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The Role of Cash Transfers in Poverty Reduction: Evidence from Kenya

Nancy Nafula and Eldah Onsomu

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The Role of Cash Transfers in Poverty Reduction: Evidence from Kenya

Nancy Nafula and Eldah Onsomu

Social Sector Division

Kenya Institute for Public Policy
Research and Analysis

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Abstract

Cash transfers are important in relieving both the direct and opportunity costs of utilizing public social services such as health and education. Cash transfers have a direct effect on the welfare of poor households and provide general livelihood support. Although the level of the transfer may not be sufficient in itself to lift households out of poverty, the benefit of a cash transfer immediately relieves the economic hardships that poor households may be facing. However, there are very few studies conducted on the effect of cash transfers especially for Kenya. This study uses a micro-simulation method to evaluate non-conditional cash transfer programmes and the ex-ante programme effect on poverty and inequality by simulating selected targeting criteria.

The study established that targeting is useful in maximizing the program's effect and effectiveness. Nevertheless, targeting and monitoring can increase the cost per beneficiary, which reduces the programme's efficiency. On the other hand, designing a programme with a weak or non-existent targeting strategy not only reduces the cost per beneficiary but also leads to leakages to the non-poor. These have negative consequences on the programme's effect and effectiveness. The study also indicates the importance of political support for in cash transfer programme implementation and the need for effective coordination across different sectors in government, among them education, health, finance and social welfare.

Abbreviations and Acronyms

CT	Cash Transfer
DfID	Department for International Development
KIHBS	Kenya Integrated Household Budget Survey
MDGs	Millennium Development Goals
OVCs	Orphans and Vulnerable Children
PPP	Public Private Partnership

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1. Introduction

The achievement of the Millennium Development Goal 1 (MDG1) is a critical challenge for most developing countries, despite concerted efforts and policy prescriptions for reducing poverty. There is evidence from Latin American countries showing that re-distribution instruments such as cash transfers can simultaneously address several MDGs or dimensions of poverty. Other developing countries could learn from the successes of Latin America and improve on the failures as they implement cash transfer programmes in their own countries. Different varieties of such programmes are increasingly being implemented in many developing countries (World Bank, 2009), and Kenya is among the first group of sub-Saharan countries to pilot cash transfer programmes.

Cash transfers can be particularly important because they can relieve both the direct and opportunity costs of sending children to clinics and schools, while also providing general livelihood support to the whole household. They have a direct effect on the welfare of poor households. Although, in most instances, the level of the transfer may not be sufficient in itself to lift households out of poverty, the benefit of a cash transfer immediately relieves households of the economic hardships that they currently face.

Other than direct effects, there are also indirect effects associated with cash transfers. First are the multiplier effects of the increased income in the community and the larger economy. Second, is the effect of cash transfer on household risk-management and coping strategies. Third, there is potential of improved coordination of social policy, which allows for enhanced policy efficiency.

This study aims to make a contribution in assessing the effects of cash transfers on poverty, inequality and schooling in line with different targeting criteria: old age, school-aged children, orphans and vulnerable children (OVC), means tested, universal and geographical targeting.

2. Main Features of the Cash Transfer Programme in Kenya

The cash transfer (CT) programme in Kenya was based on the need to provide social protection to Orphans and Vulnerable Children (OVCs). A pre-pilot project was undertaken to inform targeting procedures and transaction costs. The initiative began with the first cash disbursement in December 2004 in nine (9) communities in three (3) districts, supporting a total of 500 OVCs. The total cash paid out was Ksh 500 per child in the selected households. The results from the pre-pilot confirmed that communities realized the importance of education and health aspects for the OVCs and decided to implement conditionalities in the pilot project.

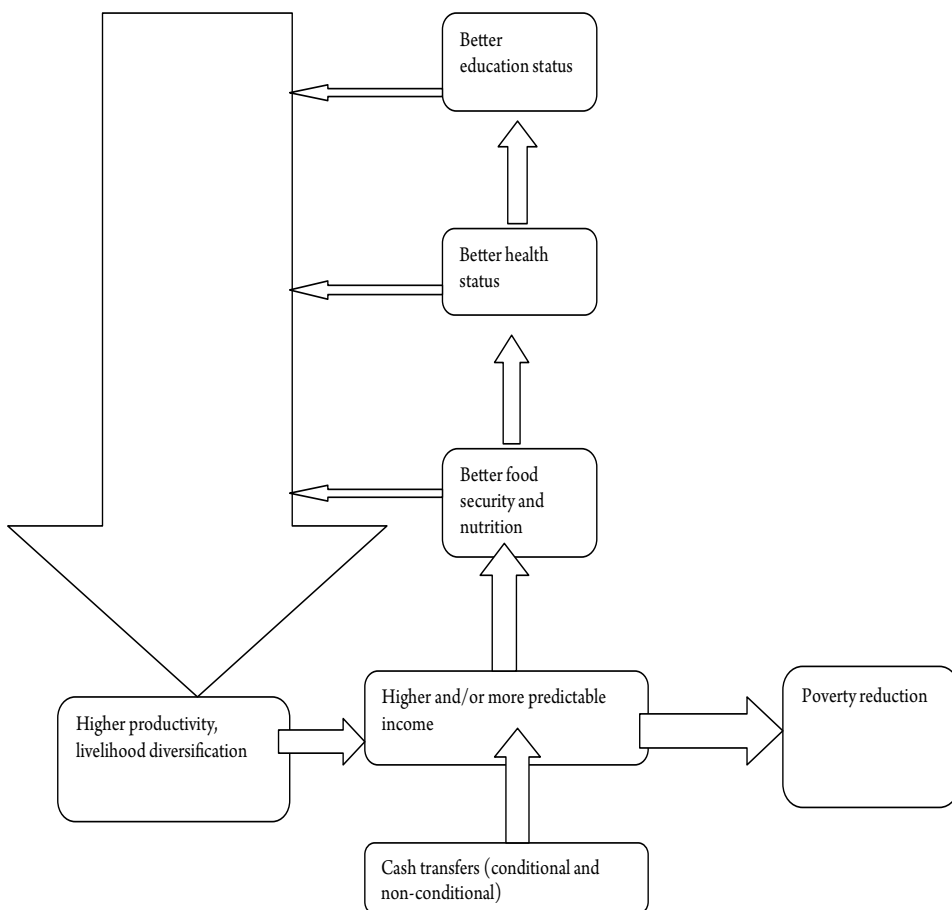
The OVC CT programme was then scaled up in 2006/07 to include more districts, both conditioned (7) and unconditioned (10). The total number of beneficiaries was increased to about 10,500. The amount of cash paid to the beneficiaries also increased to Ksh 1,000. During phase three of the pilot (starting 2007/08), the programme was again scaled up. It is estimated to have benefited between 30,000-50,000 beneficiaries. The total amount paid to each beneficiary was again increased to Ksh 1,500.

