

# **Expansion of Private Secondary Education: Experience and Prospects in Tanzania**

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## **Abstract**

After decades of restricting private secondary education, the government of Tanzania embarked on new policies in the mid-1980s to support its expansion. The non-government sector expanded rapidly in response to high excess demand, raising transition rates to secondary education sharply. But the new policies had little impact on student learning or school effectiveness, and were accompanied by widening social inequities and increased competition among schools for teachers and school heads. The findings suggest a possible need to refine the government's policies, for example, through selective subsidies to low-income students, and to schools that offer high-value added education. A fundamental problem faced by all secondary schools, whether government or non-government, is that most students enter Form 1 without a strong foundation for subsequent learning, as evidenced by relatively low scores on the primary school leaving examinations even among the best students who enter sought after places in government schools. Thus, beyond the interventions within secondary education, policies to upgrade learning at the primary level also warrant attention in any strategy to strengthen secondary education.

# **Expansion of Private Secondary Education: Experience and Prospects in Tanzania<sup>1</sup>**

## **1. Introduction**

The private sector's role in education has been the subject of much analysis and policy debate in recent years.<sup>2</sup> In developing countries public resources for education are limited and governments have traditionally relied on private education, particularly at the post-basic levels, to meet excess demand.<sup>3</sup> Even when excess demand is not a major issue, advocates of private education note that private schools can be more efficient than their public sector counterparts, delivering more value-added in student achievement per investment of resources.<sup>4</sup> In this paper we explore Tanzania's experience with private education during the early 1990s, a period of very rapid expansion stimulated by new government policies put in place in the mid- to late 1980s. We compare public and private schools in terms of student achievement, as well as in terms of how they are organized and run. Taking advantage of the availability of a unique set of longitudinal data we also examine the impact of rapid private sector growth on overall sector development on student learning, competition among schools for staff resources, and adjustments in student enrollments at the school level.

The rapid growth of private secondary schools in Tanzania in the past decade offers some interesting lessons on the impact of government policies toward private education. Excess demand was indeed a major factor motivating the government's decision in the early 1980s to remove the barriers to private sector growth.<sup>5</sup> The expansion that followed raised the gross enrollment ratio, and widened overall access to secondary education within a relatively short period. Our study reveals that the expansion has been accompanied by a decline in access to secondary school among children from disadvantaged backgrounds; and at the level of schools, by significant staff turnover as schools compete

for the same pool of teachers, and a narrowing of public-private sector differences in school effectiveness. Interestingly, despite the difficulty that consumers of education services may encounter in gauging value-for-money in a market such as education, our study suggests that private schools (which in Tanzania are funded largely through fees) operate to some extent under the discipline of the market, in that their ability to attract students does depend on their success in adding value to student learning.

The foregoing patterns indicate there may be some scope for sharpening public policies in secondary education beyond the current approach of merely removing the barriers to private sector expansion. Targeting subsidies at low-income students may be appropriate to avoid further deterioration in access to secondary education by low-income students; and targeting subsidies at schools offering high value-added education may help to strengthen incentives for schools to improve student learning. Yet our study also reveals that public and private schools in fact differ only to a limited extent in their impact on student learning. This is not surprising in a system that has operated under tight centralized government control over many years. Perhaps more fundamentally, the low variance in performance between schools in the two sectors stems from the fact that most students enter secondary school with a weak capacity to benefit from their education. In this context, better targeting of subsidies in secondary school, while useful, may not achieve much in the absence of significant improvements in students' capacity for learning at the start of secondary school. Under the circumstances interventions to improve primary school quality are clearly an essential part of overall policies to support secondary education development in the country.

## **2. Sector Context<sup>6</sup>**

As context we provide some basic data on public spending on education, enrollment trends, and the evolution of public-private mix in secondary education.<sup>7</sup> Overall, despite cut-backs in public spending in recent years, secondary education has expanded rapidly in contrast to the trend in primary

education, thanks to the accommodation of excess demand for secondary schooling through private sector growth.

## **2.1 Trends in government spending on education**

Since the country's Independence in 1961 education has been financed largely by the central government. During the first half of the 1970s, the share of education in the government budget averaged 17 percent (figure 1). Over time the share has been dropping, averaging about 15 percent between 1975 and 1980; about 13 percent between 1980 and 1985, and about 11 percent between 1985 and 1994.

<<Figure 1 about here>>

Figure 1 also shows trends in public spending on education as a share of the GNP. The share rose during most of the 1970s, reaching a high of about 6 percent in 1979. In subsequent years, however, the share fell to just over 4 percent in the early 1980s, and then dropped to below 4 percent by the early 1990s. In general, these trends indicate that public spending for education in real terms has declined over time, with the downward trend being especially pronounced in the second half of the 1980s.<sup>8</sup>

## **2.2 Enrollment trends in primary and secondary education<sup>9</sup>**

Primary education at this level is defined as a basic constitutional right, and the government manages and finances almost all primary schools in the country.<sup>10</sup> Nonetheless, the decline in public spending on education after the mid-1980s appears to have had a negative impact on enrollments, with the gross enrollment declining from more than 90 percent in 1980 to about 66 percent by 1996. Moreover, more than a third of those who enter first grade currently fail to complete the 7 years of schooling in the cycle.

In sharp contrast to the trends in primary education, the coverage of secondary education (which comprises 4 years of lower secondary school followed by 2 years of upper secondary school) has expanded during the same period. The gross enrollment ratio rose from about 3 percent in 1985, to a out 5 percent in 1995. An important reason is that after the mid-1980s the government adopted new policies to stimulate the growth of non-government secondary schools. Thus, the negative effect of a decline in public resources appears to have been offset, at least in part, by increased spending by households and communities, including local development agencies, such as District Education Trust Funds, which organized themselves to mobilize resources to build and run schools.

### **2.3 Government policies toward private secondary schools**

To fully appreciate the recent policy change and their impact it is useful to highlight government policies in secondary education during the past 3 decades or so. For most of this time the government restricted expansion of enrollments to accord with manpower projections; used a quota system based on geography and gender to allocate the limited places; and was closely involved in setting and monitoring standards in school operations, including operations in private schools.<sup>11</sup> One result is that Tanzania's secondary education system remained poorly developed for many years: between 1970 and 1985, the gross enrollment ratio stagnated at 3 percent, implying that Tanzanian children have among the lowest probability of attending secondary school of all children in the developing world.

The government's policy toward private education, particularly before the mid-1980s, has been, at best, ambiguous.<sup>12</sup> Private schools were nationalized in the early 1960s, but the policy was never strictly maintained. In some years, when equity goals dominated the policy agenda, the government would prohibit the opening of new private secondary schools. In other years, the policy would be

reversed when the government became concerned about the exploding excess demand for secondary education.

Since the mid-1980s, however, the government has adopted and maintained a strikingly different approach to private schools. Excess demand pressures had build up to intolerable levels, as the transition rate between primary and secondary school fell steadily from nearly 30 percent in the early 1960s, to around 4 percent by the early 1980s.<sup>13</sup> Given the dramatic scale of the problem, the government's position toward private schools evolved from one of tolerating their existence to one of active encouragement. In 1990 it established the National Education Trust Fund (NETF), a non-government association, under the World Bank-financed Education Planning and Rehabilitation Project to provide small grants to private schools.<sup>14</sup> Funded through a grant from the Norwegian government NETF has disbursed, since its inception to May 1997, a cumulative total of Tsh. 3.5 billion to 211 private schools (about a-third of all schools), for an average of about Tsh. 16.6 million per school<sup>15</sup>. The grants are small relative to a school's operating expenses (about 8% of private schools' total sources of revenues), and are meant for completing school buildings and facilities (rather than for starting new ones), procuring teaching and learning materials, and supporting in-service training for teachers and school heads.

One result of the new policy has been a dramatic increase in the number of private schools (which are largely financed by student fees), with nearly 282 of the country's 386 private schools in 1997 registering with the government after 1985.<sup>16</sup> At the same time the government has also expanded the public sector, adding 200 new schools in the same period. These patterns indicate that the Tanzanian secondary education system is at an early stage of development, with many more new schools than established ones. Private schools currently enroll about 55 percent of all secondary school students, a much higher percentage than the average of 30 percent in other African countries.

