

SHOOTING FOR THE WRONG TARGET?:  
A REASSESSMENT OF THE INTERNATIONAL  
EDUCATION GOALS FOR SUB-SAHARAN AFRICA.

*¿TRABAJANDO PARA LOGRAR UN OBJETIVO EQUIVOCADO?  
UNA REASIGNACIÓN DE LOS OBJETIVOS INTERNACIONALES  
DE EDUCACIÓN PARA ÁFRICA SUBSAHARIANA.*

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ABSTRACT.

The international education goals enshrined in the UN Millennium Development Goals (MDGs) have had a significant impact in sub-Saharan African countries. Are they likely to achieve the varied developmental roles ascribed to education, such as poverty reduction, improvements in child mortality, fertility decrease, increases in tax collection and rising economic growth? While several authors have questioned whether education generally can fulfil its 'magic bullet' role, this article will focus on some specific myths underlying the education MDGs. Two myths are of particular concern. First, these MDGs focus on universal primary education (UPE), ignoring what is known about the benefits of education in sub-Saharan African countries. Second, the MDG education goals are predicated on the concept of 'human capital', which assumes that investment in education can be treated like investment in physical capital and that it will lead to rising worker productivity and economic growth. However, the human capital approach is subject to fundamental weaknesses and is not a useful guide for the way that educational improvements are likely to impact on economic growth in African economies.

*Keywords:* Education; Millennium Development Goals; Africa; Economic Growth; Poverty.

## RESUMEN.

Los objetivos internacionales de educación incluidos en los Objetivos de Desarrollo del Milenio de la ONU (ODMs) han ejercido una influencia importante sobre los países del África Subsahariana. ¿Son capaces estos países de conseguir los variados objetivos de desarrollo adscritos a la educación, como reducción de la pobreza, reducción de la mortalidad infantil, limitación de la fertilidad, mejoras en la recaudación de impuestos y crecimiento económico? De acuerdo con numerosos autores que han puesto en duda que la educación pueda cumplir con su papel de panacea, este artículo trata algunos mitos existentes en los ODM relativos a la educación. Dos de estos mitos son objeto de mayor interés. Primero, los ODM se centran en la educación primaria universal, ignorando todo lo que se conoce sobre los beneficios de la educación en los países del África Subsahariana. Segundo, los objetivos de educación se basan en el concepto de “capital humano”, que asume que la inversión en educación se puede asimilar a la inversión en capital físico y que genera una mayor productividad para el trabajador y crecimiento económico. Sin embargo, el enfoque del capital humano adolece de importantes debilidades y no resulta útil para analizar cómo las mejoras en educación puede favorecer el crecimiento en las economías africanas.

*Palabras clave:* Educación; Objetivos de Desarrollo del Milenio de la ONU; África; Desarrollo económico; Pobreza.

JEL Classification: N37, O15.



## 1. INTRODUCTION.

Given the significant impact of the international education goals in sub-Saharan Africa, their relevance must be assessed. The recent history of such goals begins with the Education for All initiative, which, in 1990, saw national governments and key development agencies commit themselves to the achievement of universal primary education (UPE) for all children by year 2000. This target was extended to 2015, and then adopted as part of UN Millennium Development Goals (MDGs), where it became MDG2, which sets out to ensure that by 2015, boys and girls everywhere will be able to complete a full course of primary schooling. In addition, MDG 3, which promotes gender equality, aimed to eliminate gender disparities in primary and secondary education by 2005 and those in all other levels of education by 2015 (UN, 2009).

These targets reflect, then, a long-standing, shared commitment by national governments, civil society groups and international agencies. The strength and durability of this commitment can best be explained by three somewhat conflicting characteristics of public education expenditure. In the development discourse, education is seen as a human right (with, for example, educational rights enshrined in the Convention on the Rights of the Child [Boissere 2004:1]) and, through the human capital approach (discussed below), as a crucial component of economic development.<sup>1</sup> At the same time, public education expenditure has very particular political economy implications, in terms of the profile of who benefits from state expenditure at different levels of the educational system.

The human capital approach sees benefits of educational expansion as encompassing reductions in poverty, child mortality and fertility through to increases in tax collection and economic growth. A number of authors have questioned whether education can in practice fulfil the 'magic bullet' role ascribed to it (famously, for example, Pritchett 1999: 4). This article will revisit some of these concerns to put forward a number of arguments regarding education policy

<sup>1</sup> See Rose (2006) for a discussion of the conflict between these two approaches, and the eventual victory of the human capital approach in directing education policy and aid expenditure.

in sub-Saharan African countries. While the MDGs may not yet have been met in sub-Saharan Africa, they have been extraordinarily powerful vehicles for the mobilisation of resources around a UPE agenda. However, this article will make two interrelated arguments. First, UPE, on its own, is unlikely to generate the hoped-for economic benefits because it ignores the nature of benefits from education in sub-Saharan African countries, which are affected both by the nature of African labour markets and the political economy of education spending. Second, and relatedly, the MDG education goals are predicated on the concept of 'human capital', which, although widely accepted by mainstream economics, contains fundamental theoretical and empirical weaknesses (discussed below). 'Human capital' refers to the stock of skills and knowledge that result from a deliberate investment in education. The concept, first developed in its neoclassical form by Schultz (1960) and Becker (1964), sees human capital as being similar to physical capital. It is increased by investment in education, training and healthcare, with additional human capital yielding additional output through higher productivity. Moreover, rates of return to human capital, it is argued, may actually increase over some range due to spillover benefits, as one more-educated worker makes an entire group of workers more productive.

