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Evaluating Targeting Efficiency of Government Programmes: International Comparisons

Nanak Kakwani and Hyun H. Son

Abstract

This paper suggests how the targeting efficiency of government programmes may be better assessed. Using the "pro-poor policy" (PPP) index developed by the authors, the study investigates not only the pro-poorness of government programmes geared to the poorest segment of the population but also basic service delivery in education, health and infrastructure. The paper also shows that the targeting efficiency for a particular socio-economic group should be judged on the basis of a 'total-group PPP index', to capture the impact of operating a programme for the group. Using micro-unit data from household surveys, the paper presents a comparative analysis for Thailand, the Russian Federation, Viet Nam and 15 African countries.

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Nanak Kakwani is currently the Director/Chief Economist of the UNDP International Poverty Centre, Brasilia. Before that, he was Professor at the University of New South Wales in Sydney for 30 years. He has published two books and more than 100 articles in international journals. His research areas include poverty, inequality, pro-poor growth, taxation, public policies, human development and MDGs. He was elected a fellow of the Australian Research Committee of Social Science, awarded the Mahalanobis gold medal for outstanding contributions in quantitative economics and is on the advisory board of the *Journal of Economic Inequality*. He has been visiting professor at many universities and consultant to the World Bank, UNDP and the Asian Development Bank.

Hyun H. Son has a Ph.D in Economics and is a poverty specialist at the UNDP International Poverty Centre. Dr. Son worked for the World Bank in Washington, DC, and held an academic position at Macquarie University in Sydney, Australia. Her research areas include, among other things, poverty, inequality, pro-poor growth and public policies. (E-mail address for correspondence: hyun.son@undp-povertycentre.org)

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United Nations
Department of Economic and Social Affairs
2 United Nations Plaza, Room DC2-1428
New York, N.Y. 10017, USA
Tel: (1-212) 963-4761 • Fax: (1-212) 963-4444
e-mail: esa@un.org
http://www.un.org/esa/desa/papers

Evaluating Targeting Efficiency of Government Programmes: International Comparisons

Nanak Kakwani and Hyun H. Son

For about the last two decades, the consensus has been that economic growth is necessary but is, in itself, not sufficient for the alleviation of poverty. Other than growth, poverty alleviation requires additional elements. First, poor households need to build up their asset base in order to participate in the growth process. Second, growth needs to be more broad-based to reach all segments of society, including the poor. Third, short-term public assistance measures are required to protect vulnerable groups of society, because it takes time for the needy to benefit from the impact of a policy or strategy.

Implementing this agenda to reduce poverty requires methods or tools that can effectively reach poor households or individuals. One way of accomplishing this is by public spending on items like universal education, which can reach all segments of society, including the poor. Alternatively, it can be achieved through a direct transfer of resources to the poor. However, in practice, problems commonly arise because of the scarcity of resources. With fixed budgets, governments are often forced to make a decision to direct resources to specific groups of households or individuals in society. Targeting specific groups will achieve the maximum impact from a given budget or minimize budgetary costs to achieve a given impact. The attraction is particularly strong for transfer programmes that constitute safety nets because such transfers provide a benefit that is largely a private good for recipient households.

While targeting has its own merits, there are a number of methods that can provide resources to a particular group. Whereas the existing literature largely focuses on descriptions of individual programmes, comparative analyses tend to cover a single region or method of intervention (Grosh, 1994; Braithwaite, Grootaert and Milanovic, 2000; Bigman and Fofack, 2000; Rawlings, Sherburne-Benz and Domelen, 2001). A partial approach of this kind is not helpful for making broader assessments about the effectiveness of different targeting methods. This paper attempts to provide a general framework to evaluate the targeting efficiency of government welfare programmes and to draw lessons from developing country experiences that are relevant for policy making.

A government programme may be defined as pro-poor if it provides greater benefits to the poor compared to the non-poor. Suppose there are two programmes, *A* and *B,* incurring the same cost, then *A* will be more pro-poor than *B* if it leads to greater poverty reduction than *B*. Utilizing this definition, Kakwani and Son (2005) developed a new index called the "pro-poor policy (PPP)" index, which measures the pro-poorness of government programmes as well as of basic service delivery in education, health and infrastructure.

The PPP index is derived as the ratio of actual proportional poverty reduction from a government programme to the proportional poverty reduction that would have been achieved if every individual in society had received exactly the same benefits from the programme. Having been developed to improve targeting, the PPP index provides a means to assess the targeting efficiency of government programmes. Furthermore, Kakwani and Son (2005) developed two types of PPP indices for socio-economic groups, namely "within-group" and "total-group" PPP indices. While the within-group PPP index measures the pro-poorness of a programme within a group, the total-group PPP index captures the impact of operating a

programme in a group on its pro-poorness at the national level. The argument is based on the premise that the targeting efficiency of a particular group should be judged on the basis of a total-group PPP index.[1] Using micro-unit-record data from household surveys, the proposed methodology is applied to Thailand, the Russian Federation, Viet Nam and 15 African countries.

The paper is organized in the following manner. The first section presents a brief description of the methodology proposed by Kakwani and Son (2005) in a non-technical manner. It outlines the poverty measures used in the paper; the definition of the PPP index; the values of the PPP index attainable under perfect targeting; and the PPP index by socio-economic group. Technical derivation is left out in this paper as it is detailed in Kakwani and Son (2005). While the following section presents empirical results for Thailand, Russia and Viet Nam, the penultimate section provides empirical analysis for 15 African countries. The final section summarizes the major findings emerging from the study.

