



Education subsidy and school enrollments in rural Ghana



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ABSTRACT

This paper examines how education subsidy to basic schools has affected school enrollment in rural Ghana. The quest to achieve Universal Primary Education led to the introduction of the Free Compulsory Universal Basic Education policy in the mid-1990s, abolishing all fees in basic schools. The question then is, to what extent have those spending increases been effective in reaching poorest households? Combining the willingness-to-pay literature with benefit incidence analysis, the results indicate that basic schooling in rural Ghana is generally progressive with benefits more equally distributed than household expenditures.

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1. Introduction

Education for All (EFA) movement and the UN millennium declaration (MDG 2) have been pushing for universal primary education (UPE), especially in developing countries. Some developing countries have responded to this clarion call by launching free education policies as the main strategy for achieving EFA. Between 2000 and 2006, 14 developing countries formally abolished tuition fees for primary schools (UNESCO, 2007), while many others have even introduced school feeding programs as additional incentives for achieving EFA.

Free education in theory, reduces the private cost of schooling, creates a greater freedom of school choice, increases school enrollments, and ensures a higher private rate of return to education. However, if quality is not sustained, this could discourage some people from participating in the education system. The initial spurts in enrollments due to free education could create excess demand for education, which if supply does not respond could lead to falling

standards. Some dissatisfied parents may be compelled to turn to private schools where quality is presumed to be higher or withdraw their children from school entirely. As noted by [Glick and Sahn \(2001\)](#), the growing demand for private schooling in recent years in developing countries could be pointing to a growing dissatisfaction with the public education system, due to deterioration in the quality of public schools. [Nishimura and Yamano \(2008\)](#) found in Kenya that the introduction of the free primary education policy has led to a mass transfer of children from public to private schools.

Some analysts also argue that fee-free education may not make the expected impacts on poorer households if parents perceive the opportunity cost of a child's schooling to be high. In most cases, the cost of sending a child to school goes beyond tuition and includes other direct (books and stationary, feeding, transport, etc.) and indirect costs (opportunity cost of a child's time spent at school). Child labor and other forms of child exploitation account for the opportunity cost of children's schooling, especially those from poorer households. This implies that, unless these costs are lowered, the poor's participation in the free education system will be highly limited.

Ghana introduced the Free Compulsory Universal Basic Education (FCUBE) policy in 1995 promising universal education by 2005 ([Akyeampong, 2009](#)) with supports from donors, mainly the World Bank. The FCUBE set out to address four main constraints to the

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provision of good quality universal basic education in Ghana: (i) poor teaching and learning resulting in poor performance of children throughout the basic education level; (ii) inadequate access to educational services; (iii) weak management capacity at all levels of the educational system; and (iv) unsatisfactory financing arrangement for the educational sector (MOE, 1996). Three implementation strategies were adopted: improving quality of teaching and learning; management for efficiency, and access and participation (MOE, 1996).

To increase enrollment, the capitation grant and the school feeding programs were introduced in 2005, which sought to provide schools with a little grant of \$3.0 for every child enrolled and children with one hot meal a day, respectively. The free school uniform and free exercise books concepts were also introduced later. Consequently, budgetary allocations¹ to the education sector have been stepped up, reaching about 20% of total expenditures (about 5% of GDP) and about 74% social spending in 2005 (Osei et al., 2007), with basic education grabbing the lion's share of about 63% of total public education spending in 2005 (MOES, 2006). Prior to the FCUBE, total government expenditure on education had accounted for 3.8% of GDP in 1992 (Demery et al., 1995) while the share of basic education in total education budget had averaged 70.2% between 1990 and 1994 (Canagarajah and Ye, 2005).

In spite of these spending increases on basic education, analysts believe that the impact of FCUBE on school enrollments was slower compared with similar programs in other African countries (e.g. Uganda) because the policy did not lead to significant reductions in schooling costs to poorer household. High opportunity costs of schooling, especially for poorest households, late entry, overage attendance, and child labor still pose major threats to the FCUBE (Akyeampong, 2009). As the FCUBE appears to have missed on its promises, emphasis has subsequently shifted to MDGs 2 (achieving universal primary education by 2015), using the FCUBE as the main vehicle.

