, the State provides “free” primary education for all school-age children.

Attempting to achieve the objectives of the UPE program has been costly to the government, but the results, especially with regard to the quality of education, have been less than satisfactory. The percentage of the national budget allocated to education grew from 15% in 1998/99 to 24% in 2006/07. And as a percentage of the total education budget, the share devoted to the primary level averaged more than 60% from 2000 to 2008; it has declined to about 50%. Government efforts to increase resources to primary education have resulted in six key achievements:

- Primary enrolment rose from about 2.5 million in 1997 to 8.0 million in 2011, with near parity in enrolment of girls and boys.
- Teacher training programs have been developed—the percentage of with a diploma was 89% in 2010.
- Massive teacher recruitment reduced the pupil-teacher ratio to a national average of 49:1 in 2010.
• An increase in classrooms reduced the average number of pupils per classroom from 96 in 2000 to 58 in 2010.
• Pupil-textbook ratios have been reduced.
• Curriculum review for the primary level has been completed.

However, despite these improvements in quality enhancement indicators, learning outcomes, especially numeracy and literacy, have been less than satisfactory. National Assessment of Progress in Education studies (2003 to 2008) conducted by the Uganda National Examinations Board report literacy rates at P3 and P6 of 41.8% and 36.2%, respectively, and corresponding numeracy rates of 49.3% and 35.7%. The UPE program has faced challenges with regard to completion rates and the quality of graduates, which raise questions about both the technical and allocative efficiency of its implementation. Also questioned are the policy assumptions made by the government during the 13 years of implementing the UPE program and spending on selected inputs, on the basis of perception rather than empirical research. Table 1 shows trends in spending on primary education (in billions of UGX) over the nine years from 2000/01 to 2008/08, by expenditure category.

Table 1: Trend analysis of primary education budget (UGX billions), by spending category and financial year, 2000/01 to 2008/09

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UPE grant</td>
<td>41.3</td>
<td>46.7</td>
<td>41.5</td>
<td>41.5</td>
<td>33.5</td>
<td>33.5</td>
<td>32.8</td>
<td>33.5</td>
<td>33.5</td>
</tr>
<tr>
<td>SFG</td>
<td>50.2</td>
<td>72.1</td>
<td>68.3</td>
<td>59.8</td>
<td>54.1</td>
<td>51.0</td>
<td>16.4</td>
<td>16.4</td>
<td>23.7</td>
</tr>
<tr>
<td>Primary wages</td>
<td>141.8</td>
<td>153.7</td>
<td>185.0</td>
<td>208.0</td>
<td>230.2</td>
<td>254.0</td>
<td>342.5</td>
<td>354.5</td>
<td>354.3</td>
</tr>
<tr>
<td>Primary textbooks</td>
<td>8.5</td>
<td>5.93</td>
<td>14.8</td>
<td>16.3</td>
<td>16.3</td>
<td>12.1</td>
<td>8.64</td>
<td>7.7</td>
<td>6.9</td>
</tr>
<tr>
<td>Teacher training</td>
<td>5.6</td>
<td>5.9</td>
<td>6.0</td>
<td>5.4</td>
<td>6.2</td>
<td>4.7</td>
<td>4.6</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Inspection funds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>247.4</td>
<td>284.5</td>
<td>315.8</td>
<td>331.0</td>
<td>340.2</td>
<td>355.3</td>
<td>405.0</td>
<td>416.7</td>
<td>425.5</td>
</tr>
</tbody>
</table>

Source: Researcher computation based on the MTBF for the education sector.
Other issues exacerbate the challenges to UPE. Funding to primary education has not kept pace with population growth and inflation. Hence, the allocation of funds to the sector has not increased (and will not increase) in real terms. Increasingly, the focus is on secondary, business, technical/vocational and higher education. The share of the education budget devoted to the primary level fell from 66.8% in 1998/99 to 58.8% in 2008/09, and is projected to decline to 49.6% in 2013. Moreover, the shrinking share of the national budget allocated to education overall (from 24% in 2000 to just over 16% in 2008) signals the need to do things differently, which involves a deliberate, objective process that ensures efficient allocation of the limited funds.

3.0 DETERMINANTS OF LEARNING OUTCOMES ANALYSIS

3.1 Conceptual framework

This analysis employs a production function framework to estimate determinants of learning outcomes. Although schools are not profit-maximizing firms, the framework treats them as production units on the supply side. Production function studies have been used extensively to identify factors that “produce” good learning outcomes.