The education conditionality for CT programme for OVC requires that children aged 6 to 17 years old be enrolled and attend school on a regular basis, meeting at least 80 per cent of attendance requirements. The health conditionality requires that children under 1 year old be taken to a health facility for immunization, and children between 1 and 5 years old attend growth monitoring visits and also receive vitamin A supplements. Beneficiaries are not subjected to conditionalities if there is a shortage of school or health services. In addition, beneficiary children are exempted from complying with conditionalities if they are disabled and/or chronically ill. The group with conditionalities are fined if they fail to comply. Cash transfers to the household are generally paid to the female caretaker upon satisfactory implementation of conditionalities where it applies. Other conditionalities touch on the need to attend awareness sessions, and registration of births and deaths.

3. Conceptual Framework for Cash Transfer

Theoretically, cash transfers assume that individuals can be empowered to improve their living standards. While poverty is a multidimensional phenomenon, lack of reliable income is a major cause of income poverty. A reliable income flow, for instance cash transfer to a household, can help smoothen consumption. Over time, such transfers help households to build human capital such as education and health, accumulate productive assets, and obtain access to credit on better terms.

Figure 3.1: Cash transfer and poverty reduction



Source: Adapted from DfID 2011 with slight modification

4. Data and Methodology

4.1 Data

This study mainly involved quantitative analysis of the Kenya Integrated Household and Budget Survey (KIHBS) 2005/06. In addition, district level information from the Ministry of Education supplemented missing information in the KIHBS. Individual and household data was merged with district level information on enrolment and number of teachers. Although the district level data are highly aggregated and ignore intra-district differences, it does allow exploration of the role of supply-side variables.

KIHBS data collection took a period of 12 months starting May 2005, and therefore was able to control for seasonality. The sampling design was based on the updated NASSEP IV sampling frame. The survey covered all districts including districts in the arid and semi-arid lands (ASALs).

The multipurpose survey contained covers a variety of dimensions, including incomes and expenditures, education of household members, labour supply, asset ownership, and land holdings. The welfare indicator used is the expenditure per adult equivalent. A household is classified as poor if its per capita expenditure is less than the absolute minimum expenditure required to meet subsistence food and non-food needs. A separate food poverty line is computed for rural and urban areas.

The food poverty line is derived in a way that meets the subsistence calorific requirements based on the FAO/WHO recommendations of 2,250 Kilo calories per day per adult. In order to compute the overall poverty line, some adjustment is made to account for the basic non-food requirements of the population. The non-food poverty line is also estimated separately for rural and urban areas. The non-food poverty line for rural areas excludes expenditure on house rent (majority of households own their houses). Housing rent is included in the computation of the urban non-food urban poverty line.

4.2 Methodology

The study used various budget scenarios and targeting strategies to assess the effect of CT on poverty, inequality and schooling. These are intended to give a comparison of the effects of alternative programme design and associated costs on poverty and inequality.

We simulate the effect of non-conditional cash transfers on poverty, inequality and schooling in line with different targeting criteria and assess the cost of each

policy option. This we achieve by varying the eligibility age for beneficiary children and the elderly; by combining both child benefits and old-age pension, and one of them only; and by varying the level of transfers and proportion of GDP in the funding pot, from 1, 2 and 3 per cent of GDP.

4.3 Transferring a Share of GDP

- (a) Universal targeting: This scenario analyses the effect of a 1 per cent, 2 per cent and 3 per cent of GDP in the funding pot, spent on every child of school age; that is, 6-17 years, all children, all persons of old-age, all OVCs.
- (b) Means tested: This scenario analyses the effect of a proportion of GDP spent on all poor children, elderly poor, elderly poor living with children (differentiated by the extent of poverty), children living in poor households (differentiated by the extent of poverty), school aged children living in poor households (differentiated by the extent of poverty).
- (c) Poor and geographic targeting: This scenario analyses the effect of a proportion of GDP on extreme poor children living in rural areas.

In order to compare these alternatives, we calculate an index of efficiency, which is defined as the ratio of the percentage reduction in national poverty to the total cost of a programme.

In the poverty and inequality simulations, we assume that cash given to the beneficiaries are pooled within families and distributed to each member so that every member enjoys the same level of welfare. We further assume that all the benefits received by families are spent on consumption goods. This is a varied assumption given that the marginal propensity to save out of transitory income is very low, even in areas with relatively better markets in rural Kenya (Ndirangu, 2007).

The benefits received by the families are added to the family's total consumption expenditure. On dividing by household size, we get per capita household expenditures after the benefit. We then compare poverty levels derived using the new per capita expenditure with the poverty levels using the household per capita expenditure before the transfer. The general class of Foster-Greer and Thorbecke (1984) poverty measures are used. We do a similar analysis when simulating inequality.

5. The Profiles of Children and the Elderly

5.1 The Children

Based on KIHBS (2005/06), children below 17 years constituted close to 50 per cent of the population, with school going-age children accounting for about 32.3 per cent of the population. Further analysis shows that about 14.2 per cent are aged between 6-10 years, 7.6 per cent 11-14 years, and 10.4 per cent are in the 15-17 year age group.

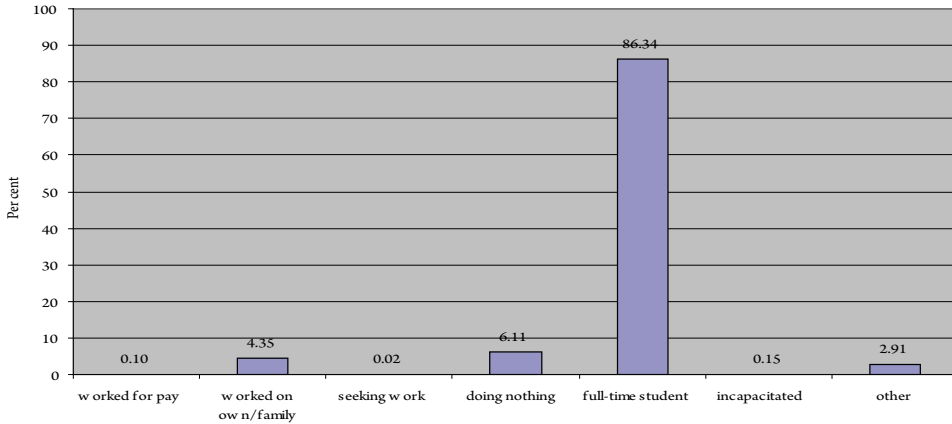
5.1.1 School enrolment and child work

The importance of education as a basic human capability is widely recognized. In the recent past, many governments in developing country have offered free basic education to all children of school going-age. This has led to substantial increase in enrolment especially among poor families. For instance, net enrolment rate (NER) in Kenya primary schools rose from 80.4 per cent in 2003 to 84.5 per cent in 2005/06. The current NER is 91.4 per cent.

Nevertheless, several factors still hinder access to universal schooling for all children of school going-age. Enrolment in secondary school is dismal at 38.4 per cent. The KIHBS (2005/06) shows that 95 per cent of the 6-17 years old are enrolled in school. Out of these 86.3 per cent are full-time students, 0.1 per cent work for pay and 4.4 per cent work at home. About 6.1 per cent are neither in school nor work - doing nothing (Figure 5 1). For some children, work and study is part of their daily routine (Figure 5 2). While majority of the children spend their time on leisure and schooling activities, a small proportion has to divide their time between working either outside home or in their homes and schooling. Most children work on agricultural farms.