Methodology

Poverty measures

We measure the pro-poorness of a government policy by measuring its impact on poverty. If there are two policies, *A* and *B*, then policy *A* is more (less) pro-poor than policy *B* if it achieves a greater (smaller) reduction in aggregate poverty with a given cost. Aggregate poverty can be measured in a variety of ways. In this paper, we will focus on a class of additively separable poverty measures. Foster, Greer and Thorbecke (1984) have suggested poverty measures that fall into this class. These include: a *headcount ratio,* estimating the percentage of people living below a poverty threshold; a *poverty gap* ratio, capturing the depth of poverty; and the severity of poverty index.

To formulate a poverty reduction policy, we need to make a choice of poverty measure. For instance, addressing the headcount ratio will require policies different than those for addressing the poverty gap ratio or the severity of poverty index. The headcount ratio is a crude measure of poverty because it completely ignores the gaps in incomes from the poverty line and the distribution of income among the poor. The severity of poverty index has all the desirable properties.

Pro-poor policy (PPP) Index

Suppose there is a welfare transfer from the government which leads to an increase in the recipients' income or consumption expenditure. Accordingly, there will be a reduction in poverty due to the increase in income. We define a government programme to be pro-poor if the poor receive greater absolute benefits from it than the non-poor. This means that the pro-poor government programme should achieve greater poverty reduction compared to a counter-factual situation where everyone receives exactly the same benefit from the programme.

The PPP index is defined as the ratio of actual proportional poverty reduction from the programme to the proportional poverty reduction that would have been achieved if every individual in society had received exactly the same benefits (equal to the average benefit from the programme). A programme is called pro-poor (or anti-poor) when the PPP index is greater (or less) than unity. The larger the value of the PPP index, the greater the degree of pro-poorness of the programme.

1 It is possible that a programme may be well-targeted within group although it may not be considered as well-targeted at the national level.

To calculate the PPP index, the programme does not have to involve cash transfers. As a matter of fact, a large number of government programmes consist of providing various services in the areas of education, health and other social services. Although these services do not provide cash to individuals, they do contribute to their standard of living. Hence, it can be assumed that if a person utilizes a government service, then he/she receives some notional cash. If all individuals who utilize a government service are assumed to receive exactly the same benefits (in the form of notional cash), then we can easily calculate the PPP index.

Perfect targeting

The PPP index has the lowest value of zero if the government programme does not reduce any poverty at all, which will happen when all benefits of the programme go to the non-poor. This is considered to be the extreme situation of imperfect targeting.

On the other hand, perfect targeting may be defined as a situation where only the poor get all the benefits proportional to the income shortfall from the poverty line. Kakwani and Son (2005) define two different values of the PPP index obtainable under perfect targeting, depending upon how one defines the poverty line. One scenario is where every household has a different poverty line depending on the household composition and the prices faced by that household. In our empirical study of Thailand, the official poverty line varies with households, whereas for Viet Nam the poverty line is fixed for all households. In each case, the value of the PPP index under perfect targeting is defined differently.

In practice, it is not possible to attain perfect targeting because it is difficult to determine people's incomes or consumption accurately. We generally resort to proxy targeting, such as by geographical region or by other socio-economic characteristics of households. In this study, the targeting efficiency of a programme is judged on the basis of the value of the PPP index. The value of the PPP index under perfect targeting may be used as a benchmark to assess the targeting performance of government programmes. This methodology can also be used for ex ante formulation of new government programmes.

PPP index by socio-economic group

Taking the line of reasoning a step further, a decomposition methodology was proposed to explain the PPP index in terms of two factors: the within-group PPP index and the total-group PPP index. Suppose there are k mutually exclusive socio-economic groups. The within-group PPP index measures the degree of pro-poorness of a programme within the kth group. It does not tell us whether targeting the kth group will necessarily lead to a pro-poor outcome at the national level. Since our objective is to achieve the maximum reduction of poverty at the national level, we need to see the impact of targeting the kth group on national poverty. To capture this effect, another PPP index for the kth group was proposed, called the total-group PPP index.

The total-group PPP index shows that the pro-poor policy index for the whole country is the weighted average of the pro-poor policy indices for individual groups, with weights proportional to the share of benefits received by each group. It was proved that to reduce poverty at the national level, operating the government programme in some groups will be more effective than in others. This efficiency can be captured by the value of the total-group PPP index: the larger the value of the total-group PPP index, the more efficient the kth group in reducing national poverty. On the whole, the methodology presented can help us to identify the efficient groups from the viewpoint of improving targeting efficiency.

Thailand, Russia and Viet Nam

In this section, we apply our methodology, as briefly outlined in the previous section, to Thailand, Russia and Viet Nam. While the PPP index is applied to Thailand and Russia to capture the extent to which the welfare schemes of those governments benefit the poor, the PPP index is applied to Viet Nam to estimate the degree of effectiveness of basic services—including education and health—utilized by its population.