Education economists recognize that the production function theory needs modification when applied to schools, but generally believe that the basic idea of using capital, labor, and other inputs to produce specific outputs can be valuable. The result is a theoretical economic model of the behavior of schools that yields observations and hypotheses related to school organization, management and governance, which are important to the delivery of quality education services (Boissiere 2004). This framework specifies a level of achievement, usually measured by students’ test scores, as the typical output, and characteristics of the teaching and learning environment as typical inputs (Todd and Wolpin 2003).

3.2 Estimation technique

The primary estimation technique employed in this analysis is the generalized method of moments (GMM). This method is considered to be superior to other dynamic panel estimation techniques, because of its ability to deal with large samples and the existence of endogeneity in education production functions. The GMM produces consistent and efficient estimates, the latter of which are particularly critical for policy inference.
3.3 Model specification and estimation procedure

A multivariate analysis procedure is applied on a set panel data. The learning outcome relationship is indicated as a Performance Index model. The Performance Index of school in period is specified to be a function of educational inputs, which consist of school and students’ characteristics. In particular, the random effects multivariate regression specification is used.

Why random effects Regression?
Random effects regression was preferred over fixed effects. First, the use of several variables in the model created the possibility of multi-co-linearity, which random effects modeling is best suited to deal with. Second, the use of cross-sectional observations and time series observations necessitates modifications to the assumptions underlying the error term in the initial specification, which is possible only under the random effects regression specification. Third, the number of cross-sectional units was much larger than the number of time periods. When this is the case, the Random Effects Regression specification produces more efficient estimators. Fourth, the units in the sample were regarded as random samples from a larger universe (the national population of primary schools), making the random effects regression specification more appropriate.

Random effects regression specification
Given a vector of purchased schooling inputs ($X_i$) and Learning outcomes ($PI_i$), and following Monk (1992)*, the Performance index of school $i$, in period $t$, was specified as:

$$PI_{it} = X_{it} \beta + u_{it} \tag{1}$$

Where ($X_{it}$) is a vector on observations on school characteristics and students’ background characteristics. $\beta$, is a vector of parameters such that:

$$\beta = \beta_1, \beta_2, \ldots, \beta_k \tag{2}$$

To write the model in (1) as a random effects regression model, $\beta_{it}$ was treated as a random variable with mean $\beta$, so that the intercept value for an individual school would be expressed as:

$$\beta_{it} = \beta + \epsilon_i \tag{3}$$

where $\epsilon_i$ is a random error term and that: $\epsilon_i, i = 1 \ldots n$. 
Considering equations (1) and (3), the random effects Performance Index regression equation became:

\[ PI_{it} = X_{it} \beta + e_i + u_{it} \]  \hspace{1cm} (4)

Letting \( e_{it} = e_i + u_{it} \) \hspace{1cm} (5)

the model in (4) was specified as:

\[ PI_{it} = X_{it} \beta + e_{it} \]  \hspace{1cm} (6)

where \( \beta \) is such that: \( \beta' = \beta_1, \beta_2, \ldots, \beta_k \); \( e_{it} \) is a composite error term. The composite error term \( e_{it} \) consists of two components, \( e_i \) which is individual (school) specific, and \( u_{it} \) which is the combined time series and cross-section error component. The following assumptions were considered to hold the model error terms:

\[ e_i \sim N(0, \delta_e^2) \], \( u_i \sim N(0, \delta_u^2) \);
\[ E(e_i, u_{it}) = 0 \], \( E(e_i, e_j) = 0 \); \( i \neq j \);
\[ E(u_{it}, u_{is}) = E(u_{it}, u_{jt}) = E(u_{it}, u_{js}) = 0 \]; \( t \neq s \) \hspace{1cm} (7)

\( X_{it} \) is matrix on observations on school characteristics and students’ background, including socio-economic indicators. The observations on school characteristics were the pupil-teacher ratio (PTR), the pupil-textbook ratio (PTXR), the pupil-classroom ratio (PCR), teachers’ houses (TH), inspection frequency (INSP), head teacher’s experience (HTEXP), and state of ownership and location of the school (OWN). The observations on socio-economic indicators captured in the \( X_{it} \) matrix included the average monthly incomes of the households where the pupils lived.