An in-depth analysis of children out of school shows that the proportion of children not attending school rises with the age/level of schooling (Figure 5 3). Between ages 6-11, less than 2.5 per cent of school going-age children are out of school. Beyond age 11, the rate of children out of school starts to rise steadily and accelerates at a faster rate after the age of 14. This corresponds to the age when the children first enrol in secondary school. Because of late enrolment in primary school, some children may still be attending primary school and many of them may start to lose interest in school. Figure 5.4 gives the reasons advanced for not attending school by age group. Lack of interest dominates the 14-17 year age category, followed by lack of money. Beyond age 14, children are more likely to drop out of school if the opportunity cost of attending school is high.

Figure 5.1: School attendance and occupation of children



Source: Author's computation using KIHBS 2005/06

Figure 5.2: School attendance and child work

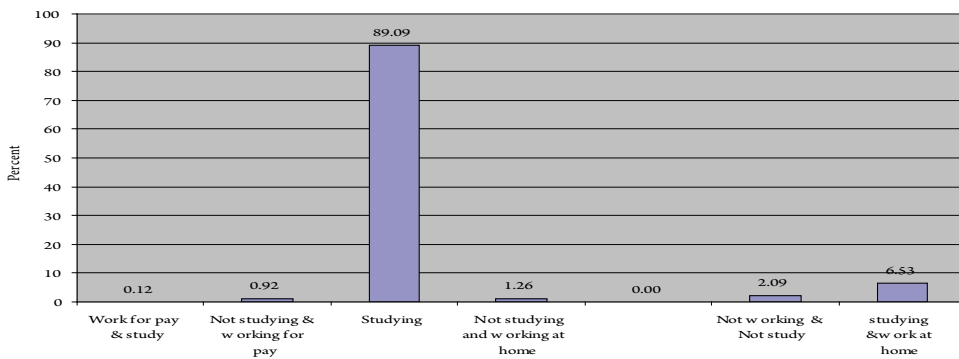


Figure 5.5 shows the enrolment rate and labour-force participation of school going-age children by age. School enrolment is conspicuously high at 94.3 per cent at the age of six (official age of enrolling in school) while labour-force participation is lowest (less than 2.5%). This scenario is the most ideal. However, participation in labour force, especially on family farm, rises gradually with age of the child up to age 9. Beyond this age, it rises at a faster rate and, at the same time, school enrolment starts to decline also at a faster rate. By age 17, close to 14 per cent of the children are working on the family farm, another 9 per cent as homemakers and 6 per cent working for pay. Participation in work for pay rises drastically from age 13, about the time children transit from primary to secondary school.

Figure 5.3: Percent of children (6-17) not in school by age

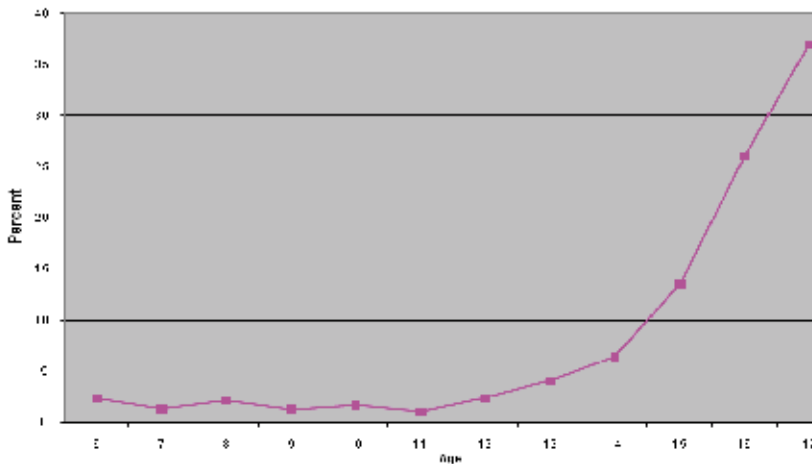
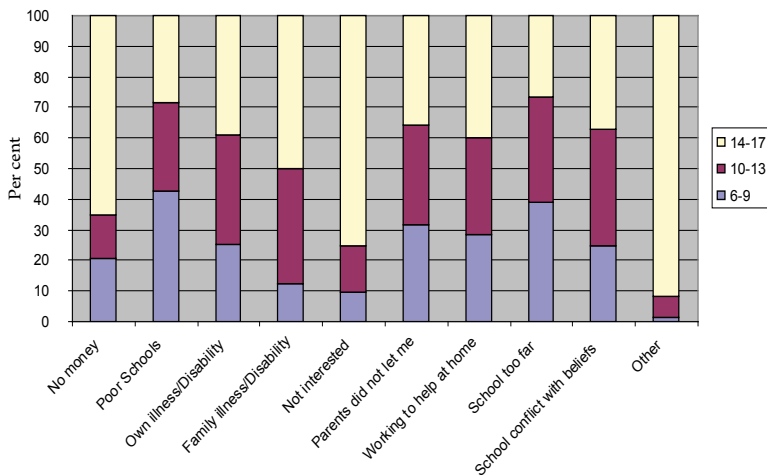
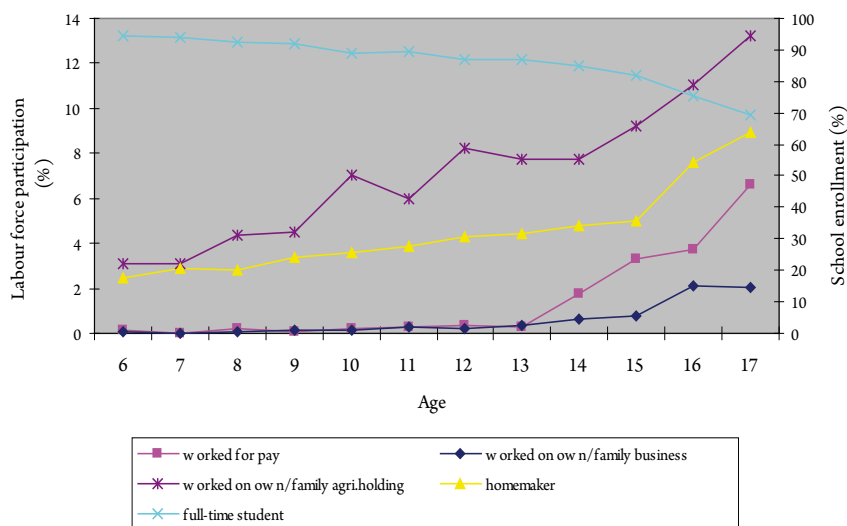


Figure 5.4: Reason for not attending school by age-group (%)



Transition from primary to secondary school is mainly limited by ability to pay as shown in Figure 5.4, among other factors such as lack of opportunities to enrol in a secondary school.