For all three countries, this study utilizes unit-record household surveys, and the analysis is based on per capita consumption expenditure. The surveys are nationwide and cover the periods 2000, 2002 and 1997-1998 for Thailand, Russia and Viet Nam respectively. Poverty lines are country-specific. While a single average national poverty line is used for Viet Nam, Thai and Russian poverty lines differ across households because they take into account different needs of household members by gender and age, as well as the different spatial costs of living by region and area in both Thailand and Russia.[2]

Welfare programmes in Thailand and Russia

Thailand

In recent years, the Thai government has implemented a few social welfare programmes, including social pensions for the elderly, low income medical cards, health insurance cards and free school lunch programmes. These are means-tested and designed specifically to target the low-income group.[3] In this section, we examine whether these welfare programmes have indeed benefited poor people in society by using the PPP index.

Table 1 presents the PPP index for Thailand's social welfare programmes. As can be seen from the table, all four welfare programmes have a PPP index value greater than 1. Hence, we may conclude that all four welfare programmes benefit the poor more than the non-poor. Overall, the poor have greater access to these government welfare programmes than the non-poor.

Interestingly, the welfare programmes for low income medical cards and free school lunches have higher PPP index values with respect to the severity of poverty measure. Since the severity of poverty measure gives greater weight to the ultra-poor, the absolute benefits of low income medical cards and free school lunch programmes flow to the ultra-poor more than to the moderately poor.

2 For a detailed discussion of Thai and Russian poverty lines, see Kakwani (2003, 2004).

3 In practice, no programme can be perfectly means tested. It is important to know how much the deviation of a programme is from the perfectly means tested programme.

Table 1.
PPP index for welfare programmes in Thailand, 2000

Welfare schemes	*Poverty gap ratio*	*Severity of poverty*
Social pension for the elderly	1.68	1.54
Low-income medical cards	2.02	2.12
Health insurance cards	1.29	1.25
Free school lunches	2.02	2.06
Perfect targeting	6.77	10.31
Universal social pensions (for elderly over 65 years of age)	1.21	1.24

We also calculated the PPP index in the hypothetical case of a universal pension system. Suppose that every elderly person over 65 years of age gets a pension from the government. Is this scenario more pro-poor than the actual pension system? The PPP index indicates that although a universal pension scheme for the elderly is pro-poor and is even more beneficial to the ultra-poor, the present pension system is far more pro-poor than the universal one. This implies that the current means-tested pension system provides more benefits to the poor than the universal pension system for the elderly 65 years of age and over. In this analysis, we have not taken into account the administrative costs involved in providing mean-tested pensions.

Perfect targeting is the ideal policy for poverty reduction. In practice, it is not feasible to operate such a policy because (i) the administrative cost is very high, and (ii) it is difficult to obtain accurate details on individuals' incomes or consumption, particularly in countries with large informal sectors. If the government in Thailand had succeeded in implementing perfect targeting, the PPP index would have been 6.77 for the poverty gap and 10.31 for the severity of poverty measure. Thus, although pro-poor, the Thai welfare programmes have much lower PPP index values than the values that would have been obtained with perfect targeting. This suggests that there is scope for improving the targeting efficiency of the Thai welfare programmes.

In the previous section, we mentioned two types of PPP indices by groups: the within-group PPP index and the total-group PPP index. As stated, the former measures the pro-poorness of a programme within the *k*th group, whereas the latter captures the impact of operating a programme in the *k*th group on its pro-poorness at the national level. The results are presented in table 2. The total-group PPP index shown in the table reveals that the welfare programmes are more pro-poor in the rural areas than in the urban areas. Welfare schemes, such as the health care cards and free school lunches, are not pro-poor in the urban areas. This suggests that the government expenditures made on these programmes in the urban areas did not benefit the poor more than the non-poor.

It is, however, interesting to note that the within-group PPP index shows that all programmes are more pro-poor in the urban areas than in the rural areas. Thus, the two types of indices (total-group and within-group) present opposite results. The main reason for this is that welfare programmes in Thailand

Table 2.
PPP index by urban and rural areas in Thailand, 2000

Welfare Schemes	*Total-group PPP index*		*Within-group PPP index*	
	Urban	*Rural*	*Urban*	*Rural*
	Poverty gap ratio			
Social pension for the elderly	1.13	1.76	4.41	1.31
Low-income medical cards	1.44	2.10	5.60	1.56
Health insurance cards	0.70	1.39	2.72	1.03
Free school lunches	0.81	2.21	3.15	1.64
	Severity of poverty			
Social pension for the elderly	1.18	1.60	5.42	1.17
Low-income medical cards	1.34	2.23	6.18	1.63
Health insurance cards	0.61	1.36	2.83	0.99
Free school lunches	0.73	2.27	3.37	1.66

are better targeted in the urban areas than in the rural areas. Since the concentration of poor is higher in the rural areas, the impact of targeting the rural areas turns out to be more pro-poor at the national level. Thus, the two indices provide us with two different types of information about targeting. If our objective is to reduce poverty at the national level, then the efficiency of targeting a particular group should be judged on the basis of the total-group PPP index.

Russia

Russia has a well-developed social benefits system, of which the pension is the largest component. Table 3 shows the population receiving some kind of benefit. There are some persons who receive more than one benefit at the same time; those people are so small in number that we have not taken them into account here.

From table 3, it can be seen that out of the total population of 143.32 million, 53.62 million are receiving some kind of government benefit, which means that 37.41 per cent of the total population receives government benefits. This shows that the Russian social benefits system is very large in terms of population coverage. The old-age pension is the largest welfare programme, benefiting about 26.32 million people. The second largest programme is the child allowance, benefiting 17.42 million children. The disability pension is given to 3.19 million people.