Thus, the human capital approach assumes that greater amounts of education will raise individual productivity thereby increasing income (and hence reducing poverty) and raising economic growth rates generally. The implication is that a supply of educated workers will create the demand for educated workers, and this will raise growth levels generally. If economic growth does not occur, then it is because of government-introduced distortions that prevent the efficient use of those with higher skills (Easterly 2002). As such, human capital theory is a special case of Say's Law; a textbook neoclassical economics proposition that suggests, in a perfectly operating set of markets, the very act of supplying of a good will always call forth its own demand. As we shall see, a Say's Law-approach to education is at odds with the operation of a real economy.

Overall, this article argues that even if African countries were able to meet the education MDGs in significant numbers, positive economic and social impacts would not be automatically forthcoming. These would only be assured if additional policies are put in place. These additional policies would focus both on a range of additional educational targets and on issues outside of education, such as industrial and trade policy. Indeed, a key conclusion from the evidence is that education expansion works best when in harmony with active trade and industry policies.

## 2. PROGRESS ON THE EDUCATION MILLENNIUM DEVELOPMENT GOALS IN AFRICA.

The MDGs in education have not yet been met in sub-Saharan Africa (SSA), although there is some confidence of partial success. Progress is monitored by UNESCO who use enrolment data calculated by national statistical systems to



create two indicators: the net primary enrolment ratio (NER)<sup>2</sup> and the primary completion ratio.<sup>3</sup> UN data for the region suggest an average NER of 74% (UN, 2009b), the lowest for any developing region. However, the UN optimistically predicts that region is on track to meet the primary enrolment target by 2015 (UN, 2009a). There is less optimism about the second measure of primary access, the completion rate (for which there is extremely limited data in SSA). Data for 2006 suggest an average regional completion rate of 62% (UN, 2009a), and the UN agree that the target for completion will not be met. Similarly, the goal of gender parity in primary and secondary education was not met by 2005, and gender parity in primary education stood at about 90 girls per 100 boys in 2007 (UN, 2009b). Progress in parity at the secondary and tertiary level has been slow and Africa as a region is seen to be 'highly unlikely' to meet the 2015 target (UN, 2009b: 17).

However, the education MDGs may be thought of by many as a success in SSA even though the goals themselves may not be met. This is because there have been significant increases in primary enrolment and improvements in the gender parity of primary education in countries over the last decade. UNESCO (2010) reports that, between 1999 and 2007, the average net enrolment ratio for primary education in sub-Saharan Africa increased from 56% to 73%, the fastest rate of growth in the world over this period. This reflects an increase of 42 million primary school pupils since 1999, with a total primary enrolment in the region of 124 million in 2007. Overall, as region, the limited data suggest that completion rates have also improved, with an average rise of 2% between 2005 and 2006 (UN 2009 African Progress). At the same time, there is also evidence of greater gender parity in primary school enrolments in many SSA countries. UNESCO (2010) calculates the regional gender parity index of the gross primary enrolment rate was 0.90 in 2007, compared with 0.85 in 1999.

This improvement in educational access cannot be attributed only to the setting of the MDGs. There have been striking improvements in educational access in many African countries over the longer-term. Many countries in SSA began their post-colonial periods with very low levels of educational access. Sender (1999) shows that in 1949-50, gross primary enrolment rates were approx 6% in French West Africa, 10% in Tanzania, 16% in Nigeria. This compares very unfavourably to, for example, Taiwan where they were almost 80% by the late 1930s or Korea where they were 45% in the early 1940s.

<sup>2</sup> The *gross primary enrolment rate* is the ratio of children of all ages enrolled in primary school to the country's population of primary school-age children. In areas, where some pupils are older or younger than the country's standard primary school age, the Gross Primary Enrolment Rate may exceed 100 percent. *Net enrolment rates*, on the other hand, calculate the number of children in the school system of the *legally specified* age as a percentage of the number of children of the relevant age in the population. However, the data on ages of enrolled children is often very poor and a range of other statistical problems are discussed below.

<sup>3</sup> The primary completion ratio is the proportion of children starting grade 1 who reach the last grade of primary education. However, this must be calculated on a country-by-country basis as the length of primary school differs across sub-Saharan African countries. The data for this is even more limited than that for the NER.

Again, the best historical data suggests that, by 1950, less than 10% of adult women were literate in Africa, compared to 80% in Chile, more than half in Mexico and Philippines, more than third in Thailand and more than fifth in Singapore.<sup>4</sup>

As a result of political desires to improve educational access from these dismal levels, the post-colonial period in many SSA countries saw extremely rapid increases in access. Overall, the region's *gross enrolment rate* (GER, see footnote 1) rose from 45 percent to 80 percent between 1960 and 1980, and absolute enrolment by approximately 260 percent, 'a level of growth not experienced by any other region at any time' World Bank (2009: 3). Certainly, the early period did not lack political will to expand education. The subsequent period, 1980 to 2000, exhibited declining GERs at the regional level, reflecting the economic crises of these decades. However, the experience was not uniform across SSA countries. Cameroon, the Republic of Congo, Ghana, Kenya, Madagascar, Nigeria, Tanzania, Zambia and Zimbabwe had all achieved a GER exceeding 100 percent during the 1965–85 period but experienced serious reversal by the mid-1990s (World Bank 2009:4). The richer SSA countries, like Botswana, Cape Verde, Mauritius, Namibia, the Seychelles, South Africa and Swaziland, were able to maintain high GERs over the period. Others still managed to expand educational access during the 1990s. The UN reports (2003:10) that, in the 1990s, Benin increased its primary enrolment rate and Mali its primary completion rate by more than 20 percentage points. Mauritania raised the ratio of girls to boys in primary education from two thirds to over 90 per cent in a period of seven years. Malawi and Uganda also made considerable progress in the 1990s. Bennell (2002:1183) shows that average annual growth rates in primary school enrolment between 1990 and 1998 were particularly rapid in Francophone West Africa for both girls and boys (6.3% and 5.3%) and in Eastern Africa (5.4% and 4.8% respectively), compared to SSA as a whole for that period (3.4% and 3.9% respectively).

