

Do the Poor Benefit from Public Spending? A Look at the Evidence

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This paper shows that public spending on basic services, to wit, primary and secondary education and basic health care, benefit the poor; while the non-poor are the principal beneficiaries of tertiary and education subsidies and hospital spending. The evidence also shows that expenditures on infrastructure spending tend to benefit the non-poor disproportionately more than the poor.

1. DO THE POOR BENEFIT FROM PUBLIC SPENDING? A LOOK AT THE EVIDENCE

Policy-makers are increasingly relying on public expenditures to promote economic development. Targeted properly, public expenditures can overcome market failures, promote economic growth, increase employment, reduce poverty and improve human welfare. Public spending on education, health and infrastructure (e.g. electricity, water and sanitation) services in developing countries is usually justified on efficiency and equity grounds, and as an instrument for income distribution and poverty reduction. It is also argued in the literature that better health and basic education, and access to safe water and basic infrastructure would contribute to economic growth, improve the lot of the poor and their chances for employment. Public spending on health, education and infrastructure services in the Caribbean and developing countries has a populist appeal. However, spending on social services can be very expensive which has to be paid for by tax revenues. The prevailing view in developing countries is that public expenditures on education and health are “pro-poor” programmes that benefit largely “poor people” and their children. This paper shows that this view is not well-founded. It should be noted that even when social and infrastructure services are publicly provided the poor face obstacles (for example, transport costs, the cost of school uniforms, and generally the poor are the first to drop out from school to benefit from subsidised public education) that limit their access to these services.

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In their attempt to provide the poor access to these vital services very few English speaking Caribbean governments charge for basic educational and health services. Those governments that do, generally charge low fees that are a fraction of the cost. This paper examines how the benefits of public spending on education, health and infrastructure services are distributed in the English speaking Caribbean countries. There are two approaches used to measure the value of the benefits of publicly subsidised services.¹ The first approach emphasises the individual's own valuation of the services provided. The problem with this approach is to determine the individual's subjective evaluation of what these publicly provided services are worth. The second approach utilises the cost of providing publicly funded services with information on their use, and it then estimates how the benefits of these services are distributed across the various income distribution groups. This approach is referred to as the benefit-incidence approach.² This paper uses the benefit-incidence approach to show which income groups have been the principal beneficiaries of public spending on education, health and infrastructure services in Barbados, Guyana, Jamaica and Trinidad and Tobago. However, for comparison, we will draw specifically on the experiences of Bangladesh, India, Indonesia, Pakistan and other developing countries to illuminate our exposition and to draw conclusions.

2. BENEFIT-INCIDENCE OF EDUCATION

Benefit incidence studies have had a “great deal of influence in development policy” [van de Walle (1996), p. 6]. Benefit incidence indicates who benefits from public services (such as education, health care etc.); it does this by combining information about the *unit* costs of providing those services with information on the *use* of these services [Demery (2003)]. Benefit incidence analysis imputes to those households using a particular service the cost of providing that service [Demery (2003)], and it assumes that the value to consumers of a public service is equivalent to the cost of providing it [van de Walle (1996)]. Despite its influence in policy making, benefit-incidence analysis has been subject to a number of limitations.³ First, the estimated incidence is the average incidence of public spending—it describes how existing spending affects the distribution of income; it tells us very little about what would happen if there are changes in public spending. In short, it provides a “cross-sectional snapshot” which is not the same “as who would benefit from marginal resources devoted to the sector” [World Bank (2003a), p. 221]. Second the data are limited when it comes to assessing the costs and benefits of each

¹See Castro-Leal, *et al.* (2000) for a discussion of this point. This paper takes freely from Gafar (2005).

²The World Bank (2001) points out that the benefits-incidence approach is a “well established tool” for estimating who benefits from public spending.

³Most of the limitations listed in the paper are reproduced from the World Bank (2003a) footnote 140.

unit of service provided. The unit cost of providing a service may have little relation to the value of the benefits to the individual, for example, the cost of immunising a child is typically small compared to the life long benefits. Third, benefit-incidence analysis assumes that the “value of the expenditure is equal across all users” [World Bank (2003a), p. 221], but this ignores the individual evaluation and individual preferences. Then, there is the issue of whether the average (unit) costs can be taken as reasonable “proxies” for values [Demery (2003)]. Moreover, if public spending is unevenly distributed between urban and rural areas (for example spending on urban dwellers might emphasise the provision of quality services) the use of aggregate expenditure incidence statistics can ‘mask’ inequality in public spending. Fourth, benefit incidence analysis does not adequately address the issues of service quality [Demery (2003)]. Fifth, it is hard to know what a “good” allocation of public spending is since the true counterfactual (what the distribution would be in the absence of public spending) is not known [Demery (2003)].

Table 1 presents the quintiles’ shares of beneficiaries of public education spending in Guyana, Jamaica and Trinidad and Tobago. The data indicate that public spending on primary education and school feeding programmes are well targeted and progressive. One of the reasons why poorer households gain a large share of primary education subsidy is the fact that they have a disproportionate share of primary school-aged children. Second, the education system in the Caribbean does provide access to a large majority of the students up to the secondary level. Thirdly, tertiary level education in the Caribbean is regressive in that it mainly benefits the two top quintiles of the income distribution. For the rural teenager, a college education is not readily and easily accessible. The data in Table 1 show that in Guyana the top 40 percent of the income distribution received 52 percent of the post-secondary education subsidies; in Jamaica the top 40 percent of the wealthiest received 78 percent of the subsidies on tertiary education; and in Trinidad and Tobago the top 40 percent of the income groups captured 73 percent of the public subsidies on university/technical education.

