

**GOVERNMENT CASH TRANSFERS AND THE DEMAND FOR
EDUCATION IN KENYA**

BY

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DECLARATION

This research study is my authentic work and has not been submitted for the award of a degree in any other university or institution.

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This paper is submitted for the award of the degree of Master of Arts in Economics with my approval as the university supervisor.

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DEDICATION

I dedicate this research study to my dear husband Chris Maranga and my father Professor F.M. Muthuri for the invaluable support they have accorded me all through my studies. I will forever be thankful

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ABSTRACT

This study sought to investigate the relationship between cash transfer remittances from government to poor households and school enrolment in Kenya. While most of the studies carried out in Sub-Saharan Africa are based on an experimental evaluation design, this study utilised cross sectional data from the Government of Kenya's 2005/2006 Integrated Household Budget Survey and a probit model as the basis of its econometric analysis. The probit regression marginal effects results from the study indicated that cash transfers positively and significantly influenced school enrolment. Similarly, size of the household, urban area residency, age of the household head and being married, positively influenced school enrolment. On the contrary, households headed by a man and the literacy levels of the male head in the household negatively influenced school enrolment. The main policy implication of this study therefore, is that cash transfers should be enhanced and should be channelled through women as opposed to men because they seem to have more priority for education in their expenditure plans in comparison to men.

LIST OF ABBREVIATIONS AND ACRONYMS

AIDs	Acquired Immune Deficiency Syndrome
ASAL	Arid and Semi-Arid Land
CCTs	Conditional Cash Transfers
CDF	Constituency Development Fund
CPPs	Core Poverty Programmes
CT-OVC	Cash Transfers for Orphans and Vulnerable Children
CTs	Cash Transfers
DFID	Department for International Development
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
HSNP	Hunger Safety Net Programme
KIHBS	Kenya Integrated Household Budget Survey
OVC	Orphans and Vulnerable Children
OVC-CT	Orphans and Vulnerable Children Cash Transfer
PATH	Programme Advancement Through Education and Health
STATA	Statistics and Data
UCTs	Unconditional Cash Transfers
UNICEF	United Nations International Child Emergency Fund

CHAPTER 1

INTRODUCTION

1.1 Background information

Absolute poverty has been a pertinent social issue among developing economies as it negatively impacts on the social – economic welfare of the poor. As such, many of the less developed and the developing economies have devised and employed a number of anti – poverty programmes aimed at alleviating poverty. Cash Transfers (CTs), which are an example of such programmes, are regular cash payments often from governments to poor households. Their main aim is to improve the welfare of the poor and those prone to poverty shocks such as vulnerable children, orphans and the elderly. Cash transfer payments may be categorised as Unconditional Cash Transfers (UCTs) or Conditional Cash Transfers (CCTs). Unconditional cash transfers are only remitted when households adhere to certain conditions while unconditional cash transfers are remitted without any conditions. According to the World Bank (2009), there is evidence to show that the implementation of cash transfer programmes has had favourable results on education, nutrition and health. As a result, they have been lauded for their ability to mitigate the failures of non-cash development initiatives in delivering social assistance. They have been seen to effectively deal with the issues of disincentive effects, limited welfare effects and weak poverty targeting, issues that currently characterise non-cash development initiatives (Fiszbein et al., 2009).

The World Bank (2015) asserts that cash transfer programmes present some success stories. For instance CCT programmes have been viewed to be effective in Latin American countries, and are increasingly perceived as being useful in reducing both long term and short term poverty. Such cash transfer programmes would include the Bolsa Escola in Brazil, the Oportunidades (previously referred to as Progresa) in Mexico, the Bono de Desarrollo Humano in Ecuador, Programa de Asistencia Familiar in Honduras, Red de Proteccion Social in Nicaragua, Food for Education in Bangladesh and the Programme of Advancement through Health and Education in Jamaica(Fiszbein et al., 2009).

Worldwide, there are two main reasons cash transfer programmes have been advocated. First, they give poor households a minimum threshold of income to facilitate a minimum level of consumption and second they aid in the accumulation of

human capital with an aim of breaking the vicious cycle of poverty (Fiszbein et al., 2009). Conditional cash transfer programmes towards education require eligible parents to consistently send their children to school in order to continually receive the stipend. Identification of eligible households is carried out using observable poverty characteristics. For instance, the Progresa cash transfer programme in Mexico, was offered to deprived mothers found in rural Mexico. The conditionality imposed for receipt of the stipend was that their children had to use health facilities on a regular basis and attend school between the third year of primary school and the third year of secondary school (De Janvry et al., 2006). This positively and significantly boosted both secondary and primary school enrolment.