Figure 5.5: School attendance and type of work

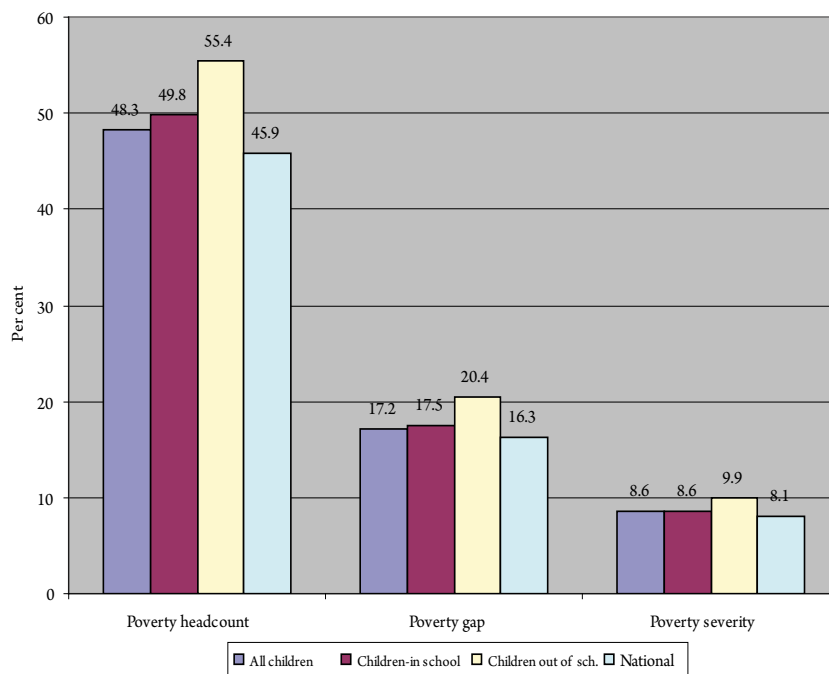


5.1.2 Child poverty and schooling

The incidence of poverty among children in Kenya is very high, just as in most of sub-Saharan Africa (Figure 5.6). Child poverty is estimated at about 48.3 per cent (about 3% higher than the national poverty). It is higher among the school going-age children (49.8%) and even higher (55.4%) and more severe for those children not attending school. The poverty gap is 20.4 per cent and severity is 10 per cent for the latter category. About 25 per cent of children out of school live in extreme poverty. The higher severity of poverty suggests that cash transfers would be beneficial in reducing the burden of poverty.

Both supply and demand factors are responsible for non-enrolment in school. In Kenya, the total cost of sending a child to school includes direct (monetary) and opportunity costs. Attending school reduces a child’s availability for work in and outside home. If a child makes substantial contributions to family income or plays an important role in supporting other working members, then the opportunity cost of attending school is likely to be high, and this may curtail the attractiveness of the schooling option. These opportunity costs and the value of a child’s time will depend on parental decision.

Figure 5.6: Percent of children in poverty



Source: Author's computation using KIHBS 2005/06

5.1.3 Rural-urban differences

Information on regional poverty is useful where geographic targeting is required. Table 5.1 provides poverty incidence among different groups across different geographical regions. Poverty is mainly a rural phenomenon, with the rural poverty share at 84.8 per cent. This proportion is even higher among the elderly (92.1%) above 64 years. This trend is similar to the population share. The poverty incidence among OVCs is almost 50 per cent higher than the national average. About 68 per cent and 63 per cent of OVCs live below the poverty line in rural and urban areas, respectively. Among the children out of school, the bulk of these children (86.7%) are rural poor.

Table 5.1: Child poverty by region

	Total poverty headcount	Rural poverty headcount	Urban poverty headcount	Rural Population share	Rural Poverty Share
All Children	48.3	50.9	36.9	81.3	85.7
Children-in school	49.8	51.9	39.2	83.4	86.9
Children-out of school	55.4	57.1	49.2	78.4	80.8
OVCs	67.3	68.1	62.5	84.6	85.6
Elderly >=64	57.1	57.2	55.6	91.9	92.1
National	45.9	49.1	33.7	79.3	84.8

Source: Author's computation using KIHBS 2005/06

Although poverty incidence among the elderly is almost the same in both rural and urban areas, the higher population and poverty share in rural areas suggests that a CT targeted at the elderly would be more beneficial in rural areas. The same holds for a CT targeted at the children.

5.1.4 Means-testing vs universal age eligibility

One of the primary issues in the design of any type of social programme is whether the programme should transfer a small benefit to a larger proportion of the poor or a large benefit to a smaller targeted group, given the available resources. In order to inform such decision, we compare universal transfers to certain categories in the population (old people and children) to assess whether a benefit available to every one (universal) is substantially less “pro-poor” than if means tested. We use the pro-poor Policy (PPP) index proposed by Kakwani et al. (2005).

The PPP index compares the percentage poverty reduction that is obtained by a given policy - such as cash transfer to older people - with the percentage poverty reduction that would be obtained if all persons received an increase in income equivalent to the one provided by the policy/programme being analysed. The computation of the pro-poor index is provided in the annex.

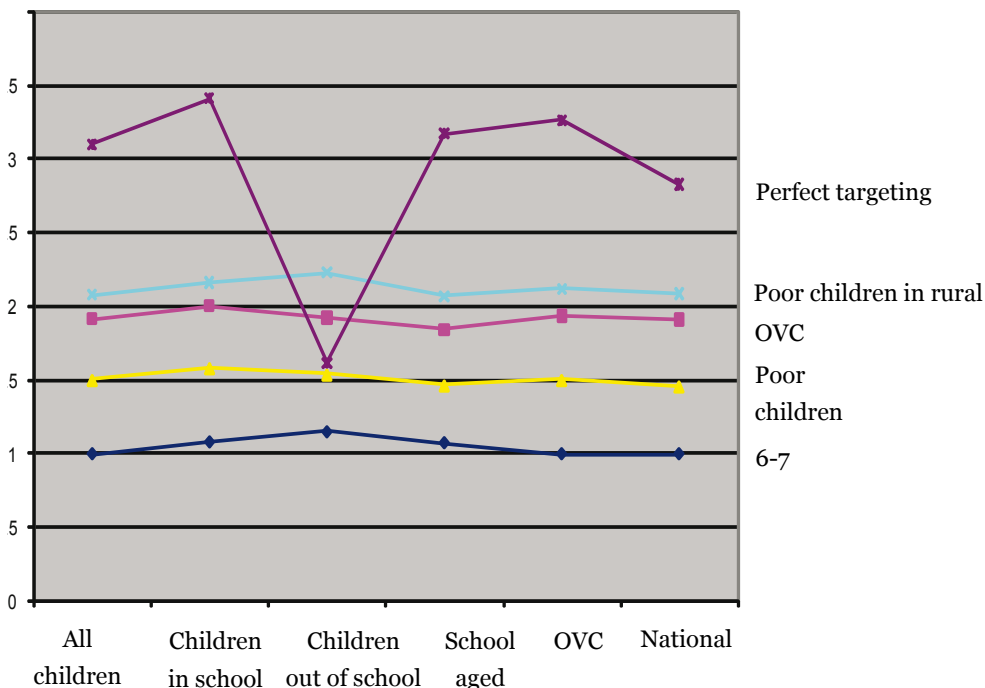
5.1.5 Targeting children

Using the PPP index, we compare the poverty-reduction effect of alternative transfer programmes (targeted at different groups of children) with the effect that would be obtained from a similar transfer given to every child at the national level.

Figure 5.7 shows the PPP indices for the different targeting methods. It is apparent that a universal transfer to all children of school going-age would be pro-poor. However, the programme would do much better if only poor children or OVCs are targeted. There is much more potential if the programme would target only poor children from poor areas. The advantage of targeting poor children in poor areas is greatest for children out of school.