Public expenditures on education in the Caribbean tend to be allocated inequitably, with better education opportunities often provided to urban children relative to rural children, and to well-off children relative to poor children [Gafar (2001)]. Guyana allocates approximately 45 percent of its education budget on primary education, 27 percent on secondary education, 18 percent on university education and 10 percent on “other”; Jamaica spends 32 percent of its education budget on primary education, 46 percent on secondary education and 22 percent on tertiary education; and Trinidad and Tobago allocates 42 percent of its education budget on primary education, 32 percent on secondary education and 20 percent on tertiary education. Most of the poor in the Caribbean have a primary education and below, and live primarily in the rural areas [Gafar (1998)]. Unit costs are generally used as proxies of the benefits that households derive from a particular service. In

terms of unit cost, available data in Tsang, Fryer and Arevalo (2002) suggest that the unit cost for secondary education relative to the unit cost for primary education in the Caribbean varies from 1.4 to 1.7; in the case of higher versus primary education, the data indicate that the equivalent cost of educating one university student in terms of the primary level is 13 for Trinidad and Tobago, 18 for Guyana, 11 for Jamaica, and 3 for Barbados. In three developed countries (United States, Great Britain, and New Zealand) the data in Psacharopoulos (1972, Table 8.2) reveal that the ratio of total per-pupil cost of secondary to primary education is 6.6 to 1, and that of higher to primary is 17.6 to 1, and in seven developing countries (Malaysia, Ghana, South Korea, Kenya, Uganda, Nigeria, India) these relative costs are 11.0 and 87.9 to 1, respectively [Todaro (1997)]. In many African countries (Sierra Leone, Malawi, Kenya and Tanzania) the ratio of higher to primary education ranges as high as 283 [Todaro (1997)]. It follows, therefore, that many developing countries are spending a very large portion of their educational budgets on a very small proportion of their students (i.e., the non-poor) enrolled in higher education, and this is regressive.

Table 1

*Quintiles' Shares of Public Education Spending in Guyana,
Jamaica, and Trinidad and Tobago*

Country	Expenditure in Education	Quintiles				
		I (Poorest)	II	III	IV	V
Guyana¹						
	Primary	28.9	24.9	18.5	19.0	8.6
	Secondary	15.7	24.0	22.0	23.5	14.8
	Post-Secondary	7.7	12.5	28.0	19.4	32.5
	Meal at School	23.4	27.1	19.7	21.0	8.8
	Technical/Vocational	25.6	24.5	22.9	16.4	10.7
Jamaica²						
	Early Childhood	26.0	23.0	22.0	18.0	11.0
	Primary	25.0	24.0	21.0	19.0	12.0
	Secondary	16.0	21.0	22.0	22.0	19.0
	Tertiary	3.0	11.0	8.0	24.0	54.0
	Total	22.0	22.0	21.0	20.0	15.0
Trinidad and Tobago¹						
	Primary	30.9	24.0	22.2	15.6	7.3
	Junior Secondary	29.1	23.2	22.4	19.3	5.8
	Secondary	17.7	19.6	27.5	20.4	14.9
	University/Technical	4.1	9.3	13.6	36.3	36.7
	Meal at School	43.1	27.3	15.2	10.6	3.8
	Free Textbooks	19.6	13.6	17.4	27.4	21.9

Sources: ¹World Bank (1996) *Caribbean Countries Poverty Reduction and Human Resource Development in the Caribbean*. Statistical Appendix Tables 32, 34 and 36.

²World Bank (1999a) *Jamaica Secondary Education*. Statistical Appendix Table 4.11.

Table 2 shows the incidence of public education expenditures in Bangladesh, Indonesia and Pakistan. The data in Table 2 reveal that public primary school spending is strongly pro-poor, but this pro-poor bias is reversed at the secondary and tertiary levels. Total spending on education (i.e., aggregated at all levels) in

Table 2
*Incidence of Public Education Expenditures in Bangladesh,
Indonesia, and Pakistan*

Country and Year	Expenditure in Education	By Quintiles				
		I (Poorest)	II	III	IV	V (Richest)
(Percent)						
Bangladesh 2000¹						
	Primary Education	22	23	22	19	14
	Secondary	6	11	16	28	40
	Tertiary	6	6	10	21	57
	All Public Education Spending	12	15	17	23	32
	Food for Education					
	Wheat	35	29	17	14	5
	Rice	30	36	12	17	6
Indonesia 1989²						
	Primary	22	22	22	20	14
	Junior Secondary	7	14	19	26	34
	Senior Secondary	3	6	11	24	56
	Tertiary	0	0	1	7	92
	All Levels	15	17	18	20	29
Pakistan 1991²						
	All Levels	14	17	19	21	29

Sources: ¹Asian Development Bank (2002) *Poverty in Bangladesh: Building on Progress*.

²Filmer (2003) *The Incidence of Public Expenditures on Health and Education*.

Bangladesh, Indonesia and Pakistan is skewed toward the non-poor. In their progression through the education system, students (particularly the poor) are screened out not just on the basis of merit but also because of their ability to bear the rising costs of secondary and higher education. The Pratiche Research Team (2002) confirms the poor status of primary public education in India.⁴ Saigal (2002) summarises the key findings of the Pratiche report, which we reproduce. First, while government teachers are paid several times the amount that Shishu Shiksha Kendras (SSKs-NGO-managed primary education centres), parent satisfaction is much lower for government teachers (41 percent) than for SSK teachers (54 percent). Second, teachers in government schools tended to discriminate against certain students on the basis of caste and class. Absenteeism was higher (at 75 percent) among teachers in schools with predominantly lower-class or caste students (the poor), then in schools

⁴The problems facing primary education in India, we believe, are quite similar to Bangladesh and Pakistan. In fact, the education problems in Bangladesh, India and Pakistan are quite similar.

where upper-classes dominated (33 percent). Third, student attendance was higher and teacher absenteeism lower at SSK schools. And, fourth, due to the poor quality of teaching in schools, many students feel compelled to seek private tutoring in addition to regular attendance. This problem is pervasive in Guyana and in other developing countries.