The Russian government spends 46.79 billion rubles per month on welfare programmes (excluding administrative costs), of which 38.74 billion rubles go to the payment of pensions. The expenditure on child allowances is only 1.45 billion rubles, meaning that the child allowance per beneficiary is only 83.1 rubles per month. As the incidence of poverty among children is very severe, the child allowance is too small to have a significant effect on poverty among children. The government pays average benefits equal to 326.5 rubles per person per month. Our average lower poverty line for Russia is 1055.9 rubles per person per month, which means that the government pays benefits equal to one third of the poverty line income.

To what extent do government benefits go to the poor compared to the non-poor in Russia? This question is answered through the proposed PPP index. Table 4 gives the empirical estimates of the pro-

Table 3.
Russian welfare systems, 2002

Welfare benefits	*Beneficiaries (millions)*	*Percentage share*	*Per month cost (billion rubles)*	*Percentage share*
Old-age pension	26.32	49.08	38.74	82.79
Disability pension	3.19	5.96	3.61	7.71
Loss-of-breadwinner pension	1.64	3.05	1.27	2.72
Social pension	0.27	0.5	0.26	0.56
Care for children under 18 months	0.84	1.57	0.41	0.88
Child allowances (under 16 years)	17.42	32.49	1.45	3.09
Unemployment benefits	0.45	0.84	0.31	0.65
Other benefits	0.95	1.77	0.20	0.42
Scholarships	2.55	4.76	0.55	1.17
All benefits	53.63	100.00	46.79	100.00

Table 4.
PPP indices for the Russian welfare system, 2002

Type of government benefit	*Poverty gap ratio*	*Severity of poverty*
Old-age pension	2.20	4.13
Disability pension	2.18	4.16
Loss-of-breadwinner pension	2.09	2.40
Social pension	2.22	2.80
Care for children under 18 months	1.78	1.87
Child allowances (under 16 years)	1.19	0.79
Unemployment benefits	2.22	3.80
Other benefits	1.74	2.75
Scholarships	0.90	0.62
All benefits	2.14	3.90
Perfect targeting	3.02	5.71

poorness of each of the government welfare programmes that are currently implemented in Russia. As can be seen from the table, the benefits as a whole have PPP index values far greater than 1. From this, we may conclude that the welfare system in Russia tends to benefit the poor more than the non-poor. More importantly, the absolute benefits of the welfare system do indeed flow more to the ultra-poor than to the poor, as suggested by the value of the PPP index for the severity of poverty measure, equal to 3.90. Note that the PPP index for all benefits is the weighted average of the PPP indices for all 9 welfare programmes, with the weight proportional to the share of benefits accruing to people from each programme presented in the third column of table 3.

Table 4 also reveals that if the Russian Government had implemented perfect targeting, the PPP index would have been 3.02 and 5.71 for the poverty gap ratio and the severity of poverty index, respectively. This suggests that although Russian welfare programmes are not perfectly targeted to the poor, their deviation from perfect targeting is not large.

It is important to note that welfare programmes such as the child allowance, given to those aged below 16 years, and scholarships are not particularly pro-poor for the severity of poverty index. This is evident from the result that the PPP indices of these two programmes for the severity of poverty measure fall far below unity. This suggests that the absolute benefits of these programmes do not flow to the ultra-poor. It further suggests that these programmes may require better targeting than the current system in a way that favours the ultra-poor living far below the poverty threshold.

Health services in Viet Nam

Over the past decade or so, Viet Nam has enjoyed a significant improvement in the standard of living with its impressive performance in growth and poverty reduction. More importantly, its growth process has been pro-poor in a way that the growth benefits the poor proportionally more than the non-poor (Kakwani and Son 2004). In this context, it will be interesting to see whether, along with a rising standard of living and its pro-poor growth, poor people benefit from utilization of health services.

Table 5 presents the PPP index for utilization of various health facilities in Viet Nam. As the results in that table reveal, only the commune health centres have index values greater than 1. This suggests that the poor overall have greater access to commune health centres than the non-poor. It seems that commune health centres play an important role in providing basic health services to the poor in Viet Nam. Unfortunately, commune health centres do not provide quality health services because they are generally poorly staffed and equipped. Thus, the poor are not receiving quality health services as these are not provided by the commune health centres.

Public hospitals in Viet Nam provide higher quality care and are mainly utilized by individuals with health insurance. Utilization of government hospitals has PPP index values far less than 1, implying that public hospitals provide greater benefits to the non-poor than to the poor. That being the case, the poor are less able to access the quality health services provided by public hospitals.

Nevertheless, it is not surprising that the utilization of health insurance is not pro-poor because those covered by health insurance have access to government hospitals. Moreover, insurance coverage under the health insurance programme is more extensive for relatively better-off individuals. Having health insurance is positively correlated with the individual's income: while the insurance coverage rate is 9.2 per cent in the bottom income quartile, 24.5 per cent have health insurance in the top income quartile.

The results presented in table 5 indicate that pharmacy utilization is almost pro-poor (0.96 for the poverty gap ratio). It is reasonable to assume that more highly educated individuals, and hence presumably those more aware of the risks of self-medication, avoid pharmacy visits. Pharmacy utilization therefore appears to be an inferior good for the high-income group since rich individuals go to public hospitals for their health care. On the other hand, pharmacy visits are a normal good for poor households.