The World Bank (2009) contends that cash transfer programmes tackle the issue of poverty in two ways. In the short run, the programmes tend to be redistributive and therefore enhance the minimum consumption floor of poor households. In the long run, the programmes tend to encourage human capital accumulation and aid in breaking the viscous cycle of poverty.

1.2 An overview of cash transfer programmes in Kenya.

According to the Kenya Social Protection Review Report (2012), cash transfer programmes are new interventions and examples of such programmes implemented in Kenya include: The Cash Transfer Programme for the Elderly and Disabled Persons, The Hunger and Safety Net Programme (HSNP) and The Orphans and Vulnerable Children Cash Transfer (OVC-CT) Programme. In collaboration with donor and development partners the government runs these programmes. The government development partners would include: The United Nations International Child Emergency Fund (UNICEF), The World Bank and The Department for International Development (DFID). While the government performs the implementation role, the donor and development agencies provide technical support to the programmes.

Ikiara (2009) asserts that before the introduction of cash transfer programmes Kenya has implemented a series of non cash social assistance programmes. These programmes have been in the form of emergency programmes, food relief in drought stricken areas, and school bursaries for needy children. He attributes the adoption of cash transfer programmes in Kenya to the rising poverty levels, colossal income

disparities, joblessness and change in Kenya's constitution, obligating government to cushion its vulnerable citizens from social-economic shocks.

Prior to the introduction of cash transfers as a form of social assistance programmes, other social assistance programmes initiated by government included the Core Poverty Programmes (CPPs). The main aim of these programmes was to ensure that the rural poor had access to social amenities which included but were not limited to health and education. The CPPs enhanced the capacity of the poor to participate in productive activities. These CPPs included the Constituency Development Fund (CDF), the Arid and Semi-Arid Land programme (ASAL) whose main objective was to aid in poverty alleviation in poor pastoralist areas, low cost housing schemes, Free Primary School Education, slum up grading, the National Social Security Fund, Free Day Secondary Education and the National Health Insurance Fund (Ikiara, 2009).

According to The Kenya CT-OVC Evaluation Team in 2012, the OVC-CT was started by the government of Kenya due to the increasing number of orphans in the country, orphaned as a result of the HIV/AIDS scourge. It is currently the largest social assistance programme in the country. They state that the main aim of the programme is to provide a regular stipend to homes with orphans and vulnerable children (OVCs) in order to encourage retention, fostering and help OVCs break from the vicious cycle of poverty. They assert that the programme was piloted in the year 2004 and it targeted 500 OVCs from the districts of Garissa, Kwale and Kisumu. The second phase of the programme was implemented in the year 2006 and it targeted 30,000 OVCs in seven districts. In 2008 the programme targeted 300,000 OVCs in 10 districts and mainly targeted 30 percent of the hard core poor in all of the pre identified districts. By mid 2009, the Orphans and Vulnerable Children Cash Transfer (OVC-CT) programme was already in 47 districts.

The Hunger Safety Net Programme (HSNP) is a form of an unconditional cash transfer that is targeted towards 40 percent of the poorest households in the North Eastern region of Kenya. The cash transfer is remitted to poor households characterised by: old women and men, families with many deprived and vulnerable members in the form of children below the ages of 13 or those with chronically ill or disabled members.

The programme was first tried in the year 2008 and it targeted 60,000 households from four pre identified districts of Mandera, Wajir, Marsabit and Turkana. From Turkana, 27,000 households were selected while 7,000, 14,000 and 12,000 were selected from Marsabit, Wajir and Mandera respectively. The second phase of the programme was scheduled to run between the period 2012 and 2017 and it targeted 300,000 households in the same region (Ikiara, 2009).

According to Ikiara (2009) the cash transfer for the elderly is a form of an unconditional cash transfer that gives Ksh 1,065 to pre identified elderly persons. To be eligible for the cash remittance, one must have reached the age of 65 or more and must not be privy to any other form of cash transfer. This programme was first piloted in the year 2006 with a yearly government allotment of Ksh 4 million, targeted towards 300 households. A trial of the programme was first run in the districts of Thika, Nyando and Busia. The Programme has since expanded such that its phase 1 saw it target 8,000 households from 80 districts targeting a minimum of 100 households from each district. Allocation from government has also been seen to rise. The programme expected an allocation of Ksh 100 million to implement the project in the 2009/10 financial year yet government allocated Ksh 550M. This is a signal that the government of Kenya is fully dedicated to this programme as it is also incorporated in the country's vision 2030.