The data in Table 2 also reveal that the school-feeding programme in Bangladesh is well-targeted and pro-poor. Tamil Nadu State introduced, for first time in India, a “noon-meal” programme for children in 1956. Saigal (2002), in a review of the literature, reports that the school-feeding programme has increased average attendance and reduced drop out rates. Moreover, children from “backward” and Muslim communities and poor children appear to benefit significantly. Behrman (1996) reports that in the case of the Dominican Republic the top 20 percent of the income distribution received 76 percent of the government subsidies for higher education, while the lower 40 percent of the income distribution received only 2 percent of the education subsidies; in Colombia, the top 20 percent of the income profile received 60 percent of the higher education subsidies, while the bottom 40 percent of the income distribution received just 6 percent; and in Chile, the upper 20 percent of the income groups captured 54 percent of the higher education subsidies, while the poorest 40 percent received only 13 percent. In Ghana the richest 20 percent of the households received 45 percent of the subsidies to tertiary education, while the poorest 20 percent households received only 6 percent of the tertiary education subsidies [World Bank (1999)]. In a review of the literature, Jimenes (1986, p. 119) concluded that in most developing regions children of white-collar “benefit disproportionately” from education subsidies receiving nearly “six times as much benefit as children of farmers”, and in Francophone Africa children from white-collar families “gain more than ten times as much from subsidies as farmers’ children”. Lopez-Acevedo and Salinas (2000) report that in the case of Mexico the poor receive the bulk of the primary education subsidy, while expenditures at the tertiary level tend to favour the non-poor students in urban areas. This is the situation in the Caribbean region. The evidence for 39 countries summarised in Filmer (2003) and *World Development Report 2004* (at page 32) shows that in all countries, on average, the poorest 20 percent of the population gain less than 20 percent of the education subsidies, while the wealthiest 20 percent enjoy more than 20 percent of the benefits of public spending on education. The governments of the Caribbean and in other developing countries need to address the pro-rich bias of public expenditures at the post-secondary level and accord priority to quality improvements at both primary and secondary levels. For example, it is reported that 62.7 percent of the students who took the 2004 Secondary Schools Entrance Examination in Guyana would need remedial work when they move on to the secondary level [*Stabroek News* (11 July 2004)], and that 29 percent of the children who took the same examination have not been assigned secondary schools because

places were not available to accommodate them [*Stabroek News* (7 July 2004)]. In Jamaica, the World Bank (2003, p. 118) reported that the “sharp decline in enrollment of students after age 14, especially the poor, can be attributed to the lack of school places in Grades 10 and 11, as well as poor preparation in junior secondary education”. The regressive “patterns” of tertiary education are the result of inequities of basic education [Holm-Nielsen and Thom (2004)]. Students who can afford extra tutoring, books and supplies, and who can in most cases pay for high quality primary and secondary education, are better prepared to score well on university entrance examinations. In these circumstances subsidised or free tertiary education would do very little to increase tertiary education participation of the poor, what is needed is to improve the quality of primary and secondary education. A more effective strategy for increasing and broadening tertiary education would be to provide targeted assistance at the tertiary level, and focus on reducing the “at risk” students at the primary and secondary levels [LaRocque (2003)].

There is a pervasive brain drain from the Caribbean to the United States, and this migration accounts for a large share of the best educated. Estimates by Carrington and Detragiache (1998) indicates that 56 percent and 41 percent of the migrants from Guyana to the United States had a secondary and tertiary level of schooling respectively; in the case of Jamaica 56 percent and 42 percent had a secondary and tertiary level education; and for Trinidad and Tobago 52 percent and 46 percent possessed a secondary and tertiary level education.⁵ The IMF Carrington-Detragiache study estimates that in the case of Guyana at least 77 percent of those with a university education migrated to the United States; and in the case of Trinidad and Tobago the estimate is 57.2 percent.⁶ The World Bank (2003) reports that about 80 percent of the tertiary graduates in Jamaica in the 1990s have emigrated. The most direct impact of skilled emigration is to reduce the number of educated and skilled workers in the Caribbean who are critical for productivity, economic development and social change. Then there are the costs to the public treasury associated with training the workers and graduates who emigrate. In the case of nurses who migrate, it is estimated that the Caribbean has been losing an average sum of US\$15M annually in investment in the training of nurses [*Stabroek News* (13 July 2004)]. Workers and university graduates who emigrate and remain abroad contribute money via worker remittances. A United States Agency for International Development study reported in *Stabroek News* (8 November 2002) indicate that in 1997 remittances to Guyana amounted to US\$57 million, but by 2001 remittances increased significantly to US\$92 million in 2001 or approximately 13 percent of Guyana’s GDP. In the case of Jamaica, it is estimated that remittances from

⁵The Carrington and Detragiache (1998) paper is based on the 1990 U.S. Population Census. Primary education in this study is defined as 0 to 8 years of schooling; secondary is 9 to 12 years; and tertiary level is 13 years and more.

⁶Easterly (2001) claims that the estimate for Guyana is a “conservative estimate”.

overseas average about US\$700 million per year for families that receive them [World Bank (2003)], which is about 8.3 percent of Jamaica's GDP.

The benefits of education accrue to individuals who are able to earn more and be gainfully employed. Estimates by Psacharopoulos (1994) show that the private rates of return are higher than the social returns on education; second, primary education reflects the highest private and social returns worldwide; third, social rates of return for secondary and higher education are very close; and, fourth, private returns on higher education outstrip social rates of return. Since the private rates of return on tertiary education have risen relative to primary and secondary education, and since most of the students enrolled at the tertiary level are from the non-poor, the higher private rates of return on tertiary education would "translate into higher returns on educational investment for richer families" [Holm-Nielsen and Thom (2004), p. 13]. This, as Holm-Nielsen and Thom argue is a "recipe" for producing more income inequalities. There is a need for Caribbean governments to re-evaluate the policy of subsidised or free tertiary education.⁷ On this issue, the World Bank (2003, p. 120) argues:

In tertiary education, given its relatively high quality, the richer than average profile of those who attend, the high emigration rates, and the high private returns to education, increasing cost recovery would be desirable on both equity and efficiency grounds.