Table 5 also reveals that, as indicated by the total-group PPP index, the utilization of three types of health facilities—commune health centres, pharmacies and Eastern medicine facilities—is more pro-poor in rural areas than in urban areas. This suggests that the government subsidies on these health services in the rural areas do benefit poor people more than the non-poor. In addition, the within-group PPP

Table 5.
PPP index for health services in Viet Nam, 1997-1998
(poverty gap ratio)

Health facilities	*Country-wide*	*Total-group PPP index*		*Within-group PPP index*	
		Urban	*Rural*	*Urban*	*Rural*
	Poverty gap ratio				
Government hospitals	0.62	0.07	0.91	0.34	0.74
Commune health centres	1.17	0.27	1.23	1.38	1.00
Regional polyclinics	0.84	0.42	0.98	2.14	0.79
Eastern medicine facilities	0.96	0.04	1.15	0.21	0.94
Pharmacies	0.96	0.26	1.16	1.29	0.94
Private doctors	0.79	0.12	0.98	0.59	0.80
Health insurance	0.50	0.08	0.79	0.40	0.64
Perfect targeting	2.86				

index indicates that, within the urban sector, sick and injured individuals from poor households receive far less benefits from the utilization of health care services such as government hospitals and Eastern medicine facilities. By comparison, the rural poor benefit more from utilizing facilities such as commune health centres, Eastern medicine facilities and pharmacies.

Educational services in Viet Nam

In this subsection, we apply our proposed PPP index methodology to assess educational services in Viet Nam. Our prime objective is to find out to what extent public education at primary and secondary levels is pro-poor. We also attempt to find out whether free universal education will benefit the poor more than the non-poor.

Table 6 reveals that public primary education benefits the poor more than the non-poor. Benefits provided by public primary education are even more pro-poor for the ultra-poor. This is supported by the fact that net enrolments in primary school increased from 87 to 91 per cent over the period 1993-1998 (Nguyen, 2002). Coupled with this substantial improvement in primary school enrolment rates, changes in the allocation of public spending on education in the 1990s could have further favoured the lower levels of education. The share of public spending on education going to the poor increased from 16.5 per cent in 1993 to 18.1 per cent in 1998 (Nguyen, 2002). Although public schools at the primary education level are found to be pro-poor, other types of schools at the same level are highly anti-poor. In other words, primary schools that are semi-public or sponsored by the private sector benefit better-off children more than poor ones. This suggests that educational subsidies given to these types of schools are likely to benefit the non-poor more than the poor.

Table 6 also shows that lower secondary education in Viet Nam is not pro-poor, as indicated by the PPP index. This finding emerges consistently, irrespective of school type. At the lower secondary level, net enrolment rates more than doubled between 1993 and 1998, from 30 per cent to 62 per cent. However, for the population as a whole, 38 per cent of children aged 11-14 years old were not enrolled in lower secondary school, while 66 per cent of the poorest children in this age range were not enrolled in primary school. The disparity in enrolment rates between the richest and poorest quintiles has been highly significant over the years.

Table 6.
PPP index for education services in Viet Nam, 1997-1998

School Types	*Primary*	*Lower secondary*	*Upper secondary*
	Poverty gap ratio		
Public	1.29	0.79	0.37
Semi-public	0.55	0.15	0.23
Sponsored	0.63	0.51	0.00
	Severity of poverty		
Public	1.31	0.65	0.23
Semi-public	0.19	0.08	0.09
Sponsored	0.14	0.26	0.00

As would be expected, the PPP index shows that upper secondary schools in Viet Nam have far more children from better-off households compared to those from poor households. This is true for all types of schools at this level. There are no children from poor households enrolled in the upper secondary level schools sponsored by the private sector. Over the period 1993-1998, children from the poorest quintile experienced an increase in enrolment in upper secondary schools from 1 to 5 per cent, as compared to an increase from 21 to 64 per cent for the richest quintile (Nguyen, 2002). On the whole, much still needs to be done to achieve universal primary and secondary education. The question is whether educational outcomes can be pro-poor. The PPP index for universal education is now compared to that under the current education system.

Table 7 shows that universal education at primary and lower secondary levels in Viet Nam would provide more benefits to poor children than to the non-poor. The degree of pro-poorness of universal access to primary education among 6 to 10-year-old children would be almost as high as actually achieved by the current education system. Similarly, if lower secondary education were made universal for children aged between 11 and 14 years, this would provide a pro-poor outcome. This is in contrast with the actual situation, as indicated by the PPP index: the index is 0.79 for lower secondary education, whereas it would be 1.08 if lower secondary education were universal. At higher levels, universal provision is not likely to deliver pro-poor outcomes. The PPP index for upper secondary schooling is less than unity. In short, universal education at higher levels would not be pro-poor, but would provide greater opportunities to poor individuals aged between 15 and 17 years for upper secondary schooling to have greater access to higher education compared to the current situation. A better alternative would be to provide incentives to children from poor households to enrol in upper secondary education.

Basic infrastructure services in Viet Nam

Basic infrastructure services make significant contributions to people's well-being. Basic services, such as piped water and sanitation (e.g., sewerage systems, flushing toilets, etc.), have direct impacts on people's health status and overall well-being. Having access to other services, such as electricity and telephones, helps households increase their productivity for income generation. A number of studies reveal that a household's access to basic services is highly and significantly correlated with a lower probability of being poor.