Thus, a longer history of educational achievement in SSA countries suggests that there has been substantial improvement in primary educational access, although for some countries this has resembled more of a rollercoaster ride than a smooth increase over time reflecting contractions of education access as a result of economic crisis.<sup>5</sup> Most countries had already experienced significant expansion, prior to the adoption of the education MDGs in 1999. However, the MDGs appear to have cemented a trend increase in primary enrolment and have certainly promoted public expenditure on primary education in many countries, with UNESCO (2010:13) suggesting that '[c]ountries in sub-Saharan Africa devote a greater share of their education budgets to primary

<sup>4</sup> The extreme difference in historical starting points for various developing countries leads to a question about the usefulness of blanket international targets for educational access.

<sup>5</sup> This begs the question of the extent to which the current global economic crisis will erode some of the recent gains in educational access in some SSA countries. This is an area of some concern, with some specific debate around an erosion of gains for girls (see Cramer, Johnston and Oya 2009).

education than do other regions'. UNESCO data suggest that, in 2007, half the SSA countries for which data exist allocated at least 46.8% of the current education budget to primary education compared to 39.8% in South and West Asia (ibid:14).

A key feature of government financial support for education in many SSA countries has been the abolition of primary school fees. Since the 1990s, Burundi, the Democratic Republic of the Congo, Cameroon, Lesotho, Ghana, Ethiopia, Kenya, Malawi and Mozambique, Tanzania and Uganda have all abolished primary fees (World Bank 2009:4; Fleshman 2010). Such initiatives have been seen as essential for achieving UPE goals, while also in practice being necessary for domestic political support, with fee-abolition generally being an electoral promise (World Bank 2009:18). However, it should be remembered that in the 1960s and 1970s, free primary education had *also* been a key means by which many post-independence African governments had achieved the enrolment increases discussed above. For example, primary school fees were first abolished in Ghana in 1961, and in Kenya and Tanzania, in 1974 (World Bank, 2009:1). Fees were reintroduced in the 1980s in most cases as African countries were forced to reduce budget deficits as part of the conditionalities for loan funding from the IMF and World Bank.<sup>67</sup> The impacts on school enrolment were documented widely, most famously by the UNICEF study, *Adjustment with a Human Face: Protecting the Vulnerable and Promoting Growth* (Cornia, Jolly, and Stewart, 1987). It became clear that user fees were reducing the demand for education, particularly among the poorest.

The current UPE initiative appears to have coalesced donor support and government will to abolish user fees for primary education.<sup>8</sup> The result has been a substantial increase in total primary school enrolments. In the year following fee abolition, overall primary enrolments increased by 12 percent in Mozambique, 14 percent in Ghana, 18 percent in Kenya, 23 percent in Ethiopia, 51 percent in Malawi, 26 percent in Cameroon, 11 percent in Lesotho, 23 percent in Tanzania and 68 percent in Uganda (World Bank, 2009:4). The increases in the first few grades of primary school were even greater. For example, the increase in grade 1 in the year following abolition was 59 percent in Cameroon, 75 percent in Lesotho and 43 percent in Tanzania (ibid). Below

<sup>6</sup> The introduction of user fees was also in line with World Bank belief in the high rates of return to education discussed below, i.e. user fees were condoned as it was thought that education would still be individually beneficial. Furthermore, this was seen as congruent with a vision that insisted that public services be delivered efficiently (Rose, 2006:168).

<sup>7</sup> The affordability of the latest round of fee abolition is of some concern in the light of the global financial crisis, which will put pressure on government expenditure. Rose (2006:172) discusses the ethos of community financing, currently fashionable at the World Bank, which is seen as a way of raising finance for education without the disadvantageous impacts on enrolment. She argues that the community financing approach fails to consider how inequalities between and within communities are likely to develop.

<sup>8</sup> Rose (2006:171) argues that its support for free primary education allows the Bank to present itself as being 'developmental', 'pro-poor' and 'gender-aware', and thus has an important role in defence against earlier criticisms such as those made in Cornia, Jolly & Stewart (1987).

however, we will see that this has come at the cost of quality in some cases and, importantly, such initiatives have not in themselves been sufficient to ensure that the poorest access school.

### 3. REASSESSING MDG 'SUCCESS' IN EDUCATIONAL ACCESS.

The previous section suggests that we could broadly agree with UNESCO's proposition that SSA 'has made significant progress since the Education for All goals were adopted' (UNESCO 2010:1). Certainly there are greater numbers enrolled in primary education, greater government spending on primary education and in many cases, school fees have been abolished. However, there are reasons to be concerned about current access and about the claims which can be made about MDG achievements.

First, it should be noted that the data used to measure the net primary enrolment ratio is weak. Not only is the baseline population data poor for many African countries<sup>9</sup>, school enrolment data is usually collected at the start of the academic year and will not reflect actual rates of attendance or dropout during the school year. Lloyd & Hewett (2003:8-14) show that data from household-level surveys consistently generates lower school attendance across African countries than official administrative data. UNESCO (2010:3) themselves note that administrative data could overestimate enrolment by as much as 18% compared to household surveys.