Holm-Nielsen and Thom (2004) point out that public tertiary institutions in a number of Latin America and Caribbean countries are implementing cost sharing policies. Charging tuition to students (as presently exists at the University of Guyana and at the public universities in Jamaica) who can afford to pay or have access to credit will provide additional resources for tertiary education and ease the burden on the public treasury. Any policy of cost sharing would ensure that the costs of higher education are borne by those who receive the benefits, but this ought to be tied to the ability to pay and the development of credit markets to enable students to finance their education. Internationally the trend is towards allowing tertiary institutions to set fees. The United Kingdom recently announced that universities would be allowed to increase and set their own fees. During the 1990s, many Canadian provinces removed fee restrictions for professional programmes, and Australia has introduced greater flexibility in fee setting, with more to come [LaRocque (2003)]. Court (1999) points out that Makerere University in Uganda moved from the "brink of collapse" to a vibrant institution by encouraging privately sponsored students,

⁷Barbados provides free tertiary education. Recently there have been concerns about whether or not Barbados will be able to financially continue subsidising post-secondary education. Moreover, arguments are raised at the international level about whether a policy of free tertiary education is consistent with "fair competition". As *The Nation* (14 June 2004) in its editorial points out that the United States is "very much behind the move to abandon such subsidies, by maintaining that education was a service and must compete internationally".

commercialising service units, and institutionalising consultancy arrangements. Court reports that in the space of 5 years Makerere has moved from a situation where “none of the students paid fees to one over 70 percent do”. Even if we disagree on the efficacy of fees for higher education (which we support on efficiency and equity grounds), the needs of the poor can still be met through student loan programmes, or means-tested financial aid and scholarship programmes. These programmes do have a subsidy component, but they are preferable to across-the-board subsidised tertiary education because the subsidy of these programmes is targeted more closely to the source of market failure [Lopez-Acevedo and Salina (2000)].

The U.S. has relied on a market-oriented model of higher education, while European universities are largely state-funded. Germany justifies providing free university education on the grounds that it leads to universal access, but this is not so as most of the beneficiaries of its free university education are the non-poor. America has 17 of the world’s top universities out of 20 according to a recent ranking [*The Economist* (September 10th–16th, 2005)]. The market model of higher education has several advantages. First, it is more flexible in combining equity with excellence [*The Economist* (September 10th–16th, 2005)]. *The Economist* points out that in the U.S. there is a larger proportion of ‘poor school-leavers’ going to college compared to Germany. Second, the market model can produce world class quality universities right down to community colleges. Third, as *The Economist* points out, the market-model is more sustainable than the public-sector model. Indian universities are publicly funded, and the government does not have the resources to pay for expansion and improvements of its universities, but it does not have the political muscle to charge tuition. The result, as *The Economist*, noted is that while enrollment doubled in the 1990s from 4.9 million to 9.4 million, the overall quality of university education declined considerably. China, on the other hand, has had the biggest university expansion in the 1990s that the world has ever seen and it has improved quality (some Chinese universities are today comparable to some of the very best in the world). China has achieved this by relying on the market mechanism—tuition is approximately 26 percent of the revenues of public universities in China [*The Economist* (September 10th–16th, 2005)]. Fourth, the market model of higher education allows universities to serve “many masters” and give them more control of their destiny than relying on the state [*The Economist* (September 10th–16th, 2005)].

The state should encourage and facilitate private expansion of tertiary education in the Caribbean and developing countries. This would help to promote competition, improve the quality of higher education, meet the needs of students and the labour market, and ease the fiscal burden. It can be argued that public subsidies for higher education are needed to produce the cadre of skills that are needed for increased productivity, economic growth, good governance and to be competitive in a global economy. In the Caribbean, the demand for higher skills, especially for workers with a tertiary education (which is in short supply) is rising faster than

demand for less skilled (poor) workers, and this demand for educated workers has bid up their relative wages thereby leading to widening wage inequality. The severe shortage of skilled and educated workers in the Caribbean has placed a constraint on technology transfer and growth. Hence, this provides a valid reason for the state to be involved in higher education, but it does not have to be heavily subsidised or free.

3. HEALTH EXPENDITURES

The state in the Caribbean is the major provider of health care. Financing of public health care in the Caribbean is done through the national budget. As a share of GDP, public expenditures on health care in the Caribbean are as follows: Barbados 3.2 percent, Guyana 3 percent, Haiti 1.8 percent, Jamaica 3.1 percent, and Trinidad and Tobago 3 percent. Private health expenditures account for nearly 20 percent of total health expenditures in Guyana, 47 percent in Barbados, 63 percent in Jamaica, and 41 percent in Trinidad and Tobago [Gafar (2003)].

Jamaica health care system is designed around the primary health care approach, where primary health care is the initial point of contact [King (2001)]. Secondary and tertiary care (curative care) are provided in hospitals on a referral basis. The poor relies heavily on primary health care in Jamaica. King (2001) notes that the share of the total health budget allocated to primary care has been declining. In Trinidad and Tobago, despite the emphasis on primary care, resources have been increasingly allocated to hospitals; with the ratio of expenditures increasing from 5 to 1 to 10 to 1 in the 1980s [Swaroop (1996, 1997)]. In Guyana the public health care system is based on a five-tiered structure and an upward-moving referral system consisting of health posts, health centres, district hospitals, regional hospitals and national hospitals [IDB (2004)]. Lack of resources has led to a deterioration of the health infrastructure (particularly at the health post and health centre levels), and several health facilities (at the lower level) lack personnel, drugs and basic equipment [IDB (2004)]. The World Bank (2002, p. 39) notes that in Guyana, even “within the public system, the poor are turning more and more often to hospitals for treatment as a result of increasing dissatisfaction with the services provided in the lower level facilities”. As a result, many poor patients have to travel long distances to seek medical care (at the public hospitals) or pay high fees to private doctors which they cannot afford. This “run to quality” (hospitals) increases the costs of providing public health. The World Bank (1994) reports that, in Guyana, there exists a “bias” in allocating resources toward “high cost curative” (hospital) care. One reason why governments spend a significant share of the health budget on hospitals and tertiary health services is that there is no well-developed health insurance market in the Caribbean. As the data in Table 3 show this allocation of public spending to hospitals conflicts with equity considerations. The World Bank (2002, p. 39) has also noted that, in the case of Guyana, “there is a “second layer” access problem within public facilities: poor patients receive treatment from medical staff less often

than better-off patients". Experience shows that spending on social services may not translate into more or better services for the poor because programmes for poor people are generally neglected, under-funded, and too often are of low quality [World Bank (2003a)].

