Where has all the education gone in Sub-Saharan Africa? Employment and other outcomes among secondary school and university leavers

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ABSTRACT

Anecdotal evidence and generalisations abound concerning the employment outcomes of secondary school and university leavers, but there is very little solid, accurate information on what these groups in African countries do after they have completed their education. Using tracer surveys, this paper presents comprehensive time-series information on the activity profiles of representative samples of secondary school leavers and university graduates in Malawi, Tanzania, Uganda, and Zimbabwe. The paper shows that much of the anecdotal evidence surrounding the labour market outcomes of these groups is spurious. While employment outcomes are generally much better than expected, the tracer surveys highlight the enormous challenges of educating and subsequently utilising secondary school leavers and university graduates in an efficient and effective manner in low-income African countries. In particular, given the paucity of new employment opportunities in the formal sector, much more needs to be done in order to ensure that both these groups are better prepared for productive self-employment, especially in high growth and higher skill activities.

Keywords: Malawi, Tanzania, Uganda, Zimbabwe, labour markets, education

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1. INTRODUCTION

It has always been recognised that national development hinges critically on the availability of high and middle-level 'manpower'. However, in sub-Saharan Africa (SSA), the spectre of mass unemployment and chronic under-employment among educated youth increasingly dominates policy discussions on education and employment and the overall development prospects of the continent (see, for example, the recently published Report of the Africa Commission, 2005). It is often suggested that increasing educational access across Africa has resulted in more qualified individuals chasing a fixed number of jobs, fuelling qualification escalation. [1] Both governments and households in most countries in SSA continue to invest heavily in post-primary education, but it is widely believed that secondary school and university leavers (SSULs) are increasingly unable to find appropriate, training-related employment that effectively utilises formally acquired knowledge and skills. In particular, stories abound of African graduates who are driving taxis, running tuck shops, or working as clerks.

Despite the ubiquity of these concerns, very little detailed information is available on the employment and other outcomes of secondary and university education in countries in SSA during the last 10 years. This article summarises the main findings of an international research project that has evaluated the education and employment experiences over extended time periods of large representative samples of secondary school leavers and university graduates in four countries in SSA – Malawi, Tanzania,

Uganda, and Zimbabwe.[2] An innovative tracer survey methodology has generated a wealth of detailed and reliable information, which can provide robust answers to the following key questions:

- How high are rates of mortality and migration for secondary school and university educated sections of the labour force? All four of the survey countries are among the worst affected by the AIDS epidemic in SSA.
- What is the incidence of wage and self-employment over time? What are the occupational profiles of SSULs and, in particular, to what extent are jobs training-related? What type of activities do the self-employed undertake?
- Private sector development is one of the main objectives of economic reform programmes in SSA. To what extent, therefore, are SSULs establishing viable enterprises, particularly in growth sectors?
- How important is 'secondary' employment for SSULs and what kinds of activities do these groups undertake?
- What is the extent of open unemployment among SSULs in each country?
- What further education and training courses do SSULs enrol on once they leave school and university? How successful have they been in acquiring additional qualifications?
- How much do SSULs earn from both their primary and secondary employment activities? To what extent are the self-employed engaged in "survivalist" income-generation activities?

[Table 1]

Before presenting the survey findings on these questions, it is useful to provide some basic indicators on the characteristics of the education system and the labour market in these countries and how they have changed over time. This provides a brief overview of the national economic and education contexts at the time when the cohorts of secondary school leavers and university graduates, who are the focus of this study, completed their full time education. Table 1 shows that aggregate unemployment rates declined during the 1990s in Tanzania and Uganda and fell marginally in Zimbabwe. Unfortunately, no information is available on how unemployment rates for secondary school leavers and university graduates changed over this period. However, the growth of formal sector employment, where educated employees are likely to be concentrated, has been seriously inadequate; for the two countries included in this study with the relevant data wage employment, as a proportion of the labour force, declined substantially during the 1990s (see Table 1). Economic reform is supposed to result in an expansion of employment opportunities as the private sector takes on the leading role in economic development and labour markets are de-regulated. However, economic growth has remained generally sluggish (see Table 1) impeding the growth of employment.[3] Furthermore, as the pace of public sector reform programmes accelerated in most countries during the 1990s, governments considerably scaled down and, in some cases, stopped recruitment altogether.[4]

Despite decreasing job opportunities, university and secondary school enrolments have risen rapidly (see Table 2).[5] To a large extent this is a direct consequence of the implementation of the policy of universal primary education coupled with the easing of restrictions on private sector involvement in the education and training sectors.

[Table 2]

The limited available evidence therefore suggests that, while the numbers of SSULs were increasing, employment opportunities in areas that traditionally absorbed these groups were declining. The extent to which this macro context impacted on secondary school leavers and university graduates is the focus of this paper.

The discussion is structured as follows. Section 2 briefly reviews the design and implementation of the tracer surveys. The following five sections then summarise the main outcomes with respect to mortality, migration, employment, further education and training and income. The concluding section draws together the main policy implications.

2. SURVEY DESIGN AND IMPLEMENTATION

It is difficult to analyse the relationship between education and the world of work and how this has changed over time using conventional surveys (most notably, household and labour force surveys) because these surveys do not provide sufficiently detailed information on the employment outcomes of secondary school and university graduates. In particular, where national enrolment rates for these two groups are low, as is typically

the case, sample sizes are too small to be able to draw robust conclusions about employment outcomes. Furthermore, conventional surveys do not explore the employment and training histories of individuals, but are concerned primarily with the current status of populations.

Properly designed and carefully implemented tracer surveys can fill this gap because they focus on the activity profiles of specific groups of individuals over relatively long periods of time since they completed their education and training. Tracer surveys aim to track down a group of individuals with a specific education/training background and systematically gather information about their current and past employment histories. While the value of tracer surveys is widely recognised, hardly any research of this kind has been undertaken in SSA (for the exceptions see, Bennell and Ncube, 1993, 1994; Bennell and Monyokolo, 1994).

Sample selection

In order to reach robust conclusions about the long-term employment and other outcomes of specific education and training activities, it is important that selected cohorts of graduates are only traced after a sufficiently long period has elapsed since they completed their training. Tracing university graduates only one or two years after completing their degree courses is likely to give a very partial picture of employment outcomes since many continue in full time education or are still actively looking for employment. It is for this reason that cohorts of university graduates and secondary leavers who had completed their education up to 20 years earlier were selected for this study.

The tracer survey for this study focused on locating and then collecting information from 1000 secondary school leavers and 500 university graduates in each country.[6] The secondary school sample was drawn from 10 average performing schools (five in rural areas and five in the largest city).[7] Among these schools, individuals who had just completed their fourth year of secondary education in 1990 and 1995 formed the sampling frame.[8] From this frame, a random sample of 50 leavers in 1990 and another 50 leavers in 1995 were selected.

The university graduate sample was drawn from the main national university in each country. The sample was equally divided between individuals who completed their undergraduate training in 1980, 1987/88, 1994, and 1999. A total of 125 graduates from five degree programmes were randomly selected from graduation lists for each of these four years (i.e. 25 per programme per year). In all countries, graduates from the Faculties of Agriculture, Engineering and Medicine were selected. A further two faculties were chosen in each country from the economics, education, accountancy and commerce faculties depending on the courses offered at each university. These degree programmes were chosen because they cover occupations that are of critical importance for the overall development process and their graduates are likely to have the most varied employment histories, including overseas migration.

As Table 2 shows, individuals attaining secondary and university education remained a select group of the population in the eighties and nineties. While the samples analysed in

this paper are likely to be representative of these educated groups they are in no way representative of the overall population in each country.

Tracing and interviewing

Tracing the current whereabouts of graduates and school leavers who had completed their education as long ago as 1980 was challenging. Detailed and systematic search procedures were therefore needed in order to ensure that most were located. In each country, gender-balanced teams of 15–20 trained research assistants conducted the survey, which took between 4–6 months to complete. The starting point were student records kept by schools and universities, which contained the home address of the leaver. Teachers, lecturers, current students and other key informants were also asked to update this information for each sampled individual. The research assistants then located and interviewed all leavers, including university graduates, who resided in the vicinity of the urban and rural schools. In the second stage of the tracing and interviewing process, research assistants were sent to other cities and locations that had high concentrations of traced leavers. Finally, those who were living in remote locations or were living overseas were sent a questionnaire to complete.