A second reason for reassessing the apparent success of the MDGs in extending educational access in Africa is that the individual country-level data shows mixed results and even reversals for some countries in recent years. While UNESCO (2010) data for 2007 primary NER shows some African countries with a ratio of over 90%, such as Madagascar, Tanzania, Zambia and Uganda, several others have ratios of less than 50%, such as Niger, Eritrea and Liberia. Perhaps more worrying are the conflict-affected countries for which no data exist, such as the Democratic Republic of the Congo, Sierra Leone and Somalia, where it is generally thought that there is little progress or even reversals in educational access (UNESCO 2010:4). The data also suggest that there have been reversals in the primary NER for Cape Verde, Equatorial Guinea, Eritrea, Liberia and Malawi (ibid). The significant diversity between countries suggests that regional-level analysis is unhelpful, with important differences in educational access and outcomes reflecting varying government policies, as well as different colonial experiences. Certainly a blanket story of success in Africa is on shaky ground.

<sup>9</sup> Census data may be out-of-date or fail to take into account illegal immigrants or refugees. This issue may be particularly pronounced for many Sub-Saharan African countries where published population census data are often out of date and are likely to suffer from undercounting and misreporting due to issues of accessibility, risk and the conceptual problems of encompassing highly mobile populations and complex patterns of household formation (Sender, Cramer & Oya 2005).



Discerning the extent of educational access in particular countries is also problematic, as the national-level education data masks startling differences in school participation and attainment by class and gender. While the gaps in educational access between rural and urban households are well-known, recent studies show that rurality is not the only generator of educational disadvantage. Indeed, measures of inequality in educational attainment suggest a striking degree of inequality *between* rural households. Sahn & Stifel's (2004:22-24) calculations from household surveys for nine African countries suggest that most of the educational inequality in these countries was comprised of inequalities *within* rural areas.

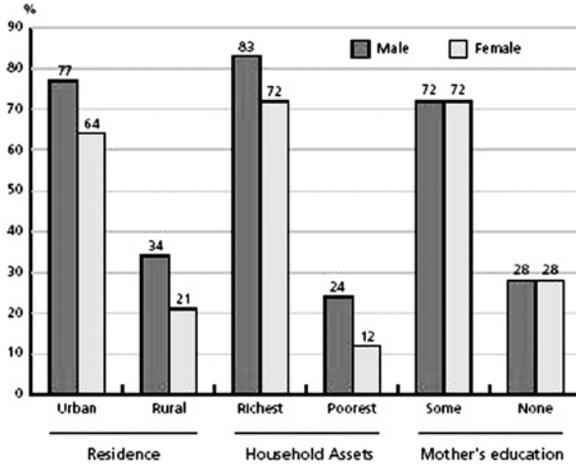
While clearly undermining simple stories about urban-rural differentials, the causes of rural inequality are not analysed in the Sahn & Stifel study. Other studies are more illuminating. UNESCO (2009) report on research using the most recent household surveys from SSA countries and argue that 'children from the poorest households are least likely to attend school, regardless of whether they live in urban or rural areas'. In countries with school attendance rates above 80%, children from poor households are heavily over-represented among out-of-school children. They account for more than 40% of the non-attending school population in countries like Cameroon and Kenya. Even in countries with lower levels of attendance reported in household surveys, such as Ghana, Mozambique, Nigeria and Zambia, the poorest quintile accounts for 30% to 40% of the out-of-school population. This research also found that the degree to which the poorest had benefited from recent expansions in education was highly varied. There were generally declines in educational inequalities between the richest and the poorest quintile, with particularly significant falls in Benin and Ethiopia, with declines of 15% or more. However, in some countries educational inequalities seemed to be increasing, with worrying trends in Kenya and Nigeria (UNESCO, 2009: 125).

Income-based disparities also intersect with wider inequalities. 'Out-of-school children' are often concentrated in particular genders and social groups. Figure 1 shows the sizable differences in educational participation in Guinea (UNESCO, 2003). Children in households that score low in terms of household wealth, as well as those who have a mother with no education, are much less likely to report having attended school in the last year. Moreover there are important interactions with residence, well-being and gender. One in eight girls from poor households attend school, compared to one in four boys from poor households.

Lloyd and Hewett (2003) use household surveys to investigate the disadvantage for poor girls and find an almost complete lack of basic educational opportunities for poor girls in Ethiopia, Senegal, Mozambique and Cote D'Ivoire. Poor girls are significantly more likely to achieve a basic education in Ghana, Malawi, Zambia and Tanzania, but only Kenya and South Africa have achieved nearly universal grade four attainment for both girls and boys. Studies of this kind led Sender, Cramer and Oya (2005:30) to conclude that there were

‘extraordinary inequalities’ in the access to education both *between* and *within* African economies. They argued that there was a strong case for prioritising resource allocation towards the poorest rural people, particularly towards poor rural girls.

FIGURE 1: NET ATTENDANCE RATIOS BY HOUSEHOLD CHARACTERISTICS, GUINEA.



Source: UNESCO, 2003, Global Education Prospects, Fig. 3.

The abolition of primary school fees is not in itself sufficient to deal with the lack of educational access by the marginalised. There are substantial costs faced by poor households aside from school fees, such as uniform, transport and textbook costs (Fleshman, 2010; World Bank, 2009), and the abolition of school fees has done little to improve primary completion rates among the poor. For example, Malawi and Uganda both abolished primary fees, yet between one-quarter and one-third of pupils drop out of the first grade (UNESCO, 2010:4).<sup>10</sup> Only 20% of boys and girls successfully complete the eight years of primary school in Malawi (Fleshman, 2010).

