
Public Social Spending in Africa: Do the Poor Benefit?

Florencia Castro-Leal • Julia Dayton • Lionel Demery • Kalpana Mehra

Education and health care are basic services essential in any effort to combat poverty and are often subsidized with public funds to help achieve that purpose. This paper examines the effectiveness of public social spending on education and health care in several African countries and finds that these programs favor not the poor, but those who are better-off. It concludes that this targeting problem cannot be solved simply by adjusting the subsidy program. The constraints that prevent the poor from taking advantage of these services must also be addressed if the public subsidies are to be effective.

Public subsidies for social services such as education and health care rest on two basic policy objectives—efficiency and equity. Efficiency gains can be achieved when the subsidies produce external benefits or correct for a market failure. Equity is also an important objective of public spending. Education and health care, in particular, are understood to be basic services that are essential in any fight against poverty. The World Bank's strategy for poverty reduction, for example, combines broad-based growth with human capital development (World Bank 1990). And for that, public subsidies on investments that enhance human capital must benefit the poor.

To what extent has public social spending in Africa been effective in reaching the poor? To answer this question, this article reviews the benefit incidence of government spending. It finds that government subsidies in education and health care are poorly targeted to the poor and indeed favor those who are better-off. Improving targeting to the poor involves not simply rearranging the public subsidies but also addressing the constraints that prevent the poor from accessing these services. The article examines these issues by reviewing the evidence on the benefit incidence of health spending in seven African countries and education funding in nine countries in the region.

What Is Benefit Incidence?

Measuring the benefits of publicly provided goods to individuals is a matter of long-standing concern in the economics literature. For market-based goods and services, the prices consumers pay can be taken as reflecting underlying values and can be used to yield measures of welfare that can be compared across individuals and over time. But when governments subsidize the provision of private goods (such as health care, education, and many infrastructure services), the supply is usually rationed, and the price paid (if any) does not necessarily reflect the marginal value to individual consumers.

Two broad approaches have been pursued to measure the value to the beneficiaries of government-subsidized goods and services. The first, based on the Aaron and McGuire (1970) methodology, emphasizes the individual's own valuation of the good (that is, the demand, or virtual, price). The difficulties inherent in estimating these prices led to the development of a less demanding approach (reviewed by de Wulf 1975 and Cornes 1995) that values publicly provided goods at their marginal cost (Brennan 1976). This second approach is called *benefit incidence*; it combines the cost of providing public services with information on their use to show how the benefits of government spending are distributed across the population (Meerman 1979, Selowsky 1979, van de Walle and Nead 1995). Until recently no such studies had been undertaken in Africa. This article fills that empirical gap.

A benefit incidence analysis involves three steps:

- Estimating the unit cost per person, or unit subsidy (in current expenditures), of providing a service.¹
- Imputing the unit subsidy to households or individuals who are identified (usually from household surveys) as users of the service. Individuals who use a subsidized public service in effect gain an *in-kind* transfer. Benefit incidence measures the distribution of this transfer across the population.
- Aggregating individuals (or households) into subgroups of the population to compare distribution of the subsidy among different groups. The most common grouping is by income or a related measure of the welfare of the individual. The studies reported here group individuals according to the total expenditure per capita of the households to which they belong.²

Health Spending in Africa

Recent improvements in household survey data that provide information on the welfare of households and their use of public services offer an opportunity to estimate the distribution of government subsidies in the social sectors. This section re-

ports estimates of the benefit incidence of public health spending in Côte d'Ivoire, Ghana, Guinea, Kenya, Madagascar, South Africa, and Tanzania.

Health Care Delivery Systems

The public health systems in the seven countries are very similar (with the exception of South Africa, which has a much more developed private sector). Typically, public facilities provide more than two-thirds of the medical care in these countries. Private nonprofit (mostly charitable) organizations provide the remaining one-third. In Tanzania, for example, private nonprofit hospitals account for about half of all hospitals and about 3 percent of all health centers. Private for-profit medical care is increasing in most of the countries, but from a low base.

Table 1 shows how households respond to an injury or illness. (Country coverage varies in the tables that follow depending on the availability of data. Thus, for example, Kenya is not included in table 1, and Tanzania is not included in table 2.) These responses reflect the availability, cost, and quality of health services, as well as the circumstances of the individual households. The results are not strictly comparable across countries because the design of the survey instruments is not standardized. Moreover, the results suggest a bias: poorer households are less inclined to report illness than are their better-off counterparts. Perhaps that is because the poor accept illness as a normal feature of life and do not consider it an event. Lower reporting could also occur because poorly educated respondents are less likely to recognize untreated illnesses, a problem that is discussed by Chernikovsky and Meesook (1986) and van de Walle (1995).

Evidence from these countries shows that patterns of treatment are strikingly different across household groups:

- The poor are more inclined to self-treat than are the rich, and they are less likely to seek private modern care.
- The richest groups rely heavily on publicly provided care, particularly in Côte d'Ivoire, Guinea, and Tanzania. Only in South Africa is there evidence of the richest groups opting out of the state system in favor of private care.
- The poor rely mainly on the public system, but the private sector is important for both the poor and the nonpoor in Ghana, South Africa, and Tanzania.
- Interestingly, with the exception of Guinea, there is little reliance on traditional health providers.³

These countries have three-tiered public health systems, with basic clinics and dispensaries at the first level, district-level hospitals at the secondary level, and referral and specialty hospitals at the tertiary level. Resources (and hence services) are generally concentrated at the tertiary level; typically, less than 25 percent of recurrent expenditures accrue to the primary level. The public systems are traditionally

Table 1. Illness and Treatment Response in Selected African Countries
(percent)

Country, year, and quintile	Ill during previous four weeks	Response of those ill			
		No care	Modern public care	Modern private care	Traditional care
Côte d'Ivoire, 1995 ^a					
Poorest	30	73	26	1	—
Richest	50	35	55	10	—
Ghana, 1992 ^a					
Poorest	33	59	23	14	4
Richest	58	43	28	24	5
Guinea, 1994					
Poorest	24	60	15	0	26 ^b
Richest	32	31	52	6	10 ^b
Madagascar, 1993 ^a					
Poorest	20	72	20	3	5
Richest	34	52	29	16	3
South Africa, 1994 ^a					
Poorest	12	25	46	23	6 ^c
Richest	26	14	9	74	3 ^c
Tanzania, 1993/94					
Poorest	12	42	37	17	3
Richest	22	27	32	39	1

— Not available.

a. The reference period was two weeks, so proportions were multiplied by 2 to make estimates approximately comparable.

b. Refers to private care received at home.

c. Includes all other providers.