Targeting poor children is closer to perfect targeting for children-out of school and further away from targeting children in school. This means that children out of school are more likely to be poor, as opposed to children in school. Even though targeting OVCs and rural poor children gives a significantly better outcome than targeting all poor children, both targeting schemes are far from perfect targeting .

Figure 5.7: Pro-poor indices for alternative targeting criteria (poverty gap)



Source: Author's computation using KIHBS, 2005/06

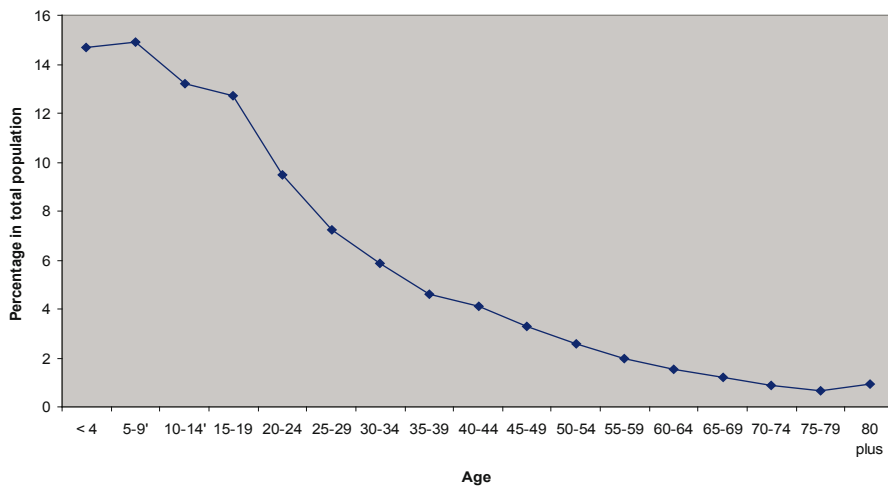
These analysis shows that a fixed transfer to every child aged 6-17 years will be pro-poor. However, the effect of the programme could be enhanced if the transfers were made to poor children, OVCs or poor children in rural areas, respectively. Nevertheless, a universal transfer is likely to be less costly as opposed to targeted transfers due to the associated administrative costs. These costs account for up to 33 per cent in a developing country such as Kenya (Amayanza, 2005).

5.2 The Elderly

The general age structure in Africa is such that the young population accounts for a large proportion of the total population. Kenya is a typical example, with the elderly accounting for the smallest population (Figure 5.8). About 43 per cent of the population is under 15 years whereas only 5.2 per cent is above 60 years.

We use the PPP index to compare the poverty-reduction effect of alternative transfer programmes (targeted at different groups of elderly) with the effect that would be obtained from a similar transfer given to every elderly at the national level.

Figure 5.8: Structure of population in Kenya, 2005/06



Source: KIHBS 2005/06

5.2.1 Who are the elderly?

The concept of elderly has no one particular definition. It is derived from perceptions about the capacity to be self-sustaining and economically active. Old age is also perceived as a heightened period of vulnerability to economic or health risks. In order to analyse the effect of cash transfer on the elderly, this paper uses three definitions:

(a) 55 years and above

Until end of the year 2008, the retirement age in Kenya was 55 years. This also marked the beginning of old-age cycle. In 2005/06, about 7.2 per cent of the population was aged 55 years and over as compared to 5.8 and 6.9 in 1994 and 1997, respectively.

(b) 60 years and over

This category accounted for 5.2 per cent in 2005/06 compared to 4.1 per cent and 4.9 per cent in 1994 and 1997, respectively. The official retirement age was raised to 60 years in 2008.

(c) 65 years and above

If 65 years and above is considered as the cut-off for old-age, the elderly would account for about 3.7 per cent in 2005/06.

5.2.2 Poverty among the Elderly

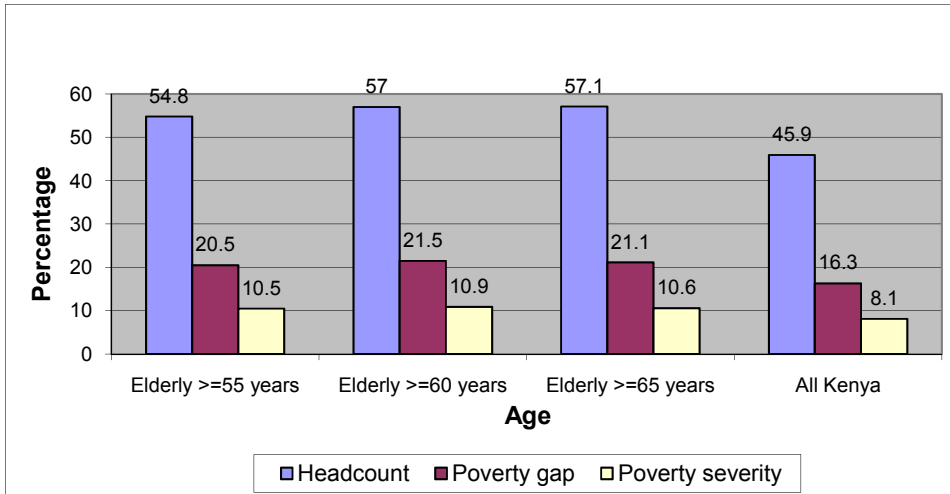
Despite a decline in national poverty incidence between 1997 and 2005/06, poverty remains high among all categories of the elderly as shown in Figure 5.9.

Poverty varies by definition of the elderly. For instance, when the elderly are defined to be greater or equal to 55 years, about 55 per cent of the elderly are found to be poor. If the age is increased to 65 years and above, about 57.1 per cent of the elderly are defined to be poor. This implies that poverty among the elderly increases with age.

At the time of the survey, the retirement age was 55 years. At this age, the retired person is entitled to pension, which consists of a lump-sum payment at the time of retirement and thereafter, the beneficiary receives some monthly payment which is pegged on their last salary before retirement. This means that the years just after retirement are less prone to poverty as compared to later years in life. These results are similar to probit model results as found in Kakwani et al. (2005).

About 1% of Kenyan children live in elderly headed households, which have no able bodied person who can participate in the labour market. These households

Figure 5.9: Indicators of poverty among the elderly by age



Source: Author's computation using KIHBS, 2005/06

suffer much greater poverty than any other elderly headed households. The poverty incidence is at 50 per cent, while the depth and severity of poverty is about 21 per cent and 12 per cent (1.8 and 3.0 percentage points more than in all elderly headed households), respectively. This means that a cash transfer policy scheme that targets the elderly could also benefit the children living in that household.

5.2.3 Targeting the elderly

Using the pro-poor index, we find that all the three cash transfer programmes that target the elderly are pro-poor as opposed to the universal programme. However, the degree to which the programme is pro-poor also depends on the age-definition of who are the elderly. For instance, if the cut-off elderly is 55 years, the programme is seen to be much more pro-poor as compared to 65 years and 60 years (Table 5.2). The effect on the poverty gap is much more pronounced if the programme targets the elderly poor and the extreme poor elderly living with children. For poverty severity, the programme is more effective if only the extreme poor elderly living with children and the elderly in the lowest quintile are targeted.