### **3. How different are public and private secondary schools?**

The term private education needs to be clarified at the outset. The distinction depends on the arrangements for schools finance and management. Countries typically choose varying degrees of government involvement along these dimensions of decision-making: in some of them private schools are financed and managed to a substantial degree by non-government entities, while public schools are financed by tax revenues and managed by the government bureaucracy; in other countries, private schools receive government subsidies but are managed privately as non-government institutions, usually subject to certain government regulations. In Tanzania, the public-private distinction is relatively straightforward. The public sector includes government and community schools, both of which receive full government funding for recurrent costs (some of which are defrayed through the collection of school fees and boarding fees); the only difference between them pertains to the funding of school construction costs: for government schools such costs are borne by the government while for community schools they are borne by local communities.<sup>17</sup> The private sector in Tanzania comprise a great diversity of schools, whose unifying feature is that they all depend almost exclusively on school fees and private contributions to defray both recurrent and capital costs. Although the overwhelming majority of private schools are created by religious and other community organizations, there are now a few very new schools which are operated by individuals or groups of individuals as for-profit institutions.

In Tanzania as in other countries, the simple distinction between public and private schools masks diversity within each sector.<sup>18</sup> From a policy point of view, this broad distinction remains useful because it delineates two main avenues for expanding the education system. Expansion through the public system implies a direct role for the government in both finance and school management, whereas expansion through the private sector implies a more indirect role exercised through, for example, selective targeting of public resources for secondary education, and sector regulation.



Public and private schools differ in many ways. Below we document their differences in 6 dimensions: a) basic organization; b) student performance on the Form 4 examinations; c) student composition; d) resource availability; e) teacher profiles; and f) management practices. These comparisons offer a first look into how schools in the two sectors operate, and provide a useful basis for raising questions about the direction of future policy for sector development.

Our analysis is based on two main sources of data. The first are the records kept by the National Examination Council of Tanzania (NECTA) on individual students' scores on the nationwide examinations administered in Forms 2 and 4. The data relate to two cohorts of students; the first took their Form 4 examination in 1992, while the second took theirs in 1995. The data for both cohorts are for all students in the country who sat for the examinations.<sup>19</sup> The second source of data is a survey of a stratified random sample of about 150 public and private secondary schools. The survey was fielded in 1994 and 1996 with World Bank assistance, and generated information about students, teachers and the schools. Below we shall refer to the survey as the 1994-96 Survey of Tanzania Secondary Schools.

### **3.1 Basic organization<sup>20</sup>**

Whether public or private, all secondary schools collect fees from students to defray the cost of operations. The 1994-96 Survey of Tanzanian Secondary Schools indicates that in public day schools, fees and other contributions average Tsh. 58,250 a year, equivalent to about 0.5 times the per capita GNP. While the fees do not fully cover the cost incurred by the government, they amount to a significant outlay for families. In the private sector fees and other contributions are even bigger, averaging 1.5 times that in public schools; in some private schools they are as high as 4.6 times the minimum charged in the public sector.

In most other aspects of basic organization public and private schools are surprisingly comparable: the majority are day schools enrolling both boys and girls, and offering instruction in Forms 1 to 4. In Tanzania, Form 4 marks the end of the lower secondary cycle at which point students take the “O” level examination; of those who pass some proceed to upper secondary school, which comprises Forms 5 and 6. Schools offering all 6 grades of instruction represent less than 10 percent of the schools. In both the public and private sectors, these schools tend to enroll more students than schools with only Forms 1-4, about 1.9 times in the public sector, and 1.7 times in the private sector. Comparing across sectors, public schools generally tend to enroll more students than their private sector counterparts, with about 100 more students per school offering instruction in Forms 1-4, and 258 more students per school offering all six grades of instruction. It is noteworthy that public schools with Forms 1-6 organize significantly more streams, averaging 4 streams per school compared with only 2 in the private sector.

### **3.2 Student performance**

Poor quality is a key concern of policy makers when considering future expansion of secondary education through the private sector. How do the public and private sectors compare in this regard? To answer the question we use data on students’ examination scores. Such data are admittedly an incomplete indicator for educational quality, but the lack of any other data constrains us to use what is available at this time.

As indicated above, the scores relate to performance on the nationwide examinations in Forms 2 and 4 for two cohorts of students, the first cohort sitting for their Form 4 examination in 1992, and the second sitting for them in 1995. For each student we therefore have data at two points in his or her secondary schooling career. Because we are interested in overall performance we analyze only the average scores for the three main subjects (Mathematics, English, and Kiswahili). To maintain consistency in comparing trends, we use data only for students from the 340 schools in the country that

presented candidates on the Form 4 examinations in both years, these schools had a combined total of 32,675 candidates in the 1995 cohort and 31,784 candidates in the 1992 cohort.

In general the data students achieve poor results on the examinations, correctly answering barely a third of the questions.<sup>21</sup> Students in public schools tend to perform better than their private school counterparts, with average scores higher by 25 percent and 20 percent respectively on the Forms 2 and 4 examinations in the 1992 cohort, and scores higher by 15 percent on both examinations in the 1995 cohort. Noteworthy is that the variance in scores is smaller in the public sector, implying greater homogeneity in performance on both examinations in public schools. Students in the private sector became more heterogenous over time in their scores in both Forms 2 and 4. The trend is similar in public schools, but only for the Form 2 examination results.

To further explore the examination performance of schools in the two sectors, we evaluate the value they add to performance between Forms 2 and 4. This analysis is more satisfactory because it focuses on the influence of schools holding constant the initial performance of the students. We adjust the Form 4 score for student  $i$  in school  $j$  ( $m_{ij,4}$ ) by his or her Form 2 score ( $m_{ij,2}$ ) by estimating the following stochastic production function separately for the students in each cohort<sup>22</sup>:

$$m_{ij,4} = f(m_{ij,2}) + u + v$$

where  $u$  is the customary error term and  $v$  is a term that captures production shortfall. After estimating the equation<sup>23</sup> we compute for each school an index of value-added<sup>24</sup> defined as follows:

$$IVA_j = \left[ \frac{\bar{m}_{j,4}}{(\bar{m}_{j,4} + \hat{v}_j)} \right] \times 100$$

where the denominator denotes the average Form 4 scores achieved by the best-performing schools given their average scores in Form 2. The index of value-added for school  $j$ ,  $IVA_j$ , is computed relative to these schools on the production frontier, and therefore indicates the extent to which the school falls short of the

frontier. The index ranges from 0 to 100, with a value of 100 indicating that the school is on the frontier (i.e. its average Form 4 score is among the highest of any school with the same average Form 2 score), and a value less than 100 indicating that it is inside the frontier (i.e. its average Form 4 score is exceeded by other schools with the same average Form 2 score).

It is important to emphasize that the frontier is only an empirical frontier capturing what currently happens in Tanzanian schools. It therefore does not delineate the maximum gain that schools can *potentially* achieve, only what they manage to achieve given the way the system currently operates. Also to be emphasized is that IVA takes account only of students' initial score as a determinant of Form 4 performance and ignores differences across schools in student composition, resource availability and pedagogical conditions. Thus, it does not allow us to comment on differences in efficiency across schools at this point. To do so would require analysis of the value added per unit of resources invested, a subject we defer to a later section.

Table 1 shows the value-added index by school type for each cohort of students. The first noteworthy feature is that the index is generally high. We interpret the high value as reflecting the limited variation in value-added performance across schools in the education system, rather than reflecting that they are operating close to what could be their potential. This interpretation is consistent with the fact that Tanzanian students consistently answered no more than a third of the NECTA examination questions correctly in both 1992 and 1995. The poor performance suggests that schools with the highest value-added impact are not dramatically better in enhancing student learning than the worst performing ones. The results are not surprising in an education system that has operated, and to some extent still operates, under substantial central government control with little leeway for decision-making in schools. Even today, all schools, whether public or private, follow more or less the same national curriculum and are inspected by inspectors appointed by the central government. Private schools are required to recruit teachers according to government regulation regarding teacher qualification; and are expected to comply

with guidelines on their fee policy. Although private schools do violate the regulations their behavior probably remains constrained by the regulations.

<<Table 1 about here>>

The second noteworthy feature in the results is that, on average, public schools add more value than their private school counterparts. In other words, a student with a given Form 2 score is more likely to do better in a public than in a private school. The public school advantage is statistically significant in both years, although the gap is quite small. This finding of a public sector advantage departs from two earlier studies on the performance of public and private schools.<sup>25</sup> The earlier studies are both based on the same sample of only 1,124 lower secondary students surveyed in 1981, before the rapid expansion of the sector which began in the mid-1980s. In contrast, our study uses data from 1992 and 1995—capturing a time when there has been explosive and recent private sector growth—and evaluates performance for the entire population of lower secondary students who sat for the nationwide examinations in Form 2 and Form 4, totaling more than 30,000 students in both cohorts. The weaker performance of private schools documented in our study may well be reflecting the effects of the start-up difficulties faced by new schools, and is not inconsistent with better performance in systems with private schools that are better established.<sup>26</sup>

Note from the results presented above that the public sector advantage is small and has declined (again by a statistically significant margin) between 1992 and 1995. The trend decline implies increasing diversity in the capacity of schools to add value to student learning. Why the gap between the best and worst schools has widened is unclear. Recall, however, that the Tanzanian system has been growing rapidly during the period documented by our data, with substantial adjustments occurring within the system.<sup>27</sup> The observed increase in variance across schools is consistent with a system in flux,

whereby some schools are better able to respond to the new opportunities while others are less able to do so.