The survey questionnaire collected information on the leaver's personal background, further education, training and employment history, their current activity, and income as well as their views on the quality and relevance of their secondary or university education. Once the questionnaire was completed, the respondent was asked the whereabouts of any selected classmates that the research team had not already located.

Information provided by other respondents was one of the main ways that sampled individuals were traced.

Response rates

In order to avoid selection bias, it is essential that a high proportion of the individuals who are being traced are successfully located. Table 3 shows the breakdown of information sources and response rates that were used in the four countries. The study traced and collected information on around 3200 secondary school leavers and 1500 university graduates in sub-Saharan Africa.

[Table 3]

The response rates shown in Table 3 compare very favourably with tracer surveys conducted in developing countries and, in particular, the four countries included in this study (see, for example Bennell and Ncube, 1993, 1994; Kaijage, 2000; Narman, 1992; Mayanja and Nakayiwa, 1997). However, in most cases, a small proportion of individuals could not be traced and this may imply that the resulting samples of leavers are not representative of the populations from which they are drawn.[9] Using the limited information available on untraced respondents, Appendix Table 1 shows that there are significant differences between the traced and untraced samples. In general, those that could be traced were from later cohorts of leavers and had slightly better final examination results compared to untraced individuals. However, there does not seem to be any systematic pattern in terms of the sex of traced and untraced individuals. This

limited information suggests that the sample of university leavers from eighties may be most affected by selection bias. In general, information on university leavers is reported for each cohort separately and for earlier cohorts a cautious interpretation of the results is warranted.

3. MORTALITY

The average ages of the 1980 graduate cohorts in the four survey countries were between 40 and 50. Mortality patterns in high HIV prevalence countries show that most infected individuals die by their mid–late forties. Consequently, the epidemic will have had its maximum impact on this group of graduates.[10] Very sizeable proportions of the 1980 graduate cohorts in Malawi (25%), Uganda (33%), and Zimbabwe (18%) were deceased by mid-2001 (see Table 4). While not all this mortality was due to HIV/AIDS, the epidemic probably accounted for at least 60–70 per cent of these deaths.[11] Even though age-specific mortality rates are not available, the high mortality rates for 1980s graduates suggests that the impact of the epidemic was greatest during this decade. This is not unsurprising given prevailing ignorance levels about HIV/AIDS and the almost complete absence of HIV prevention programmes during this time.

In Malawi, Tanzania and Zimbabwe, female cumulative mortality for 1987 graduates was as high or even higher than for 1980 graduates, which suggests that the epidemic may have had a greater impact on this later cohort of women (see Table 4).[12] With the exception of Tanzania, cumulative male mortality up until 2001 was lower among the

graduate cohorts in the 1990s.[13] However, in the absence of information about age at death, it is not possible to say whether mortality rates among young adults in the 1990s were lower than they had been during the 1980s.

[Table 4]

Male mortality, among the two cohorts of 1990s graduates, was significantly higher than female mortality in all four countries.[14] It is also striking that, with the exception of the 1994 Malawi cohort, there had been no deaths whatsoever among female graduates in either of the 1994 and 1999 cohorts in any of the four countries. These trends in gender mortality rates and differentials would seem to suggest that, since the early–mid 1990s, female university graduates have widely adopted safe sexual practices.

Table 4 also shows that the impact of the AIDS epidemic has also been tragically high among secondary school leavers. Between 10 and 14 per cent of the 1990 secondary school leavers in Malawi, Uganda and Zimbabwe were deceased by mid-late 2001.

With the exception of males in Tanzania, mortality rates for 1990 school leavers were typically two to three times higher than for the, similarly aged, 1994 university graduates. More research is needed in order to analyse the reasons for these very large mortality differentials with respect to educational level and gender. The socio-economic background of university graduates is likely to be a key factor. University students, and female students in particular, come from increasingly well-educated, professional

families, where the awareness of the threat of the AIDS epidemic is likely to be much greater.

4. MIGRATION

In all four countries, the large majority of 1990 and 1995 school leavers from both rural and urban schools were living in urban areas in 2001.[15] There are two main reasons for this. First, a high proportion of students who attended the rural schools in Malawi were not from the immediate locality, but came from Blantyre and other cities and towns. Similarly, in Tanzania, the sampled rural schools (in Dodoma) recruit students from all over the country. Students must, therefore, either board, stay with relations, or live on their own in hostels. Secondly, internal migration from rural to urban areas is very high. Among the 1990 school leavers from rural schools in Zimbabwe, most of which have local school catchment areas, 75 per cent were living in urban locations in mid-2001. This migration has been fuelled by the paucity of further education and employment opportunities in rural areas coupled with sizeable urban/rural income differentials.

International migration, especially of university-trained professionals, is another much discussed consequence of both lack of employment opportunities in developing countries and the higher relative wages available in developed countries. The limited available evidence suggests that rates of skilled labour migration from developing countries has increased over the 1990s (Carrington and Detragiache, 1998; Docquier and Marfouk, 2005). Early literature on international migration focused on the losses in terms of human capital to the sending country. More recently, the potential positive aspects of migration

in terms of remittances, technology transfer and the positive effect on education demand of higher returns from migration have been highlighted (see Commander *et al*, 2003). Estimates of migration rates from developing countries have relied almost exclusively on information on immigrants in receiving countries (generally OECD countries) and estimated education profiles of populations in sending countries (see Carrington and Detragiache, 1998; Docquier and Marfouk, 2005; World Bank 2002). The tracer surveys provide information on international migration from the sending countries themselves and in some senses provide a more accurate picture of the magnitude of these flows for specific groups of educated labour.

Averaging across graduate cohorts, between six and 13 per cent of university graduates in the sample were living overseas in 2001 while the corresponding rates amongst secondary school leavers are much lower (see Table 5). Estimates from the tracer survey are much higher for secondary school leavers than rates reported in the latest global estimates (Docquier and Marfouk, 2004). The difference is primarily driven by the exclusion, in the global estimates, of migration to other African countries which the tracer surveys found to be an important destination for many secondary school leavers. There are no consistent patterns in the differences across studies for university graduate migration.[16] Again however, migration to other African countries is likely to be a significant omission in the global estimates. For example, 76 per cent of the 1987 Malawi graduates traced abroad were working in Botswana and South Africa.

While all migration rates reported in Table 5 are for 2001, comparing migration rates for individual cohorts across countries can identify 'push' factors associated with international migration. The economic crisis in Tanzania and the political situation in Malawi both resulted in higher levels of emigration among the 1987 cohorts compared to the earlier cohort. The pattern is reversed in the other two countries and partly reflects the improvement in the political and military situation after 1986 in Uganda. In Zimbabwe emigration rates among former white settlers began to tail off from the high levels that they had reached after Independence in the early 1980s but with the deepening economic crisis since the late 1990s, there has been a marked increase in the proportion of University of Zimbabwe graduates who are overseas.

[Table 5]

Information on migration does not generally give a sense of the numbers of emigrants who return. This is important, particularly for educated groups, since returnees may come home with additional skills and resources which contribute to overall economic development. Very high proportions (40-70 per cent) of the 1980 graduates in all four countries had been overseas at some stage. However, in Malawi, Uganda and Zimbabwe slightly more than half of these graduates had returned home by mid-2001 while almost all Tanzanian graduates had returned. While the return rates are considerably lower for the 1987 and 1994 university cohorts in Malawi, they remained at roughly the same levels in Uganda. In Tanzania, the return rate for 1987 graduates declined to 68 per cent,

but was 83 per cent for the 1994 cohort. In Zimbabwe the return rate declines with the more recent graduates.[17]

5. EMPLOYMENT STATUS

Despite mounting concerns about unemployment and underemployment among university graduates in much of sub-Saharan Africa, nearly all of the sampled university graduates in the four survey countries were in training-related wage employment in 2001. However, the incidence of wage employment was considerably lower among school leavers (see Table 6).[18] Among the 1990 terminal leavers (i.e. those who did not proceed to upper secondary and/or university after completing four years of secondary schooling in 1990) only around half were in wage employment in Tanzania, Uganda and Zimbabwe, but this figure was over 70 per cent in Malawi. [19]

[Table 6]

(i) Gender employment patterns

There is no clear gender pattern in wage employment rates across the four countries (see Table 6). In fact, in many cases, wage employment rates were similar or higher for women compared to men.[20] For example, female wage employment rates in 2001 were higher among leavers in Tanzania with 49 per cent of female junior secondary school leavers in wage employment compared to 36 per cent of male leavers.[21] This is perhaps a surprising finding, especially when the occupational profile of secondary school leavers

is also considered. Not only were there higher or similar percentages of female leavers in wage employment in three out of the four survey countries, but these females were not disproportionately employed in unskilled occupations (see Table 7). However, much higher percentages of male leavers were employed in skilled manual occupations in all four countries.[22] Female leavers were more heavily concentrated in skilled non-manual occupations, in particular secretarial and nursing, which have been much less affected by economic restructuring than skilled manual jobs, especially in the manufacturing and transport sectors.[23] It is still the case, however, that female school leavers tended to work in a narrower range of occupations than males.