Table 5.2: Pro-poor Index among the elderly

Eligibility criteria	Elderly and poor	Extreme poor Elderly living with children	Elderly and 10% poorest
Poverty gap			
>= 55 years	1.90	1.98	1.75
>= 60 years	1.82	1.61	1.48
>= 65 years	1.73	1.14	1.24
Poverty severity			
>= 55 years	1.81	2.17	2.19
>= 60 years	1.72	1.71	1.75
>= 65 years	1.62	1.23	1.41

6. Costing Scenarios and Poverty and Inequality Simulations

6.1.1 Costing Scenario for Children

Table 6.3: Costing of cash transfer programme

Proportion of GDP (%)	Budget transfer of GDP (Ksh) billion	Universal (Ksh) Targeting	Poor children	Poor children 6-17	Extremely poor child-rural
1	12.1	691	1,361	2,048	3,160
2	24.2	1382	2,721	4,097	6,319
3	36.3	2,074	4,082	6,145	9,479
Number of recipients		17,505,262	8,892,370	5,906,835	3,829,274

Source: Authors' computation using KIHBS, 2005/06

The amount of transfer depends on the proportion of GDP in the funding pot and the beneficiary group/targeting criteria. For instance, if the programme is universal, the amount of transfer ranges between Ksh 691, Ksh 1,382 and Ksh 2,074 per annum for 1, 2 and 3 per cent of GDP, respectively (Table 6.3). The number of beneficiaries is also high if the programme is universal. Targeting children increases the amount of transfer per child. However, targeting comes at a cost not factored in this study.

6.1.2 Costing scenario for the elderly

Considering the eligibility age of 55 years and over, there are about 2 million elderly people in Kenya.

Table 6.4: Costing of alternative poverty scenarios

Scenario	1% GDP	2% GDP	3% GDP
Elderly 55 years and over			
Transfer per capita per month	387.50	775.00	2325
No. of beneficiary	2,030,392	2,030,392	2,030,392

Transfer as proportion of urban poverty line	0.13	0.27	0.80
Transfer as proportion of rural poverty line	0.25	0.50	1.49
Elderly 60 years and over			
Transfer per capita per month	541.40	1082.80	1624.25
No. of beneficiary	1,509,128	1,509,128	1,509,128
Transfer as proportion of urban poverty line	0.19	0.37	0.56
Transfer as proportion of rural poverty line	0.35	0.69	1.04
Elderly 65 years and over			
Transfer per capita per month (Ksh)	765.70	1531.30	2297.00
No. of beneficiary	1,125,343	1,125,343	1,125,343
Transfer as proportion of urban poverty line	0.26	0.53	0.79
Transfer as proportion of rural poverty line	0.49	0.98	1.47

Source: Author's computation using KIHBS, 2005/06

A cash transfer targeting all elderly people would result in monthly transfer of Ksh 387.50, Ksh 775.00 and Ksh 2,325 if 1%, 2% and 3% of GDP is distributed to the beneficiaries, respectively (Table 6.4). As a proportion of the poverty line, the transfers of 1% and 2% still remain far much below. This means that these transfers may not be very effective in reducing the headcount, but they play a role in reducing the depth and severity of poverty. When the eligibility age is increased to 65 years, the number of beneficiaries reduces by almost half, while the amount of transfer more than doubles if 1% and 2% of GDP is distributed. The transfer as a proportion of the poverty line also increases significantly. This suggests that a programme that sets the eligibility age of 65 years and over could still perform

much better with fewer resources as opposed to a programme with eligibility age of 55 years and over. Such a programme would require much more resources (i.e. not less than 3% of GDP) to have an effect on poverty.

6.2 Effect on Poverty among Children and the Elderly

The effect of a given cash transfer on poverty differs across the beneficiaries and also the amount available in the pot. We assess the effect using the three FGT measures namely: Poverty headcount (p0), poverty depth (p1) and poverty severity (p2). The first poverty index (p0) measures the per cent of the population that is poor. The second index p1 measures the per cent of the average income shortfall of every individual from the poverty line. It can be used to estimate the amount of resources required to eliminate poverty. Lastly, p2 measures the degree of inequality between the poor persons, and is sensitive to income changes of a poor person.

Poverty effect increases with the amount of GDP in the pot. The percentage change on poverty is significantly higher among the elderly if 1 per cent of GDP is given to all elderly irrespective of their poverty status as opposed to if a similar amount of money is distributed to all the children. This difference is likely to be observed because of the significantly huge population of children as compared to small population of the elderly irrespective of the age.

6.2.1 Effect on the children

A budget transfer of 1 per cent of GDP to all children results in a reduction in incidence of child poverty of about 1.5 percentage points. In this case, the reduction is higher among children in school (1.7 percentage points) and much less among children out of school (0.9 percentage points) (Figure 6.10). This suggests that there are many out of school children who live in poverty as compared to children in school.

The percentage reduction in poverty incidence is even greater as the programme switches from universal programmes to targeting beneficiaries, except for OVCs. For instance, the programme accounts for up to 3.4 percentage points reduction if the programme targets the poor children only (Table 6.5). The reduction in poverty gap is also higher if the programme targets poor children only (2.3 and 2.5 percentage points for poor children and extremely poor children, respectively). The effect on the severity is highest for the extremely poor compared to all the other groups. This means that as much as the transfer may not raise the extremely

poor completely out of poverty, it remains critical in minimising the suffering of the chronic poor children.

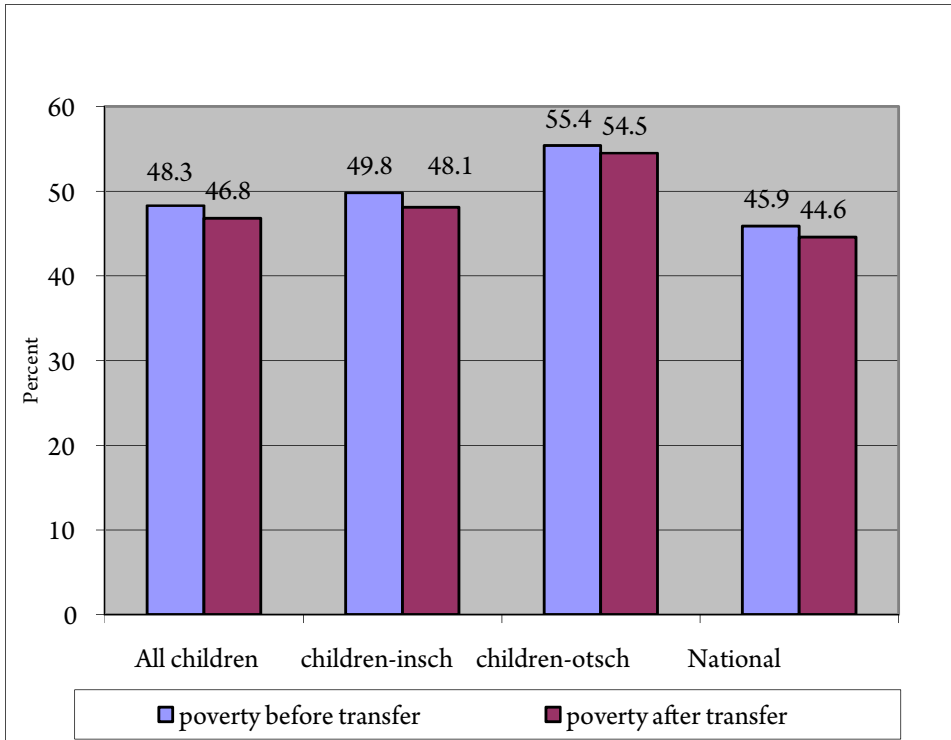
Table 6.3: Simulated poverty changes for universal and targeted programmes for children