Although budget allocations made to cash transfer programmes are small in comparison to budget allocations made to non cash social assistance programmes and those made to broader sectors of the economy, their allocations have been seen to increase over time (Ikiara,2009). Therefore, given the fact that cash transfer programmes are a new form of social assistance programmes in Kenya, whose impact cuts across a number of social issues such as education and health, an evaluation on how they impact school enrolment is of great significance to policy makers concerned with human capital accumulation.

1.3 Problem statement

The Integrated Household Budget Survey 2005/2006 reports that the most vulnerable groups in the country characterised by high levels of deprivation and poverty are the elderly persons, persons with disabilities (PWD), orphaned children, street families,

internally displaced persons (IDPs), victims of natural disasters and people living with HIV and AIDs. The numbers of the forenamed groups of people have been seen to increase over time and therefore escalating the need for government to intervene in order to mitigate the callous social-economic shocks that these vulnerable groups are predisposed to. In doing so, the government has been seen to come up with both cash and non cash social assistance programmes with the sole aim of reducing the impact of cruel social-economic shocks on vulnerable groups (Ikiara, 2009).Cash transfer programmes and their effect on the accumulation of human capital is therefore a topic of great policy importance.

Pioneer countries mostly in Latin America have implemented and evaluated such programmes with favourable results. However, similar in-depth analyses are yet to be replicated in Africa and specifically Sub Saharan Africa. The pool of literature is still limited and it is also not clear if the results achieved in Latin America have external validity due to diverse socio-economic differences between the two regions.

It is therefore imperative to carry out such assessments before similar programmes are rolled out all over the country, in order to be sure that these programmes potentially have similar levels of success within the country. This study therefore investigates the relationship between government cash transfers and school enrolment in Kenya.

1.4 Objectives of the study

The main objective of this study is to determine the effect of government cash transfers on school enrolment in Kenya. More specifically, the study seeks to:

- i. To identify factors that potentially influence school enrolment in Kenya, besides government transfers.
- ii. To estimate the effect of government cash transfers on school enrolment, controlling for other potential determinants.
- iii. Draw appropriate policy implications from the study findings.

1.5 Significance of the study

This study will be of significance first to policy makers by analysing how government cash transfers can play a role in promoting human capital accumulation via promoting school enrolment. This has in turn a bearing on the improvement of welfare for the households whose children have benefitted from the cash transfers since they will be more productive with skills and knowledge earned from their enhanced education. Given that the cash transfer programmes are a new initiative in their formative stages, the findings of this study will be crucial in informing policy on how to scale up the programmes.

Secondly, the study will add to the already available literature on the effects of cash transfers on education. Currently there exists scanty literature and empirical work on the effects of cash transfers on education in Kenya. Much of the empirical works in this area can be traced in other developing economies mainly in Latin America. Thus with cash transfers becoming a major social protection mechanism in Kenya, there is need to evaluate its effects on different social aspects with education being one of them. It is also important to note that published journals on the subject with respect to Kenya are conflicted on the effect cash transfers have on education. As a result therefore, this study will act as a basis for reference for further studies in this field in Kenya.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter covers both theoretical and empirical literature on cash transfer programmes. It concludes with an overview of the literature highlighting the research gap that the study seeks to fill.

2.2 Theoretical Literature

According to the World Bank (2015), cash transfer programmes, as integral components of social safety net programmes, have become very popular in the last decade. Their popularity is as a result of there being global consent, alluding to the fact that cash transfer programmes are powerful tools that can be used to fight economic injustices as observed in situations characterised by high poverty and colossal income inequality. According to the Kenya Social Protection Review Report (2012), this consensus is expressed in the African Union Social Policy Framework and the United Nations floor initiative. This initiative obligates countries to provide minimum social protection characterised by benefits and essential health care for, the elderly, people with disabilities, children, the unemployed and informal workers.

The rationale for the advocacy of cash transfer programmes is based on several economic theories, specifically; The Neo Classical Utility Theory, The Public Choice Theory for Re –distribution and The Human Capital Theory (The Economic Growth Argument).

2.2.1 The Neo Classical Utility Theory

The rationale behind the use of cash transfer programmes as a way of providing a minimum consumption floor and a means to encourage human capital accumulation through education can be explained using the Neo Classical Utility Theory (Akresh et al., 2013). The basic assumption of the Neo Classical Utility Theory is that individuals maximize their utility based on their income constraint. An income constraint is a lack of income mainly attributed to high levels of poverty (Akresh et al., 2013). A household is faced with a choice of a variety of consumption bundles such that the household chooses between the education of their children and other

bundles of goods. These could include income generating activities for the child to supplement household income.