Source: Côte d'Ivoire, Demery, Dayton, and Mehra (1996); Ghana, Demery and others (1995); Guinea, World Bank (1996b); Madagascar, World Bank (1996a); South Africa, Castro-Leal (1996a); Tanzania, World Bank (1995).

subsidized from general revenues, although recently each country has implemented cost recovery at most public health care facilities to help finance services and to improve quality. In almost all countries, health care personnel (particularly physicians) are concentrated in urban areas, where they provide tertiary-level care, and are comparatively scarce in rural areas.

Although resources and services are heavily focused on specialized health care, the main causes of illness and death in all seven countries are preventable and easily treated diseases, such as acute respiratory illness, diarrhea, and malaria. In Madagascar it is estimated that 90 percent of illnesses could be prevented or treated at the primary level, provided the services are of good quality and accessible to the majority of the population (World Bank 1996a:79). In an effort to provide better primary and preventive care, most of these countries have begun to decentralize public health

care systems. Several have recently modified the structure of their health care systems, but few have actually made major resource reallocations. In Côte d'Ivoire the share of total recurrent expenditures devoted to primary care was scheduled to increase from 35 percent in 1991 to 42 percent in 1995. Instead, the share declined in that year to 32 percent.

Unit Subsidies in Health

Estimates of the unit subsidies for public health care in six African countries are given in table 2. The unit subsidy represents the net current cost to the government of an individual visit to a health facility. It is computed as total recurrent spending on facilities, less any revenue from cost recovery (the amount that is returned to the treasury), normalized by the number of visits. Typically, this figure is obtained from government accounts. In some cases, visits are estimated from the household survey used to identify users of the facility. In others, health ministry data are used. The subsidy for a visit to a health center or primary health clinic is generally less costly to the government than a visit to a hospital, and outpatient visits are substantially less costly than inpatient visits. In Ghana an outpatient visit is one-tenth the cost of an inpatient visit, and in Guinea the ratio is 1 to 7.

Unit cost data are limited in several respects. First, only in some cases—Ghana and South Africa—do the data refer to actual recurrent spending on health facilities; in the other countries, they are based on budgeted expenditures, which may differ significantly from outcomes. Second, there is little disaggregation by type of facility, type of consultation, or region of the country, masking variations in the costs of consultation. The unit costs were generally averaged into two groups—visits to health centers and visits to hospitals. No distinction was made between different types of hospital care (such as secondary and tertiary hospitals). And making a distinction between outpatient and inpatient visits was feasible in only two countries, Ghana

Table 2. Unit Health Subsidies by Facility in Selected African Countries

<i>Country/year</i>	<i>Monetary unit</i>	<i>Health center</i>	<i>Hospital</i>	
			<i>Outpatient</i>	<i>Inpatient</i>
Côte d'Ivoire, 1995	CFAF	1,252		1,787 ^a
Ghana—Accra, 1992	Cedis	6,489	4,044	49,553
Ghana—other, 1992	Cedis	1,129	1,275	14,427
Guinea, 1994	GNF	902	1,321	7,926
Kenya (rural only), 1992/93	K Shs.	15		151 ^a
Madagascar, 1994	FMG	1,413		2,136 ^a
South Africa, 1992/93	DBSA	98		516 ^a

a. Average cost of all hospital visits.

Source: For Kenya, see Dayton and Demery (1994); for other countries, see table 1.

Table 3. Benefit Incidence of Public Spending on Health for the Poorest and Richest Quintiles in Selected African Countries
(percent)

<i>Country/year</i>	<i>Quintile shares of</i>								<i>Total subsidy as share of household expenditures</i>	
	<i>Primary facilities</i>		<i>Hospital outpatient</i>		<i>Hospital inpatient</i>		<i>All health</i>		<i>Poorest</i>	<i>Richest</i>
	<i>Poorest</i>	<i>Richest</i>	<i>Poorest</i>	<i>Richest</i>	<i>Poorest</i>	<i>Richest</i>	<i>Poorest</i>	<i>Richest</i>		
Côte d'Ivoire, 1995	14	22	8	39	—	—	11	32	2.0	1.3
Ghana, 1992	10	31	13	35	11	32	12	33	3.5	2.3
Guinea, 1994	10	36	1	55	—	—	4	48	—	—
Kenya (rural only), 1992	22	14	13	26	—	—	14	24	6.0	1.1
Madagascar, 1993	10	29	14	30	—	—	12	30	4.5	0.5
South Africa, 1994	18	10	15	17	—	—	16	17	28.2	1.5
Tanzania, 1992/93	18	21	11	37	20	36	17	29	—	—

— Not available.

Note: Hospital subsidies combine in- and outpatient spending in Côte d'Ivoire, Guinea, Kenya, Madagascar, and South Africa.

Source: See tables 1 and 2.

and Guinea. Further, a lack of data on regional health expenditures means that unit subsidies were generally computed at the national level. In Ghana and Madagascar, however, where regional data were available, differences among regions were significant. For example, spending per visit to a primary health care facility in Accra was almost six times that for other areas of Ghana. Such inequalities may also hold in other countries but were masked in the aggregate data to hand. It should be emphasized that the data for South Africa are for 1992–93, to correspond to the household survey year. A great deal has changed since then, with the election of the Government of National Unity. And these changes will undoubtedly influence the benefit incidence of health (and education) spending.

Who Benefits from Health Subsidies?

By combining the unit costs of health care delivery with the use of publicly funded health facilities, we can estimate the benefit incidence of government spending on health. For convenience, we report here the benefit incidence of spending to the poorest quintile (that is, the poorest 20 percent of the population, ranked by expenditure per capita) and the richest quintile (table 3).

Two clear messages emerge. First, health spending in Africa is not well targeted to the poorest. Typically the share of the subsidy to the poorest quintile was significantly less than that to the richest 20 percent. The inequality was greater in some countries (notably Côte d'Ivoire, Ghana, Guinea, and Madagascar) than in others, but overall, the poorest 20 percent of the population received less than 20 percent of the subsidy. Moreover, the share received by the richest quintile was far in excess of 20 percent (except in South Africa, where the richer households rely on private care; see table 1). The second message is that health spending is reasonably progressive; the subsidy to the poorest quintile amounts to a higher share of that group's total household expenditures than did the subsidy to the richest quintile (see table 3). This progressiveness was particularly striking in South Africa but was also true of the other countries. This finding suggests that if the government gave all households an annual income transfer, rather than subsidized health care, income-expenditure distribution would improve, other things being constant.

Understanding the Benefit Incidence of Health Subsidies

To understand why health spending is not targeted to the poor in Africa, it is helpful to look at the allocation of health budgets to different levels of service—notably, hospital and nonhospital care—and the poorest quintile's share of total visits for each level of service. These two measures are obviously related: as governments change the allocations of spending across subsectors, they influence the way households choose

among treatment options, which would in all probability change the quintile shares of health visits. For convenience we examine each in turn.