Universal									
All children			6-17 years			OVC			
p0	p1	p2	p0	p1	p2	p0	p1	p2	% of GDP
1.5	1.2	0.9	1.8	1.4	0.9	3.5	2.5	1.8	1.0
3.5	2.3	1.7	4.0	2.7	1.8	7.4	4.8	3.3	2.0
5.1	3.4	2.3	5.8	3.9	2.6	11.1	7.1	4.6	3.0
Targeting									
Targeting									
Poor children			Extremely poor children in rural areas			Poor children 6-17			
P0	P1	P2	P0	P1	P2	P0	P1	P2	% of GDP
3.4	2.3	1.6	0	2.5	2.5	3.8	2.5	1.7	1
6.5	4.3	2.9	0.4	5	4.2	7.2	4.8	3.1	2
9.9	6.2	4	4.1	7.1	5.2	11	6.8	4.3	3

p0=poverty incidence; p1=poverty depth; p2=poverty severity

Source: Author's computation using KIHBS, 2005/06

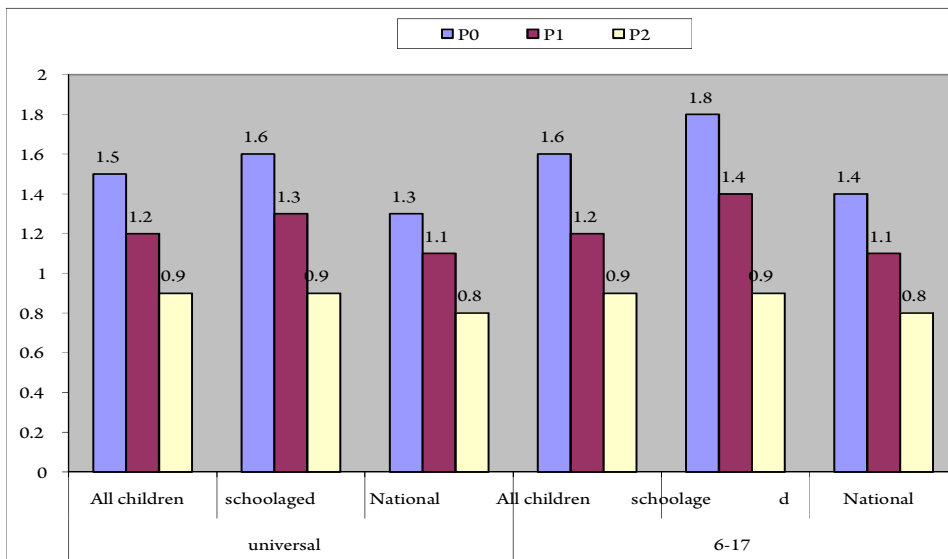
Figure 6.1: Effect of cash transfer on child poverty



A universal transfer to school age children also has a similar positive effect that reduces poverty among school aged children by 1.8 percentage points (Figure 6.2). However, targeting only poor children of school age has a much higher effect on all the indicators compared to a universal programme targeting a similar group. For instance, the percentage reduction is almost double (more than double in some cases) in all cases, with the headcount ratio having the highest reduction. The percentage reduction in this case is almost similar to a universal programme that provides cash transfers to OVCs. However, as the amount of transfer increases from 1 per cent of GDP to 3 per cent of GDP, the effect on poverty becomes greatest for the OVC programme.

Nevertheless, the effect across all groups increases with the amount of transfer. The transfer of 3 per cent of GDP gives the greatest reduction across all the poverty indicators. However, such a budget may be unattainable and unsustainable for most developing countries such as Kenya. A cash transfer programme that targets children will not only benefit the children, but it will also benefit the rest of the other population. Cash transfer to school-age children has a higher effect on reducing the overall poverty headcount as compared to cash transfer to all

Figure 6.2: Percentage change in Poverty after transfer of 1% of GDP to children



Source: Author's computation using KIHBS, 2005/06

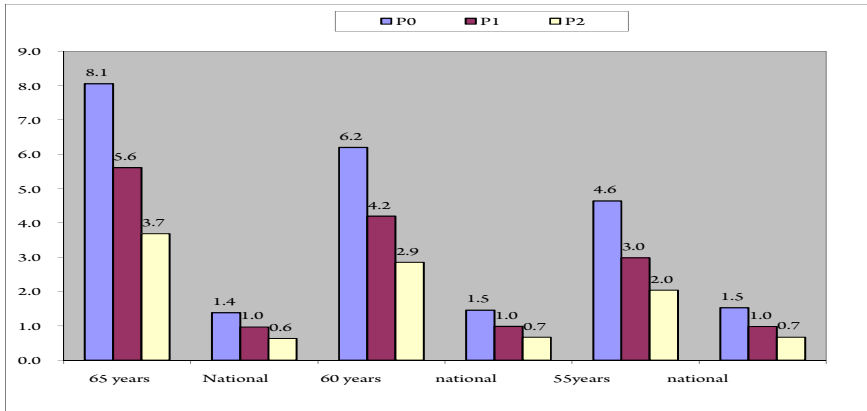
children. A similar trend follows for all children and children aged 6-17 years. The overriding effect of cash transfer to children is that it benefits all school age children irrespective of whether the programme benefits all children or not.

6.2.2 Effect on the elderly

The scenario is different if the programme targets the elderly. When the eligibility age is pegged at 55 years and above, a universal transfer of 1 per cent of GDP to all elderly results in a reduction of 4.6 per cent on the headcount ratio (Figure 6.3). The poverty effect is even much higher when the eligibility age is increased to 65 years and above. This result is not surprising, given the population structure of Kenya in which the number of elderly reduces as the age increases. The reverse scenario is observed if poverty is measured at the national level. The national poverty effect is higher if the eligibility age is determined at 55 or 60 years as opposed to 65 years and over.

A transfer of 1 per cent of GDP to the children has differential effect on child poverty and old age poverty as shown in Figure 6.4. The effect of a child transfer reduces the old age poverty by 2.3 percentage points, while a transfer of similar amount (1% of GDP) to the elderly has twice the effect.