Cash transfers therefore not only effectively change the price of education but they also relax the budget constraint allowing households to enrol their children to school.

2.2.2 The Public Choice Theory of Distribution

The argument propounded in the public choice theory of distribution is that cash transfers can aid in resource redistribution especially in countries that are characterised by colossal levels of income disparity (Fiszbein et al., 2009). Blaug (2007) asserts that the first fundamental welfare economic theory states that apart from certain exclusions such as, public goods, economies of scale, externalities and imperfect information, a competitive market economy provides an efficient means of allocating resources to arrive at a Pareto optimal allocation. An allocation whereby there is no way of making any economic agent better off without making another worse off. The theory supports Adam Smith's hypothesis of the invisible hand whereby the theory advocates that, if markets are left alone to allocate resources without any interference, the allocation that the market arrives at, will be Pareto efficient.

According to Arrow and Debreu (1954), perfect markets ensure efficient allocation outcomes. This means that market prices have allocated resources to all economic agents, such that the welfare of all economic agents has been maximised and therefore, there exists no other way of improving the total wellbeing of society. However, Pareto efficiency does not necessarily mean that the outcome arrived at is equally desirable to society. The argument therefore put forward is that although it is the function of the market to allocate resources efficiently to arrive at a Pareto efficient allocation, markets seldom operate perfectly and they do sometimes fail (Blaug, 2007). While a perfect market will always arrive at a Pareto efficient allocation, such an allocation may not be equitable. The allocation may be inequitable due to the fact that markets, during resource allocation, do not take into account initial endowments (Bator, 1958) Cash transfers play a role in correcting this failure or imperfection (Fiszbein et al., 2009).

A classic example given by Fiszbein et al. (2009) is that of a poor family unable to invest in a viable business venture or education of their children due to the inability of the household to access credit, attributed to a failure of the credit market.

A cash transfer to such a household will have two effects: It will make the household better off hence enhancing their equity and secondly it will enable the household invest in a viable venture which is an efficient way of allocating resources in an economy. According to the World Bank (2009), when the credit market fails and there are economies of scale to be accrued, the poor are unable to seize such profitable opportunities because they do not have the required financial ability to do so.

Goldstein and Udry in 1999 empirically demonstrated this by highlighting the inability of farmers in Ghana to switch from Maize and Cassava farming to a much more profitable pineapple investment that guaranteed a 1,200 percent investment return. When farmers were asked to explain their lack of transition, the feedback received was that they were unable to do so because they had no financing to facilitate the move.

The Second Fundamental Theory of Welfare states that all possible Pareto efficient market allocations can be made desirable Pareto optimal allocations in the face of market imperfection or failure and this can be accomplished by use of lump-sum wealth distribution schemes or by use of shadow prices (Lipsey and Lancaster, 1963; Blaug, 2007). The theory therefore makes a legitimate case for market intervention in economic policy and therefore cash transfer programmes as they are an example of a lump-sum wealth distribution scheme. According to Bator (1958), market failure is a situation where the allocation of resources arrived at by a perfect market through its price mechanism is not optimal. Consequently, there exists another conceivable allocation where an economic agent can be made better off without making another worse off.

Information asymmetry has been forwarded as a justification for conditional cash remittances (Fiszbein et al., 2009). It is relevant in situations where people are oblivious or ignorant of the benefits that can be accrued from partaking in a certain activity. For instance parents may not be aware of the benefits associated with educating their children or the benefits of both pre and postnatal care. They may

prefer that their children work to supplement household income as opposed to going to school. Some norms may also be against the common good for example the norm that it is not necessary to educate a girl child (Baird et al., 2013; Fiszbein et al., 2009). In such instances CCTs can be used as a means of educating the masses on the importance of education. A similar argument would be one of under estimation of the returns from an education compared to another household investment activity. Parents for example may opt not to educate an academically challenged child and prefer that such a child stay at home or work. Conditional cash transfers would ensure that such a child has access to education irrespective of their parents' misconceived notions on education (Akresh et al., 2013).