Parameters included in the model were selected through the process of obtaining a congruent GMM model. In estimating the GMM, the analysis applies lagged dependent variables as instruments, since they are exogenous. Location (rural versus urban) and ownership (private versus government) were used as controls. The GMM model applied is specified in linear log form.

### 3.4 Derivation of PLE Performance Index

For this study, a performance index (PLE Performance Index) that mitigates the bias of school size was computed. In each grade, candidates were weighted so that passing with the best grade carried high weight, and failure
was given zero weight. The actual weight was summed and expressed as a ratio of the expected maximum weight attained by multiplying the highest weight with the number of candidates who took exams.

4.0 RESULTS

The factors (inputs) associated with learning outcomes in primary schools in Uganda vary, depending on ownership (government or private) and location (urban or rural).

4.1 Dynamic panel estimates for all categories

Dynamic panel estimates for all categories of primary schools indicate that eight of the eleven factors in the model are significant at 5%, and therefore, are associated with learning outcomes: lagged dependant variable, a proxy for passing culture, pupil-textbook ratio, pupil-classroom ratio, pupil-desk ratio, teacher training, teacher houses, and inspection frequency.

However, the influence of these factors on learning outcomes is relatively weak. A 1% improvement in input will influence learning outcomes by 0.05% for pupil-teacher ratio; 1.1% for pupil-textbook ratio; 1% for teacher training; 0.09% for teacher houses; 0.04% for pupil-desk ratio; 0.02% for pupil-classroom ratio; and 0.84% inspection frequency.

4.2 Dynamic panel estimates, by ownership

**Government-owned schools**

Dynamic panel estimates for government-owned schools show that eight inputs in the model are significant at 5%, and therefore, are associated with learning outcomes: lagged dependent variable, proxy for passing culture, pupil-teacher ratio, pupil-textbook ratio, pupil-desk ratio, teacher training, teacher houses and inspection frequency. In this case, too, the influence of these on learning outcomes is small. A 1% improvement in input will influence learning outcomes by 0.04% for pupil-teacher ratio; 1.4% for pupil-textbook ratio; 1% for teacher training; 0.08% for teachers’ houses; 0.039% for pupil-desk ratio; 0.02% for pupil-classroom ratio; and 0.89% for inspection frequency.

**Private schools**

For private schools, only three factors are significant at 5%: teacher training; pupil-textbook ratio; and pupil-desk ratio. A 1% improvement in input
will influence learning outcomes by 1.2% for teacher training; 2.3% for pupil-textbook ratios; and 1.2% for pupil-desk ratio.

4.3 Dynamic panel estimates, by location

Rural schools
For schools in rural areas, seven factors are significant at 5%: lagged dependent variable, proxy for passing culture, pupil-teacher ratio, pupil-textbook ratio, teachers’ houses, pupil classroom ratio, teacher training, pupil-desk ratio, and inspection frequency. A 1% improvement in input will influence learning outcomes by 0.04% for pupil-teacher ratio; 1.0% for pupil textbook ratio; 1% for teacher training; 0.08% for teachers’ houses; 0.02% for pupil classroom ratios; and 0.81% for inspection frequency.

Urban schools
For schools in urban areas, five factors are significant at 5% and 10%: lagged dependent variable, pupil-teacher ratio, teacher training, teacher houses, inspection, and head teachers’ experience. A 1%, change in input will influence learning outcomes by 0.06% for pupil-teacher ratio; 1.4% for pupil-textbook ratio; 0.1% for teachers’ houses; 0.15% for head teacher experience; 0.6% for inspection frequency; and 0.5% for teacher training.

The GMM estimates reveal that the factors associated with learning outcomes depend on ownership and location. Hence, analyzing learning outcomes without taking these factors into account may result in erroneous inferences. Table 2 summarizes the factors that are significant overall and by school ownership and location.