Indeed, fee abolition has in some cases substantially worsened educational quality, leading to reduced incentives to remain in school. This is clearest in Malawi (World Bank 2009), where substantial increases in enrolment led to soaring pupil-teacher ratios and high percentages of unqualified teachers.<sup>11</sup> The quality of primary education in Africa is generally perceived to be poor. For example, UNESCO (2003:16-17) studied reading literacy among pupils in the last year of primary school in six countries in Southern Africa in the mid-

<sup>10</sup> Fleshman (2010) notes that fee abolition in Kenya led many wealthier children to move to private schools as standards in public schools appeared threatened.

<sup>11</sup> There is also strong evidence of quality deterioration in Uganda and Kenya (Boissere, 2004:17).



to late-1990s and found that very few pupils achieved minimum literacy skill levels. The percentage of sixth-graders who met minimum skills levels ranged from 22% in Malawi to 65% in Kenya. At the same time, skills levels bore little relationship to measures of primary school completion, and so could not be proxied by this measure of the performance of the primary school system. More importantly, it is clear that the serious and well-documented problems faced by SSA countries in terms of educational quality (see UNESCO, 2010) are at their worst in areas of poverty and disadvantage. For example, in northern Uganda, regions affected by conflict had pupil-teacher ratios in excess of 90:1, almost double the national average (UNESCO, 2010: 8). A study of Mauritius from the mid- to late-1990s, found that less than one in three sixth-grade pupils from the poorest households achieved minimum reading literacy skills compared to 53% overall for this grade (UNESCO, 2003:17).

If the Universal Primary Education Initiative is interpreted as the ability of all children to complete a quality primary education, then two things are apparent. First, the formulation of the MDGs, with their overriding focus on enrolment (rather than completion) and on quantity (not quality), is unlikely to achieve this end. Second, and more specifically, it is evident that in many African countries initiatives such as fee abolition have not significantly promoted the educational attainment of the most disadvantaged. The original Education for All declaration in 1990 placed more emphasis on outcomes and quality than the reformulation as education MDGs (Boissiere, 2004:1). Merely creating more capacity in this way will not, however, be sufficient to achieve UPE with acceptable learning outcomes. This is because, without sizeable improvements in the quality of primary education, many poor children in SSA will benefit little from attending a few years of primary school (as we will see below).

The wealth and gender barriers to education must be dealt with if a universal primary education agenda is to be truly successful. Rather than blanket interventions to ensure school access (such as fee abolition), targeted interventions will be needed to help both girls and boys from poor households enrol at primary school and stay there. The experience of conditional cash transfers in South America and Asia suggests that they are effective ways of ensuring school enrolment among the most marginalised (Sender, Cramer & Oya 2005:34). Certainly the evaluations so far of the more recent social protection programmes in SSA countries suggest that enrolment and attendance can be boosted amongst disadvantaged groups in a similar way (UNESCO, 2010): in Burkina Faso, a national school feeding programme has increased enrolment among younger girls; in Ethiopia, the Productive Safety Net Programme seems to have increased education expenditure and improved attendance during droughts; and in Zambia a pilot unconditional cash transfer programme led to improved household expenditure on education and greater attendance among poor children. Baird et al. (2010) suggest that

both conditional and unconditional cash transfer pilots in Malawi reduced dropout by more than 40% and substantially increased regular attendance among adolescent girls.

#### 4. REASSESSING THE INDIVIDUAL BENEFITS OF EDUCATION.

The discussion above suggests that we should be cautious in claiming that the education MDGs have been successful in terms of expanding educational access and attainment. More fundamentally, there is widespread evidence questioning whether individuals obtain significant benefits from greater access to primary-level education in SSA countries. To understand this debate, it is helpful to go back to the original studies suggesting that an expansion of primary-level schooling would be beneficial to individuals. As Boissere (2004:3) notes, World Bank advice in the 1990s (in the form of the 1990 Bank *Policy Paper on Primary Education*) was based on evidence of the direct and positive impacts of primary education on earnings, as well as health and other social benefits.

Human capital theory implies that the relationship between educational and earnings can be calculated as a rate of return similar to the rate of return on physical capital. So-called *Mincerian* regressions (named after their originator) are used to relate changes in individual earnings to differences in the number of years of education.<sup>12</sup> Private rates of return compare all direct and opportunity costs of education (the earnings foregone as a result of being in education) and the future benefits in terms of lifetime earnings. Reviews of data on returns to education have suggested that in developing countries (and by extension in African countries) the highest rates of return to education (ROREs) are for the primary level. One of the most comprehensive recent reviews of the RORE evidence, by Psacharopoulos and Patrinos (2002) finds that the private rate of return to primary, secondary and higher education was 37.6, 24.6 and 27.8 respectively. It is assumed that the net social return is much higher due to externalities such as such as improved public health, diffusion of democratic values and practices, and more freedoms for individuals in society (Boissere, 2004: 2). These externalities, coupled with concerns about information asymmetry (meaning that parents do not know the returns to their child's education) and capital market imperfections (meaning that people are unable to borrow for educational purposes, even if they can repay the loan), provide the key rationale for public financing of education.