Table 3 shows the type of health facilities used by those persons ill/injured and seeking care in Guyana, Jamaica, and Trinidad and Tobago. The data summarised in Table 3 show that the poor rely heavily on public health care facilities (e.g. public health centres and public health posts), and the wealthier households are more likely to use private care and private hospitals. There is an urban bias associated with health spending in the Caribbean: health clinics and health posts are located in the rural areas, while hospitals are predominantly located in urban areas. In Guyana, approximately 70 percent of the doctors practice in Georgetown, the capital, where a quarter of the population lives [Gafar (2003)].

Table 3

Health Care Utilisation in Guyana, Jamaica, and Trinidad and Tobago

Country	Quintiles					Total
	(Poorest)	II	III	IV	V	
Guyana, 1993¹						
<i>Type of Facility (%)</i>						
Public Hospital	24	39	32	32	29	31
Public Health Centre	21	9	9	13	9	12
Public Health Post	16	5	1	2	3	5
Private Hospital	1	13	12	17	16	12
Private Clinic	2	3	4	3	9	5
Private Doctor	10	23	24	24	23	21
Industrial Health Centre	3	2	5	6	5	5
Others	23	6	13	3	6	9
Jamaica, 1998²						
<i>Source of Care</i>						
Private	36	46	57	58	78	58
Public	59	49	40	35	17	38
Both	5	5	3	7	5	5
<i>Level of Care</i>						
Primary	60	63	71	65	73	67
Outpatient	35	31	26	31	23	29
Both Primary and						
Outpatient	5	6	3	4	4	5
Hospitalisation	10	10	7	7	7	8
Trinidad and Tobago, 1992³						
Private	43	52	55	68	61	55
Public	57	48	45	37	39	45

Sources: ¹World Bank (1994) *Guyana: Strategies for Reducing Poverty*, Table 4.2, p. 55.

²Planning Institute of Jamaica (1999) *Jamaica Survey of Living Conditions*, Tables C-3 and C-5.

³World Bank (1996a) *Trinidad and Tobago: Poverty and Unemployment in an Oil Based Economy*, Table 27, p.129.

Primary and outpatient care account for 60 percent and 35 percent respectively of the level of care in Jamaica. In Guyana, 29 percent of the wealthy use public hospitals compared to 24 percent of the poorest, and 16 percent of the poorest ill/injured seeking care went to a private provider compared to 53 percent for the richest quintile. Approximately two-thirds of those ill and seeking care in Guyana were seen by a doctor; for the poorest only one-third were treated by a doctor while almost half received care from a community health worker, nurse, dispenser, pharmacist, midwife, healer or Medex whose level of training is well below that of a doctor [World Bank (1994)]. In short, richer groups in the Caribbean are more likely to obtain care when sick, to be seen by a doctor, and to receive medicines when they are ill, than poorer groups.

Table 4 shows the utilisation rates of government health services in Bangladesh. The data in Table 4 reveals that targeting of the poor with prenatal care and immunisation services has been successful—in fact the utilisation rates for the poor and the non-poor are almost the same. On average, the Asian Development Bank (2002) notes that in Bangladesh only 2 percent of urban and 1.7 percent of rural residents visited the public health care facilities for curative care; and in urban areas the poor tend to use public health care facilities more than the non-poor, and in rural areas the opposite is true. In Bangladesh the efficiency of the public health care system is compromised because government doctors are allowed private practices. This practice suggests that government doctors have weak incentives to increase their productivity in their government jobs and to treat poor patients particularly when these government doctors can earn more by selling their services to private patients. In many instances, poor patients are forced to pay doctors for routine treatment otherwise they (patients) are left unattended for long hours. Moreover, if (as is likely) government doctors treat private patients during official hours of work, then the government doctors in Bangladesh are ‘misappropriating’ part of the public health subsidy ear-marked for the poor.

Table 4

Utilisation Rates of Government Health Care Services in Bangladesh in 2000

% of Individuals Seeking Care from	Urban		Rural		All	
	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor
Curative Care						
Health Facilities	2.4	1.8	1.2	2.3	1.4	2.1
Government Doctors in Private Practices	2.1	4.3	1.4	3.8	1.5	3.9
Maternal Health						
Pre-natal Services	30.4	28.9	30.6	28.1	30.6	8.3
Deliveries	3.1	9.1	1.7	2.8	1.9	4.4
Post-natal Services	5.1	8.1	4.2	5.8	4.3	6.4
Immunisations						
Government Facility or Worker	87.4	88.0	88.7	91.3	88.6	90.3

Source: Asian Development Bank (2002) *Poverty in Bangladesh: Building on Progress*. Table 3.8.

In Guatemala 39 percent of the poorest seeking care went to a private provider compared to 76 percent for the richest quintile; in South Africa 37 percent of the poorest sought care from a private provider compared to 83 percent from the richest; and in Thailand 8 percent of the poorest seeking care went to private providers compared to 27 percent for the richest quintile [Makinen, *et al.* (2000)]. The data in Table 3 indicate that the poor in the Caribbean, like in most developing countries, are at a distinct disadvantage in terms of availability and accessibility of quality health services.