The allocation of spending across services within the health sector is not favorable to the poor. Governments allocate significant shares of their health budgets to hospital-based services, which the poor generally do not use. In Ghana, for example, two-thirds of the health budget was spent on hospital services; a major portion went to one large teaching hospital in Accra. In South Africa the share allocated to hospitals was 89 percent. And in both Madagascar and Kenya more than half of the health budget was devoted to hospitals. It is safe to say that targeting health spending to the poor in Africa would require spending less on hospitals and more on primary facilities.

Spending on hospital-based health care, however, can be justified to some extent because many large hospitals train medical personnel for lower levels of care. Moreover, one of the reasons why governments subsidize tertiary health services is that there is no insurance market. Households in developing countries cannot insure themselves against the risk of serious illness or injury and the consequent need for very expensive treatment. As the data show, this allocation of the health subsidy can be at the expense of the equity objective, because the poor tend not to use hospital services.

In Kenya, South Africa, and Tanzania, budget reallocations toward primary care would in themselves improve the targeting of spending to the poor. There, the poorest quintiles use primary facilities in good measure, gaining about one-fifth of the primary subsidy—a pattern similar to that found elsewhere in the developing world (Demery 1997). But in the other African countries, budget reallocations alone would not necessarily fix the targeting problem. In Côte d'Ivoire, Ghana, Guinea, and Madagascar the share of the subsidy received by the poorest quintile was low at all levels of health care, including primary facilities. Given the costs and benefits involved, household decisions about using publicly subsidized health care services result in far fewer visits to primary facilities from poor households than from better-off ones. The point is that budget reallocations must be accompanied by increased use of primary facilities by poor households. To identify the interventions that would have this effect, it is necessary to understand why the poor limit their use of publicly funded health facilities.

We consider here five principal factors that affect the use of health services by the poor: income, service quality, access, direct user charges, and gender.

INCOME. Health care is a normal good, which means that household spending on health—and the use of health facilities—increases with income (table 4). But as table 1 shows, the richest groups use mainly publicly subsidized health care (except in South Africa). In Ghana the richest quintile directed almost 60 percent of its health spending to the public sector, much of it on hospital consultations (Demery and others 1995). This means that health spending is very unlikely to be targeted to

the poor. Given the fundamental influence of income on the demand for health care, the only way in which public subsidies can be well targeted to the poorest is by diverting the demand for health care by those who are better-off to the private sector. That is no easy task in countries where private health care is generally poorly developed, largely because of the dominance of the public sector. This change has to be considered a long-term objective. In the meantime, are there other factors amenable to shorter-term policy interventions that might mitigate this powerful income effect?

QUALITY DIFFERENCES. Alderman and Lavy (1996) report that the demand for health care is sensitive to the quality of the service provided. Even the poor limit their demand for health care when services are of poor quality. But the poor are less sensitive to *changes* in quality of service (Lavy and Germain 1994). Thus uniformly poor-quality service would discourage demand more among the rich than the poor, which would be inconsistent with the observed share of each quintile's participation in health care services. The observed pattern can therefore be explained only by significant *differences* in the quality of service offered to the rich and the poor. So, for instance, drug availability, staff skills, and the quality of health facilities may vary considerably and to the disadvantage of the poor. Is there any evidence of such variations in quality? A special survey of health facilities designed to accompany the Ghana Living Standards Survey of 1989 suggests that there is (Lavy and Germain, 1994:13). And the earlier discussion of unit subsidies in Ghana implied the presence of large variations in quality (table 2). Similarly, in Antananarivo, the region in Madagascar where most (23 percent) of the poor live, the government unit subsidy for basic

Table 4. *Per Capita Household Spending on Health in Selected African Countries*

Country, year, and quintile	Health spending ^a	Share of health spending (percent)	
		Nonfood expenditure	Total expenditure
Côte d'Ivoire, 1988			
Poorest	3,347	13.4	5.4
Richest	14,407	6.3	3.7
Ghana, 1992			
Poorest	2,964	12.7	4.6
Richest	12,452	7.5	3.4
Madagascar, 1993/94			
Poorest	1,133	6.9	1.8
Richest	4,581	1.5	0.7

a. Spending figures for Côte d'Ivoire are in CFAF; for Ghana in cedis; and for Madagascar in FMG.
Source: See table 1.

health care was just 41 percent of the subsidy going to the richest region, Antsiranana, with a total poverty headcount of only 7 percent (World Bank 1996a). These comparisons suggest that there may well be differences in the care provided at different health facilities, to the disadvantage of poorer households.

ACCESS AND OPPORTUNITY COSTS. Poor households, which are often some distance from government health facilities, typically face long journeys and high opportunity costs to obtain health care. In South Africa, for example, those in the poorest quintile must travel almost two hours on average to obtain medical attention, compared with an average of 34 minutes for the richest quintile (Castro-Leal 1996a). The Ghana Living Standards Survey of 1992 also recorded longer travel and treatment time for poorer households. Time spent away from economic activity represents much greater private opportunity costs for the poor, who, unlike their salaried counterparts, have to forgo income in order to obtain medical care. These costs can dominate the decision to seek care.

Lavy and Germain (1994) found that halving the distance to public health facilities in Ghana would increase their use among the population at large by an estimated 96 percent. In Kenya distance was also a significant factor in the demand for health care, although not as dramatic as in Ghana (Mwabu, Ainsworth, and Nyamete 1993). Lavy and Germain (1994) found that the poor were willing to pay less than the nonpoor in absolute terms, but more relative to their income, to reduce the distance traveled. Gertler and van der Gaag (1990) found that individuals at the lower end of the income distribution in Côte d'Ivoire were far more sensitive to changes in the time required to obtain care than were those at the upper end. Time, in effect, rations the market. These studies are based on cross-sectional evidence, however, so direction of causation is uncertain; the relationship between use and distance might be capturing the effect of geographic variations in health care utilization on government decisions about placement of health facilities rather than the other way around.

PRICE. The cost of a medical consultation is far more of a burden for the poor. And ample evidence suggests that when prices are raised through cost recovery schemes, the poor are more likely than the nonpoor to cut back on their use of health services (Gertler and van der Gaag 1990; Lavy and Germain 1994). Longitudinal studies based on controlled experiments such as those by Litvack and Bodart (1993) in the Cameroon and by Gertler and Molyneaux (1997) in Indonesia confirm that price increases without compensating improvements in quality discourage utilization by the poor. Increasing user charges, other things being equal, lowers the share of the poor in total visits to health facilities. Charges must therefore be introduced carefully; they must be targeted to services used mainly by the nonpoor; and if applied to services used by the poor, they should be accompanied by improvements in both access and quality.