A further argument for direct distribution of wealth through cash transfer programmes is the fact that in emergent nations, government expenditure, public services and infrastructure are rarely accessible to the poor (Fiszbein et al., 2009). In Nicaragua, only 10 percent of the lowest quartile of the poor had access to electricity in 1998 compared to more than 90 percent of the top quartile population (De Ferranti et al., 2004). According to the Kenya multiple cluster survey report (2000), only 28 percent of the poorest population segment in Kenya had access to clean drinking water while 93.7 percent of the richest 20 percent had access to clean drinking water. The richest population segment in Kenya had better access to education compared to the poorest population segment. The primary school attendance ratio of the poorest 20 percent was 61 percent while that of the richest 20 percent was 86 percent. The net secondary school attendance ratio of the richest 20 percent was 12.5 percent while that of the poorest 20 percent was only 4 percent. In Mexico, the average person from the poorest 20 percent of the population had 3.5 years of education while the average individual from the richest 20 percent of the population had 11.6 years of education (De Ferranti et al., 2004).

These disparities have an enormous negative impact on the quality of life and opportunities accessible to the disenfranchised proportion of the population. Cash transfer programmes are therefore seen as an effective way of being able to access the fragment of the poor who have no access to public expenditure and public services. They are able to do this because they are better able to target the poor much more

effectively in comparison to other non-cash social assistance programmes (Fiszbein et al., 2009).

2.2.3 Human Capital Development theory

The Human Capital Development Theory is rooted in macro-economic development theory and the theory asserts that education increases productivity and earnings majorly by providing skill, knowledge, and a way of analyzing problems (Becker, 1993). There is consensus in literature that education measured by years of school attendance is positively correlated to human capital, such that the higher the education attained the more productive the human capital and this positively contributes to economic growth at a macro level (Schultz, 1993). Africa provides various scenarios where different education policies have resulted in different growth outcomes in various countries. In the 1960s and the 1970s Kenya expanded her secondary and primary school network systems in order to provide for its growing demand and also subsidised public education to facilitate growth. Tanzania on the other hand used an entrance exam to ration the growing demand for positions in the fully subsidised secondary school system. On the demand side Kenya has been seen to be more open to trade and investments as is evidenced by its economic growth levels that have been realised more rapidly in comparison to Tanzania.

Economic growth in Kenya in per capita GDP terms in the period between 1965 and 1987 was an average of 1.7 percent, conversely the economic growth realised in similar terms in Tanzania during the same period was negative (Schultz, 1993).

This paper will mainly be founded on the Neo Classical Utility Theory and not the Economic growth theory as the latter's main focus is at a macro level and the cash transfer programmes are conceptualised at a micro level.

2.3 Empirical Literature

Schultz (2004) carried out an assessment of the Progresa cash transfer programme in Mexico using an experimental design and difference in difference estimators. Results from the study indicated a positive effect of the programme on school enrolment rates of both girls and boys. A panel sample indicated that at the primary school level, given a school enrolment level of 94 percent, the programme increased school enrolment for the girl child by 0.92 percentage points while that of the boy child grew by 0.8 percentage points. Evaluation estimates carried out from a pooled sample, still

at the primary school level, found that school enrolment of the girl child increased by 1.27 percent while that of the boy child increased by 1.18 percent.

At the secondary school level, with a school enrolment rate of 67 percent and 73 percent for the boy and girl child respectively, the school enrolment of the girl child, from the panel sample increased by 9.2 percentage points whilst that of the boy child increased by 6.2 percentage points.

Skoufias and Parker (2001) also investigated the success rate of the Progresa conditional cash transfer programme in combating the problem of child work and low school attendance in Mexico. The study utilised empirical analysis that relied on data from a quasi-experimental design and applied both cross sectional difference and double difference econometric estimators. The results from the study found a significant increase in school attendance of both girls and boys. This was accompanied by significant reduction in the participation of girls and boys in work activities.

De Janvry et al. (2006) studied the influence of the Bolsa Escola cash transfer programme in Brazil on education. Using panel data and difference in difference econometric estimates, the study found that the programme influenced school attendance positively. The programme effectively reduced school dropout rates by ensuring a 7.8 percentage point increase in complete year school attendance of beneficiary children. They also observed a 6 percentage point decrease in grade retention. In the absence of the programme, the attendance rate was 83 percent with a dropout rate of 17 percent. With the programme, the attendance rate was 88 percent with a 12 percent dropout rate.

Schady et al. (2008) investigated the effects of cash transfer programmes on school enrolment, and child work among the poor in Ecuador. Using an analysis based on a randomized experimental design and also use of difference in difference estimators, two main conclusions were drawn from their study. First, that the cash transfer programme had a large, positive impact on school enrolment and second, the programme effects were significantly larger among minority households who believed that there was a school enrolment requirement attached to the transfers.