However, there are empirical and theoretical reasons to be concerned about these calculations of the individual ROREs. Bennell (1996) argues that the empirical base of these RORE calculations is so flawed as to render them virtually meaningless. Most of the data focus on the returns to education in public sector employment, when the 'unenumerated sector' is more important

<sup>12</sup> For a discussion of the technicalities of these regressions, see Boissere (2004:21-24).



in SSA countries. Also Bennell (*ibid*) argues that opportunity costs for primary education are underestimated, in the sense that the real and in-kind earnings from child-labour are ignored, while the opportunity costs for secondary and tertiary education are over-stated. A problem that Bennell identifies in the early calculations is that their data sources are older still, and so these calculations, even if carried out accurately, would not reflect the current returns in SSA countries given the substantial structural changes that have taken place.<sup>13</sup>

A range of new surveys with more comprehensive data have emerged for Ghana, Cote D'Ivoire, Kenya, South Africa, Nigeria, Rwanda, Uganda and Burkina Faso (Schultz, 2004; Lassibille & Tan, 2005; Appleton et al., 2003). These studies suggest, contrary to the pattern found in the earlier literature, that the highest returns come to higher levels of education. Thus, Lassibille and Tan's (2005) study of Rwanda found that an additional year of primary school yielded a return of 19%, of secondary school 29% and of tertiary education 33%. Shultz (2004:13) estimated private returns for an additional year of education in Ghana, comparing pairs of educational categories. Thus, enrolment from primary to middle school yielded a modest return averaging about 4 percent per year in this period, compared to no education. Returns from middle to secondary school (compared to primary) were larger, averaging about 11 percent, while university four-year degrees earned a return (over secondary certificates) which averaged about 16 percent per year. Similarly, Al-Samarrai and Bennell's (2003) study of Malawi, Tanzania, Uganda and Zimbabwe finds that that highest returns come to senior secondary or University education.

The factors behind this pattern of ROEs will be discussed in the next section, however, it is relevant to ask in this section who benefits from this pattern of returns to various levels of education. What is often missing from these studies of RORE is a political economy analysis of who is able to access various levels of educational expenditure,<sup>14</sup> although Al-Samarrai and Bennell (2003) do note that the completion of senior secondary and university-level education is limited to middle- or upper-income households. Elsewhere Bennell (2002:1186) notes that elites are increasingly sending their children to private primary schools in order to receive high-quality teaching that allows them ensured transition<sup>15</sup> to higher levels of public education (at secondary and tertiary levels) and access to high paying domestic and international employment.

<sup>13</sup> Indeed, and for the same reasons, it is doubtful if present day calculations are appropriate for estimating future benefits from education. Not only are economic structures likely to change (and hence the demand for semi-skilled and skilled workers) but also the substantial changes in the numbers engaged in education is likely to change the pattern of earnings benefits from education. See Fine and Rose (2001:161) for a discussion of the problems of extrapolating human capital returns.

<sup>14</sup> See Fine and Rose (2001:161) for a critique of the way that the RORE exercise treats education as a black box, failing to consider the social and political factors that shape the way that education systems deliver specific education services.

<sup>15</sup> Thin (2006) discusses the widespread problems with transition to secondary school in sub-Saharan African countries, due to the limited number of available places.

Given the much higher expenditure per pupil in public secondary and tertiary education<sup>16</sup>, this pattern of access of richer households to non-primary levels means that they are the greatest beneficiaries from public expenditure on education. Davoodi et al. (2003:21) use 10 studies from SSA countries to calculate the following benefit incidence from education expenditure in SSA as a whole:

TABLE 1: BENEFIT INCIDENCE OF PUBLIC SPENDING ON EDUCATION IN THE 1990s (UNWEIGHTED AVERAGE; IN PERCENT OF TOTAL SPENDING).

	All <sup>1</sup>		Primary		Secondary		Tertiary	
	Poorest	Richest	Poorest	Richest	Poorest	Richest	Poorest	Richest
Sub-Saharan Africa	12.8	32.7	17.8	18.4	7.4	38.7	5.2	54.4

(1) Consists of primary, secondary, and tertiary education. The components may not sum to the total because of differences in sample size across education levels.

Source: Davoodi et al. (2003), Table 2.

Table 1, drawn from studies of 10 SSA countries, shows that richest quintile of households benefit 2.5 times more from overall public education expenditure than the poorest quintile. This reflects the superior ability of elite households to access public secondary and tertiary education. The studies above were drawn from the 1990s, and so prior to the widespread abolition of primary school fees. However, there are indications that the abolition of primary school fees may improve benefit incidence somewhat. Davoodi et al (2003:26) show that education expenditure became significantly more pro-poor in Malawi after the abolition of primary fees. The share of benefits from primary spending accruing to the poorest quintile increased from 15 percent in the early 1990s to 25 percent in the late 1990s, after the abolition of fees in 1994. However, secondary level and tertiary level expenditure still provided greater benefit to the richest quintile than the poorest (21% to 18% and 58% to 1% respectively) (Davoodi et al., 2003:27). Woldehanna and Jones' (2006) study of the benefit incidence of education expenditure in Ethiopia before and after primary-fee abolition suggests that expenditure has become more pro-poor. Thus, the shares of the bottom quintile benefiting from primary and secondary education increase, from 8.48% to 22.60% for primary and from 4.32% to 9.88% for secondary (ibid:12). However, despite these increases, the richer quintile continued to benefit far more from secondary education (at 38.04%). The authors conclude that '[a]s benefits from secondary education expenditure are disproportionately captured by rich and urban households, measures need to be taken to allow more children from poor families to access secondary education' (ibid:25). They suggest that targeted cash grants could be used, with the aim of improving the access of the poorest girls in particular.