4. BENEFIT-INCIDENCE OF PUBLIC HEALTH CARE SPENDING

The benefit-incidence of public health care spending by quintiles is summarised in Table 5. The detailed information for Guyana suggests two clear messages: first, lower spending versus hospital care tends to be pro-poor; and second, hospital spending is not equitably distributed. Hospital and curative care in the Caribbean are utilised more by the non-poor. This is the experience of most developing countries [Filmer, *et al.* (1997)]. The data for Guyana reveal that the non-poor are the main beneficiaries of subsidised medicines. With regard to pharmaceuticals, the severe shortage of essential drugs in most clinics in Guyana has forced patients to buy their own medicines. The World Bank (1994) reported that in Guyana, while 43 percent of the population bought medicines for illness nationally, only 20 percent of the poor were able to do so. The poorest groups in the Caribbean and in developing countries tend to live in the rural areas and have to travel farther to health clinics. Most of the transport costs are borne by the user, which limits the ability of the poor to access public health care. Second, the lines and waiting time at public health facilities tend to be considerably long, and this forces many poor patients into not seeking the services. The time loss from economic activity represents much greater opportunity costs for the poor, who unlike the non-poor that are salaried workers, have to give up income or not be able to tend to the farms and animals in order to obtain medical services [Castro-Leal, *et al.* (2000)]. Third, there is the issue of informal fees and bribes that patients, especially in Guyana, must make for these services. Fourth, many government doctors, especially in Guyana, conduct a private practice during official work hours, charging fees substantially higher than the official ones, and using public equipment and supplies. In these circumstances, access of the poor to public health care expenditures is naturally reduced. One way to deal with the inequities in the health care system is to charge more for government health services used by the non-poor. Another way is to use the state's legal authority to develop alternative, self-financed mechanisms through which the non-poor can obtain services at their own expense [Gwatkin (2003)].

Table 5

Quintiles' Shares of Beneficiaries of Public Health Expenditures in Guyana, Jamaica, and Trinidad and Tobago

Country	Quintiles				
	I (Poorest)	II	III	IV	V
Guyana					
First Health Consultation					
Public Hospital	19.2	22.5	18.1	28.2	12.1
Public Health Centre	28.0	15.8	20.7	21.7	13.8
Public Health Post	67.0	2.6	7.0	16.4	7.1
Public Medicines	18.1	7.4	11.0	31.3	32.2
Jamaica					
Public Hospital	19.1	17.5	23.0	22.6	17.7
Public Health Centre	25.2	30.4	15.6	17.7	11.1
Trinidad and Tobago					
Public Hospital	16.7	23.4	25.2	16.1	18.6
Public Health Centre	8.1	34.7	14.2	7.1	36.0

Source: World Bank (1996) *Caribbean Countries Poverty Reduction and Human Resource Development in the Caribbean*. Statistical Appendix Tables 32, 34 and 35.

Table 6 presents the benefit incidence of public expenditures on health in Bangladesh and India. The Asian Development Bank (2002) reports that the share of public expenditures accruing to the poor is 45 percent, while share of the population is 50 percent, and their share of overall income is 26 percent. Spending on child health in Bangladesh is pro-poor, partly because poor households tend to have more children. On the other hand, spending on curative care is rather regressive. There are two reasons why poor households' share of public health subsidies is low. The first relate to the fees charged for service. In-as-much as the official fees charged in public health care facilities are not burdensome for the poor, the informal fees required in the same health care facilities are comparable or even higher than the official ones [Asian Development Bank (2002)]. The second reason relates to the fact that government doctors engaged in private practice charge fees above those for service in other types of facilities, including the private [Asian Development Bank (2002)]. This, therefore, reduces the access of the poor to publicly funded health services.

The data in Table 6 also reveal that publicly founded curative health services in India benefit the non-poor more. The richest quintile in India also benefits more from hospital services. Spending on child care (immunisations) in India is pro-poor. In India the poorest quintile receives 10 percent of the public health care subsidies, while the richest quintile receives nearly a third of the total public health care subsidies. The distribution of private health care services in India is even more skewed in favour of the non-poor. In a review of literature, Saigal (2002) reports that public health services in urban areas were "more equitably" used than those in rural areas.

Table 6

Incidence of Public Expenditures on Health in Bangladesh and India

Country	Expenditure Type	Quintiles				
		I (Poorest)	II	III	IV	V(Richest)
Bangladesh 2000 ¹	Child Health	23	21	19	18	18
	Family Planning and Control of Communicable Diseases	18	18	19	19	24
	Limited Curative Care	11	21	22	18	28
	Maternal Health	20	13	20	18	29
	All Health Expenditures	16	19	21	18	26
India 1995-96 ²	Curative Care	10	13	18	26	33
	Hospital Inpatient	11	13	20	25	31
	Hospital Outpatient	8	12	17	27	36
	Immunisations	24	22	22	19	14
	All Health Expenditures	10	14	18	25	32

Sources: ¹Asian Development Bank (2002) *Poverty in Bangladesh: Building on Progress*, Table 3.10.

²Filmer (2003) *The Incidence of Public Expenditures on Health and Education*. World Bank.

Fogel and Lee (2003) report that numerous studies confirm that the disparities in various measures of health between the “privileged” and the “deprived” still remain wide, even in rich countries, and that researchers have shown that the disparities between the poor and non-poor are actually increasing. Fogel and Lee (2003) also report that researchers have found that in China the gap in levels of health between urban and rural residents widened between 1985 and 1993 in spite of rapid economic growth.⁸ This disparity in health outcomes is also evident in India. Jalan and Ravallion (2001) in review of the literature noted that only 29 percent of the poorest quintile of families in rural India in 1991-93 used oral rehydration therapy when a child had diarrhoea, as compared to 50 percent in the richest quintile. Jalan and Ravallion also report that 52 percent of those in the poorest quintile in India sought medical care, as compared to 78 percent in the richest quintile.

Mehrotva and Delamonica (2002) examined the egalitarian impact of public health expenditures on children. In their study they divided the countries analysed according to the level of child mortality: very high (above 140 deaths per 1000 live births), high (between 70 and 140 deaths per 1000 live births), and medium (less than 70 deaths per 1000 live births). Mehrotva and Delamonica found that in countries with mortality rates below 70, the poorest 20 percent of the population received more than 25 percent of the health care subsidies, and in countries where the mortality rates exceed 140 the poorest quintile received less than 15 percent of the public health care subsidies. In most developing countries the distribution of

⁸Our experience suggests that this is the situation in Guyana and Jamaica, but we do not have the data to support this observation.

public education and health expenditures strongly favour the urban areas. In Kenya, for example, where 70 percent of the population lives in the rural areas, only 13 percent of the public health spending is allocated to rural health services [Mehrotva and Delamonica (2002)].