Table 5. Benefit Incidence of Health Spending by Gender for Selected African Countries

Country/year	Quintile	Percentage share	
		Female	Male
Côte d'Ivoire, 1995	Poorest	52.9	47.1
	Richest	55.0	45.0
Ghana, 1992	Poorest	44.3	55.7
	Richest	65.0	35.0

Source: See table 1.

GENDER. Income, quality, access, and price interact with social relationships to produce sharp inequalities in the distribution of health benefits by gender. Females in the top quintiles in Côte d'Ivoire and Ghana, for example, typically use publicly funded health facilities more than do their male counterparts (table 5). But this advantage changes markedly for the poorest quintiles. The gender advantage is largely eroded in Côte d'Ivoire, although poor females still use facilities more than do males, and in Ghana poor females use health facilities less than do males in the same quintile. The reasons for this are unclear. Supply-side effects may account for the difference—the facilities available to the poor may not provide the perinatal care used by their richer counterparts. Or the difference may arise from demand-side household preferences. Poor households may decide that females should not use health facilities, either because of underlying social values favoring males over females or because of higher opportunity costs of female time. Either way, poor households behave differently from rich households, and this difference explains to some extent the weak targeting of the health subsidy to the poor in Africa.

Education Spending in Africa

Education has long attracted government subsidies in Africa, in part because of the expected high social externalities involved, but also because of equity considerations. The case for subsidizing primary education is particularly strong, given the wide benefits it brings. Literacy and numeracy are critical to sustaining modern democracies. And a growing weight of evidence from the endogenous growth literature highlights the favorable growth effects of education (Bruno, Ravallion, and Squire 1996; Demery, Sen, and Vishwanath 1995).

Characteristics of the Education Systems

Formal education in all nine countries for which we have data (Côte d'Ivoire, Ghana, Guinea, Kenya, Madagascar, Malawi, South Africa, Tanzania, and Uganda) includes

six years of primary school (seven in Tanzania), three years of lower secondary school, three years of senior secondary school, and four years of university education. Most public systems have vocational, technical, and teacher-training programs parallel to the university system. Movement through the educational system is generally determined by student performance in national examinations. The government is the main provider of education in all nine countries, although the size of the private sector varies substantially. At one extreme, for-profit provision of primary education is prohibited in Tanzania (although the number of private secondary schools is increasing dramatically). And at the other, almost 30 percent of primary and secondary students in Accra attend private schools.

Public education is financed by both governments and households. Of total recurrent spending on education in Ghana, the government contributes about 65 percent and households about 35 percent (Demery and others 1995). Household out-of-pocket contributions include school fees, uniforms, books, supplies, and the like. Households also incur opportunity costs (of the time forgone while attending school), as well as transaction costs (mainly transportation to and from school). Attendance fees vary: in Côte d'Ivoire and Tanzania primary schooling is free, but in Ghana and Guinea nominal fees are charged at all levels.

Although all governments consider primary education to be the highest priority, the degree to which the budget reflects this priority varies. The share of the education budget allocated to primary schooling ranged from just 40 percent in Guinea in 1994 to more than 70 percent in Malawi in 1994–95. Wages and salaries dominate the functional categories in the budget. In Ghana and Malawi wages accounted for 94 and 97 percent, respectively, of total costs, and in Tanzania the share was 81 percent. Elsewhere, the distribution between salaries and supplies was not as skewed, with salary expenditures accounting for between one-half and two-thirds of recurrent expenditures.

Enrollment rates vary by education level and household income in the following ways (table 6):

- Enrollment rates in primary schools are generally lower than the average for all low-income countries, although variation among them is substantial.
- Enrollment rates are extremely low at the secondary level, at around 10 to 40 percent, substantially lower than the average for low-income countries worldwide (42 percent for girls and 55 percent for boys in 1993, according to World Bank 1996c). The exception is South Africa, where secondary education is almost universal.
- Enrollment rates are significantly lower for the poor at all levels, and particularly at the secondary level. Again, South Africa is an exception, with both primary and secondary rates among the poorest quintile being close to the national average.
- The *overall* enrollment rates for boys and girls at the primary level is about the same in many of these countries, but a gap emerges among poorer quintiles. A

Table 6. Gross Enrollment Rates in Primary and Secondary Education for the Poorest and Richest Quintiles in Selected African Countries
(percent)

Country/year	Primary			Secondary		
	Poorest	Richest	All	Poorest	Richest	All
Côte d'Ivoire, 1995	51	99	75	12	65	31
Ghana, 1992	75	101	88	27	45	39
Guinea, 1994	16	84	44	2	40	19
Kenya, 1992 ^a	100	108	105	9	55	31
Madagascar, 1993	48	113	83	2	53	18
Malawi, 1994, 1990 ^b	74	133	108	4	30	10
South Africa, 1994	112	97	106	81	101	97
Tanzania, 1993/94 ^c	77	87	81	3	20	10
Uganda, 1992	72	116	93	4	43	19

a. Decile averages.

b. Primary enrollment rates are for 1994, and secondary enrollment rates for 1990.

c. Unweighted average of male and female enrollment rates.

Source: Côte d'Ivoire, Demery, Dayton, and Mehra (1996); Ghana, Demery and others (1995); Guinea, World Bank (1996b); Kenya, Demery and Verghis (1994); Madagascar, World Bank (1996a); Malawi, Castro-Leal (1996c); South Africa, Castro-Leal (1996a); Tanzania, World Bank (1995); and Uganda, Ablo and Reinikka (1998).

large gender gap in enrollments is evident at the secondary level for most income groups.

Low enrollment rates are not the only indicator of poor performance; repetition rates are uniformly high—more than 30 percent—and completion rates are correspondingly very low. In addition, most of the nine countries have a problem with late starting age. In Tanzania more than 80 percent of all primary school students were late in enrolling: the average starting age was 9 for girls and 10 for boys (Mason and Khandker 1997:5).

Unit Subsidies in Education

Unit subsidies for education are computed as net recurrent spending (total government recurrent spending less cost recovery to the treasury) per student. In most of the studies reported here, unit subsidies are based on government expenditure data and enrollment estimates from household surveys; in some cases, tertiary enrollments are based on government statistics. For most countries the unit subsidies apply to the country as a whole, taking into account only differences between the levels of education. But for Madagascar and South Africa, it is possible to disaggregate further (box 1). Unit subsidies increase with the level of education, markedly so in Guinea and Malawi (table 7). Typically the outlays for secondary schools are about

Box 1. *Disaggregating Unit Subsidies and Education Spending*

Where spending is unevenly distributed geographically (or in other ways), the use of aggregate unit subsidies can mask inequality in public spending. In South Africa Castro-Leal (1996b) obtained five levels of unit subsidy based on the budgets of the different "houses" of government, which were divided along racial lines. Unit subsidies varied enormously, but enrollment rates were high, even among the poorest groups receiving the lowest subsidy. In Madagascar unit subsidies were obtained for the six main regions of the country (World Bank 1996b). The subsidies did not vary as much as in South Africa, but enrollment rates declined sharply at low income levels.