<sup>16</sup> For example, Woldehanna & Jones (2006:8) calculate that public spending per student was 47 Birr and 102 Birr per year in Ethiopia in 2004/5.

The evidence on the wider health returns of education similarly suggests that the benefits are clearest at the post-primary level. Thus, while there are general claims that higher education of girls promotes lower fertility, lower child mortality and greater demand by educated mothers to educate their own children (e.g. Colclough & Al Samarai, 2000; Schultz, 2002), the evidence is strongest for secondary level education.<sup>17</sup> Ainsworth et al. (1995) analyse household surveys for a number of SSA countries and find that the impact of primary education on fertility is generally limited in SSA. Indeed, in some countries, like Kenya and Nigeria, the fertility rate was higher for women with primary education than it was among uneducated women. Their study suggested that only post-primary education has a relatively large negative impact on overall fertility. Similarly Subbarao and Raney's (1993) study of the impact of education on child mortality focuses only on post-primary education.

The evidence in this section suggests that even if the education MDGs are met, with 100% enrolment in primary education, the economic and health benefits to individuals may not be large. Instead, the largest benefits clearly accrue to higher levels of education, specifically to secondary and tertiary education, and the poor rarely acquire these. The conclusion is that if we want to ensure the positive individual benefits of education in terms of higher incomes or better household health, then ways need to be found to encourage poor children to enter and remain in secondary school. However, the focus on primary level expenditure and improvement has precluded government or donor investment in other education levels. Thin (2006: 1) argues that in some cases the prioritisation of primary education has meant 'shifting both donor and government funds away from other levels of education' and that this has led to a failure to invest in the expansion of secondary in particular.

## 5. REASSESSING THE MACROECONOMIC BENEFITS OF EDUCATION.

What then of the economy-wide benefits of greater education? Growth theory, in either its old or new forms<sup>18</sup>, predicts that educational investments will raise growth rates. In new growth theory, a larger stock of human capital is thought to facilitate the production of new ideas and technological progress or, for an economy that is not on the technological frontier, the more rapid acquisition of new technology. Early justification for this view is provided by numerous cross-country regression studies which claim to find a strong link

<sup>17</sup> In general, the approach that links human capital to fertility change is clearly oversimplified. Historical studies that look at changes in women's fertility point to a far wider range of interacting factors, such as access to contraception, changes in health care, industrialisation, consumerism, proletarianisation, welfarism, and urbanisation (Fine & Rose, 2001:176). The complexity of the relationship is also illustrated by studies from other regions which show a far from uniform relationship between female education and fertility (Fine & Rose, 2001:171).

<sup>18</sup> See Fine & Rose (2001:160-1) and Boissere (2004: 8-10) for a discussion of the different approaches to the inclusion of human capital in old and new growth theory.

between levels of education, as measured by primary enrolment rates and growth.<sup>19</sup> The most well-known, Mankiw's (1995) study, found that investment in physical and human capital could explain as much as 78 percent of the per capita income differences among nations.

However, further investigation of the relationship between educational expansion and growth has been more critical of the relationship, especially in SSA countries.<sup>20</sup> Famously, Pritchett (1997) questions the earlier studies, both in their methodology and in using primary school enrolment rates as proxy for education. Using number of years of schooling completed instead, to take account of drop-outs and repeaters, he finds that there is no evidence of a link between education and growth, and that physical capital actually is more strongly correlated with growth outcomes. This prompts Pritchett to ask 'Where has all the education gone?' as he finds that there is no relationship between educational expansion and economic growth – especially for Africa.

The answer, for mainstream economists, who adopt the human capital perspective,<sup>21</sup> is to question how closely the environment corresponds to the perfectly-competitive markets of an economics textbook. Easterly (2002) suggests that an increase in the supply of skilled workers will reduce their relative cost and encourage the adoption of techniques of production embodying greater skill levels (or even their invention). As such, human capital theory is a special case of Say's Law, which argues that 'supply creates its own demand'. Advocates of Say's Law see market forces as working quickly, via price signals, to abolish both gluts and shortages of any individual good. The exception would be the case where the government or other non-market forces prevent price changes. Birdsall, Ross, and Sabot (1995) argue that countries need to avoid wage distortions that can lead to inefficient allocation of human resources, and focus on the dominance of the public sector in creating such distortions. They argue that countries that have the wrong balance between public and private sectors will experience wage distortions that do not lead to the most efficient use of educated workers. This conclusion is similar to that made by Knight and Sabot (1991) in their comparison of countries in East Africa. Their comparison of Kenya and Tanzania suggested that higher cognitive skills achieved a greater reward in the former, as socialist policies in the latter reduced labour market efficiency. Other mainstream economists point to wider factors in the economic environment. Both Goldin et al. (2002) and Easterly (2002) are concerned that the skills dividend from expanded education has been distorted by interventionist governments. For high skill levels to raise economic growth, there needs to be investment by entrepreneurs in new, skill-

<sup>19</sup> Other macroeconomic advantages have been predicted, such as an increase in tax revenue in poor countries, as greater education encourages individuals to leave the informal sector for the formal sector, and thus enter the ambit of government tax regulations (Schultz 2002).

<sup>20</sup> See Boissere (2004: 10-11) for a review.

<sup>21</sup> Thereby rejecting views of 'screening' and 'credentialist' views of the relationship between education and earnings (see Boissere, 2004:4-6).



using technology. However, if government policy has destroyed the incentive to invest, or encourages highly educated individuals to apply themselves in directly unproductive activities, this will not occur. Easterly's conclusion is that governments must stop distorting the economy and let the private sector use skilled workers in the most efficient way possible.