(ii) Occupational outcomes

A major concern expressed in many developing countries is that secondary school leavers, and especially females, end up in low-level semi-unskilled jobs that do not require secondary school education. However, the tracer surveys show that, with the exception of Zimbabwe, over 80 per cent of secondary school leavers who were in wage employment had "white collar" jobs (i.e. professional and skilled non-manual occupations). Teaching accounts for most professional employment across the four countries. (see Table 7). In Uganda, over 80 per cent of all waged junior secondary school leavers were teachers, many of whom are employed in the burgeoning private school sector (see Bennell and Sayed, 2002). By contrast, the majority of junior secondary school leavers in Zimbabwe were in skilled manual or unskilled occupations. Given the protracted training and job search processes, it is difficult to make meaningful comparisons between the occupational profiles of the 1990 and 1995 school leaver

groups. It may be the case, however, that the more recent cohorts are "filtering down" into lower level occupations as it becomes increasingly difficult to find good jobs in the formal sector.

[Table 7]

Despite persistent concerns that large numbers of university graduates are unable to utilise effectively the knowledge and skills they acquired while at university, nearly all the traced graduates in the four countries were in professional occupations that were directly related to their university training. Apart from education graduates, relatively few were teaching.

(iii) Trends

How have employment opportunities changed for secondary school leavers and university graduates over time? The surveys asked detailed questions about the employment histories of each respondent and it is therefore possible to build up a picture of trends in wage employment for university graduates since 1980 and for secondary school leavers since 1990. The current (2001) activity profiles for university graduates shows wage employment dominating and this has had not changed a great deal over the last twenty years. However, for secondary school leavers, there had been marked changes during the 1990s in all of the countries. Figure 1 shows the proportion of 1990 and 1995 junior secondary school leavers in wage employment for each month after they left school in Tanzania. It can be observed that slightly greater proportions of the 1990 cohort

were in wage employment at the same time after leaving school than the 1995 cohort. This suggests that wage employment opportunities, for this group, have been declining. A similar pattern prevails in Malawi and Zimbabwe, but the reverse is true for Uganda; at the same time after leaving school a greater proportion of 1995 secondary school leavers were in wage employment compared to their 1990 counterparts. This is largely due to the much higher economic growth rates in Uganda during the 1990s and the increase in demand for educated labour this brought about. In particular, the 1990s saw a rapid expansion in access to secondary school and a subsequent rise in the demand for secondary school teachers.

[Figure 1]

In most countries in sub-Saharan Africa, the public sector dominated the markets for secondary school leavers and university graduates during the 1970s and 1980s. However, with the advent of comprehensive economic reform programmes in the mid-late 1980s, concerted efforts have been made to reduce public sector employment and encourage employment generation in the private sector (see Sahn *et al*, 1994). By and large, this shift is apparent among the secondary school leavers and university graduates interviewed for this study. For example, in Malawi approximately 65 per cent of 1995 and 40 per cent of 1990 secondary school leavers working for a wage were in the private sector two years after leaving school. It should be noted that, while a greater proportion of more recent secondary school leavers were working in the private sector, it is also the case that wage employment opportunities in most of these countries had declined (see Table 1). Therefore, this shift represents a decline in public sector opportunities for this

group rather than a general expansion in wage employment opportunities favouring the private sector. University graduate employees were less likely to be working for the private sector compared to secondary school leavers. However, the share of private sector wage employment was higher among the 1990s graduates, especially in Tanzania and Uganda.

(iv) Self-employment

The trends shown in Figure 1 for wage employment have some implications for self-employment rates for secondary school leavers. In Malawi, Tanzania and Zimbabwe declining wage employment rates led to higher self-employment rates for secondary school leavers during the 1990s. However, in Uganda at the same time, self-employment rates also rose during this period along with wage employment rates. This reflects the fact that a growing proportion of junior secondary school leavers in the sample were in the labour force in the late 1990s compared to earlier on in the decade. In all of the sampled countries, secondary school leavers in self-employment obtained, on average, lower grades in the junior secondary school examination than leavers who were working for a wage at the time of the survey in 2001.[24]

What were the growing numbers of self-employed secondary school leavers doing? The tracer surveys show that, in all four countries, very large proportions of the self-employed were vendors (i.e. buying and selling goods) and builders. Most self-employed secondary school leavers were running micro-enterprises and thus worked alone or employed very few staff. Only between 9 (Zimbabwe) and 25 (Tanzania) per cent of terminal form four

leavers employed more than three staff.[25] It appears that self-employment for most junior secondary school leavers is a second-best option and is undertaken while the individual looks for stable wage employment.[26] This has very important implications for the overall development of the private sector and related entrepreneurial capacity in these four countries.

(v) Secondary employment

It is widely believed that, in order to meet their basic livelihood needs, most secondary school leavers and graduates in sub-Saharan Africa have to supplement their salaries with income earned from secondary or part-time employment activities. Furthermore, with the serious decline in public sector incomes over the years, the extent of this secondary income activity is likely to have increased, having adverse impacts on labour productivity and good governance.

The tracer surveys show that it is common for junior secondary school leavers in wage employment to have secondary employment activities. Secondary employment is most common in Uganda where almost half of all junior secondary leavers in wage employment had a secondary source of income. The incidence of secondary employment, both waged and self-employment, was generally much higher among university graduates who were in full-time wage employment than it was among school leavers. Nearly three-quarters of 1980s graduates in Uganda had secondary incomes, over 60 per cent in Zimbabwe, and nearly 45 per cent in Tanzania. These percentages are generally much lower among 1990s graduates, which suggests that it takes time before a graduate is able

to exploit secondary employment activities.[27] Part-time teaching/lecturing, working as part-time doctors or medical officers and undertaking consultancy work are common part-time wage activities amongst these graduates across countries. As with secondary school leavers, farming is an important part-time self-employment activity for university graduates. The incidence of secondary employment is generally higher among graduates who work in the public sector. For example, in Zimbabwe almost half of all graduates from the 1980 and 1987 cohorts in public wage employment were engaged in some part-time self-employment compared to only a quarter of private wage employees.

(vi) Unemployment

Unemployment amongst the educated is widely regarded as a "time bomb", which poses a major threat to the political and social stability of most countries in Africa. Nonetheless very little hard evidence is ever presented to support these claims of widespread and growing open unemployment among educated youth. Part of the problem is that measuring unemployment is not easy, especially in low-income countries where, in the absence of state income benefits, even those without wage employment have to find something to do in order to survive. For example, many individuals who are looking for wage employment will undertake some form of self employment or training rather than being unemployed. Table 6 shows that relatively few respondents regarded themselves as unemployed at the time of the survey in mid-2001.[28]

Unemployment rates for secondary school leavers who were looking for work varied across countries and cohorts. With the exception of Zimbabwe, less than 10 per cent of

1990 secondary school leavers were unemployed and looking for work whereas for the 1995 cohort this proportion was well above 10 per cent (see Appendix Table 2). This reflects differences, across the cohorts, in the time spent in the labour market as well as different conditions encountered by these groups when they first entered the labour market. Table 6 also shows that far smaller proportions of university graduates than secondary school leavers were unemployed and looking for work; unemployment rates for this group ranged between 1 and 2 per cent across countries.