Two estimates of the benefit incidence of education spending are reported in the table below. One is based on the disaggregated unit subsidies, while the other is computed using an average unit subsidy at each of the three education levels. In South Africa the disaggregation of unit subsidies makes a significant difference to benefit incidence. For education spending as a whole, the use of average subsidies makes it appear as though each quintile received roughly its proportionate share of the education budget. But in fact, the poorest quintile gained only 14 percent and the richest 35 percent of total education spending because of unit cost variations between the races. The Madagascar estimates tell a quite different story. Here, the use of national average unit subsidies (at each level of schooling) changes the benefit incidence estimates only marginally compared with the use of region-specific unit subsidies. The differences are literally a matter of tenths of a percentage point.

Why the difference between South Africa and Madagascar? Three factors explain this outcome. First, the unit subsidies were far more variable in South Africa than they were in Madagascar, reflecting as they did the years of the apartheid regime. Second, the population within the quintiles was distributed across regions in Madagascar, so that there was some variability in the unit subsidies within quintiles. In South Africa the population in the poorest quintile was almost entirely black, and it was the black population that received the lowest unit subsidy. Third, enrollment rates were uniformly high in South Africa, whereas enrollment rates in Madagascar varied significantly across income groups. The lower enrollment rates among the poorer groups in Madagascar were probably caused in part by the lower unit subsidies allocated to them. When national average unit subsidies are used, variations in the unit subsidy are missed, but their effects on the enrollment patterns across income are captured and are reflected to some extent in the benefit incidence estimates.

Two Measures of Benefit Incidence of Education Spending in South Africa and Madagascar (percent)

<i>Population quintile</i>	<i>Share of quintile in total subsidy</i>							
	<i>Primary spending</i>		<i>Secondary spending</i>		<i>Tertiary spending</i>		<i>Education spending</i>	
	<i>Disaggregated</i>	<i>Mean</i>	<i>Disaggregated</i>	<i>Mean</i>	<i>Disaggregated</i>	<i>Mean</i>	<i>Disaggregated</i>	<i>Mean</i>
<i>South Africa, 1994</i>								
Poorest	18.9	25.8	11.5	18.8	6.1	6.1	14.1	19.9
Richest	27.8	13.5	38.6	16.6	47.2	47.1	34.9	20.3
<i>Madagascar, 1993</i>								
Poorest	16.8	17.2	1.9	2.0	0.0	0.0	8.2	8.3
Richest	14.4	14.0	41.8	41.5	88.6	88.6	41.2	41.0

Source: Castro-Leal (1996b); World Bank (1996a).

Table 7. Unit Education Subsidies by Level in Selected African Countries

Country/year	Monetary unit	Primary	Secondary	Secondary as ratio of primary	Tertiary	Tertiary as ratio of primary
Côte d'Ivoire, 1995	CFAF	64,840	117,462	1.8	348,453	5.4
Ghana, 1992	Cedis	24,824	65,275	2.6	392,707	15.8
Guinea, 1994	GNF	47,625	116,812	2.5	2,595,705	54.5
Kenya, 1992/93	K Shs.	1,368	3,868	2.8	42,050	30.7
Madagascar, 1994	FMG	50,504	192,491	3.8	1,140,000	22.6
Malawi, 1994/95	Kwachas	220	909	4.1	15,523	70.6
South Africa, 1994	DBSA	1,124	2,055	1.8	5,657	5.0
Tanzania, 1993/94	T Shs.	6,600	7,500	1.1	—	—
Uganda, 1992/93	U Shs.	11,667	37,352	3.2	373,525	32.0

— Not available.
Source: See table 6.

twice the amount spent on primary schools. Tertiary unit subsidies were significantly greater than other levels.

Who Benefits from Education Subsidies?

Combining the unit cost data with information on the use of publicly subsidized education from household surveys yields estimates of the benefit incidence of government education spending. The subsidy for education, like that for health, is generally progressive but poorly targeted (table 8). In absolute terms, the poorest quintile gains less than 20 percent of the subsidy—significantly less in most cases (Côte d'Ivoire, Guinea, Madagascar, South Africa, Tanzania, and Uganda). The richest quintile gains far more, especially in those same five countries. Yet the subsidy for public education is more equally distributed than household income or expenditure. The monetary benefit to the poor, as a share of total household expenditure, is more than the benefit to the rich, particularly in Kenya and South Africa. Generally education subsidies represent a greater gain to poor households in these countries than do health subsidies.

The high share of the primary school subsidy imputed to the poorest quintile, shown in table 8, is misleading because the education *needs* of this group are so much greater than those of other groups. In both Côte d'Ivoire and Ghana, the share of primary-school-age children in the poorest quintile is much greater than the share of subsidies that quintile receives (table 9). The contrast between needs and benefits is even more striking in the case of secondary school subsidies. The poorest quintile in Côte d'Ivoire accounts for 21 percent of secondary-school-age children but receives only 7 percent of the subsidy.

Table 8. Benefit Incidence of Public Spending on Education in Selected African Countries
(percent)

Country/year	Quintile shares of total spending								Total subsidy as share of household expenditures	
	Primary subsidy		Secondary subsidy		Tertiary subsidy		Total subsidy			
	Poorest	Richest	Poorest	Richest	Poorest	Richest	Poorest	Richest	Poorest	Richest
Côte d'Ivoire, 1995	19	14	7	37	12	71	13	35	12.5	4.6
Ghana, 1992	22	14	15	19	6	45	16	21	13.4	3.1
Guinea, 1994	11	21	4	39	1	65	5	44	—	—
Kenya, 1992	22	15	7	30	2	44	17	21	27.8	1.9
Malawi, 1994	20	16	9	40	1	59	16	25	2.3	1.4
Madagascar, 1993	17	14	2	41	0	89	8	41	7.2	3.4
South Africa, 1994	19	28	11	39	6	47	14	35	42.1	5.1
Tanzania, 1993/94	20	19	8	34	0	100	14	37	—	—
Uganda, 1992	19	18	4	49	6	47	13	32	4.3	1.5

— Not available.

Source: See table 6.