As shown in table 8, the benefits generated from all types of basic services go to the non-poor more than to the poor in Viet Nam. Poor households in general have much greater access to piped water and electricity than sanitary systems: the PPP index for water and electricity are 0.86 and 0.80, respectively, when measured by the poverty gap ratio, whereas the indices are only 0.10 for the sanitary facilities. As suggested in table 8, benefits generated from sanitary services (collected waste and flushing toilets in this case) are highly skewed in favour of the non-poor. The benefits of all types of basic services are

Table 7.
PPP index if universal education were to be provided in Viet Nam

	Poverty gap ratio	*Severity of poverty*
Primary	1.28	1.33
Lower secondary	1.08	1.06
Upper secondary	0.91	0.85

Table 8.
Viet Nam: PPP index for basic infrastructure services, 1997-1998

Access to basic infrastructure services	*Poverty gap ratio*	*Severity of poverty*
Electricity	0.80	0.71
Piped and tap water	0.86	0.81
Collected waste	0.10	0.07
Sanitary toilets	0.10	0.05

lower for the severity of poverty measure. This suggests that the ultra-poor have even less access to basic infrastructure services than the poor.

15 African countries

This section of our study utilizes unit-record household data sets from 15 African countries obtained from the African Household Survey Data Bank of the World Bank. The countries and years of the surveys are: Burkina Faso in 1998, Burundi in 1998, Cameroon in 1996, Côte d'Ivoire in 1998, Ethiopia in 2000, Gambia in 1998, Ghana in 1998, Guinea in 1994, Kenya in 1997, Madagascar in 2001, Malawi in 1997, Mozambique in 1996, Nigeria in 1996, Uganda in 1999 and Zambia in 1998.

The study uses national poverty lines for the 15 countries obtained from various poverty assessment reports. These poverty lines were originally very crude and did not take into account different needs of household members by age and gender. Moreover, the poverty lines were not adjusted for the economies of scale which exist in large households. To overcome these shortcomings associated with the official poverty lines, Kakwani and Subbarao (2005) made some modifications to the national poverty lines, taking into account the different needs of household members and economies of scale.

Targeting children: targeting vs. universalism

According to Coady, Grosh and Hoddinott (2002), more than a quarter of targeted programmes in all developing countries had regressive benefit incidences. For instance, they found that the poorest 40 per cent received less than 40 per cent of poverty alleviation budget expenditures. Such ineffective targeting of poor households suggests that the overall impact on poverty of such spending has been much smaller than if well targeted. Moreover, the administrative costs involved in implementing any targeted programmes are very high. Much of the budget is spent on simply getting the resources to poor families. Consequently, the cost per unit of income transferred can be substantial. Transfer programmes seem to be administratively complex as they require resources to undertake targeting of transfers and to monitor the recipients' actions. In this context, one might argue for a scenario of universal transfers.

In this section, we estimate the PPP indices under a universal transfer programme for children aged between 5 and 16 years old. Under such a programme, every child that belongs to this age group is assumed to receive a certain amount of transfers, irrespective of the child's poverty status. The results are presented in figure 1 and table 9. From figures 1 and 2, we note that the PPP index values with perfect targeting for the 15 African countries are quite small compared to the PPP index values in Thailand, Russia and Viet Nam. In fact, the PPP indices with perfect targeting differ little from the indices associated with universal transfers. This suggests that targeting may not be needed in cases such as these 15 African countries, where poverty is extremely high.

Figure 1:
Pro-Poor Policy indices under universal transfers and perfect targeting
(poverty gap ratio)

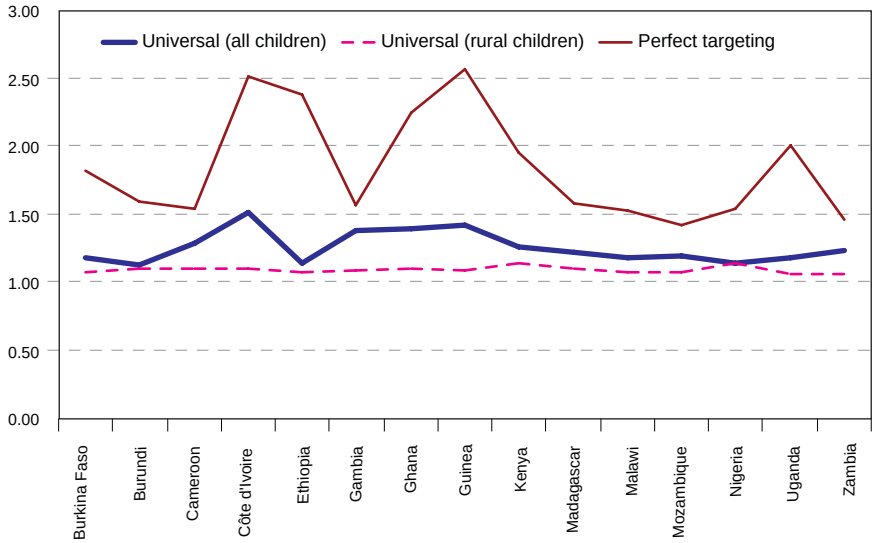

Figure 2:
PPP indices under perfect targeting for 18 countries
(poverty gap ratio)