6. FURTHER EDUCATION AND TRAINING

Secondary school leavers and university graduates in all four countries invest heavily in further education and training (FET), both in terms of time and money. The large majority of junior secondary students who completed their secondary education in 1990 had undertaken some FET by mid-late 2001 (see Table 8). It is also the case that the ever-trained percentages are generally higher among female junior secondary school leavers for both the 1990 and 1995 cohorts. Only among 1990 leavers in Uganda is there a sizeable gender training gap in favour of males. Most university graduates have also undertaken some FET since leaving university and generally more female graduates have pursued FET compared to their male counterparts.

[Table 8]

Not only is the incidence of participation of school leavers and graduates in FET very high, but both groups have spent considerable periods of time attending courses and studying for additional qualifications. The 1990 junior secondary school leavers in Tanzania and Uganda spent, on average, 2.5–3.0 years doing FET after leaving school while the figure was 2.0 years for 1995 school leavers. University graduates from the 1980s had spent between 2.5 and 4.5 years attending training courses since completing their first degrees. What impact have these further education and training investments had on employment outcomes? The findings from the survey show that individuals currently in wage employment have spent more time in FET compared with leavers in other activities (see Al-Samarrai and Bennell, 2003). This suggests that FET improved leavers' chances of securing wage employment. However, this result needs to be interpreted cautiously as no account has been made of the actual types of training pursued and the socio-economic background of respondents has not been controlled for.[29]

Very sizeable proportions of both junior secondary leavers and university graduates study for additional qualifications on a part-time basis (see Al-Samarrai and Bennell, 2003). At least one-third of all courses taken by the 1990s graduates in all four countries were part-time, with the exception of males in Tanzania and females in Uganda. The extent of part-time training also appears to be increasing rapidly among both groups in Malawi, Tanzania and Zimbabwe. In Tanzania, for example, the percentage of courses that were part-time was only 15 per cent among the 1990 cohort, but was 28 per cent for the 1995 cohort.

While there has always been a strong tradition of private study for professional and other qualifications in the region, there are a number of reasons for the rapid growth of part-time study during the 1990s. Public sector training institutions have been able to offer training to only a small fraction of the burgeoning numbers of secondary school leavers and university graduates. With the liberalisation of training markets in the early–mid 1990s, private sector training providers have been able to tap this demand and have offered courses in new, mainly non-technical, areas to both jobseekers and those who are already in work. It is this latter group who study on a part-time basis, attending classes in the evenings and at weekends.

Six broad areas of occupational training – manual trades, health/nursing, secretarial, teaching, management, and computing – account for well over two-thirds of training courses completed by junior secondary school leavers. Female training is heavily concentrated in secretarial, health/nursing, and management and computing courses. Pre-employment apprenticeship training has declined in all four countries as a consequence of privatisation, public sector recruitment freezes, and de-industrialisation. Despite attempts to limit the growth of public sector employment, sizeable numbers of school leavers continued to be trained for mainly public sector occupations. For example, 39 per cent of 1995 school leavers in Uganda had completed teacher training (Al-Samarrai and Bennell, 2003).

Perhaps the most noticeable feature of FET among graduates is that so many have studied for postgraduate degrees. Among the 1980s graduates, around a half had enrolled on

Ph.D. and master's degree programmes. In all four countries, relatively more female graduates have studied for these degrees than males. This enormous investment in postgraduate degree training is the result of a number of factors: strong demand to study at overseas universities as well as for high-value qualifications (most notably MBAs), which are marketable, in both national and international labour markets. A master's degree is also required for promotions beyond a certain point in the public sector in some countries.

With economic liberalisation, both school leavers and university graduates are increasingly paying to study for overseas qualifications, which are offered in a much wider range of specialist subject areas than national qualifications and are usually more marketable. While some qualification bodies maintain direct control over the training process, the majority accredit other, mostly private, training providers to offer their qualifications. British and South African qualifications now dominate training markets in management, accountancy, and computing (see Bennell, 2000).

Pass rates are generally high among junior secondary leavers taking certificate and diploma courses. Most graduates also successfully obtain their master's degrees and other postgraduate qualifications awarded by universities. However, only a small minority (generally less than 10 per cent in the main subject areas) successfully pass overseas professional qualifications (such as ACCA and CIMA).

In all four countries, the 1990s saw the rapid growth of private sector training providers specialising in mainly non-technical courses. These are relatively easy to offer and barriers to entry are low. Despite some efforts to reform public sector training provision, most government training centres have continued to focus on traditional areas of artisan and technician training and pre-employment training for the main public sector occupations (administration, teaching, nursing, agricultural extension, military, police, etc). The extent of private sector training provision is most impressive in Zimbabwe; well over two-thirds of all courses undertaken by junior secondary leavers from both the 1990 and 1995 cohorts were at private training centres (Al-Samarrai and Bennell, 2003). Private training has increased in significance for the 1995 leavers compared with the 1990 leavers in all countries. Generally speaking, relatively more female school leavers are attending private training courses than males. This is particularly marked among school leavers in Zimbabwe and Tanzania.

Three-quarters of courses undertaken by 1980s graduates in Malawi and 45–55 per cent in Tanzania and Zimbabwe were at overseas institutions. However, the relative importance of foreign training appears to have fallen appreciably since the late 1980s. Less than 35 per cent of 1990s graduates have been overseas to study. A key factor is that donor funding of postgraduate training has declined considerably during the last decade and there has been significant disinvestment by foreign companies, which in the past sponsored the bulk of overseas training from within the private sector.

7. INCOME

The obvious financial motivation for individuals investing considerable time and money in secondary and university education is to get a good job where they can earn what is considered to be a reasonable income. The level and pattern of these incomes is therefore of central importance in any analysis of the relationship between education and employment.

After Independence, the bulk of the outputs from both secondary schools and the national university were employed in the public sector in the four study countries. With only minor modifications, these salaries were inherited from the colonial civil service and were very high both in absolute terms and in relation to income levels among the mass of the population (see Bennell, 1983). Higher and secondary education was the only way to gain entry into the "labour aristocracy". However, as the economic crisis in each country deepened rapidly during the 1960s and 1970s, these income levels were not sustainable and real incomes in the public sector plummeted. This brought with it a new set of problems. In particular, the motivation, commitment and standards of professional conduct of public servants were seriously eroded as they were forced to find additional secondary sources of income. However, despite the growing immiseration of public servants, the demand for secondary and university education has continued to grow in every country. Why should this be the case when it would appear that the returns on this education have fallen quite dramatically in recent decades?

Obtaining reliable information about the incomes of school leavers and university graduates was therefore a key objective of the study. Interview and postal questionnaire respondents were given the choice of providing their actual income or selecting an

income range. While most were loath to give actual figures, nearly all were willing to indicate the range into which their incomes fell. Those in wage employment were asked to provide their monthly income. Given that earnings from self-employment and secondary income usually vary from one month to another, total income from these activities during the last six months was requested and then converted into monthly incomes.

The total (primary plus secondary) incomes earned by secondary school leavers and university graduates vary greatly from one country to another (see Table 9).[30] In mid-2001, mean incomes were four to six times higher in Zimbabwe than Uganda, regardless of completion cohort and employment activity.[31] With the exception of Malawi, mean incomes for 1990 junior secondary school leavers are statistically significantly higher than among the same group in 1995. This is not only because the 1990 leavers have around five years more work experience but also because the real value of starting incomes has been declining over time (see Al-Samarrai and Bennell, 2003).[32]

In all countries, incomes from wage employment are generally much higher than earnings from self-employment.[33] However, this income differential varies considerably among the four study countries. It is only approximately 30 per cent in Uganda, but much higher in Tanzania and Zimbabwe. As long as incomes from self-employment remain so much lower in comparative terms, it is quite rational for secondary school leavers to continue to seek wage employment. This income structure has, therefore, important implications for current policy initiatives to promote private sector development among the relatively educated in all four countries.

University graduates earn substantially more than secondary school leavers.[34] Among males, the mean income wage differentials between the two groups who are closest in terms of age, namely 1990 school leavers and 1994/1999 graduates, were between 150 and 300 per cent (see Table 9).[35] Given that there was very little cost recovery up until recently at public universities, the private rate of returns to university education were very high.