### **3.3 Student characteristics**

A school's ability to add value to student learning depends on many factors, including the characteristics of its students. For example, because students from a better socioeconomic background have access to supplemental resources, material and otherwise, to support their educational progress, schools with a larger share of these students might perform better than other schools, other conditions being the same. On the other hand, students from poorer families may be better motivated to perform well in school. Because schooling involves cumulative learning, students' initial level of achievement, also matters in determining their school performance. To what extent then are public and private schools different in the characteristics of their students?

The 1994-6 Survey of Tanzanian Secondary Schools contains data on father's occupation, but distinguishes only three main categories in this regard: peasant, civil servant, and self-employed. The information nonetheless allows us to examine the socioeconomic composition of schools, since children from peasant families, especially among those currently in secondary school, tend to be generally poorer than those from the other two categories. Table 2 shows that public schools have a substantially greater share of students from peasant backgrounds compared to private schools. Over time, however, in both public and private schools, the share of such children has declined, most notably in the public sector, from an average of 54 percent in 1992 to 48 percent in 1995, in contrast to the trends in the shares of children civil servants and the self-employed. Thus, as the education system has expanded over time, it appears to have become less accessible to children from lower socioeconomic groups.

<<Table 2 about here>>

With regard to students' personal characteristics, public schools appear to be in a more advantageous position. Private schools students are more likely to have interrupted their schooling at the end of primary education, as indicated by the fact that about 4 percent of the entrants to Form 1 in the private sector sat for the PSLE earlier than the expected year (1988 for the 1992 cohort, and 1991 for the 1995 cohort), compared with nearly 0 percent in the public sector. The pattern is interesting because it suggests that the growth of private education has clearly opened up opportunities for continued schooling for students who might otherwise have terminated their studies after primary school. In terms of the quality of the student intake we noted in a previous section that public school students tend to score better on the Form 2 examination. The PSLE score could have provided additional insight in this regard, but the data are available only for the students in public secondary schools, even though all students sat for the examination. They suggest that over time, the PSLE score of entrants to public schools has been rising over time, from 55 points (out of a total of 100 ) to 64 points.

### **3.4 Resource availability per student**

Although many studies have documented that having more resources does not automatically translate into better student learning, in a resource-poor environment such as Tanzania, differences probably matter to some extent.<sup>28</sup> How different then are public and private schools in terms of resource endowments?

The data from the 150 schools in the 1994-96 Survey of Tanzanian Secondary Schools suggest that in some respects students in public and private schools have access to similar pedagogical resources.<sup>29</sup> For example, class size and textbook availability are comparable. The student-teacher ratio is higher in the private sector by 20 percent, which implies that private school teachers have a heavier work load than their public school counterparts.<sup>30</sup> What is strikingly different, however, is the frequency of

extra tutoring offered by the school, beginning as early as Form 1. Private schools tend to concentrate their efforts in both Forms 2 and 4, whereas extra tutoring is concentrated in Form 4 in public schools. The difference in emphasis may arise for several reasons: a) students in public schools may need less extra-tutoring as their initial examination scores tend to be better than those of their private school counterparts; b) teachers in the public sector may be more efficient than those in the private sector; and c) teachers in the private sector may be more motivated, since extra tutoring provides them with extra income.

The data also suggest differences in the availability of resources that are not directly related to classroom teaching. In day private schools the ratio of students to non-teaching staff exceeds that in public schools by more than 70 percent, implying a substantially different pattern of resource allocation in this regard. Interestingly, however, the reverse is true among boarding schools, with the private sector's ratio only three-quarters as high as the public sectors. The higher ratio for the public sector is consistent with recent efforts by the government to reduce costs by enlarging enrollments in boarding schools<sup>31</sup>. However, because boarding schools represent only a small share of schools in the system and non-teacher costs are a relatively minor item in total costs, the impact on the overall budget is probably modest. In terms of physical facilities, most of Tanzanian schools, whether public or private, are in dilapidated condition according to the Survey: only 13 percent of the classrooms are reported to be in good condition in the public sector, and just 18 percent in the private sector. In private schools, the best facilities are the dining halls, but even so, barely more than a quarter are reportedly in good condition.

### **3.5 Characteristics of teachers and school heads**

Unlike the other attributes considered so far teacher characteristics tend to differ more between public and private schools. In terms of personal characteristics, for example, there are more men among the teachers in private schools than among those in public schools, at 82 percent and 68 percent



respectively (table 3). More interestingly, substantial differences exist across the two sectors in other respects that are likely to affect teacher effectiveness. Teachers in private schools are paid marginally more than public school teachers, but only 39 percent of them hold a permanent contract compared with more than 95 percent of the teachers in public schools. Given that private school teachers have, on average, fewer years of experience and formal education and training, the pay gap is probably bigger for teachers with the same experience and qualification. For their higher pay, private sector teachers have a heavier workload, averaging 1.5 more hours of classroom teaching per week. In addition, they are expected to be more versatile; compared with their public sector peers, they are more likely to teach two subjects instead of one, and are more likely to be assigned teaching duties outside their area of training. Access to in-service teacher training is relatively rare for all teachers, with about 47 percent of public and 40 percent of private school teachers reporting participation in such training in the 5 past years.

**<<Table 3 about here>>**

Beyond differences in the locus of decision-making in the public and private sectors, substantial differences also exist in the characteristics of the school head; a key figure in managing the school. The last three columns of table 3 suggests that in terms of employment conditions, all public school heads have a permanent contract, compared with just over half of their private school counterparts. School heads in public schools have fewer teaching duties; they have more experience as educators (both as school head and as teachers), and tend to hold better paper qualifications. Most school heads in private schools have experience as school head only in their current school.

### **3.6 School management**

In recent years much research has emphasized the importance of school autonomy as a key ingredient for schools to perform.<sup>32</sup> In its 1995 Education and Training Policy the government of

Tanzania formally recognized the need to decentralize decision making in the education system, and explicitly advocated the liberalization of ownership, financing and management of educational institutions. What do our data reveal about the extent of school-level decision-making in secondary education? To what extent do private schools take advantage of the greater autonomy they supposedly have?<sup>33</sup>

Data for the 150 schools in the 1994-96 Survey of Tanzanian Secondary Schools offer some interesting insights on these questions. Table 4 indicates that private schools are clearly much more autonomous than public schools.<sup>34</sup> In two important areas, however, government control remains substantial. Private schools are not completely free to set their own fees; anecdotal observation suggest, however, that many of them in fact do find ways to collect additional financial contributions from their students. More importantly from a pedagogical perspective, private schools operate under close government control over their instructional practices (in such areas as curriculum design, textbook choice, and even setting of the school time-table and calendar). Furthermore, although most private schools report having control over staff management, fully a third of them indicate that teacher evaluation does not occur at the school level. In contrast, public schools are hardly free to make their own decisions. In only two areas—fundraising and making minor purchases—do they report that decisions are taken at the school level. In areas that are likely to impinge on school effectiveness, such as in teacher management and instructional practices, the large majority of public schools indicate that the decisions are made outside the school.

<<Table 4 about here>>

### **3.7 What do the public-private comparisons imply about efficiency?**

By outward appearances public and private schools in Tanzania share many characteristics. The vast majority are day schools operating in poor facilities and offering instruction in Forms 1 to 4 to both boys and girls. All schools teach the same curriculum to prepare students for the national examinations at the end of the cycle. In terms of examination results, students in both sectors perform equally poorly, with students averaging no more than a third correct on the Form 4 examination. Public schools are, on average, more effective than private schools in their impact on learning between Forms 2 and 4, but the advantage is very modest. The fact that there is almost complete overlap in the effectiveness index for schools in the two sectors suggests that effective schools in fact exist in both sectors.<sup>35</sup>

Given the comparability in the effectiveness of schools in the two sectors, differences in their relative efficiency depend on differences in costs. Unfortunately, precise estimates on costs per student are unavailable. In the 1995-6 Survey of Tanzanian Secondary Schools financial data on school operations were collected, but proved to be incomplete and often inconsistent: public schools tend not to keep data on aggregate spending on teacher salaries--the major component of costs--because teachers are paid directly by the central government; private schools do keep records of expenditures at the school level but generally prefer not to share them in the context of a survey.