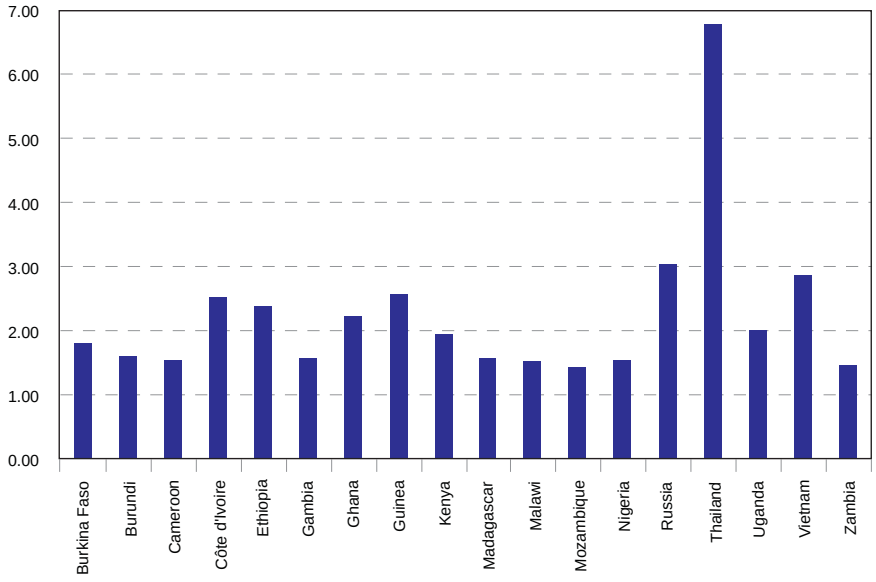

Table 9 carries two important messages. First, the results indicate that universal transfers will provide more absolute benefits to children from poor families than those from non-poor families. Second, a universal transfer scheme is likely to bring about an even more pro-poor outcome if implemented in rural areas where most poor children live. One exception is in the case of Nigeria where, in contrast, poverty is widespread in both urban and rural areas.

Table 9:
PPP index for universal transfers to rural and urban areas

Country	*Poverty gap ratio*				*Severity of poverty*			
	Universal targeting			*Perfect targeting*	*Universal targeting*			*Perfect targeting*
	Rural	*Urban*	*Total*		*Rural*	*Urban*	*Total*	
Burkina Faso	1.18	0.43	1.07	1.81	1.21	0.38	1.08	2.53
Burundi	1.12	0.28	1.09	1.59	1.16	0.23	1.12	2.11
Cameroon	1.28	0.60	1.09	1.54	1.32	0.50	1.08	2.05
Côte d'Ivoire	1.51	0.60	1.10	2.51	1.63	0.45	1.09	3.63
Ethiopia	1.13	0.73	1.07	2.37	1.14	0.74	1.09	3.42
Gambia	1.37	0.65	1.08	1.56	1.56	0.39	1.08	2.00
Ghana	1.39	0.54	1.09	2.24	1.47	0.42	1.10	3.03
Guinea	1.42	0.37	1.08	2.56	1.47	0.31	1.10	3.40
Kenya	1.25	0.29	1.14	1.95	1.27	0.18	1.16	2.53
Madagascar	1.22	0.65	1.09	1.57	1.29	0.57	1.13	1.95
Malawi	1.17	0.18	1.07	1.52	1.21	0.09	1.09	1.93
Mozambique	1.19	0.62	1.07	1.42	1.24	0.59	1.11	1.77
Nigeria	1.14	1.13	1.14	1.54	1.12	1.21	1.16	1.91
Uganda	1.17	0.25	1.06	2.00	1.20	0.19	1.08	2.75
Zambia	1.23	0.76	1.05	1.45	1.34	0.57	1.06	1.80

One possible criticism is that we do not compare targeted transfers with universal transfers. Nevertheless, the main implication emerging from the PPP index is that if a transfer is given to every child aged between 5-16 years old, it is likely to provide more absolute benefits to poor children, particularly in rural areas. What is more, this analysis suggests that universal targeting of children may not be a bad policy option, particularly in rural areas. This may be more cost effective, as targeting only a small subgroup of children may result in a large portion of administrative costs being devoted to identifying the poor.

Summary

Kakwani and Son (2005) have proposed a new index called the "pro-poor policy" (PPP) index. This index measures the pro-poorness of government welfare programmes and basic service delivery of education, health and infrastructure. It is an attempt to introduce a methodology for assessing the techniques of targeting to make it better suited for evaluation.

The conclusion reached was that the targeting efficiency of a particular group should be judged on the basis of the total-group PPP index. If the objective is to reduce poverty, then social transfer programmes should be designed so that they lead to the maximum reduction of poverty under given resource constraints. To achieve this objective, perfect targeting would be an ideal solution. Two prerequisites are necessary in this context: only the poor get all the benefits, and benefits given to the poor are proportional to their income shortfalls from the poverty line income. To implement such a programme, it will be necessary to have detailed information of people's incomes or consumption expenditures. Such detailed information and the administrative ability to use it are, of course, not present in most developing countries. The

policy makers, therefore, have to resort to a form of proxy targeting which makes transfers based on easily identifiable socio-economic characteristics of households; however, proxy targeting can never achieve complete targeting success. Hence, this study is an important methodological attempt to assess the targeting efficiency of government programmes by trying to find out how good the proxy targeting is compared to perfect targeting. Government programmes may be defined as pro-poor if they provide greater benefits to the poor than to the non-poor.