[Table 9]

Male school leavers and university graduates tend to earn more than female wage employees although, on the whole. these differences are not statistically significant. The gender gap in income for secondary school leavers was only statistically significant for the 1990 cohort in Uganda where 1990 female junior secondary school leavers in wage employment achieved, on average, only 60 per cent of the income levels of their male counterparts.[36] The absence of a significant gender gap in total income suggests that labour market opportunities for female secondary school leavers changed very considerably during the 1990s. Male university graduates earned, on average, 20–40 per cent more than female graduates in Tanzania and Uganda[37], but only 5–6 per cent more in Zimbabwe. In Malawi, the mean wage incomes of 1980s and 1990s female graduates were 18 per cent and 6 per cent higher respectively than male incomes. However, differences in mean incomes between male and female graduates in Malawi and Zimbabwe are not statistically significant.

As discussed earlier, SSULs and, in particular, university graduates commonly undertake secondary activities. Secondary income accounted for around one-quarter of total graduate income in all four countries (see Table 10). Secondary income also appears to be a more important source of income for public sector employees than for private sector workers. For example, secondary sources of income for 1990s graduates in Malawi represented 33 and 14 per cent of total income for graduates working in the public and private sectors respectively.

[Table 10]

Whereas 1990s graduates were generally more reliant than 1980s graduates on secondary income in Malawi and Tanzania, the opposite is the case in Zimbabwe. In general, the share of secondary income in total income was higher among school leavers. Among 1995 junior secondary school leavers in Tanzania, secondary income accounted for nearly 40 per cent of total income, but this share was as low as 29 per cent for the same group in Malawi.

8. CONCLUSION

The tracer surveys of secondary school leavers and university graduates have generated a wealth of detailed, accurate and up-to-date information about the employment and other outcomes of two areas of educational provision that are of central importance for economic and social development.

The findings of these surveys highlight the enormous challenges of educating and subsequently utilising school leavers and university graduates in an efficient and effective manner in low-income countries in Africa. Most of these countries have now adopted an entirely new development strategy that simultaneously attempts to achieve rapid private sector (i.e. capitalist) development in high-growth sectors catering for both domestic and overseas markets, as well as rapidly reducing pervasively high levels of poverty, particularly rural poverty. As the most educated groups in society, secondary school leavers and university graduates are at the forefront of this new development process. They are essential for two reasons. First, they are the core group that will drive private sector development in both the formal and informal sectors of the economy. And secondly, they are the main providers of the key services – such as health, education, water and sanitation, and appropriate technologies – that are needed for rapid and comprehensive poverty reduction.

The findings of this research also call into question much of the received wisdom about the employment and other outcomes among these two groups. In particular, it is not the case that unemployment rates among university graduates are high and increasing. Nor are graduates seriously under-employed in jobs that do not effectively utilise the knowledge and skills they acquired while at university. Unemployment among school leavers was also much less than expected ranging from 5–15 percent in Malawi, Tanzania, and Uganda. Zimbabwe is an exception with nearly one-quarter of the 1995 cohort of junior secondary school leavers openly unemployed in late 2001. With the rapid

deterioration in the Zimbabwean economy since then, the incidence of unemployment among this group has almost certainly increased very significantly.

However, only one-third to a half of secondary school leavers managed to find waged employment (with the notable exception of Malawi) and wage employment opportunities appear to be declining. This inevitably means that self-employment is becoming an increasingly important source of income for secondary school leavers.

Viable private sector development depends on the emergence of a relatively large and dynamic group of entrepreneurs in each country who can spearhead a sustained and intensive process of investment, which in turn will generate employment. Unfortunately, the findings of the tracer survey show that neither group of leavers is at the forefront of such a process of entrepreneurial development. The reality is that for both groups, full-time self-employment is almost always a last resort. With a few exceptions, only tiny numbers of university graduates were self-employed and these graduates were involved in activities such as consultancy, which is donor-driven and aid-dependent. Many were part-time entrepreneurs generating secondary income that is essential for their household survival, but these part-time activities were invariably limited in scale and sophistication.

The incidence of self-employment varied quite considerably among secondary school leavers across the four countries ranging from 30 percent in Tanzania to less than 11 per cent in Malawi. However, most of these are “survivalist” micro enterprises that require limited skills, have limited economic potential and were established by school leavers

who performed poorly at school compared to their counterparts who entered wage employment. A key objective of national economic reform programmes has been to create the necessary "enabling environments" for the development of larger, more productive enterprises that produce a wide range of goods and services with good growth potential. The evidence from the surveys shows that these policy regimes are not working, certainly with regard to educated youth. Lack of economic opportunities is the root cause of the limited range of activities that are undertaken by the unemployed and of the relatively low incomes that are generally earned. Small and micro-enterprise development strategies continue to focus on the provision of a fairly standard package of inputs – namely credit, land, training and advice/extension services. However, these have not been successfully scaled up in Africa, partly because of weak states, but also because there are too few large NGOs that are capable of managing national programmes with very large numbers of clients. There is also a danger that too strong an emphasis on poverty reduction will lead to too little support being given to educated youth with the entrepreneurial talent to successfully develop small and medium-sized enterprises.

The other much discussed policy initiative is to re-orientate primary and secondary education so that students are better able to be self-reliant and establish viable enterprises. Interestingly, many of the recommendations made by school leavers themselves focus on the need to revise the curriculum so that it is more practical and vocational (see Al-Samarrai and Bennell, 2003). The provision of basic pre-vocational training in business and management and information technology is certainly essential. However, the capacity of secondary schools to provide artisan or other types of occupational training is severely

limited. Such training should only be undertaken by specialist training institutions and should be demand-driven.

The received wisdom is that the employment outcomes for female graduates and school leavers throughout nearly all low-income Africa are generally much worse than for males. The tracer surveys have shown however that this generalisation is no longer valid among the four case study countries. With the exception of Zimbabwe, the gender gap with regard to the incidence of wage employment has been completely or almost completely eliminated. Female school leavers often come from better-off families and have been investing very heavily in further education and training. However, it is still the case that they are more narrowly concentrated in a limited number of occupations and, among both groups of leavers, average incomes for women are considerably lower than for men. Concerted efforts are needed therefore to reduce gender discrimination in formal sector labour markets but, equally importantly, to encourage greater female employment in more male-dominated occupations. The problem, though, in many countries is that employment in many of these occupations is contracting which makes it difficult to increase female employment. Some countries such as Bangladesh have established quotas for women in the public sector, which have helped to boost the demand for female secondary and higher education.

The tracer surveys also suggest that the permanent "brain drain" of university graduates has been less serious than is suggested by anecdotal evidence. However, it continues to be high for some professions, in particular medical doctors. In addition, in countries such

as Zimbabwe, which are facing very serious economic crises, international migration among both groups of leavers is increasing very rapidly. This clearly represents a major loss of skilled personnel, many of whom are essential for the attainment of the Millennium Development Goals. It is also the case, however, that migrant remittances are an increasingly important source of income for households, without which poverty levels would increase rapidly. Governments can do very little in the short term to reduce brain drain. However, improving public sector salaries is a top priority, especially for professionals in high demand in the North and who have internationally negotiable qualifications.

Finally, it is important to reiterate that the tracer surveys only covered individuals who have successfully completed at least junior secondary education. As noted earlier (see Table 1), most children in SSA still do not begin secondary education and only a small minority actually complete junior secondary education. Similar kinds of tracer surveys are therefore needed for all major areas of education and training provision. In particular, since so few children in SSA do not complete primary school, good quality information on the employment and other livelihood outcomes of primary schooling is a top priority. Tracer surveys of primary school leavers would be particularly useful in highlighting the impact of primary education on poverty reduction and the achievement of the Millennium Development Goals.

ENDNOTES

[1] Ideas regarding qualification escalation originate from Dore (1976).

[2] To date, a synthesis and four country reports have been published (see Al-Samarrai and Bennell, 2003; Kadzamira, 2003; Kirumira and Bateganya, 2003; Mukyanuzi, 2003; Ncube, 2003). All these reports can be accessed on the DFID website and hard copies are available on request. Data from the project is also being used to explore the impact of education and training on the type of activity (wage employment, self employment etc.) leavers are involved in and their income (see Al-Samarrai and Reilly, 2005).