Table 9. Benefit Incidence and Education Needs in Côte d'Ivoire and Ghana
(percent)

Country/quintile	Primary		Secondary	
	Share of subsidy	Share of school-age population	Share of subsidy	Share of school-age population
Côte d'Ivoire				
Poorest	19.1	23.8	6.8	20.9
Richest	13.9	13.5	37.2	20.9
Ghana				
Poorest	21.8	24.3	14.9	20.4
Richest	14.1	13.7	18.6	16.8

Source: See table 6.

These demographic differences across the quintiles arise in part because of the use of per capita household expenditures as the welfare measure; as a result of that measure, poor households are both larger and have more children than better-off households. Because of this, they gain a significant proportion of the primary education subsidy. If, instead, *per adult equivalent* expenditures were used, these demographic differences might disappear (Lanjouw and Ravallion 1994). To see whether their estimates were sensitive to the measures of welfare used, Demery and others (1995) normalized household expenditures on both household size and adult equivalence (using a scale proposed in Deaton and Muellbauer 1986) and found that spending was significantly less targeted to the poorest under the revised welfare measure and that a larger share went to the richest quintile (table 10). The exercise confirmed the sensitivity of the benefit incidence results to the welfare measure (see also van de Walle, Ravallion, and Gautam 1994; Jarvis and Micklewright 1995).

Table 10. Benefit Incidence of Education Subsidies under Alternative Welfare Measures in Ghana, 1992
(percentage of subsidy)

Level/quintile	Adult equivalent expenditures	Per capita expenditures
Primary		
Poorest	17.4	21.8
Richest	19.7	14.0
Secondary		
Poorest	18.6	14.9
Richest	16.6	18.6
Tertiary		
Poorest	9.5	6.0
Richest	29.8	45.2

Source: Demery and others (1995).

Understanding the Benefit Incidence of Education Subsidies

Unlike health, the share of the education subsidy accruing to the poorest varies noticeably by level of service. The poorest quintile is seen to gain far more from spending at the primary level—typically about one-fifth of the subsidy, compared with about one-tenth of the subsidy at the secondary level and almost nothing from the subsidy at the tertiary level. Thus the more governments spend on primary education, the more the poor will benefit.

Yet, understanding the differential enrollment rates remains important if governments are to improve the targeting of education subsidies to the poor. Although a rich and growing literature exists on the constraints facing the poor in accessing health services, far less evidence is available on the demand for education in Africa. Again, the major determinants of demand are income, quality, and costs (opportunity and direct costs).

Table 11 shows how much the poorest and richest income groups in three countries spend on education. Typically, rich households spend more than the poor. Unless better-off groups can be encouraged to use private service providers, especially at the secondary and tertiary levels, it is difficult to envisage how government education subsidies can be better targeted to the poor.

Education systems in most of the countries reviewed here need to be improved. Less well documented is variation of service quality within a country and the extent to which the poor are disadvantaged. Unit cost variations suggest that the services provided in poorer rural communities are inferior to those extended to urban-based

Table 11. Household Spending on Education by Poorest and Richest Quintiles in Selected African Countries

Country/quintile	Year	Education spending per capita ^a	Education spending as percentage of	
			Nonfood expenditures	Total expenditures
Côte d'Ivoire	1995			
Poorest		2,083	5.1	2.6
Richest		23,964	6.9	4.1
Ghana	1992			
Poorest		1,924	8.3	3.0
Richest		6,872	4.2	1.9
Madagascar	1993/94			
Poorest		338	2.0	0.5
Richest		3,000	1.0	0.5

a. Spending figures for Côte d'Ivoire are in CFAF; for Ghana in cedis; and for Madagascar in FMG.
Source: See table 6.

schools. Case and Deaton (1998) reported that pupil-teacher ratios in black schools were more than twice those in white schools under the former regime in South Africa, and their econometric results suggest that this policy discouraged school enrollment and educational attainment among black households. Evidence from Uganda shows that the amount that actually reaches rural schools is much less than aggregate data would suggest. Ablo and Reinikka (1998) found that for each dollar the government spent on primary education, only 36 cents actually reached the rural schools. This means lower-quality education in such areas.

In Ghana Lavy (1992) found that leaking, unusable classrooms and lack of electricity had significantly negative effects on decisions to enroll in primary schools, and Glewwe and Jacoby (1992) reported that other variables (for example, no desks) also influenced primary enrollment. The government has increasingly required local communities to meet capital and nonwage recurrent costs, which means that educational services in poor communities are likely to be inferior because their resources are so constrained.

Households that enroll children in school encounter costs, such as the costs of supplies and transportation and the loss of the children's work. What effect do these costs have on education? Mason and Khandker (1997) could find little evidence in Tanzania that out-of-pocket costs had a negative effect on enrollments. But work on Ghana by Lavy (1992), by Norton and others (1995), and more recently by Chao and Alper (1998) suggests that these costs do reduce enrollments. Tan, Lee, and Mingat (1984) estimated the elasticity of school enrollment with respect to changes in direct costs at about -0.5 in Malawi. But all these studies failed to establish whether the poor are more sensitive to these costs than the population at large, thus explaining the observed pattern of school enrollment across income groups. Intuition would suggest that they are, but evidence from Africa is not available. (For evidence from Indonesia, see King 1995; on Peru, see Gertler and Glewwe 1989.)

The distance to the nearest school might also explain why enrollments are so low among poorer households. For example, Lavy (1992) found distance an important constraint in Ghana. But interestingly, it is not the distance to the primary school that influences primary school enrollments, but the distance to postprimary schooling. Parents are clearly making decisions based on the whole education investment profile. The decision to enroll girls was more sensitive to the access costs of postprimary education than was the decision to enroll boys. Because distances to secondary schools are longer than those to primary schools for poorer households, enrollments are likely to be low at all levels. Although primary schools are more widespread and accessible, access is still a problem for many poor rural communities in Ghana: Chao and Alper (1998) found that enrollment was almost 70 percent in communities with at least one primary school in 1992, compared with only 43 percent in those with no primary school. They estimated that reducing the distance to a primary school by one mile would raise enrollment by 3 percentage points. In contrast, Mason and

Khandker (1997) report that distance is important only in secondary school enrollment in Tanzania, largely because most communities in that country are served by primary schools.

In most of the countries covered here, fewer girls than boys from low-income groups attend primary school, and fewer girls than boys from all income groups attend secondary school. This means that gender bias is an important explanation for the poor targeting of education spending in Africa (see Demery 1997).