As 2015 draws near, the questions that arise are to what extent have poorer households benefited from public expenditures under the FCUBE? To what extent does increasing subsidies to basic schools have improved access to, and utilization of public schools? And what other factors aside education subsidy influence school enrollments? These issues form the focus of the paper. We use a combination of benefit incidence approach and the willingness-to-pay approach (nested multinomial logit model) to analyze the distributive effect of public education subsidies in rural Ghana. The benefit incidence analysis enables us to examine the distribution and utilization of education services in rural Ghana while the nested multinomial logit model allows us to examine the factors influencing households' utilization and choice of public schools as well as to conduct some policy simulations.

The rest of the paper is organized as follows. Section 2 examines the method of analysis. Section 3 deals with data sources. Section 4 discusses the result while the Section 5 provides the concluding remarks.

2. Determinants of school choice: empirical evidence

Sackey (2007) examines the determinants of school attendance and attainment in Ghana. Using micro-level data from the Ghana living standards surveys and gender disaggregated probit models on current school attendance and attainment he finds that parental education and household resources are significant determinants of schooling. The effect of household resources on current school

attendance is higher for daughters than it is for sons. Gaddah et al. (2014) examined the determinants of school choice in Ghana using the Ghana Living Standards Survey 5 and find that beside other household characteristics; distance to school is an important determinant of school enrollment. Meanwhile, Vuri (2008) examined the impact of distance to school and school availability on households' decisions concerning primary age children's time allocation between work, schooling and household chores activities using data from the Ghana Living Standard Survey 1998–1999 and the Guatemalan Living Standards Measurement Survey 2000. Overall, he finds that the increased and eased access to school has a well-defined impact on children's time use. In Ghana, the availability and the travel distance to schools (both primary and middle) in the community influence children's work in both economic activities and household chores and children's school attendance. The longer the travel time to school the more difficult it is for children to reconcile work and school attendance.

Literature on the educational enrollment has also considered the impact of educational policy on enrollment. For instance, Nishimura and Yamano (2008) examine the impact of the Universal Primary Education policy on primary schools in rural Kenya and find that school quality impacts positively on the choice of private primary schools and that, children in relatively richer households tend to transfer from public to private schools even after the free primary education policy was introduced. Glick and Sahn (2006) find in Madagascar that fee increases reduce public and total (public plus private) primary enrollment proportionately much more for the poor than the well-off, making the distribution of schooling less equitable. They also find that improvement in public school quality tends to benefit the poor disproportionately. Younger (1999) assesses the relative progressivity of public services in Ecuador in 1994, and finds that in education, primary education is the most progressive, followed by secondary education, public universities and then private universities. Household income, parental education and other household characteristics are important determinants of a child's school enrollment.

3. Methodology

3.1. Benefit incidence analysis

Benefit incidence has become a fairly standard first line method of assessing the impact of public expenditures. One key issue is the degree of progressivity in benefits, usually depicted via concentration curves. The concentration curve is a normative tool similar to the Lorenz curve, and plots the cumulative shares of individuals in the population, ranked by household expenditure per capita/per equivalent adults on the x-axis and the cumulative shares of benefits on the y-axis. However, unlike the Lorenz curve, which represents the cumulative percentage of total income held by a cumulative proportion of the population (after ordering income in increasing magnitude), a concentration curve can lie above the diagonal—the poorest 40% of the population cannot earn more than 40% of total income, but they can receive more than 40% of total benefits from public spending (Hakro and Akram, 2007).

The concentration curves are compared against two benchmarks—Lorenz curve of household expenditures and the 45-degree line as shown in Fig. 1—which yields two measures of progressivity: 'Expenditure progressivity' or simply progressivity and 'per capita progressivity' (Younger, 1999; Sahn and Younger, 2000). If a concentration curve is at all points above (dominates) the Lorenz curve then the benefit is said to be progressive—it is more equitably distributed than household expenditures. A concentration curve that lies above the diagonal (45-degree line) is said to be per capita progressive (pro-poor)—poorer households receive disproportionately larger shares of the benefit. A concentration curve that lies

¹ Government of Ghana (GOG) is the main financier of education, and contributed over 80.0% of total educational expenditures between 2004 and 2006, including highly indebted poor country (HIPC) initiative relief and District assembly common fund (DACF).

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