[3] Sahn *et al* (1994) suggest that adjustment policies impacted the urban elite, including the educated groups in this paper, negatively due to their greater integration with the formal sector. Similar conclusions have also been drawn from Tanzania's adjustment experience (see Sarris and Van den Brink, 1993).

[4] For a detailed account of the consequences of public sector retrenchment in Africa see Mills and Sahn (1995) and Sahn *et al* (1994).

[5] Data for 2000 were not directly comparable with previous years because the International Standard Classification of Education (ISCED) levels changed in 1997. This included an additional level of post-secondary education, which was not included in either secondary or tertiary education classifications. Prior to 1997 this level of education was either reported as secondary or tertiary. This may be the cause of the apparent decline in tertiary numbers in Malawi and Zimbabwe over the 1990s.

[6] In Zimbabwe, 13 schools were sampled (7 urban, 6 rural) because the rapid depreciation of the Zimbabwe dollar meant that the survey budget was larger than originally expected. Three of these schools had been included in a tracer survey that had been undertaken in 1990 (see Bennell and Ncube, 1994). In Malawi, some of the sampled schools did not have a cohort of 1990 leavers and in some cases schools did not have 50 or more school leavers in each year. An additional rural school was included in the sample and this and the smaller number of leavers explains the sample size of 1001. For more details see Kadzamira (2003).

[7] Urban areas refer to the largest cities in each country; Malawi – Blantyre, Tanzania – Dar es Salaam, Uganda – Kampala, Zimbabwe – Harare.

[8] There were some slight variations in the sampling methodology in each country. For full details see Al-Samarrai and Bennell (2003).

[9] Attrition in panel surveys is a similar issue that has been widely documented and assessed. For a review of the issue and discussion on how to reduce attrition see Hill (2002).

[10] No attempt was made to find out the year of death. These data would have allowed age-specific mortality rates to be computed, which could be compared between cohorts in order to establish precise trends in mortality.

[11] It is too early to establish what the full impact of the epidemic has been on later cohorts and hence conclusions cannot yet be reached about overall trends in mortality.

[12] It should be noted that partly due to the small number of female university graduates in any of the sampled countries differences between the 1980 and 1987 cohorts are not statistically significant. These tests are not reported in the text but are available from the authors on request.

[13] However, this is only statistically significant in Malawi.

[14] With the exception of 1995 secondary school leavers in Uganda, the null hypothesis of equal mortality rates for 1990 graduates and secondary school leavers are rejected at the 5 per cent level using two-tailed tests.

[15] The percentage of leavers and graduates living in urban areas were far in excess of rates of urbanisation in these countries. For example, in Zimbabwe over 90 per cent of 1995 secondary school leavers were living and working in urban areas in 2001. Figures for 2003, show that 37 per cent of the total Zimbabwean population lives in urban areas suggesting that school leavers are over represented in the urban population (World Bank, 2005b). In the other countries while most leavers and graduates are in urban areas the total urban population is well below half of the total population (World Bank, 2005b).

[16] This possibly reflects differences in the definition of education between the two studies. In particular, a large proportion of the tertiary educated emigrants included in global estimates will be individuals who

undertook their first degrees in the receiving country rather than in the home country. These individuals are obviously excluded from our international migration rates.

[17] For full details see Al-Samarrai and Bennell (2003).

[18] The null hypothesis of equal wage employment rates between university graduates and secondary school leavers is rejected at the 1 per cent level using two tailed tests.

[19] The secondary school leaver sample is generally broken down into three groups; junior secondary school leavers who did not pursue further formal schooling after completing junior secondary (i.e. four years of secondary schooling), senior secondary school leavers who went on to complete a further 2 years of secondary school and university leavers who completed a first degree at university. In this paper the focus is generally on the first group (junior secondary school leavers).

[20] See Appendix Table 2 for the gender breakdown of activities for junior secondary school leavers shown in Table 2.

[21] The null hypothesis of equal wage employment rates between male and female secondary school leavers is rejected at the 1 per cent level using two tailed tests. When broken down between 1990 and 1995 leavers the difference is only significant for the 1995 cohort of leavers.

[22] The null hypothesis of equal proportions of male and female leavers working in skilled manual occupations was rejected at the 10 per cent level in all countries using two tailed tests.

[23] With the exception of 1995 secondary school leavers in Zimbabwe the null hypothesis of equal skilled non-manual occupation rates between male and female leavers is rejected at the 10 per cent level and below.

[24] The figures for this are not shown here but are reported in Chapter 5 of Al-Samarrai and Bennell (2003).

[25] For a fuller description of the activities of the self-employed and the number of workers they employ see Al-Samarrai and Bennell (2003).

[26] Using the same survey data Al-Samarrai and Reilly (2005) found that the returns to senior secondary and university education in self-employment were not statistically significant. For wage employment, returns to senior secondary and university education were statistically significant.

[27] With the exception of Malawi the null hypothesis of equal proportions of 1980s and 1990s graduates having a secondary income is rejected for all countries at the five percent level and below using two tailed tests.

[28] Information on employment status was mostly collected through interviews with traced individuals. If individuals responded they were unemployed, interviewers were trained to probe further and categorise individuals initially into those unemployed and looking for work and those unemployed and not looking for work. For the latter category interviewers probed further to obtain information on why respondents were in this category. The most common response was that they were working at home (see Al-Samarrai and Bennell 2003).

[29] Using the same survey data Al-Samarrai and Reilly (2005) found that months of further education and training had a positive and significant impact on the wage employment earnings of secondary school leavers in Tanzania after socio-economic background and other factors were controlled for.

[30] Not surprisingly, senior secondary school leavers tend to earn more than junior secondary school leavers. See Al-Samarrai and Bennell (2003) for more details.

[31] Differences in mean incomes between Uganda and Malawi are statistically significant at the 1 per cent level. However, unless exchange rates are adjusted in order to take account of differences in the purchasing power of individual currencies, it is not possible to say to what extent a school leaver in Zimbabwe has a higher standard of living than in Uganda. Purchasing power parity exchange rate conversions can, to some extent, address this issue. The ranking of incomes across countries, when PPP dollars are used, shows incomes of Ugandan leavers to be higher than Tanzanian leavers. The other major difference from official exchange rate conversions is that the gap between Zimbabwe and the other countries grows (see Al-Samarrai and Bennell, 2003).

[32] The null hypothesis of equal mean income between 1990 and 1995 junior secondary school leavers is rejected at the 10 per cent level or below using two tailed tests.

[33] See Appendix Table 3 for the monthly incomes of self employed junior secondary school leavers.

[34] Given the small numbers of university graduates that are self-employed their incomes are not reported.

[35] The null hypothesis of equal mean income between 1990 junior secondary school leavers and 1990/1999 university graduates is rejected at the 1 per cent level using two tailed tests for all countries.

[36] Ugandan female 1990 senior secondary leavers in wage employment have higher average earnings than males but the sample size is small.

[37] The null hypothesis of no gender gap in mean income for university graduates is rejected at the 5 per cent level or below using two tailed tests.

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Table 1: Economic and labour market information[1]

	Average annual real GDP per capita growth		Economically Active Population (000's)		Wage Employment (000's)		Self-employment (000's)		Unemployment (000's)	
	1990–1994	1995–1998	1990	2000	1991	2000	1991	2000	1991	2000
Malawi	-4.0	2.7	3,457	4,509	-	586	-	271	-	-
Tanzania	-0.9	2.3	11,295	19,099	933	1,161	807	1,414	406	913
Uganda	2.7	3.9	8,319	10,881	-	-	-	-	79	668
Zimbabwe	-1.9	2.1	3,601	4,963	1,236	1,316	-	-	234	298

Notes: Tanzania – data are for 1991 and 2000.
Malawi – data are for 1987 and 1998.
Uganda – unemployment data are for 1989 and 1997.
Zimbabwe – unemployment data are for 1987 and 1999. Labour force data are for 1992 and 1999.
Sources: Tanzania data: Planning Commission (1991 and 2000).
Malawi, Uganda and Zimbabwe – ILO (2002).
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[1] The breakdown of employment figures shown in this table for Tanzania do not sum to the economically active population because traditional agriculture is excluded from the table.