We can nonetheless make a rough estimate of cost per student based on average teacher salaries and pupil-teacher ratios. Given the data on these variables reported in tables 4 and 5, we estimate that private schools are, on average, 0.86 times as costly as public schools. The estimate may be biased, however, to the extent that teacher salaries fail to capture most of the cost differences between the two sectors. For example, private schools offer significantly more extra tutoring for their students, implying that their cost advantage may be overstated if such tutoring represents an extra cost not reflected in teacher salaries. The only other relative cost estimate of which we are aware in the literature is reported

by George Psacharopoulos where the private-to-public unit cost ratio was estimated at 0.69, based on data for 1981.<sup>36</sup>

These cost estimates, combined with the estimates of value-added impact on learning in table 4, imply that the cost-effectiveness ratio of private schools ranges between 1.17 and 1.45 times that of public schools. In other words, each shilling of spending achieves between 17 and 45 percent more in value-added impact on student learning in the private sector than in the public sector. The estimates are of course very rough, but they do suggest that at a minimum private schools are probably as efficient as schools in the public sector. Thus, although excess demand was the main reason motivating the government's recent favorable policies toward private education, expansion through the private sector turns out to have been consistent with efficiency considerations too.

#### **4. A System in Flux**

As indicated before, secondary education in Tanzania has been undergoing rapid expansion and change in recent years, and schools in both sectors have been adjusting to the change. In this section we document several aspects of adjustment among public and private schools: shifts in their effectiveness in adding value to student learning; staff turnover; and changes in the students they enroll. The picture that emerges is one of a system in flux, with changes in many important aspects of school performance and internal operations.

##### **4.1 Shifts in value-added performance**

According to the aggregate results presented in an earlier section the value-added index had declined in both public and private schools between 1992 and 1995, implying that schools have over time

become somewhat more diverse in their capacity to add value to student learning. How different are the shifts in performance across schools within the public and private sectors?

To examine this issue we first classify schools into five groups or quintiles ranked according to their index for the 1992 cohort. We then rank schools by their index for the 1995 cohort, and document the proportion of schools in each quintile that lost or gained rank between the two years. The results appear in table 5. The first horizontal block relates to all schools. Based on the value-added index for 1992, each quintile by definition holds 20 percent of the schools. When measured by the index for 1995, 36 percent had lost rank and 32 had gained rank, implying that the remaining 32 percent had stayed in the same position. There is thus substantial shifts in value-added performance across the two years.

<<Table 5 about here>>

The results in the bottom two blocks relate separately to schools in the public and private sectors. Based on the value added index for 1992, they show that there are substantially more private schools with poor performance, with 48 percent in the bottom two quintiles and 35 percent in the top 2 quintiles, compared with 25 percent and 50 percent, respectively among public schools. Over time, the share of schools that gained rank is comparable across quintiles in both the public and private sectors. The proportion of schools that lost rank is greater in the middle quintiles among private than public schools, but in the top quintile the opposite is true. These shifts interact with the distribution of schools across quintiles to produce the net results reflected in the last column of the table. In the public sector, 38 percent of schools lost rank and 25 percent gained rank, compared with 35 percent and 37 percent respectively among private schools. These shifts are consistent with the fact noted in an earlier section that the value added index declined by a bigger margin among public than private schools.

## 4.2 Staff turnover

A school's capacity to add value to student learning might change from time to time for various reasons. A potentially important reason has to do with high staff turnover. The resulting instability is likely to complicate school operations, making it more difficult to achieve effective teaching. The problem has adverse effects in any school, but it is probably magnified in schools which are new and poorly funded.

The 1994-96 Survey of Tanzania Secondary Schools makes it possible to document the turnover in school heads in public and private schools during 1990 and 1996. The data indicate that schools in both sectors experienced substantial instability in this regard: more than two-thirds had two or three different school heads over that six-year period.<sup>37</sup> In light of the high turnover rates, decision-making at the school level can hardly be expected to have had much impact on school effectiveness. The fact that private schools have more management autonomy than public schools makes little practical difference in this context, since it confers potential rather than actual benefits.

With regard to turnover among the teaching staff, the Survey suggests substantial job mobility in response to the explosive expansion of secondary education in recent years. Public school teachers have been changing jobs at a somewhat greater rate than private school teachers, with 58 percent having taught in more than one school in their career compared with 49 percent in the other group. The pattern of turnover becomes more striking when we consider the last job held by the teachers who changed jobs. More than a third of the teachers currently in a private school previously taught in a public school. In contrast, less than 7 percent of the teachers in public schools was previously employed in a private school. Thus, one consequence of the rapid growth of private education in recent years has been a substantial transfer of teachers from the public to the private sector.

Higher salaries in the private sector are probably an important reason for the mobility of public sector teachers. We have no data on the salaries of individual teachers in their current and penultimate jobs, but indirect evidence from the Survey on job security supports this conjecture. For example, only about a quarter of the teachers who moved from the public sector received a permanent contract in their new job. Since almost all public school teachers have permanent contracts, the teachers who moved from a public to a private school very likely made a trade-off between job security and pay. A review of the educational profile of those who moved supports this possibility: nearly 30 percent of the teachers had at least a Bachelor's degree, and nearly 25 percent had pre-service post-graduate training in education, compared with the 8 percent of public school teachers who hold these qualifications. Because of possible compression of public sector wages, it may be that those who are highly qualified are paid less than their perceived market rates. Public school teachers who moved are, on average, more experienced than those they leave behind, averaging 15 years of experience, compared with 12 years.

The mobility of teachers within the private sector is also interesting. According to the 1994-96 Survey, about 43 percent of the teachers received a permanent contract in their new job, much higher than the 26 percent among those who moved from a public school, and slightly more than the 39 percent of all private sector teachers who have such contracts. One interpretation is that the career strategy of public schools teachers is first to move to a better paying job, and for those who do not obtain job security on the first move, to obtain it on subsequent moves within the private sector. Within the private sector, it is noteworthy that although those who move are less experienced and qualified than their public sector counterparts, they have a slightly more favorable profile in these regards than their colleagues in private schools: an average of 12 years of experience compared with 8 years among their colleagues; 14 percent with at least a Bachelor's degree compared with 12 percent; and 12 percent with post-graduate pre-service teacher training compared with 10 percent. These gaps are not as large as a similar comparison among public school teachers who moved to new jobs, but they indicate that within the private sector too, schools do seem to compete for what are perceived to be the better teachers.

To summarize, the rapid expansion of secondary education in recent years has been accompanied by substantial instability in the staffing of schools. The fact that many schools had more than one head in the six years between 1990 and 1996 raises questions about the extent to which private schools were in fact able to take full advantage of their greater autonomy in school management. At the same time, substantial mobility among teachers has also accompanied the sectoral expansion. The public sector in particular has lost some of its more experience and qualified, though not necessarily most effective, teachers to private schools, while within the private sector, schools also competes for teachers, using both pay and job security to attract the best.

#### **4.3 Shifts in enrollments at the school level**

If the market for education services works like that of other markets, we would expect schools' ability to attract students to depend on how well it delivers value for money. Given that performance on the Form 4 examination is a key determinant of prospects for further education and access to good jobs, parents and their children are likely to focus on this indicator in defining value. Thus, at given levels of fees, we would expect schools with good track records in boosting performance on the Form 4 examination to attract more students over time, while those with poor records to lose students.

The shifts in enrollments across schools in our sample suggest that the market for secondary school services indeed works to some extent in the expected direction. Table 6 shows school size changes among the 150 schools in the 1994-6 Survey of Tanzanian Secondary Schools. Between 1990 and 1992, the average size of public schools grew by 31 percent in the public sector and by 22 percent in the private sector, but what is striking is that schools whose position in the value-added ranking improved between 1992 and 1995 gained many more students than those that lost rank. In the public sector, schools that



ranked higher in 1995 than in 1992 in terms of Form 4 examination results, after controlling for students' Form 2 score, gained 41 percent in average enrollments, while those that lost rank gained only 27 percent. In the private sector, the shifts are even more remarkable, with schools that improved in rank gaining an average of 18 percent more students, while those that lost rank actually shrinking by an average of 3 percent. Thus, in both sectors the market forces seem to work in the same direction, which is not surprising given the significant fees charged in all schools.