The evidence for 26 developing countries summarised in Filmer (2003) and *World Development Report 2004* clearly shows that the poorest fifth of the population receives less than a fifth of the health expenditures, while the richest fifth receives much more. The evidence amassed in Filmer (2003) also shows that public spending on primary care tends to be more pro-poor than overall spending. For example, statistics reported by Castro-Leal, *et al.* (2000), and summarised in Gwatkin (2001, 2003), show that in Ghana the richest quintile received 32 percent of the benefit incidence of public spending on health compared to 12 percent for the poorest quintile; in Guinea the richest quintile captured 48 percent of the public health subsidies while the poorest quintile received only 1 percent; in Tanzania the richest quintile received 29 percent of the benefits of public spending on health while the poorest quintile received only 17 percent; and in Indonesia and Vietnam the richest quintile received 29 percent of the public health subsidies while the poorest quintile received 12 percent. Gwatkin notes that, on average, the wealthiest 20 percent of Africa's population received 30 percent of the total health care benefits, while the poorest quintile received only 12 percent. In the case of primary care, Africa's richest quintile got 23 percent of the health benefits, while the poorest quintile received just 12 percent.

5. INFRASTRUCTURE SPENDING

World Development Report 1994 argues that good infrastructure is essential for growth, for increasing productivity and lowering of costs and poverty; and that a one percent increase in the stock of infrastructure is associated with a one percent increase in GDP across countries. Estache, Foster and Woodom (2001) point out that evidence from Bolivia, Colombia, Mexico and Venezuela indicates that a 10 percent increase in infrastructure stocks has been found to lead to an 1.5 percent increase in GDP, and that a one percent point of growth in Latin America reduces the number of people living in poverty by half a percent point. Estache, *et al.* also point out that there is evidence from Argentina and Brazil that differentials in infrastructure stocks (such as roads and access to sanitation) have been a "significant impediment" to "convergence" between rich and poor regions over the last 20 years. Subsidising infrastructure (for example water and electricity) provision is generally recommended as a means of redistributing incomes to the poor. However, the effectiveness of such programmes depends on how the benefits of infrastructure spending are distributed. Table 7 presents the benefit incidence associated with infrastructure spending in the Caribbean.

Table 7

Quintiles' Shares of Public Spending on Public Utilities in Guyana, Jamaica, and Trinidad and Tobago

Country	Quintiles				
	I (Poorest)	II	III	IV	V
Guyana: Public Services					
Electricity Connection	9.4	15.5	19.4	24.4	31.3
Sewer Connection	4.7	13.2	17.6	19.9	44.6
Piped Water, House	11.1	10.1	17.2	22.2	39.4
Piped Water, Yard	8.3	15.7	21.8	25.9	28.4
Other Public Source	21.2	25.5	20.7	19.0	13.6
Jamaica: Public Utilities					
Sewer Connection	10.6	8.4	20.3	23.6	37.1
Water Connection, Indoor	5.8	9.1	20.7	25.3	39.1
Public Standpipe	28.7	27.9	17.0	17.5	8.9
Electricity Connection	11.6	15.7	21.6	24.1	27.0
Trinidad and Tobago:					
<i>Public Utilities</i>					
Sewer Connection	5.7	11.9	12.8	18.7	50.8
Piped Water, Indoor	6.5	12.4	18.9	24.1	38.1
Piped Water, Outdoor	19.8	24.0	16.4	20.4	19.3
Electricity Connection	10.5	16.0	19.1	22.5	32.0

Source: World Bank (1996) *Caribbean Countries: Poverty Reduction and Human Resource Development in the Caribbean*. Statistical Appendix Tables 32, 34 and 35.

The data in Table 7 show that, like education and health, infrastructure spending is failing poor people. Electricity, sewer and piped water connection are mainly concentrated in urban areas. The data in Table 7 show that the richest quintile in Guyana received around 3.3 times the electricity subsidies that the poorest quintile received; in the case of Jamaica and Trinidad and Tobago the corresponding figures are 2.3 times and 3.1 times, respectively. In the case of sewer connection the subsidies that the richest quintile received relative to the poorest quintile are as follows: Guyana 9.5 times, Jamaica 3.5 times and Trinidad and Tobago 8.9 times. And in the case of piped water indoor the richest quintile in Guyana received 3.5 times the subsidies that the poorest quintile received; for Jamaica and Trinidad and Tobago the ratios are 6.7 times and 5.9 times, respectively. The evidence clearly shows that being poor in the Caribbean reduces the chances of getting connected to these infrastructure services, and that there is an urban bias to infrastructure spending. However, in the urban shantytowns, populated by the poor, there is a lack of decent infrastructure.

Efforts to raise the incomes of the poor and reduce poverty are not going to succeed in developing countries unless the poor do have access to the most basic services of all: water, roads, electricity, communications, good schools and health care. In developing countries, diseases attributed to environmental factors (such as water borne diseases, malaria etc.) are associated with the lack of infrastructure [World Bank (2002a)]. *World Development Report 2004* makes the point that poor people bear a “disproportionate share” of the impact of inefficient water and sanitation services; that fewer poor people are connected to electricity, water and sanitation services; that when poor people have access, the installation has to be shared among many more people; and that the prices the poor pay for these services are generally more than those paid by rich households who are connected to piped water, electricity and sanitation services. Many low-income households do not have the funds and access to credit to pay heavy initial connection costs to public services (electricity and water). *World Development Report 1994* at page 31 notes: “Many countries have introduced subsidies through low tariffs with the aim of improving the poor’s access to infrastructure services, but most of these subsidies have been captured by middle- and high-income households”. The problem is that once a basic infrastructure network exists, it is usually cheaper to connect households in urban areas than to connect households in rural areas. The poor are predominantly located in the rural areas which reduces their access to infrastructure services.