Table 2: Education system characteristics in Malawi, Tanzania, Uganda and Zimbabwe[2]

	Student Numbers (000s)										Gross Enrolment Ratios (%)				
	Tertiary						Secondary				Secondary		Tertiary		
	1980	%f	1990	%f	lya	%f	1990	%f	lya	%f	1990	lya	1980	1990	lya
Malawi	2.6	27	4.8	26	3.2	28	58	19	946	44	8	36	<1	1	0.32
Tanzania	3.1	14	7.5	16	18.9	21	150	42	262	46	5	6	0	0	0.69
Uganda	5.9	23	17.6	28	40.6	35	245	37	466	39	13	19	1	1	2.98
Zimbabwe	8.3	-	49.4	-	40.9	25	661	47	835	47	50	44	1	5	3.93

Notes: lya – latest year available. For student numbers lya is 1998 with the exception of data for Malawi (1997), secondary enrolments in Tanzania (2000) and secondary enrolment in Zimbabwe (2000). The latest year available for GERs is 2000/01 except for tertiary in Malawi which is for 1998/99. Data for 1980 tertiary enrolments for Tanzania are actually 1975.
%f – percentage female.

Sources: UNESCO Education Counts CD ROM, UIS website and MOEC BEST (2001).

[2] Data for 2000 were not directly comparable with previous years because the International Standard Classification of Education (ISCED) levels changed in 1997. This included an additional level of post-secondary education, which was not included in either secondary or tertiary education classifications. Prior to 1997 this level of education was either reported as secondary or tertiary.

Table 3 Tracer survey response rates

	Malawi		Tanzania		Uganda		Zimbabwe	
	Sec.	Uni.	Sec.	Uni.	Sec.	Uni.	Sec.	Uni.
Total Traced	621	417	965	448	715	414	951	313
Interviewed	470	307	875	383	590	236	798	233
Postal	-	-	16	12	-	85	-	-
Parents	20	9	49	1	34	-	-	-
Deceased	51	55	21	24	53	50	68	31
Abroad	80	46	4	28	38	43	85	49
Not traced	253	7	35	49	216	86	299	187
Alive but not traced	127	86	-	3	-	-	-	-
Total Sample	1001	510	1000	500	931	500	1250	500
Response Rate (%)	**62**	**82**	**97**	**90**	**77**	**83**	**76**	**63**

Notes: 1. Number of interviews for Zimbabwe includes postal questionnaires.
2. Zimbabwe data on number of individuals deceased and abroad were based on calculations from Zimbabwe report.
3. In Malawi and Tanzania a group of individuals were known to be alive but were not traced. This group is shown separately.

Table 4: Percentage of traced university graduates and secondary school leavers deceased by 2001 by year of graduation

	Malawi			Tanzania			Uganda			Zimbabwe		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
University graduates												
1980	25.3	21.4	24.8	10.2	11.8	10.5	32.9	37.5	33.3	18.9	14.7	18.4
1987	16.9	22.2	17.8	8.4	12.0	9.3	14.8	13.0	14.4	16.8	19.6	17.6
1994	6.1	3.7	5.6	1.2	0.0	0.9	3.4	0.0	2.8	4.2	0.0	3.5
1999	0.8	0.0	0.7	2.0	0.0	1.7	2.3	0.0	1.8	3.0	0.0	2.4
Secondary school leavers												
1990	11.2	13.5	12.1	1.1	3.7	2.3	10.9	20.2	14.2	n.a.	n.a.	10.2
1995	2.2	4.2	3.0	2.9	1.3	2.1	2.8	2.8	2.8	n.a.	n.a.	4.1

Notes: 1987 cohort for Uganda is actually 1998.
n.a. – not available

Table 5: Percentage of traced university graduates and secondary school leavers abroad at the time of the survey

	Malawi			Tanzania			Uganda			Zimbabwe		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
University graduates												
1980	6.3	21.4	8.3	3.4	5.9	3.8	22.0	0.0	20.0	21.0	29.0	22.0
1987	16.9	11.1	15.9	15.7	12.0	14.8	12.3	0.0	9.6	17.0	10.0	15.0
1994	6.9	14.8	8.4	3.7	2.9	3.4	5.6	5.3	5.6	20.0	35.0	23.0
1999	5.1	7.4	5.6	4.1	0.0	3.3	8.0	8.3	8.0	1.0	16.0	4.0
Secondary school leavers												
1990	10.2	10.3	10.2	0.4	0.0	0.2	10.3	14.4	11.8	9.0	15.0	12.0
1995	10.5	11.9	11.0	0.4	0.8	0.6	1.2	0.6	0.9	6.0	7.0	6.0

Notes: 1987 cohort for Uganda is actually 1988.

Table 6: Activities of traced university and secondary school leavers in 2001 (%)

	Wage employment	Self employment	Full time education and training	Unemployed looking for work	Unemployed not looking for work	*n*
Malawi						
University	94	3	3	1	0	*316*
Junior Secondary	73	11	3	11	2	*425*
Tanzania						
University	89	6	3	2	0	*396*
Junior Secondary	44	29	7	10	10	*546*
Senior Secondary	39	18	35	7	1	*320*
Uganda						
University	94	4	1	1	0	*321*
Junior Secondary	54	29	2	9	6	*359*
Senior Secondary	45	17	23	11	4	*208*
Zimbabwe						
University	83	11	3	2	0	*232*
Junior Secondary	39	24	3	20	13	*719*
Senior Secondary	70	0	8	22	0	*50*

Notes: The secondary school sample is broken down into junior and secondary school leavers. Junior secondary school leavers are those leavers in each sample that did not continue their formal education beyond 4 years of secondary schooling. Senior secondary school leavers completed a further 2 years of secondary education. There are no senior secondary school leavers in Malawi because the secondary school system only lasts four.

Table 7: Occupational profile of junior secondary school leavers in wage employment (%)

	1990			1995		
	Male	Female	Total	Male	Female	Total
MALAWI						
Professional	52.2	59.6	55.6	35.1	41.1	37.5
o/w Teachers	*58.3*	*52.9*	*55.7*	*15.4*	*63.3*	*36.2*
Skilled non-manual	34.8	38.6	36.5	34.2	53.4	41.8
Skilled manual	11.6	1.8	7.1	27.9	5.5	19.0
Unskilled	1.4	0.0	0.8	2.7	0.0	1.6
N	*69*	*57*	*126*	*111*	*73*	*184*
TANZANIA						
Professional	55.1	58.7	57.1	44.8	40.3	41.7
o/w Teachers	*37.0*	*54.1*	*46.9*	*23.1*	*33.3*	*30.0*
Teacher	20.4	31.7	26.8	10.3	13.4	12.5
Skilled non-manual	20.4	34.9	28.6	24.1	46.3	39.6
Skilled manual	18.4	3.2	9.8	20.7	6.0	10.4
Unskilled	6.1	3.2	4.5	10.3	7.5	8.3
N	*49*	*63*	*112*	*29*	*67*	*96*
UGANDA						
Professional	84.9	73.7	81.9	78.8	87.5	82.8
o/w Teachers	*86.7*	*64.3*	*81.4*	*84.6*	*79.6*	*82.2*
Skilled non-manual	7.5	26.3	12.5	0.0	8.9	4.1
Skilled manual	7.5	0.0	5.6	16.7	0.0	9.0
Unskilled	0.0	0.0	0.0	0.0	0.0	0.0
N	*53*	*19*	*72*	*66*	*56*	*122*
ZIMBABWE						
Professional	19.8	20.0	19.9	14.4	4.3	10.9
Skilled non-manual	21.8	46.7	29.5	24.4	34.0	27.7
Skilled manual	35.6	11.1	28.1	33.3	17.0	27.7
Unskilled	22.8	22.2	22.6	27.8	44.7	33.6
N	*101*	*45*	*146*	*90*	*47*	*137*

Notes: The table shows the percentage of wage employees in each occupational category for 1990 and 1995 leavers. These years refer to the year junior secondary school leavers completed four years of secondary education.

Table 8: Percentage of junior secondary school leavers who undertook additional training

	1990			1995		
	Male	Female	Total	Male	Female	Total
MALAWI	75.3	82.9	78.5	66.2	75.5	70.1
N	*93*	*70*	*163*	*154*	*110*	*264*
TANZANIA	61.1	70.7	65.9	44.8	66.2	55.9
N	*126*	*123*	*249*	*143*	*154*	*297*
UGANDA	69.7	59.6	66.4	68.6	72.8	70.4
N	*34*	*16*	*50*	*96*	*62*	*158*
ZIMBABWE	51.5	52.2	51.8	44.6	41.5	43.2
N	*200*	*136*	*336*	*222*	*176*	*398*

Notes: The table includes all secondary school leavers in Malawi as there are no senior secondary leavers because the secondary school system lasts for four years.