Table 2: Summary table: Significant inputs, by school ownership and location of schools

<table>
<thead>
<tr>
<th>Ownership/Location of schools</th>
<th>Teacher training</th>
<th>L1 Pupil-teacher ratio</th>
<th>Pupil-classroom ratio</th>
<th>Pupil-textbook ratio</th>
<th>Pupil-desk ratio</th>
<th>Teachers’ houses</th>
<th>Head Teacher experience</th>
<th>Inspection frequency</th>
<th>Household expenditure on Education</th>
<th>Spouse literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>All categories</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Government</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Private</td>
<td>*</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Rural</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Urban</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

* Significant at p<0.05.
5.0 CONCLUSIONS AND POLICY IMPLICATIONS

The results of this analysis demonstrate that an appropriate estimation technique enhances the robustness of the education production function estimates, and empirically illustrate a positive influence of some of “traditional” education inputs on learning outcomes. Hence, policy-based traditional education inputs can be effective in providing quality education if the right combination of input and thresholds is achieved. The question that policy-makers must answer is, “What works?”

This paper does not consider new child-focused teaching methodologies. Because of resource constraints, they are not institutionalized in education delivery in Africa. Thus, traditional input will predominate for a long time to come, so this limitation does not reduce the value of the findings especially in the context of African education systems. Moreover, no datasets on these methodologies exist in Uganda or in other African countries.

The government’s education policy and budget allocation have targeted traditional educational inputs that have a positive influence on learning outcomes. But the amounts spent on the various inputs have not matched the degree of influence they have on learning outcomes. Specifically, inputs with the highest returns, such as teacher training, inspection and textbook procurement, have not been allocated resources commensurate with their impact on learning outcomes. The results of the present study show that investments in software have a higher pay-off in terms influencing learning outcomes than do investments in hardware. The implications of these results are that:

(i) There is a need for the government to shift its spending priorities toward inputs such as textbooks, inspection, and teacher recruitment and training.

(ii) The quality crisis in education in Uganda may not be the result of misapplication of government resources per se, but rather, failure to achieve the right balance, that is, the right “dose.”

Consequently, blanket appraisals of the UPE program as failing to achieve quality may not be justified. It may be a case of blaming the medicine for not curing a disease when the right dose was not administered. For example, treating acute malaria with half a dose of quinine will not cure the disease, but it cannot be argued that the medication has no value in treating malaria. The value of the medication is apparent only when enough is taken to be effective.
This analogy is applicable to education. A comparison of per capita spending in private and government schools reveals a wide disparity: the average expenditure per pupil in private schools is more than 30 times that in government schools. As well, private schools spend proportionately more on teaching and learning support: 40% versus 10%. The average pass rate in private schools is 54%, compared with 44% in government schools. These statistics suggest that less-than-adequate funding in government and rural primary schools may be a reason for their less-than-average performance. It is clear from the evidence that although government financing through the UPE program was intended to play a supplementary and complementary role, it has turned out to be a substitute for the parental contributions that existed before the program was implemented. Parents in rural areas have abandoned their responsibility to pay other costs required of them by the policy.

This study does not answer the question, “What is the right dose (adequate level of spending per input) required to remedy the quality problem?” This question can be answered only by government investments in randomized experiments, applying different combinations and doses of inputs based on pay-offs that are studied over time. In sum, policy-makers have to use empirical techniques to determine the right doses. Hence, the policy and research functions of education ministries, and their capacity to perform high-level quantitative and qualitative analysis, must be prioritized to ensure effective allocation of limited funds.

The determinants of and the impact on learning outcomes in government and private schools differ to some extent. For example, textbook provision to private primary schools would have the highest pay-off, but at the primary level, the government does not provide textbooks to private schools. To enhance the effectiveness of policy-based inputs, the government should consider providing textbooks to private schools and formulating policy that takes differences ownership and location into account.

A passing culture has a major impact on performance—82% for all schools. This lends credence to the argument that it is difficult to improve learning outcomes in schools that have had a poor passing culture. By contrast, pupils’ social background was not significantly associated with their performance. This implies that in a setting where earnings are relatively low, the school environment matters as an agent of social transformation.

Head teacher experience is not associated with learning outcomes in government schools and rural schools. This finding challenges the practice of
paying head teachers almost three times the salary of classroom teachers. It also suggests that devolution of instructional leadership to lower levels particularly the teacher’s scheme of service may be more effective. In fact, inspections have revealed that the majority of head teachers in Uganda, especially in rural and government schools, are absent from the schools, and therefore, have failed to provided instructional leadership. This may justify the government in institutionalizing customized performance contracts and reinforcing inspection. Nonetheless, the effectiveness of customized performance contracts will be seriously compromised by the less-than-adequate capitation allocated to schools.

REFERENCES