Using micro unit-record household surveys, the methodology was applied to 18 countries including Thailand, Russia, Viet Nam and 15 African countries. The major conclusions emerging from our empirical analysis can be synthesized as follows:

First, all four welfare programmes recently implemented by the Thai government were found to be pro-poor. In particular, welfare programmes designed to help the very poor—including low income medical cards and free school lunches—were shown to be highly pro-poor, benefiting the ultra-poor more than the poor. In addition, the study has shown that a universal pension for the elderly over 65 years of age is likely to be less pro-poor than the present old-age pension system. This suggests that the Thai government should continue with its present old-age pension scheme.

Second, the study found that the welfare system in Russia tends to benefit the poor more than the non-poor. Moreover, the absolute benefits of the welfare system do indeed flow more to the ultra-poor than to the poor, as suggested by the PPP index value for the severity of poverty index, which is higher than that for the poverty gap ratio. Additionally, the PPP index for all benefits is the weighted average of the PPP indices for all nine welfare programmes, with the weight proportional to the shares of each programme. The study found the Russian welfare programmes to be reasonably well-targeted. This is evident from the finding that the PPP indices of welfare programmes are quite close to (but still lower than) the index expected to be attained with perfect targeting. The study also found that welfare programmes –such as the child allowance, given to those aged below 16 years, and scholarships– are not pro-poor for the ultra-poor in particular. This suggests that these programmes may require better targeting than the current system in a way that would favour the ultra-poor living far below the poverty threshold.

Third, basic services—health and education—in Viet Nam were found to be mostly not pro-poor. Although government hospitals provide the highest quality of health care, the poor are much less likely to utilize them. This is, however, not true for commune health centres, which appear to provide more services to individuals from poor households. Unfortunately, the commune health centres do not provide quality health services because they are poorly staffed and equipped. On the whole, the poor have less access to quality health care.

In Viet Nam, public primary schools were found to be pro-poor. This was partly due to the increase in public spending on education for the poor in the 1990s. However, secondary education was not pro-poor. The study suggests that universal education at primary and lower secondary levels could provide more benefits to students from poor households, although this cannot be said for higher levels of education.

Fourth, ex ante simulations of universal transfers to school-age children in 15 African countries indicated that universal transfers would provide more absolute benefits to children from poor families than to those from non-poor families. In addition, the study found that a universal transfer scheme is likely to have even more pro-poor outcomes if implemented in the rural areas, where most poor children reside.

This finding is true for all the countries except Nigeria, where poverty is widespread in both urban and rural areas.

Finally, the study found that in the 15 African countries, the value of the PPP index with perfect targeting was quite small compared to the index values for Thailand, Russia and Viet Nam. The index value of perfect targeting for Thailand was far greater than for Russia and Viet Nam. In the case of the African countries, the PPP indices under perfect targeting differed little from the indices for universal provision. Therefore, we conclude that perfect targeting is not necessary for cases such as these 15 African countries, where poverty is extremely high.

References

Bigman, D., and H. Fofack (2000). Combining Census and Survey Data to Study Spatial Dimensions of Poverty: A Case Study of Ecuador. In *Geographical Targeting for Poverty Alleviation*. World Bank, Washington DC.

Braithwaite, J., C. Grootaert and B. Milanovic (2000). *Poverty and Social Assistance in Transition Countries*. St. Martin's Press, New York.

Coady, D., M. Grosh, and J. Hoddinott (2002). The Targeting of Transfers in Developing Countries: Review of Experiences and Lessons. Social Safety Net Primer Series, World Bank, Washington, DC.

Foster, J., J. Greer and Erik Thorbecke (1984). A Class of Decomposable Poverty Measures. *Econometrica* 52 (3): 761-66.

Grosh, M. (1994). *Administering Targeted Social Programmes in Latin America: From Platitudes to Practice*. Regional and Sectoral Studies, World Bank, Washington, DC.

Kakwani, Nanak (2003). Issues in Setting Absolute Poverty Lines. Poverty and Social Development Paper No. 3, June, Asian Development Bank, Manila.

Kakwani, Nanak (2004). New Poverty Thresholds for Russia. Processed, World Bank, Washington, DC.

Kakwani, Nanak, and Hyun H. Son (2004). Pro-Poor Growth: Asian Experience. Working Paper No. 1, International Poverty Centre, United Nations Development Program, Brasilia.

Kakwani, Nanak, and Hyun H. Son (2005). On Assessing Pro-Poorness of Government Programmes: International Comparisons. Working Paper No. 8, International Poverty Centre, United Nations Development Program, Brasilia.

Kakwani, Nanak, and K. Subbarao (2005). Ageing and Poverty in Africa and the Role of Social Pensions. International Poverty Centre, United Nations Development Program, Brasilia.

Nguyen, N.N. (2002). Trends in the Education Sector from 1993-1998. Policy Research Working Paper No. 2891, World Bank, Washington, DC.

Rawlings, L., L. Sherburne-Benz and J. Domelen (2001). *Evaluating Social Funds: A Cross-Country Analysis of Community Investments*. World Bank, Washington DC.