Table 9: Total monthly income for Secondary school and University leavers in wage employment ($US)

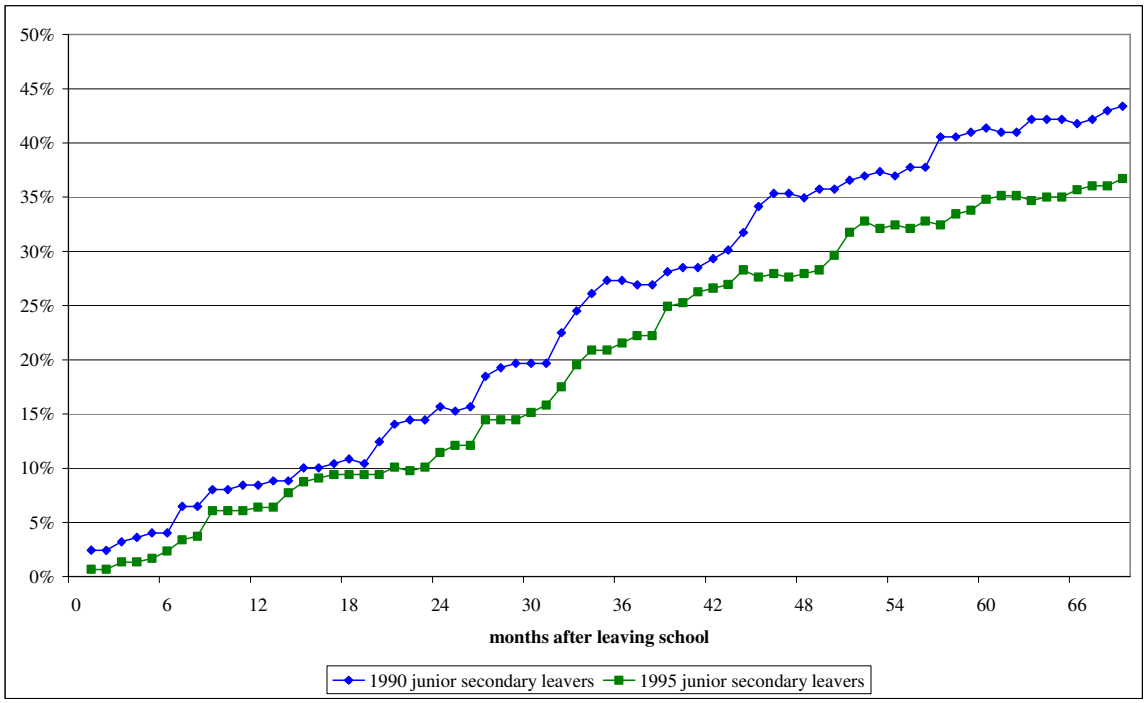
	Junior Secondary School Leavers						University Graduates					
	1990			1995			1980 & 1987			1994 & 1999		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Malawi	150	176	161	140	131	136	683	808	702	477	510	483
N	*60*	*44*	*104*	*97*	*61*	*158*	*71*	*13*	*84*	*143*	*33*	*176*
Tanzania	136	125	130	102	105	104	422	340	405	289	238	275
N	*64*	*69*	*133*	*36*	*68*	*104*	*124*	*31*	*155*	*142*	*55*	*197*
Uganda	78	46	69	49	45	47	362	314	351	303	215	286
N	*47*	*19*	*66*	*59*	*52*	*111*	*89*	*25*	*114*	*151*	*36*	*187*
Zimbabwe	355	319	344	239	212	229	1134	1079	1127	824	780	816
N	*96*	*43*	*139*	*86*	*45*	*131*	*57*	*8*	*65*	*97*	*22*	*119*

Notes: Junior secondary school leavers are defined as leavers who terminated their formal schooling after four years of secondary schooling. Local currency has been converted into US dollars using the official exchange rate for 2001 reported in the IMF International Financial Statistics CD-ROM. The exchange rate for Malawi was 67 Kwacha per US dollar, Tanzania 876 Shillings per US dollar, Uganda 1756 Shillings per dollar and Zimbabwe 50 Zimbabwe dollars per US dollar.

Table 10: Secondary income as a percentage of total income for secondary school leavers and university graduates in wage and self-employment (%).

	Junior secondary leavers		University graduates	
	1990	1995	1980 & 1987	1994 & 1999
Malawi	32	29	21	26
N	*35*	*39*	*37*	*56*
Tanzania	26	37	22	26
N	*35*	*19*	*61*	*56*
Uganda	35	34	21	20
N	*57*	*61*	*72*	*66*
Zimbabwe	23	29	26	16
N	*88*	*88*	*43*	*50*

Figure 1: Proportion of Tanzanian junior secondary school leavers in wage employment by months after leaving school



APPENDIX TABLES

Appendix Table 1: Comparison of selected characteristics of traced and untraced individuals

	Malawi			Tanzania			Uganda		
Sample and characteristics	traced	untraced	sig.	traced	untraced	sig.	traced	untraced	sig.
Secondary school sample									
Female (%)	40.7	40.3		47.2	54.3	***	39.4	39.4	
Good grade (%)	56	52.9	***	48.7	60	***	54	51.9	***
1990 leavers (%)	42.5	36.6	***	50.2	45.7	**	40.3	58.8	***
n	621	380		965	35		715	216	
University sample									
Female (%)	18.7	8.6	***	22.3	7.7	***	17.9	30.2	***
Upper second or above (%)	32.9	29	***	32.9	30.8	*	n/a	n/a	
1980s leavers (%)	42.7	44.1		47.1	75	***	46.8	65.1	***
n	417	93		448	52		414	86	

Notes: Malawi University degree result is the proportion that received a distinction or credit
Information for Zimbabwe is not reported as no data on untraced individuals was available.
n.a. – not available
*** denotes statistical significance at the 1% level, ** at the 5% level, * at the 10% level using two-tailed tests.

Appendix Table 2: Activities of traced secondary school leavers in mid-2001 by gender and year of leaving junior secondary school (%)

	Wage employment		Self-employment		Full time education and training		Unemployed looking for work		Unemployed not looking for work		Sample size	
	m	f	m	f	m	f	m	f	m	f	m	f
MALAWI												
1990 leavers	74	83	15	4	0	0	10	10	1	3	*93*	*69*
1995 leavers	72	68	15	6	5	6	8	15	0	6	*154*	*109*
All leavers	73	74	15	5	3	3	9	13	0	5	*247*	*178*
TANZANIA												
1990 leavers	51	56	39	19	1	4	5	6	5	15	*126*	*123*
1995 leavers	27	45	43	16	8	12	17	11	6	16	*143*	*154*
All leavers	36	49	42	17	5	9	12	9	5	16	*269*	*277*
UGANDA												
1990 leavers	54	40	40	32	0	4	6	6	0	17	*99*	*47*
1995 leavers	55	61	32	12	0	4	11	10	2	13	*121*	*92*
All leavers	55	53	35	20	0	4	9	8	1	15	*220*	*139*

ZIMBABWE												
1990 leavers	52	34	26	25	1	2	17	18	5	20	*196*	*132*
1995 leavers	42	27	24	21	6	2	21	24	7	25	*219*	*172*
All leavers	45	30	25	23	4	2	20	22	6	23	*415*	*304*

Appendix Table 3: Total monthly income of junior secondary school leavers in self-employment ($US)

	1990			1995		
	Male	Female	Total	Male	Female	Total
Malawi	186	111	173	92	67	86
n	*10*	*2*	*12*	*20*	*6*	*26*
Tanzania	87	66	80	50	62	53
n	*47*	*23*	*70*	*59*	*25*	*84*
Uganda	55	54	55	38	20	35
n	*36*	*11*	*47*	*36*	*8*	*44*
Zimbabwe	185	130	162	146	178	158
n	*47*	*33*	*80*	*49*	*32*	*81*