In Colombia, Attanasio et al. (2005) studied the effects of the Families en Accion cash transfer programme on child labour and school enrolment. The evaluation technique used was a quasi-experimental design and difference in difference econometric estimators. The study concluded that the cash transfer programme grew school participation of 14 to 17 year olds by 5 to 7 percentage points. It however had lower effects on the enrolment of younger children whose enrolment increased only by 1 to 3 percentage points.

Glewwe and Olinto (2004) using an experimental design, cross sectional difference and difference in difference econometric estimators evaluated the Programa De Assignacion (PRAF) cash transfer programme in Honduras. It was targeted towards poor households with children between the ages of 6 and 13. Results from the evaluation found that the programme decreased school dropout rates by 2-3 percentage points, increased school enrolment rates by 1-2 percentage points, increased the rate at which children graduated to the next class by 2-4 percentage points and increased school attendance by 0.8 days per month.

Maluccio and Flores (2005) explored the impact of the Red de Proteccion Social cash transfer programme in Nicaragua, implemented to aid in poverty reduction. Using an experimental evaluation design, panel data and difference in difference estimators the study found that school enrolment rates increased by 13 percent while school attendance increased by 20 percent. The number of children in the grades between 1-4 who graduated to the next grade increased by 7.3 percentage points between the year 2000 and 2002. In addition, the number of children working between the age of 7 and 13 reduced by 5.6 percent.

Chaudhury and Parajuli (2006) investigated the impact of a female school stipend programme on female school enrolment in Punjab –Pakistan. Data used was drawn from a 2003 and 2005 provisional school census while the econometric analytical estimators used were regression discontinuity design, triple differencing and difference in difference. Results from the study indicated that with respect to absolute change, each school had an increase of 6 female students. With respect to relative change, a 9 percent increase in female school enrolment was observed.

Dropout rates in middle school reduced by 20 percent and female dropout rates in grades 5 and 6 reduced by 25 percent.

Levy and Ohls (2007) evaluated the cash transfer programme in Jamaica referred to as the Programme of Advancement through Education and Health (PATH). The assessment was structured around a quasi-experimental regression discontinuity design drawn from both qualitative and quantitative data. The main goal of the programme was to enhance the human capital of the poor not only by influencing them to enrol their children to school and ensure their regular attendance but also enhance their health by influencing them to increase their health care visits. Results from the assessment of the programme indicated that there was an increase in school attendance by 0.5 days per month; this was a 3.07 percent increase in school attendance, with a child attendance rate of 85 percent.

Case et al. (2005) analyzed the impact of an unconditional child support grant aimed at poor children below the age of 7 in South Africa. The programme was carried out in the mostly poor and rural district of Umkhanyakude of Kwazulu – Natal. The evaluation of the programme was carried out using longitudinal data and probit econometric estimates. Results from the analysis found that households whose children received the grant, were more probable to enrol their children to school in the subsequent year unlike poor households whose children did not receive the child support stipend. The grant was seen to increase school enrolment for 6 and 7 year olds in 2002 by 8.1 and 7 percentage points respectively.

Miller et al. (2006) appraised the Mchinji cash transfer programme in Malawi whose objectives were; reducing malnutrition, increasing school enrolment and poverty alleviation, amongst the poorest 10 percent. The evaluation of the programme was carried out using a randomised community trial, end line surveys, baseline surveys and double difference econometric estimators. Results from the study found that the Mchinji cash transfer programme did indeed reduce hunger, increase school enrolment and reduce poverty. The assessment indicated an 8.3 percentage increase in school enrolment of children from households who received the cash transfers whereas the school enrolment rate of non-beneficiary children was only 3.4 percent.

Newly registered children to school from beneficiary households missed class by 1.3 fewer days than those who did not receive the cash transfer.

Akresh et al. (2013) carried out a randomised experiment to evaluate the impact of cash transfers on education in Burkina Faso. The analysis was carried out using difference in difference econometric estimators. Results from the study showed that both conditional and unconditional cash transfer programmes had the same effect of increasing school enrolment rates. The assessment also found that conditional cash transfers had the effect of increasing school enrolment rates of children who were marginalized. Conditional cash transfers led to a 20.3 percent growth in school enrolment for the girl child, a 37.3 percent increase in school enrolment for younger children and a 36.2 percent increase in school enrolment for lower ability children. Unconditional cash transfers on the forenamed sub groups showed no statistical significant impact on school enrolment rates, subject to their relative mean enrolment. However both conditional and unconditional cash transfers showed a positive impact on school enrolment rates for children traditionally given priority by parents. Percentage school enrolment rate increase as a result of both conditional and unconditional cash transfers were 27.0 percent and 28.5 percent for lower ability children , 17.4 percent and 14 percent for older children and 21.8 percent and 22.2 percent respectively for the boy child.