Concluding Observations

This review does not present a particularly encouraging picture. Although spending on social services is usually justified on equity and efficiency grounds, most health and education subsidies in the region are not particularly well targeted to the poorest. Subsidies to primary education are an exception, but even here, they appear inequitable when judged against the numbers of school-age children in the poorest groups and when alternative measures of economic welfare are used. There are grounds for considering that the inequality results shown here underestimate the true inequality. Regional variations in unit subsidies and in the quality of services provided—largely ignored in the results reported here—are likely to further disadvantage the poor. Moreover, the poor are less able than the better-off to augment government subsidies by contributing to the services obtained (table 12).

One of the most fundamental factors responsible for weak targeting is the positive income elasticity of demand for these services. In the long run, the strategy must be to encourage private providers so that the public subsidy can be directed more effectively at services used mostly by the poor. But there are instruments that could improve targeting in the short and medium term. The first involves reallocating public

Table 12. *Social Sector Spending on Poorest and Richest Quintiles in Ghana, 1992*

<i>Sector/quintile</i>	<i>Government subsidy</i>		<i>Household spending^a</i>		<i>Total spending</i>	
	<i>Mean</i>	<i>Share</i>	<i>Mean</i>	<i>Share</i>	<i>Mean</i>	<i>Share</i>
Health						
Poorest	2,296	12	1,998	10	4,294	11
Richest	6,515	33	7,099	37	13,614	35
Education						
Poorest	8,731	16	1,761	10	10,492	15
Richest	11,067	21	5,072	30	16,139	23

a. Household spending on publicly subsidized services.

Note: Mean is in cedis per capita; share is percentage of spending for all quintiles.

Source: Demery and others (1995).

subsidies toward services used primarily by the poor. On this, the evidence is mixed: in health, many of the poor do not use any services very much, even primary services. Expenditure reallocations would improve targeting only if they led to a significant increase in the use of such services by the poor. In education, there is somewhat more scope to channel resources to the poor through primary education, but even here, enrollment rates are low, especially among girls.

Changes in household behavior, therefore, are critical. Two factors appear to be important: quality of service and access to facilities. The poor are not well served by the public provision of health services. Such services that are available are costly to access. The evidence suggests that the poor would be willing to increase their use of health services if both quality and access could be improved. It also points to the need for increased attention to the infrequent use of health services by poor women. Improving quality and reducing cost would also seem to be critical for raising the demand for education among poor communities in Africa, although here the evidence is somewhat patchy.

A well-designed user-fee policy could potentially improve the benefit incidence of health and education spending, but the decision to impose such fees should be undertaken with care. Fees should be applied to services where *total* demand (for private and public services) is price inelastic and where good-quality private services are available. They should not be applied where good-quality private services are unavailable or where the demand is very price elastic (those services used mainly by the poor, for example). If user fees are combined with significant improvements in both access and quality, there is growing evidence that the poor will increase their use of the service.

Benefit incidence has provided important insights into the problems facing governments in Africa that are struggling to deliver essential social services to poor communities. But although it highlights the problems, it is short on answers. For Africa, at least, the message is that reallocations of public expenditures are not sufficient; policies must be based on a sound understanding of the factors that govern household decisions about health care and schooling and of the means by which subsidized services can lead to better outcomes for the poor.

Notes

Florencia Castro-Leal is an economist and Kalpana Mehra is a research analyst in the Poverty Reduction and Economic Management Network at the World Bank, Julia Dayton is a Ph.D. candidate in health economics at Yale University, and Lionel Demery is lead poverty specialist in the Poverty Reduction and Social Development Group in the Africa Regional Office of the World Bank.

1. Current expenditures are used because they benefit *current* beneficiaries. Capital spending may well have a quite different incidence, but it benefits *future* beneficiaries.

2. This welfare measure, now an established one for poverty analysis, is described in Ravallion (1993). Usually, household expenditures include imputed values for own-produced consumption and take into account regional variations in prices. In most cases, the welfare measure normalizes household expenditure on household size (the exception here being the study of South Africa, which uses total household expenditure per adult equivalent as its welfare measure). As shown here, the results are sensitive to the welfare measure used. Our reliance on per capita expenditure comes from the use of this measure in the studies that we draw on. But for future work, benefit incidence should explore ranking households by other measures. The effects of different assumptions about economies of scale in household consumption, for example, should be investigated. Given the effects of random variations in observed expenditures, an alternative approach would be to use instrumented or predicted values of the welfare measure (see Behrman and Knowles 1997).

3. These data are not comparable across countries. The Guinea estimate, for example, assumes that all private treatment provided at the home of the respondent is traditional (which is not true of the other countries). There is some suggestion in these data that respondents report visits to private pharmacists and traditional caregivers as “self-treatment,” which would explain the apparently low use of traditional care. Such underreporting of traditional care would leave reported use of modern health providers (and the analysis that follows) unaffected. There may well be *indirect* effects of government health spending that affect such services, but without strong empirical evidence about these effects in the studies reviewed here, we assume that such care is unaffected by public subsidies.

References

The word “processed” describes informally reproduced works that may not be commonly available through library systems.

Ablo, Emmanuel, and Ritva Reinikka. 1998. “Do Budgets Really Matter? Evidence from Public Spending on Education and Health in Uganda.” Policy Research Working Paper 1926. World Bank, Africa Region, Washington, D.C. Processed.

Aaron, Henry, and Martin C. McGuire. 1970. “Public Goods and Income Distribution.” *Econometrica* 38(6):907–20.

Alderman, Harold, and Victor Lavy. 1996. “Household Responses to Public Health Services: Cost and Quality Tradeoffs.” *The World Bank Research Observer* 11(1):3–22.

Behrman, Jere R., and James C. Knowles. 1997. “How Strongly Is Child Schooling Associated with Household Income?” University of Pennsylvania, Philadelphia, Pa. Processed.

Brennan, Geoffrey. 1976. “The Distributional Implications of Public Goods.” *Econometrica* 44:391–99.

Bruno, Michael, Martin Ravallion, and Lyn Squire. 1996. “Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues.” Policy Research Working Paper 1563, World Bank, Office of the Vice President, Development Economics and Policy Research Department, Washington, D.C. Processed.

Case, Anne, and Angus Deaton. 1998. “Large Cash Transfers to the Elderly in South Africa.” *Economic Journal* 108(September): 1330–61.

Castro-Leal, Florencia. 1996a. “The Impact of Public Health Spending on Poverty and Inequality in South Africa.” PSP Discussion Paper Series 101. World Bank, Poverty and Social Policy Department, Washington, D.C. Processed.

———. 1996b. “Poverty and Inequality in the Distribution of Public Education Spending in South Africa.” PSP Discussion Paper Series 102. World Bank, Poverty and Social Policy Department, Washington, D.C. Processed.