The World Bank (2001) points out that in Croatia in 1998 more than 90 percent of the energy subsidies went to the non-poor households; in Russia in 1997 approximately three quarters of the water subsidies went to middle- and upper-income households; and in Bangladesh the better off households received around 6 times the infrastructure subsidies that the poor received. The World Bank (2002a) reports that in Guatemala, households that are connected with electricity pay less than 10 US cents per kilowatt hour, those households that are not connected to the electricity system and rely on candles, wick lamps and power appliances with dry cell batteries pay the equivalent of US\$5 per kilowatt hour; in Haiti, households with piped water connections pay US\$1 per cubic meter, those without connection pay US\$10 per cubic meter because they have to go to vendors; and in Nepal, a person would spend about US\$4 in transportation costs to get access to a phone, in villages that have phones, it costs 10 US cents per call. The evidence clearly shows that the poor are paying for infrastructure services, and they are willing to pay [World Bank (2002a)].

The World Bank (2003b) points out that in Pakistan the poor have relatively low access to safe drinking water and sanitation services; they are less likely to use “closed sources of drinking water” and be connected to a drainage system; and they are less likely to be connected to electricity. In rural Pakistan the water supply is a major problem—young girls waste a lot of time just fetching water which means that they are not educated. Not being educated is a cause of their poverty. Bangladesh

remains far from having universal access to electricity, 19 percent of rural households in 2000 have electricity connection compared to 80 percent for urban households [Asian Development Bank (2002), Table 2.10]. In Bangladesh only 12 percent of the poorest quintile have electricity connection, compared to 55 percent for the richest quintile.

Infrastructure provision should be sensitive to poverty reduction priorities. But to realise infrastructure potential in contributing to poverty reduction the policy maker must have a clear understanding of the nature and dimensions of poverty. Poverty in the developing countries is predominantly rural; hence, the provision of rural roads and irrigation would have to be an integral part of any public investment programme. The critical issue becomes how to expand access to, and delivery of the right type of infrastructure services that benefit the poor. The World Bank (1994a) argues that measures such as regulated and depressed prices tend to deter expansion of infrastructure services.

The weight of the cumulative evidence is that public spending on education, health and infrastructure in the developing countries is certainly not progressive and pro-poor, but rather regressive and urban-biased. What can the governments do to improve the distributive effect of public spending? In this context, targeting may prove to be a viable policy option. However, targeting involves both efficiency and political economy considerations [van de Walle (1998)]. The middle class and the wealthy in the developing countries are the main beneficiaries of social spending, and any policy aimed at redirecting public expenditures towards the poor would be at the expense of the non-poor. Expenditures on programmes that target the poor are perceived as pro-poor (“give away”) programmes for which there is very little political support in the Caribbean and the developing countries to sustain them since the poor lack political muscle. Once targeting becomes a policy instrument, there arises a conflict between equity and efficiency. Ravallion (2003) argues that problems of information and incentives are at the heart in designing any targeting policy. Ravallion concludes that theory and evidence show that carefully designed transfer programmes can be an “effective tool” against poverty. Targeting can be achieved by “broad targeting” in the form of spending that reach across-the-board in the society (for example, universal primary education or basic health care), or ‘narrow targeting’ where methods to identify the poor are used to benefit disproportionately the poor [Coady, Grosh, and Hoddinott (2003)]. Narrow targeting makes sense when funds are limited. The primary issue in designing and implementing any targeting mechanisms is how to deliver programme benefits in a way that is economically efficient. Coady, Grosh and Hoddinott examined 122 targeted anti-poverty interventions from 48 countries in Latin America and the Caribbean, Eastern Europe and the Former Soviet Union, the Middle East and North Africa, Sub-Saharan Africa, and South and East Asia. They report that the median targeted

programme is progressive in that it transfers 25 percent more to poor individuals (bottom two quintiles). They find that interventions that use means testing, geographic targeting, and self-selection based on work requirement are “all associated with an increased share of benefits going to the bottom two quintiles” [Coady, *et al.* (2003), p. 5]. They also find that self-selection of beneficiaries based on consumption and demographic targeting to the elderly show “limited potential for good targeting”. Targeting difficulties cannot be solved by simply reallocating the subsidy (for example, allocating more funds to primary education or to primary health care), but there is a need to explicitly take into account in designing these programmes the various constraints facing the poor that limit their ability to take advantage of the education, health and infrastructure subsidies. Carefully designed transfer programmes that are economically and administratively efficient, are effective instruments to reach the poor. Badly designed safety nets programmes can be a drain on the treasury. The Jamaican school-feeding programme is designed to select beneficiaries on the basis of the food provided. van de Walle (1998) estimates that the Jamaican school feeding programme costs 2.60 Jamaican dollars to achieve a gain of 1.00 Jamaican dollar per child. Targeting can also lead to behavioural changes and distort incentives. For example, generous unemployment benefits may reduce the effort to find a job; moreover, if a social programme has an income limit, it may discourage some people from working hard and force them to earn less (take more leisure) in order to take advantage of the benefits of the social programme.

7. CONCLUSION

There are some broad findings worth re-stating. First, the education system in the Caribbean is not pro-poor, however, it does provide access to the majority of the people up to the secondary level. Second, the non-poor are the principal beneficiaries of tertiary and university education subsidies in the developing countries. Third, school feeding programmes are well targeted. Fourth, the poor rely heavily on the inferior public health care facilities, while the wealthier households use private care and private hospitals. Sixth, lower level health spending versus hospital care tends to be pro-poor; while hospital spending and the provision of public medicines are not well targeted. Seventh, the evidence shows that expenditures on infrastructure spending tend to benefit the non-poor disproportionately more than the poor. Finally, the statistics show that spending on basic services, to wit, primary and secondary education and basic health care benefit the poor. Increasing the share of public expenditures on these services is warranted. Expenditures on tertiary education, hospitals and infrastructure are not progressive and pro-poor, but, rather regressive. The non-poor should pay more for tertiary education, health care costs and infrastructure connections thereby freeing up resources for basic health care, and primary and secondary education.

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