Benhassine et al. (2013) investigated the impact of a labelled cash transfer programme on school participation in Morocco. A labelled cash transfer programme in the sense that it was not conditional on school enrolment or school attendance but during implementation was tagged as an education support programme. Using a randomised experiment and difference in difference econometric estimators results from the assessment indicated that the programme reduced school dropout rates by approximately 70 percent, increased school re-entry of children who had dropped out of school by 85 percent and decreased the number of children who had never attended school by 43 percent.

The Kenya CT-OVC Evaluation Team (2012) using a cluster randomised social experiment and difference in difference econometric estimators carried out an assessment of the cash transfer programme for orphans and vulnerable children on human capital development in Kenya. The programme's main objective was to offer child protection to children orphaned as a result of HIV/AIDS, by encouraging fostering of such children. The results from the study found that the programme increased the likelihood of a child who had dropped out of school returning back to school by 2 percentage points. Households living two kilometres and more from a primary school registered a 19 percent increase in school enrolment on receipt of the cash transfer in comparison to a 6 percent growth in school enrolment registered from households who were not beneficiaries of the cash transfer. In addition the results indicated a 9 percentage point increase on school enrolment over the baseline mean.

Mariara and Ng'ang'a (2013) carried out a study to investigate the impact of social assistance programmes on asset accumulation by women, enterprise development and education in Kenya. The analysis used a sample of 968 households from three districts, descriptive analysis, probit models and ordered probit models. Results from the study found that cash transfers enhanced school enrolment and attendance. Haushofer and Shapiro (2016) evaluated how households responded to income changes in Kenya. They carried out the assessment using a randomised experiment and use of difference in difference econometric estimators. Results from the study found that although the cash transfers had a positive impact on food security and women empowerment at the village level, the remittances neither influenced health nor education.

2.4 Overview of literature review.

Effects of cash transfers on school enrolment from empirical literature yield mixed results. First the results across the countries are different, given the heterogeneity in the cash transfer programmes run by different governments in their respective countries. This therefore implies that the generalization of findings in one country to the rest of the countries could lead to a substantial degree of bias. In addition the available data in Kenya is also conflicting. Haushofer and Shapiro (2016) find no correlation between cash transfer programmes and schooling.

However, other scholars like Mariara and N’gang’a (2013) and the Kenya CT-OVC Evaluation Team (2012) find a positive correlation between cash transfer programmes and education outcomes.

Secondly the empirical works available in the area of cash transfer – school enrolment nexus seem to concentrate more on the developing economies mainly around Latin America and a few European economies. Scanty literature and empirical evaluation of cash transfer programmes exist in Africa, with a few being traced to Kenya, Malawi, South Africa, and Burkina Faso. As a result, given the popularity of the success of the cash transfer programmes in Latin American economies and with such programmes being adopted by other developing economies as part and parcel of their social protection programmes, an evaluation of their effects on the forenamed socio-economic issues is a worthwhile venture, both from a socio-economic policy perspective as well as that of informing literature.

This therefore warrants the importance of evaluating the effects of cash transfers in schooling in Kenya given that education is one of the social issues impacted by these programmes, in an attempt to promote human capital accumulation in the long run. This paper therefore seeks to contribute to the inadequate and conflicting pool of literature on cash transfer programmes and their impact on school enrolment in Kenya. This study utilised the latest available Kenyan household survey data of 2005/2006. This is unlike other Kenyan studies that have used experimental design evaluation techniques to appraise such programmes, as was used by The Kenya CT-OVC Evaluation Team (2012), Mariara and Ng’ang’a (2013) and Haushofer and Shapiro (2016).