- . 1996c. *Who Benefits from Public Education Spending in Malawi: Results from the Recent Education Reform*. World Bank Discussion Paper 350. Washington, D.C.: World Bank.
- Chao, Shiyun, and Omer Alper. 1998. "Accessing Basic Education in Ghana." *Studies in Human Development*, Number 1. World Bank Human Development III, Africa Region, Washington, D.C. Processed.
- Chernikovskiy, Dov, and Oey Astra Meesook. 1986. "Utilization of Health Services in Indonesia." *Social Science and Medicine* 23(6):611–20.
- Cornes, Richard. 1995. "Measuring the Distributional Impact of Public Goods." In van de Walle and Nead, eds.
- Dayton, Julia, and Lionel Demery. 1994. "Public Health Expenditure and the Rural Poor in Kenya." World Bank, Education and Social Policy Department, Washington, D.C. Processed.
- Deaton, Angus, and John Muellbauer. 1986. "On Measuring Child Costs: With Applications to Poor Countries." *Journal of Political Economy* 94(4):720–44.
- de Wulf, Luc. 1975. "Fiscal Incidence Studies in Developing Countries." *IMF Staff Papers* 22:61–131.
- Demery, Lionel. 1997. "Benefit Incidence Analysis." World Bank, Poverty Reduction and Economic Management Network, Washington, D.C. Processed.
- Demery, Lionel, and Mathew Verghis. 1994. "The Incidence of Education Expenditure in Kenya." World Bank, Education and Social Policy Department, Washington, D.C. Processed.
- Demery, Lionel, Julia Dayton, and Kalpana Mehra. 1996. "The Incidence of Social Spending in Côte d'Ivoire, 1986–95." World Bank, Poverty and Social Policy Department, Washington, D.C. Processed.
- Demery, Lionel, Binayak Sen, and Tara Vishwanath. 1995. "Poverty, Inequality, and Growth." ESP Discussion Paper Series 70. World Bank, Education and Social Policy Department, Washington, D.C. Processed.
- Demery, Lionel, Shiyun Chao, René Bernier, and Kalpana Mehra. 1995. "The Incidence of Social Spending in Ghana." PSP Discussion Paper Series 82. World Bank, Poverty and Social Policy Department, Washington, D.C. Processed.
- Gertler, Paul, and Paul Glewwe. 1989. *The Willingness to Pay for Education in Developing Countries: Evidence from Rural Peru*. LSMS Working Paper 54. Washington, D.C.: World Bank.
- Gertler, Paul, and John Molyneaux. 1997. "Experimental Evidence on the Effect of Raising User Fees for Publicly Delivered Health Care Services: Utilization, Health Outcomes, and Private Provider Response." Rand Corp., Santa Monica, Calif. Processed.
- Gertler, Paul, and Jacques van der Gaag. 1990. *The Willingness to Pay for Medical Care: Evidence from Two Developing Countries*. Baltimore: Johns Hopkins University Press.
- Glewwe, Paul, and Hanan Jacoby. 1992. *Estimating the Determinants of Cognitive Achievement in Low-Income Countries: The Case of Ghana*. LSMS Working Paper 91. Washington, D.C.: World Bank.
- Jarvis, Sarah J., and John Micklewright. 1995. "The Targeting of Family Allowances in Hungary." In van de Walle and Nead, eds.
- King, Elizabeth. 1995. "Does the Price of Schooling Matter? Fees, Opportunity Costs, and Enrollment in Indonesia." World Bank, Development Research Group, Washington, D.C. Processed.
- Lanjouw, Peter, and Martin Ravallion. 1994. "Poverty and Household Size." Policy Research Working Paper 1332. World Bank, Policy Research Department, Washington, D.C. Processed.
- Lavy, Victor. 1992. *Investment in Human Capital: Schooling Supply Constraints in Rural Ghana*. LSMS Working Paper 93. Washington, D.C.: World Bank.

- Lavy, Victor, and Jean-Marc Germain. 1994. *Quality and Cost in Health Care Choice in Developing Countries*. LSMS Working Paper 105. Washington D.C.: World Bank.
- Litrack, Jennie, and Claude Bodart. 1993. "User Fees Plus Quality Equals Improved Access to Health Care: Results of a Field Experiment in Cameroon." *Social Science and Medicine* 37(3):369–83.
- Mason, Andrew, and Shahidur Khandker. 1997. "Household Schooling Decisions in Tanzania." World Bank, Gender Anchor Group, Poverty Reduction and Economic Management Network, Washington, D.C. Processed.
- Meerman, Jacob. 1979. *Public Expenditures in Malaysia: Who Benefits and Why?* New York: Oxford University Press.
- Mwabu, Germano, Martha Ainsworth, and Andrew Nyamete. 1993. "Quality of Medical Care and Choice of Medical Treatment in Kenya: An Empirical Analysis." *Journal of Human Resources* 28(4):838–62.
- Norton, Andy, Ellen Bortei-Doku Aryeetey, David Korboe, and D. K. Tony Dogbe. 1995. "Poverty Assessment in Ghana Using Qualitative and Participatory Research Methods." PSP Discussion Paper Series 83. World Bank, Poverty and Social Policy Department, Washington D.C. Processed.
- Ravallion, Martin. 1994. *Poverty Comparisons*. Vol. 56, *Fundamentals of Pure and Applied Economics*. Chur, Switzerland: Harwood Academic Publishers.
- Selowsky, Marcelo. 1979. *Who Benefits from Government Expenditure?* New York: Oxford University Press.
- Tan, Jee-Peng, Kiong Hock Lee, and Alain Mingat. 1984. *User Charges for Education: The Ability and Willingness to Pay in Malawi*. World Bank Staff Working Paper 661. Washington, D.C.
- van de Walle, Dominique. 1995. "The Distribution of Subsidies through Public Health Services in Indonesia." In van de Walle and Nead, eds.
- van de Walle, Dominique, and Kimberly Nead, eds. 1995. *Public Spending and the Poor: Theory and Evidence*. Baltimore: Johns Hopkins University Press.
- van de Walle, Dominique, Martin Ravallion, and Madhur Gautam. 1995. "Testing a Social Safety Net." *Journal of Public Economics* 57(2):175–99.
- World Bank. 1990. *World Development Report 1990: Poverty*. New York: Oxford University Press.
- . 1995. "Tanzania Social Sector Review." Report 14039-TA. Washington, D.C. Processed.
- . 1996a. "Madagascar Poverty Assessment. Vol. II: Main Report, Annexes." Report 14044-MAG. South-Central and Indian Ocean Department, Africa Regional Office, Washington, D.C. Processed.
- . 1996b. "Republic of Guinea Public Expenditure Review." Report 15147-GUI. Western Africa Department, Washington D.C. Processed.
- . 1996c. *World Development Report 1996: From Plan to Market*. New York: Oxford University Press.