<<Table 6 about here>>

## 5. Exploring the policy implications

The context of secondary education is such that the pressures to expand secondary education in Tanzania are unlikely to ease in the foreseeable future. As the government formulates policies to expand overall access legitimate concerns arise regarding the impact of alternative patterns of expansion on equity and on learning outcomes. Since the mid-1980s, private sector growth has been an important source of expansion. What are the prospects for continued expansion of private education? In light of the comparisons between public and private schools documented in earlier sections, what are the implications for policy development to enhance equity and student learning as the system expands?

That the pressures for expansion are likely to continue, if not increase, is suggested by the large gap between Tanzania's indicators in secondary education and those of other low-income countries. Tanzania's current enrollment ratio in secondary education is only 5 percent and the transition rate between from primary to secondary education is only 16 percent, compared with 21 percent and 59 percent respectively in other low-income countries.<sup>38</sup> Historically, the transition rate in Tanzania has also been much higher than at present, with more than 20 percent of primary school leavers entering Form 1 in the mid-1960s.<sup>39</sup>

In response to favorable government policies after the mid-1980s the private sector grew rapidly, its share of new Form 1 entrants peaking at 60 percent in 1991<sup>40</sup>. In recent years, however, there appears to be slow-down of private sector growth. Between 1992 and 1996, the total number of entrants to secondary school grew by 16 percent, from 48,300 to 56,300. The increase occurred entirely in the public sector, however; indeed private sector enrollments declined slightly during the period. One interpretation of the slow-down is that at their current level of fees and perceived quality private schools have not been able to continue expanding their reach. Public schools also charge significant fees, albeit lower than those in private schools, but the sector has so far continued to expand.

Rapid expansion of secondary education since the mid-1980s appears to have been accompanied by two important developments: a noticeable decline in the proportion of children from peasant backgrounds, and increased competition among schools for teaching staff and school heads. At the same time, overall student achievement, as judged by Form 4 examination results in the early 1990s, also declined, albeit only slightly. Although the latter trend is not alarming—since an expanding system inevitably draws in weaker students—it does mean that while the government’s favorable policies toward private education has been effective in expanding access, they appear to have had limited impact, if any, on enhancing equity or school effectiveness in improving learning in the system as a whole.

Taken together, these patterns suggest that it might be worth exploring ways to refine the government’s policies in secondary education beyond simply allowing private sector growth to expand the system. Private education will obviously remain important, in light of continued constraints on the public budget, but selective subsidization of low-income students also warrants consideration as an additional intervention to improve equity in the access to secondary education. The government is currently experimenting with a scholarship scheme to encourage girls to attend secondary school. Experience with this policy would offer useful lessons regarding a more general policy of subsidizing the

schooling of children from poor families, and should therefore be monitored for their impact on enrollments.

At the same time, it might be appropriate to link the allocation of education subsidies more closely to a school's effectiveness in offering high-value added education. Our analysis suggest that, on average, public schools are marginally more effective (and probably also more resource-intensive) in generating value-added than their private counterparts. The average picture masks diversity within each sector, however; so that some private schools in fact perform better than schools in the public sector. Yet under current arrangements, the government uses no explicit mechanism to reward the better-performing schools: public funding is used almost entirely to finance public schools, with limited subsidies going to private schools in the form of grants through the National Education Trust Fund (NETF).

In the private sector, schools are subject to market pressures, since a school's ability to attract new students appears to depend on their success in enhancing examination performance. Market pressures work as a negative incentive against bad performance. The issue is whether or not a more positive incentive structure would also be appropriate, with NETF-type awards more closely tied to a school's track record in raising student learning than appears to be the case at present.<sup>41</sup> That there may be scope to do more in this direction is suggested by the fact that among the schools eligible for NETF awards that were sampled in the 1994-6 Survey of Tanzanian Secondary Schools, those that received an award were no more effective than those that did not receive an award.<sup>42</sup>

For incentives to work fully, schools must also be free to experiment with alternative approaches to learning and indeed encouraged to do so. In Tanzania, public and private schools are surprisingly similar both in student performance and the way teaching and learning is organized. A possible reason for the lack of differentiation is that for decades school management has been highly centralized. Schools in the private sector operate much like their public counterparts in many respects,

even though they are in theory not constrained to the same extent. In both sectors, greater liberalization of school management, as called for in the government's 1995 Education and Training Paper, would be helpful. The key issues pertain, however, to how the policy could be most usefully implemented in its specific provisions, and perhaps as importantly, to how the performance of schools would be measured and rewarded.

Finally, as appealing as the foregoing interventions within secondary education are, they may nonetheless be insufficient to produce a quantum improvement in learning outcomes at this level of education. This is because learning is a cumulative process, and students' ability to achieve in secondary education depends on their foundation in primary education. In other words, the better the academic preparation of primary school leavers, the more they are likely to perform well in secondary school. Our comparison of public and private schools indicates that a major handicap faced by all schools, public and private alike, is that most students enter secondary school with a poor basis for good performance. The average Form 1 entrant in the public sector--generally a stronger candidate than his or her private school counterpart--has a combined mathematics and language score of no more than 64 percent correct (see table 3). The weak academic preparation of these students provides one explanation why there is little difference between public and private secondary schools in the value they add to student performance. The implication is that an effective strategy for improving secondary school performance may well consist of a big push to upgrade learning at the primary level. Under such a strategy policies within secondary education regarding subsidies for students from poor families, and subsidies to schools with good performance remain relevant but assume a supplementary rather than central focus.

## **6. Conclusion**

The rapid growth of private secondary education in Tanzania is part of what appears to be a global trend toward greater diversification in education. As Mark Bray observes the private sector's expanding role responds to one or more of the following concerns: the shortage of resources to support public provision of services; the perception that public education is inefficient; the demand for greater parental choice in education; and pressures to make schools more accountable to their clients.<sup>43</sup> In the poorest countries, such as those in Africa, fiscal constraints appear to be the overriding force behind the expansion of private education; in richer countries the expansion tends to be stimulated by concerns about efficiency, consumer choice, and school accountability. In all settings, a key question for policy makers is the extent to which the private sector in fact delivers the expected results.

Our study is an attempt to document part of the answer in one African country. The rapid growth of the private sector in Tanzania during the 1990s suggests that private initiative and resources can indeed open up educational opportunities. Before the mid-1980s, when private schools were restricted, excess demand had built up to extraordinary levels, with no more than 5 percent of primary school leavers going on to Form 1. Following the 1980-82 Presidential Commission, the government removed barriers to private secondary education and the result was a rapid expansion of schooling opportunities: by 1996 the transition rate to secondary education had already overtaken the government's goal of 15 percent by 2000; and the gross enrollment ratio rose from about 3 percent in the mid-1980s to about 5 percent a decade later.

What lessons emerge from Tanzania's experience with its hands-off policy of "benign neglect" of the private sector? As in many cash-strapped developing economies, such a

policy is perhaps inevitable as a short-term measure to cope with pent-up demand for post-basic education. But it is unclear how far a fully self-financing private sector (combined with a public sector that is heavily subsidized in comparison) can be relied on to sustain expansion of the system. Already there are signs of a slow-down in Tanzania, suggesting possible market saturation at current prices and perceived quality of services in the private sector. Beyond market saturation, there are also concerns about equity, efficiency, quality in terms of student learning, and school accountability. A closer look at these second-generation issues would clearly be needed to develop an effective strategy for overall development of secondary schooling over the longer-term. As in most poor countries, an important perspective must nonetheless be maintained vis-à-vis primary education where successful policies are indispensable, both to expand the pool of qualified candidates for secondary education, and to ensure that entering students have the academic preparation needed to make good progress, regardless of whether they enter a public or private secondary school.

## **Appendix : Differences across schools in the public and private sectors**

One way to characterize the various types of schools is to relate them to the scope of the network to which they belong: national, regional, or unaffiliated. Table A documents details about the various networks and the type of organizations which manage them, based on information supplied to the authors for the research by Ministry of Education officials.

At one extreme are schools belonging to a national network, in which the network management oversees schools spread all over the country. In 1997 such schools make up 66 percent of the total number of secondary schools in Mainland Tanzania. In the public sector such schools include government and community schools. The government finances the recurrent costs of both types of schools, but bears the cost of school construction only in the former type of school. After communities have build their schools they generally try to persuade the government to take over the responsibility for the recurrent costs. Involving local communities in school construction is part of the government's effort to accommodate the rising demand for secondary education, but given the incentives and the strong demand for secondary schooling community-build schools were completed at a much faster rate than anticipated by the government: although the plan was to accept only 74 new community-built schools for government funding during 1986-95, the number of such schools had grown to 198 by 1997, enrolling about 30 percent of all secondary students that year.