However, an alternative answer is suggested by the data on the returns to education (ROREs) in the earlier section. The pattern of ROREs found in recent studies of SSA countries reflects the workings of specific labour markets for skilled and unskilled workers. We saw that the ROREs had similar patterns across the countries studied, even if their absolute magnitudes were quite different. Specifically, primary education has generally become equated with low skilled work, while skilled employment requires a minimum of secondary completion in African countries (Bennell, 2002). Bennell (2002) argues the increase in entry-level education requirements has resulted from increasing competition for skilled employment in the context of sharp falls in formal sector wage employment opportunities in many African countries, following the economic crisis and liberalisation programmes in the 1980s and 1990s. At the same time, it is evident that low skilled work in the unenumerated sector did not generate high income returns, and this accords with other work that shows that the most disadvantaged workers tend to be working in this sector, with limited legislative protection or regulatory oversight (Sender, Cramer and Oya, 2005).

This discussion raises crucial questions regarding the concept of human capital. Fine & Rose (2001) have argued that it is a concept that is theoretically problematic and is typically used ahistorically. The treatment of education as a stream of costs and benefits does little to explain the nature of the educational process. This ignores the sociocultural context of education provision in the country under analysis, and the quality of schooling received. In practice as we have seen, education systems have very particular political economy and gendered dimensions, producing specific types of educational provision with varying degrees of quality. The impact on income-earning power has been uneven, but with clear evidence that wider macroeconomic factors have impacted on the relative benefits received by workers with different educational levels. This contrasts with the underpinnings of human capital theory, which suggests that the existence of skilled workers will automatically encourage entrepreneurs to establish activities that will use such skills (unless governments intervene too much or blunt incentives to invest). Human capital theory (and its incarnation in growth models) seems to be based on perfectly working labour and product markets. However, this is clearly not an accurate representation of the way in which opportunities for semi-skilled and skilled labour have developed in SSA countries. In contrast, as we have seen from the work of Bennell (2002) and others (such as Shafaeddin, 2005; Lall, 1995, and Noorbakhsh and Paloni, 2000), formal sector employment in SSA countries has been affected by wider economic conditions and liberalisation policies that often cut back on the size of the civil service, dismantled state-owned

industrial enterprises and opened domestic markets to imported goods. In this context, a reduction in the size of the state took place at the same time as a contraction in the size of formal, regulated labour markets. Rather than the fault of government intervention, it is argued that the failure of education to raise growth rates has been due to programmes of economic liberalisation, which have led to the collapse of markets for skilled labour and undermined working conditions in many SSA countries. The result is that the potential benefits of schooling at the macroeconomic level have not been realised.

What could change this outcome? Many authors have argued that there need to be active trade and industrial policies to boost economic growth rates in SSA countries. At the same time, this suggests that, for the educational MDGs to impact on economic growth generally, they must be an integral component of well-conceived, and adequately-resourced, national industrial and trade policies. Increased education will only facilitate rapid growth where investment was also made in job creation. This calls for far-reaching government intervention and requires the state to play a much more active role than has generally been envisaged in the current debate. However, the requirements for a successful long-term high skill strategy are likely to far more complex. Fine and Rose (2001:174) argue that a high skills strategy results from a complex interaction between the characteristics of the education sector and the industrial sector, as well as technological characteristics and broader socio-economic factors. For example, this would include: elite and employer commitment to skill formation; the provision characteristics of the education system in the area of language, science, maths and IT; regulation and accountability of training at the workplace; and workers' commitment to the education and training system. They argue that this interaction is 'hardly reducible to a more or less refined human capital approach' (Fine & Rose, 2001: 174).

## 6. CONCLUSIONS.

Education has been seen as Africa's 'magic bullet': raising national income levels, reducing poverty, supporting democracy, ameliorating child mortality, suppressing fertility and finally empowering those, particularly women, who benefit from it (Boissere, 2004:1). Many SSA countries have had an extremely rapid improvement in educational enrolments over the long-term with some acceleration in recent years. However, we have seen something of a disjuncture between the education MDGs and the goal of a quality education available to all. We have seen that many of the simplistic claims that are often made on behalf of the expansion of primary education have not been borne out: that it would accelerate widespread growth; and that it would raise the incomes of the poorest. The implication is that the positive impact of education depends on two things: the profile of those who are able to access education of different levels; and, importantly, the manner in which the labour market is impacted by wider trade and industrial policy. The conclusion is that education improvements are

essential for development in Africa, but that education policy must form an integral part of a wider, *active* trade and industry policy that encourages the creation of employment opportunities.

Improving the educational access of the disadvantaged will be key to poverty reduction. However, the abolition of primary school fees will not be enough to ensure this. The most disadvantaged are usually poor girls in rural areas. Conditional and unconditional cash transfers aimed at poor families have the potential to make a valuable contribution, although these poor girls and boys need opportunities for transition to higher levels of education, and for gainful semi-skilled and skilled employment, to realise the long-term benefits of education. As for those who presently obtain only a few years of primary education, they are unlikely to see substantial income gains until there is greater legislation and enforcement of the rights of unskilled workers. Such workers, particularly in the agricultural and domestic service sectors, generally are not covered by minimum wage legislation, labour inspectorates or trade unions. Sender, Cramer and Oya (2005:63-4) argue that legislation needs to be extended to cover these workers, while greater resources are dedicated to inspectorate services. Importantly the capacity of trade unions needs to be increased through specialist initiatives to increase the 'voice' or bargaining power of the most vulnerable workers, with the lowest levels of education.

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