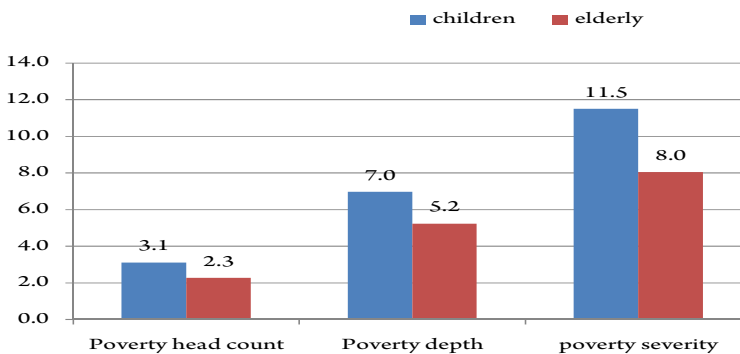
Figure 6.3: Percentage change in poverty after universal transfer of 1% GDP to elderly



Source: Author's computation using KIHBS, 2005/06

The effect on the poverty status of the different scenarios of the elderly is summarized in Table 6.4. The results show that a transfer equivalent to 1 per cent of GDP has a positive effect on the welfare of the elderly. The effect is not only significant among the elderly, but it is also significant at the national level. However, the poverty effect among the elderly is substantially increased when the eligibility age is increased from 55 to 65 years, while the effect at the national level is slightly reduced. This inverse relationship would be expected because of the structure of the elderly population, which diminishes when the eligibility age is increased from 55 to 65 years.

Figure 6.4: Percentage change in child poverty and old age poverty after universal transfer of 1% GDP to children



Source: Author's computation using KIHBS, 2005/06

Table 6 4: Poverty changes of transfer of 1% of GDP to elderly

Beneficiary	Poverty indicator	Elderly >=65	National	Elderly >=60	National	Elderly >=55	National
All Elderly	p0	8.1	1.4	6.2	1.5	4.6	1.5
	p1	5.6	1.0	4.2	1.0	3.0	1.0
	p2	3.7	0.6	2.9	0.7	2.0	0.7
Elderly and poor	p0	17.3	3.0	12.2	2.9	8.6	2.8
	p1	9.7	1.7	7.7	1.8	5.7	1.9
	p2	6.0	1.0	4.9	1.2	3.7	1.2
Extreme poor elderly and children	p0	9.1	0.0	9.1	0.0	7.1	0.0
	p1	6.4	2.2	6.8	2.2	5.9	2.2
	p2	4.5	2.2	4.9	2.2	4.4	2.2
Elderly and 10% poorest	p0	7.9	1.4	5.6	1.3	3.1	1.0
	p1	7.0	1.2	6.2	1.5	5.2	1.7
	p2	5.2	0.9	5.0	1.2	4.5	1.5

Source: Author's computation using KIHBS, 2005/06

Compared to the universal programme where cash transfer is given to all the elderly, a targeted transfer to all poor elderly yields much higher across all the indicators irrespective of the eligibility age. The incidence of poverty (p1) would reduce by 17.3 percentage points, 12.2 percentage points and 8.6 percentage points if a transfer is targeted to the elderly poor and eligibility age is reduced from 65 years to 60 years and 55 years, respectively. Similarly, the effect on the depth of poverty (p1) and severity (p2) would be much higher for a programme that targets all the poor as opposed to a universal programme.

6.3 Effect on Inequality

A cash transfer programme also has minimal effects on inequality. The effect, however, differs depending on the beneficiaries and also the amount of funding in the pot. The higher the funding, the higher the amount of transfer per beneficiary. From Table 6.5, it is obvious that the effect on inequality is greatest when cash is transferred to the intended beneficiaries. In this case, reduction in inequality is greatest when cash is transferred to the extremely poor. A transfer equivalent to 1 per cent of GDP results in a reduction of 0.02 in inequality among the whole population. This reduction increases with the amount of transfer. This result is expected given the definition of inequality.

Table 6.5: Effect of children cash transfer on inequality

Universal			
All children	6-17 years	OVC	Cost (% of GDP)
0.007	0.008	0.01	1
0.014	0.014	0.02	2
0.02	0.021	0.03	3
Targeting			
Poor children	Extremely poor children in rural areas	Poor children 6-17	Cost (% of GDP)
0.013	0.016	0.013	1
0.024	0.03	0.024	2
0.036	0.042	0.036	3

Source: Author's computation using KIHBS, 2005/06

Similarly, when cash is transferred to the elderly, inequality reduces. The reduction is higher if cash is transferred to both the extremely poor old people and children. It is highest when 3 per cent of GDP is given to each beneficiary (Table 6.6).

Table 6.6: Effect of elderly cash transfer on inequality

Universal	Targeting		
All elderly	Elderly & poor households	Extreme poor elderly plus child	Cost (% of GDP)
0.007	0.011	0.016	1
0.012	0.018	0.03	2
0.015	0.023	0.042	3

Source: Author's computation using KIHBS, 2005/06

7. Conclusion

Policy makers throughout the developing world have long sought to identify policies that eradicate poverty. Cash transfers is one of the policies that have successfully been implemented to build the human capital of the poor and at the same time reduce current human suffering. In the long term, cash transfer programmes are expected to immensely reduce poverty especially among the poor.

This study uses a micro-simulation method for evaluating conditional cash transfer programmes, which aim to reduce both child and elderly poverty by providing small targeted cash transfers to poor households. The main objective was to assess ex-ante programme effect on poverty and inequality by simulating selected targeting criteria.

Targeting is useful in maximizing the programme's effect and effectiveness. Nevertheless, targeting and monitoring can increase the cost per beneficiary, which reduces the programme's efficiency. On the other hand, designing a programme with a weak or non-existent targeting strategy not only reduces the cost per beneficiary but also leads to leakages to the non-poor. These have negative consequences on the programme's effect and effectiveness.

Last but not least, high level political support for the programme cannot be over-emphasized. Such support is critical as the programme requires coordination across different sectors in government, among them education, health, finance and social welfare.

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Annex: Derivation of Pro-poor Index

Suppose x is the income of a person before transfer and $b(x)$ is the benefit received by the person with income x , the percentage change in poverty as a result of this benefit can be written as:

$$\frac{d\theta}{\theta} = \frac{1}{\theta} \int_0^z \frac{\partial P}{\partial x} b(x) f(x) dx \quad (1)$$

We define a programme to be pro-poor if the poor receive greater absolute benefits than the non-poor. This means that the pro-poor programme should achieve greater poverty reduction compared to a counter-factual situation when everyone receives exactly the same benefit from the service.

Suppose that the average or mean benefit generated from the programme is denoted by \bar{b} . The percentage change in aggregate poverty when the \bar{b} amount is given to everyone is given by

$$\frac{d\theta}{\theta} = \frac{1}{\theta} \int_0^z \frac{\partial P}{\partial x} \bar{b} f(x) dx \quad (2)$$

We define the pro-poor policy index 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 average benefit from the service). Thus, the pro-poor policy index is derived as:

$$\frac{d\theta}{\theta} = \frac{1}{\theta} \int_0^z \frac{\partial P}{\partial x} b(x) f(x) dx \quad (3)$$

where

$$\frac{d\theta}{\theta} = \frac{1}{\theta} \int_0^z \frac{\partial P}{\partial x} \bar{b} f(x) dx \quad (4)$$

is the absolute elasticity of poverty: if everyone receives one unit of currency, then the poverty will change by 100 η per cent.

The programme will be called pro-poor (anti-poor) when $\lambda > 1$ (< 1). The larger the value of λ , the greater will be the degree of pro-poorness of the programme. If for instance $\lambda = 1.2$, it means that the program will achieve 20 per cent greater poverty reduction compared to a counterfactual that every one receives the same benefits.

If the PPP is greater than 1, this means that the cash transfer program for older people performs just as well as a transfer of the equivalent amount of money given to everyone in the population (universal targeting)

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