In the private sector several organizations have a national reach in their school operations, the main ones being the Roman Catholic Church, the Evangelical Lutheran Church of Tanzania (ELCT), the Wazazi (a parents' organization affiliated with the ruling party of the country) and the Bakwata ( a government-approved Muslim organization). Schools run by these organizations account for a third of all secondary schools in the country. Among them those run by religious organizations are more than twice as numerous as secular schools. Such schools include both seminaries and regular schools. Seminaries tend to charge smaller fees, and are often partly funded by contributions from abroad. According to Ministry of Education officials, these schools teach the same core curriculum as other secondary schools, but also include instruction in the Bible or the Koran. Religious affiliation is a criterion for admission to the seminaries, which makes them ineligible for NETF grants.

<<Table A about here>>

At the other extreme of network structure are schools which appear to be unaffiliated to any network. Making up about 6 percent of the secondary schools, schools in this category include those run by individuals, foundations, and private businesses (such as tea plantations and mining companies). Schools run by private individuals are a recent phenomenon, and their emergence signals a trend toward an even more tolerant climate for private sector activity.

Between the two extremes are schools belonging to networks with a limited geographic scope; all of them under private management. Schools belonging to networks with a district or regional reach include those run by the various district and regional education trust funds, the various agricultural marketing cooperatives, and the smaller church denominations (e.g. the Moravian Church, the Seventh Day Adventist Church and so on). These schools account for 10 percent of total enrollments. At an even more localized level there are schools run by villages or ward education trust funds, with perhaps one or two schools in the same network. Such schools only make up 3.4 percent of the total.



## Notes

<sup>1</sup> For their assistance with and encouragement of this research we would like especially to thank D. J. Bagenda, L. Ferreira, P. Gandye, C. Griffin, Y. Kimaro, E. King, J. Lane, E. Malangalila, D. Ndabi, two anonymous reviewers and the editors of this Review for their helpful comments on earlier drafts. The research was partly funded under the World Bank-financed Education Planning and Rehabilitation Project in Tanzania, with supplemental support from the World Bank Research Committee through its grant to the research project led by E. King on Impact Evaluation of Education Reform. The opinions expressed in this paper are those of the authors alone, and should not be attributed to the government of Tanzania, the World Bank, or the institutions with which they are associated.

<sup>2</sup> For a good summary of trends in private education in developing countries and a discussion of the policy issues associated with it see Mark Bray, *Privatization of Secondary Education: Issues and Policy Implications* (Paris: UNESCO International Commission on Education for the Twenty-First Century, April 1996). See also Gabriel Roth, *Private Provision of Public Services in Developing Countries* (New York: Oxford University Press, 1987); and Estelle James, "The public/private division of responsibility for education: an international comparison," in *Comparing Public and Private Schools*, ed. Thomas James & Henry M. Levin (New York: Falmer Press, 1988). For documentation of experiences with privatization, decentralization and community financing of education in Africa, see for example, Betty Jo Dorsey, "Educational development and reform in Zimbabwe," *Comparative Education Review*, 33, no. 1 (1989): 40-58; L. H. Kaluba, "Education in Zambia: the problem of access to schooling and the paradox of the private school solution," *Comparative Education*, 22 (1986), p. 158-169; Peter M. Ngau, "Tensions in empowerment: the experience of the Harambee (self-help) movement in Kenya," *Economic Development and Cultural Change*, 35, no. 4 (1987): 523-38; Mary Okoye, "Community secondary schools: a case-study of a Nigerian innovation in self-help," *International Journal of Educational Development*, 6, no. 4 (1986): 263-74; and Mark Bray and Kevin Lillis, (eds.) *Community Financing of Education: Issues and Policy Implications in Less Developed Countries* (Oxford: Pergamon Press, 1988). On the related topic of school choice in education and education finance see, for example, the interesting debate in the following: Henry M. Levin, "The economics of school choice," *Economics of Education Review*, 10, no. 2 (1991): 137-158; E.G. West,

“Public schools and excess burdens,” *Economics of Education Review*, 10, no. 2 (1991): 159-169; and Henry M. Levin, “Views on the economics of educational choice,” *Economics of Education Review*, 10, no. 2 (1991): 171-175.

<sup>3</sup> For an analysis of the determinants of the private sector share of enrollments across countries, see Estelle James, “Why do different countries choose a different public-private sector mix of educational services?”, *Journal of Human Resources* 28, no. 3 (1993): 571-592.

<sup>4</sup> For a review of the results from studies for five developing countries on this point see Emmanuel Jimenez, Marlaine Lockheed, and Vicente Paqueo, “The relative efficiency of private and public schools in developing countries,” *World Bank Research Observer* 6, no. 2 (1991): 205-18.

<sup>5</sup> For an account of the context in which government policies toward private education were formulated in the early 1980s see Joel Samoff, “School expansion in Tanzania: private initiatives and public policy,” *Comparative Education Review* 31, no. 3 (1987): 333-360.

<sup>6</sup> For details on Tanzania’s education system see B.N.V. Buretta, “Tanzania”, in *International Encyclopedia of National Systems of Education*, ed. T. Neville Postlethwaite, 2d ed. (Oxford: Pergamon Press, 1995). See also Samoff.

<sup>7</sup> The data are from International Bureau of Education, *World Data on Education*, (Geneva: IBE, 1997); and UNESCO, *Statistics Database*, (URL: <http://.unesco.org>, 1999). They refer only to Mainland Tanzania.

<sup>8</sup> Note that public spending here includes spending by the government at all levels and through various ministries that provide education services. Interestingly, the decline in spending coincided with a period of economic austerity and the implementation of IMF- and World Bank-financed economic adjustments to restore economic growth. These programs typically involve a reduction in the overall government budget, which in the case of Tanzania appears to have led to a reduction in spending on education as well.

<sup>9</sup> See Gérard Lassibille, Jee-Peng Tan and Suleman Sumra, *Expansion of Private Secondary Education: Experience and Prospects in Tanzania*, (Washington D.C.: Working Paper Series on Impact Evaluation of Education Reforms, Paper no. 12, The World Bank, 1998).

<sup>10</sup> Data for 1992 indicate that only 15 of the 10,960 primary schools in the country (i.e. 0.14 percent) were private, a negligible share compared with the median of about 11 percent in developing countries reported in James, p. 571.

<sup>11</sup> The government continues to use a quota system to allocate places in public secondary schools today. Each of the country's 113 districts receives a fixed number of public sector secondary schools places based partly on the distribution of results on the Primary School Leaving Examination (PSLE) by district, which is nationally administered by the National Examination Council of Tanzania. Cut-off marks student selection for selection tend to differ by district, implying that low-scoring students in districts with generally weak performance may secure a place, while high-scoring students in districts with better performance may be denied a place.

<sup>12</sup> See Samoff.

<sup>13</sup> See Samoff.

<sup>14</sup> Foreign aid for education rose considerably after 1985, and represents an important source of funding for education in Tanzania. In 1993, for example, donors contributed about 85 percent of the country's development budget for education (see International Bureau of Education).

<sup>15</sup> Mbago Maurice C.Y., Marango Justin R., and Kirumba Pinney L., *Final Report on Monitoring and Evaluation* (Dar es Salaam: National Education Trust Fund, 1997).

<sup>16</sup> In Tanzania schools typically register with the government within 3 years of their first intake of first formers. This is because only registered schools are eligible to present candidates for the nationally-administered "O" level

examination. As the “O” level certificate is a widely recognized credential for further studies and employment, new private schools have strong incentives to register with the government. The registration process is relatively simple and involves payment of a modest fee.

<sup>17</sup> The arrangement has created strong incentives for local communities to build schools in the hope of eventually handing them over to the government for recurrent cost funding. Because of budget constraints the government has had to limit the number of schools it accepts into the public sector list. For a discussion on the pressure to accept community schools for central government funding, see Government of Tanzania, *Education and Training Paper* (Dar es Salaam: Ministry of Education, 1995).

<sup>18</sup> For a description of some of the distinguishing characteristics of schools within each sector, see Appendix A which is based on information supplied to the authors for this research by Ministry of Education officials.

<sup>19</sup> Data from the 1994-96 Survey of Tanzanian Secondary Schools are unique in that they offer information on individual students at two points in their secondary schooling career. Unfortunately, however, they contain no information on students’ socioeconomic background or schooling context. The 1995 cohort was the last which sat for nation-wide Form 2 examinations. In subsequent years only the Form 4 examination was administered country-wide.

<sup>20</sup> For full details of the characteristics discussed here, see Lassibille, Tan and Sumra, table 2, p.11.

<sup>21</sup> For details see Lassibille, Tan and Sumra, table 3, p.11.

<sup>22</sup> See Aigner, D., K. Lovell and P. Schmidt, “Formulation and Estimation of Stochastic Frontier Production Models”, *Journal of Econometrics* 6, no. 2 (1977): 21-37.

<sup>23</sup> Regression results are available on request from the authors.

- <sup>24</sup> In the literature the index is generally referred to as Farrel's index of efficiency, with the term "efficiency" denoting technical efficiency. For our purpose we prefer to call it the value added index to emphasize that it refers to the gain in learning between Forms 2 and 4, as measured by the NECTA-administered examinations.
- <sup>25</sup> The two studies are: Donald Cox and Emmanuel Jimenez, "The relative effectiveness of private and public schools: evidence from two developing countries", *Journal of Development Economics* 34, no.1 (1991): 99-121; and George Psacharopoulos, "Public versus private schools in developing countries: evidence from Colombia and Tanzania" *International Journal of Educational Development* 7, no.1 (1987): 59-67. Using measures of students' verbal and math aptitudes to control for student ability and controlling for students' family background, the studies report that private schools students obtain higher scores in Form 4, averaging 16 percent more according to Cox and Jimenez.
- <sup>26</sup> For a detailed analysis of public and private secondary school efficiency in Tanzania based on the 1994-96 Survey of Tanzanian Secondary Schools, see Gérard Lassibille and Jee-Peng Tan, "Are private schools more efficient than public schools? Lessons from Tanzania" (Washington D.C.: The World Bank, Human Development Network, mimeo, 1999).
- <sup>27</sup> An important adjustment is the movement of staff across schools, as teachers respond to the expanded job opportunities in private schools; this phenomenon is documented in more detail in a later section.
- <sup>28</sup> For a recent survey see Eric A. Hanushek, "Interpreting recent research findings on schooling in developing countries," *World Bank Research Observer* 10, no.2 (1995): 227-46.
- <sup>29</sup> For details see Lassibille, Tan, and Sumra, table 6, p. 20.
- <sup>30</sup> Because private schools tend to employ more part-time teachers the difference is probably somewhat greater than 20 percent.

<sup>31</sup> See International Bureau of Education.

<sup>32</sup> See for example Bruce Fuller and Richard Elmore, “Policy making in the dark: illuminating the school choice debate,” in *Who Chooses, Who Loses? Institutions, Culture, and the Unequal Effects of School Choice*, eds. B. Fuller, R. Elmore and G. Orfield (New York: Teachers College Press, 1996); J.E. Chubb, “Why the current wave of school reform will fail,” *The Public Interest* 86 (1988): 28-49; S.J. Rosenholtz, *Teacher’s workplaces: The social organization of schools* (New York: Longmans, 1989).

<sup>33</sup> For lack of data we are unable to evaluate differences in school culture (encompassing values, beliefs, and practices operating within a school) between public and private schools. A discussion of the impact of such differences, as observed in American schools, can be found in Jane Hannaway and Susan Abramowitz, “Public and private schools: are they really different?” in *Research in Exemplary Schools*, eds. G.R. Austin and H. Garber (New York: Academic Press, 1987).

<sup>34</sup> As one helpful reviewer noted school heads may respond to the survey questions about management autonomy by describing expectations about what they can and cannot do rather reporting the facts of the matter. If so, the distinction between public and private schools regarding school management autonomy may be exaggerated.

<sup>35</sup> The effectiveness index refers to the index computed in section 3.2 above. It ranges between 83.1 and 96.8 among schools in the public sector and between 78.8 and 97.9 among those in the private sector.

<sup>36</sup> See Psacharopoulos p. 59.

<sup>37</sup> For details of the survey results, see Lassibille, Tan and Sumra, table 11, p.29.

<sup>38</sup> See The World Bank, *World Development Indicators* (Washington D.C.: The World Bank, 1998).

<sup>39</sup> See Government of Tanzania, *Basic Statistics in Education, 1992-96* (Dar es Salaam: Ministry of Education, 1997).

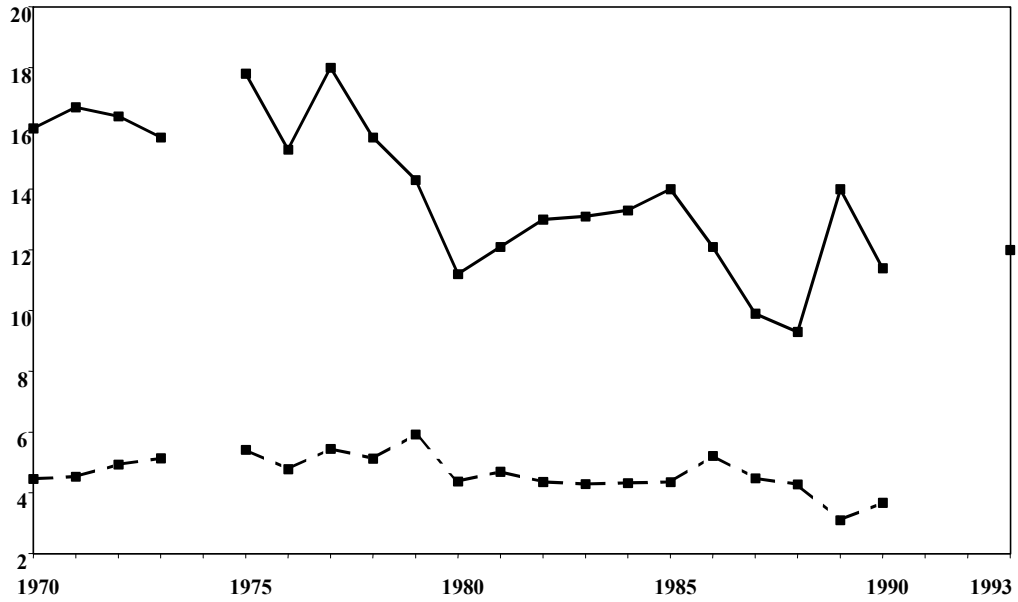
<sup>40</sup> See Lassibille, Tan and Sumra, table 15, p.35.

<sup>41</sup> For such performance-sensitive incentive structure to work requires the availability of widely-accepted measures of performance. In Tanzania, the nationwide Form 2 examinations were abolished in 1996. This means that the performance of secondary schools would have to be measured in terms of value-added outcomes between the end of primary school when pupils take the nationwide Primary School Leaving Examination (PSLE), and the end of lower secondary when they take the “O” level of Form 4 nationwide examinations. In the past PSLE scores were kept only for public schools.

<sup>42</sup> The effectiveness or value-added index was, on average, 92.4 among schools that has received a NETF award so far, compared with 92.2 among schools that were eligible, but that did not receive an award.

<sup>43</sup> See Bray, p. 1

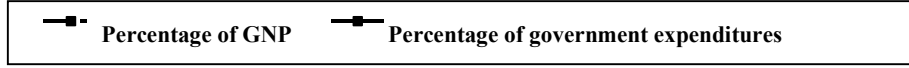
**Figure 1: Public spending on education as percentage of total government spending and of GNP**



Source : International Bureau of Education, *World Data on Education*, (Geneva: IBE, 1997); and UNESCO, *Statistics Database*, URL: <http://unesco-stat.unesco.org>.



Legend for figure 1



**Table 1: Value-added index by school type and cohort, Tanzania, 1992 & 1995**

	1992 cohort	1995 cohort	Difference
<i>All schools</i>	93.26	92.52	0.75**
Public schools	93.91	92.65	1.02**
Private schools	92.92	92.32	0.60**
Difference between public and private schools	0.98**	0.56*	-

Note: two stars (\*\*) denotes statistical significance at the 1 %level; one star (\*) at the 5% level.

Source: authors' estimate based on data supplied by the National Examination Council of Tanzania; the data relate to all students in the 1992 and 1995 cohorts which contain a total of 31,784 and 32,675 students respectively.

**Table 2: Student characteristics in public and private sample schools, Tanzania, 1992 and 1995**

	Public schools	Private schools	All schools
<b>1992 Cohort</b>			
<i>Distribution by father's occupation (percent)</i>			
Peasant	54.0	39.5	47.1
Civil servant	36.3	36.0	36.2
Self employed	7.9	19.5	13.5
Others	1.8	5.0	3.2
All groups	100.0	100.0	100.0
<i>PSLE experience</i>			
Percent who sat for it before 1988	0.4	4.2	1.8
Percent who sat for it in 1988	99.6	95.8	98.2
Score on the PSLE (math and language)	54.8	n.d.	n.d.
<b>1995 Cohort</b>			
<i>Distribution by father's occupation (percent)</i>			
Peasant	47.5	34.7	41.4
Civil servant	38.9	39.0	38.9
Self employed	12.3	22.1	17.0
Others	1.3	4.2	2.7
All groups	100.0	100.0	100.0
<i>PSLE experience</i>			
Percent who sat for it before 1991	0.2	4.4	2.0
Percent who sat for it in 1991	99.8	95.6	98.0
Score on the PSLE (math and language)	63.7	n.d.	n.d.

Note: n.d. means "no data".

Source: based on data from the 1994-6 Survey of Tanzanian Secondary Schools.

**Table 3: Characteristics of lower secondary school teachers and school heads, Tanzania, 1996<sup>a/</sup>**

	Teachers			School Heads		
	Public schools	Private schools	All schools	Public schools	Private schools	All schools
<i>Employment conditions</i>						
Average monthly salary (Tsh.) <sup>b/</sup>	39,789	41,283	40,642	n.d.	n.d.	n.d.
Percent with a permanent contract	95.3	39.2	70.3	100.0	55.9	75.9
<i>Personal characteristics and teaching experience</i>						
Percent males	67.6	81.5	74.0	77.6	91.5	85.2
Years as a teacher or educator	11.5	8.2	9.9	21.6	16.8	19.6
Years as school head	--	--	--	8.4	7.0	7.6
Percent who started school head career in current school	--	--	--	53.1	78.5	67.1
<i>Qualification</i>						
<u>Formal education:</u>						
Percent with "O" level and other non-degree qualification	7.5	14.0	10.4	1.5	14.3	8.3
Percent with at least "A" level	92.5	86.0	89.6	98.5	85.7	91.7
All groups	100.0	100.0	100.0	100.0	100.0	100.0
<u>Pre-service teacher training:</u>						
Percent with no pre-service training	0.7	26.7	12.3	0.0	8.6	4.6
Percent with Diploma in Education	90.9	63.6	78.8	6.0	41.4	25.0
Percent with post-graduate degree in Education	8.4	9.7	8.9	94.0	50.0	70.4
All groups	100.0	100.0	100.0	100.0	100.0	100.0
<u>In-service teacher training</u>						
Percent who received training in past 5 years	46.7	39.6	43.4	n.d.	n.d.	n.d.
<i>Work content</i>						
Percent with classroom teaching duties	--	--	--	29.4	47.8	39.9

Weekly hours of classroom teaching	14.5	15.9	15.1	--	--	--
Percent teaching only one subject	71.5	64.6	68.7	--	--	--
Percent teaching subjects unrelated to own training <sup>c/</sup>	8.5	14.2	10.9	--	--	--

a/ Unless otherwise indicated the data refer teachers of Mathematics, English, and Kiswahili only.

b/ Refers to average salary for all teachers.

c/ Refers only to teachers with university qualifications.

Source: based on the 1,200 lower secondary school teachers of Mathematics, English and Kiswahili in the 150 schools in the 1994-96 Survey of Tanzanian Secondary Schools.

**Table 4: Percentage of lower secondary schools reporting decision-making at the school level, Tanzania, 1994-6**

	Public schools	Private schools	All schools
<i>School Expenditure</i>			
Major purchases	58.5	93.9	78.2
Minor purchases	96.3	94.5	95.3
<i>Income generation</i>			
Setting school fees	18.5	48.8	35.4
Fundraising	92.4	96.1	94.4
<i>Staff management</i>			
Hiring and firing teachers	34.4	94.7	67.9
Hiring and firing non-teachers	62.1	97.6	81.8
Selecting teachers for in-service training	18.5	79.2	51.4
Evaluating teacher performance	40.3	67.1	55.0
<i>Pedagogical arrangements</i>			
Student admission	38.5	97.5	71.2
Instructional practices <sup>a/</sup>	25.3	51.3	39.6

a/ Includes decisions relating to curriculum design and textbook selection, and setting of the school time-table and calendar.

Source: based on the responses of school heads from the 150 schools in the 1994-96 Survey of Tanzanian Secondary Schools.

**Table 5: Ranking of schools by value-added performance, Tanzania, 1992 and 1995**

	Quintiles by value-added index					All groups
	1	2	3	4	5	
<i>All schools</i>						
Distribution of schools in 1992 (%)	20.0	20.0	20.0	20.0	20.0	100.0
Performance in 1995						
Percent of schools that lost rank	0.0	25.0	42.7	52.9	58.8	35.8
Percent of schools that gained rank	66.2	45.6	30.9	19.2	0.0	32.4
<i>Public schools</i>						
Distribution of schools in 1992 (%)	6.8	18.6	24.6	24.6	25.4	100.0
Performance in 1995						
Percent of schools that lost rank	0.0	14.3	33.3	50.0	63.3	38.1
Percent of schools that gained rank	62.5	50.0	34.5	10.4	0.0	24.6
<i>Private schools</i>						
Distribution of schools in 1992 (%)	27.0	20.7	17.6	17.6	17.1	100.0
Performance in 1995						
Percent of schools that lost rank	0.0	27.7	46.3	55.6	55.3	34.7
Percent of schools that gained rank	66.7	43.5	28.2	25.6	0.0	36.5

Source: authors' calculation based on data from the National Examination Council of Tanzania for the entire population of examination-takers in the two years.

**Table 6: Change in the sizes of lower secondary schools, Tanzania, 1990-96**  
(percentage)

	Public schools	Private schools	All schools
Average change, 1990-96	31.3	21.7	26.4
Change in schools that fell in value-added ranking <sup>a/</sup>	27.0	-2.6	14.1
Change in schools that rose in value-added ranking <sup>a/</sup>	41.1	17.5	26.7

A/ Value-added ranking refers to the relative position of a school in the sample based on an index of the value it adds to student learning between Forms 2 and 4. A school falls in rank if its value added index in 1995 places it in a lower quintile than the quintile it belonged to according to its 1992 value-added index.

See tables 2 and 7 and related text for additional details about the ranking of schools.

Source: based on data for the 150 schools in the 1994-6 Survey of Tanzanian Secondary Schools.



**Table A: Tanzania's network of education providers, 1997**

Network reach <sup>a/</sup>	Sector <sup>a/</sup>	Type of schools	Number of schools	Percentage of the total
National (440 ; 65.5)	Public (286 ; 42.6)	Government schools	88	13.1
		Community schools	198	29.5
		Roman catholic institutions	95	14.1
		<i>Seminaries</i>	26	3.9
		<i>Schools</i>	69	10.3
	Private religious (154 ; 22.9)	ELCT institutions	45	6.7
		<i>Seminaries</i>	4	0.6
		<i>Schools</i>	41	6.1
		Bakwata institutions	14	2.1
		<i>Seminaries</i>	3	0.4
Private secular (65 ; 9.7)	<i>Schools</i>	11	1.6	
	Wazazi schools	65	9.7	
	Other Christian schools (e.g. Moravian Church, Seventh Day Adventists)	13	1.9	
District/Region (68 ; 10.1)	District education trust funds schools	50	7.4	
	Private secular (55 ; 8.2)	Agricultural marketing cooperative schools	5	0.7
Ward/Village (23 ; 3.4)	Private religious (7 ; 1.0)	Other Christian schools (e.g. Salvation Army, Baptist, Pentecostal)	7	1.0
	Private secular (16 ; 2.4)	Ward education association schools	16	2.4

		47		
		Non-Bakwata muslim institutions	15	2.2
	Private religious (15 ; 2.2)	Seminaries	3	0.4
		Schools	12	1.8
Individuals or unassociated private groups (50 ; 7.4)		District education trust funds schools	3	0.4
	Private secular (26 ; 3.7)	Private individuals schools, private companies schools, local Community schools	23	3.4
Unknown (35 ; 5.2)	Unknown (35 ; 5.2)	Unknown	35	5.2
	Public sector	All types	286	42.6
	Private sector	All types	351	52.2
All networks	<i>Religious</i>	All types	189	28.1
	<i>Secular</i>	All types	162	24.1
	Unknown	All types	35	5.2
All networks	All sectors	All types	672	100.0

a/ The two figures in parentheses have the following meaning: the first figure refer to the number of schools in the indicated network and sector, while the second figure is the number expressed as a percentage of all schools in the system.

Source: based on data supplied to the authors by various officials of the Ministry of Education in Tanzania.