CHAPTER 3

METHODOLOGY

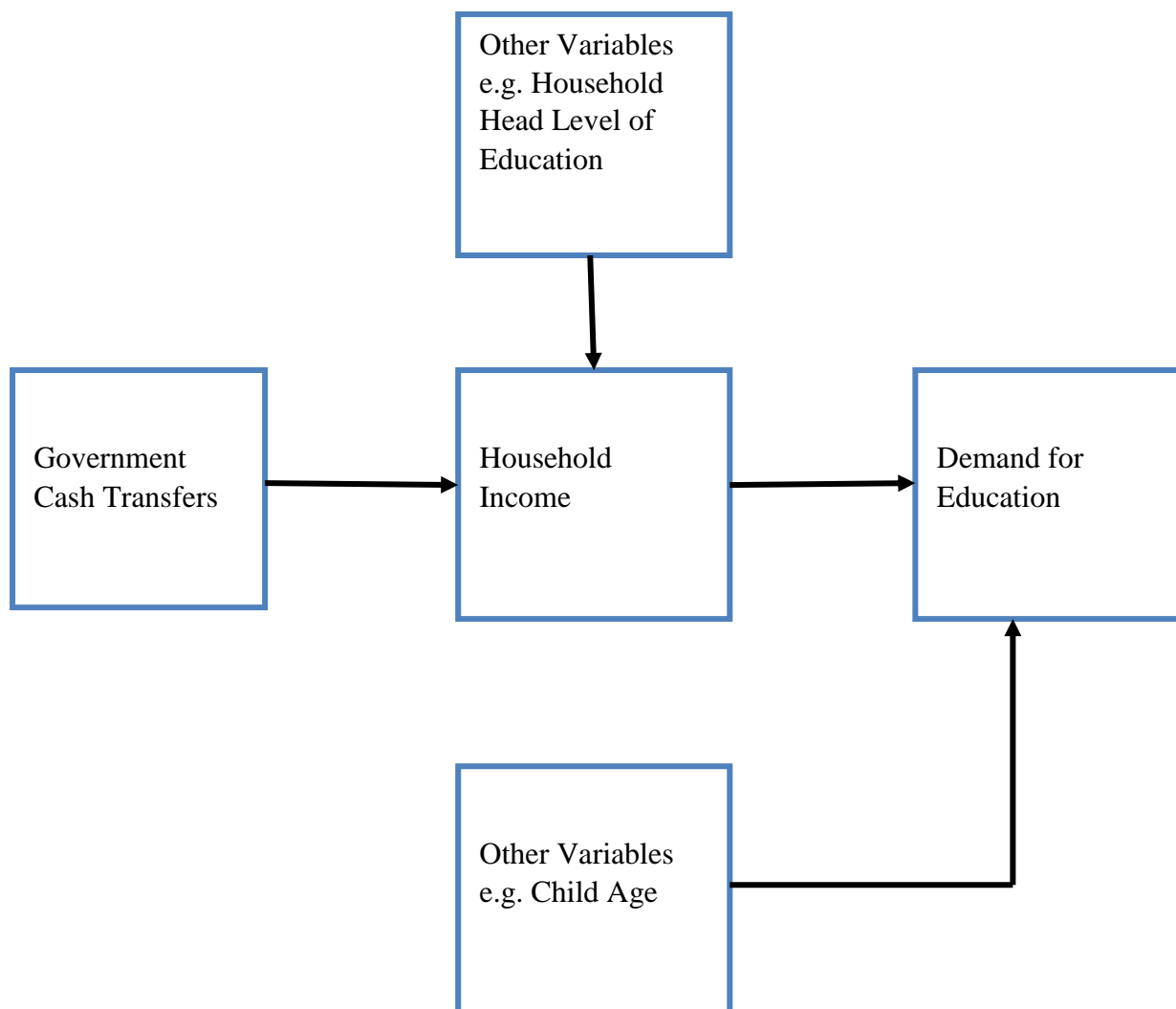
3.1 Introduction

This chapter will explain the methodological approach to be used in analyzing the impact of government cash transfers on school enrolment in Kenya. This chapter specifically describes the conceptual framework, properties of data to be used in the study, specification of the empirical model, data sources and measurement of the variables.

3.2 Conceptual Framework

The main aim of this section will be to illustrate how cash transfers may affect school enrolment. Conditional cash transfers have a direct linkage to the demand for education especially when the conditionality is stipulated as such. However, unconditional cash transfers have an indirect linkage to the demand for education as households may or may not use the money on education. Unconditional cash transfers affect the demand for education through income. They have the effect of increasing income and it is therefore expected that the household will increase the expenditure of the bundle of goods which they derive utility from and of which education is included. The following is an illustration of the relationship of an unconditional cash transfer on the demand for education.

Figure 1: Conceptual Framework



The arrows point to the affected variables and point from the influencing variables. It can be observed from the conceptual framework that a cash transfer remittance, affects household income which in turn affects the demand for education. Further, it can also be seen that household income is affected by other variables other than cash transfers and similarly the demand for education is also affected by other variables.

3.3 Theoretical Framework

The objective of the household is to maximize its utility derived from a basket of goods, against an income constraint. This bundle of goods contains education of the child and other goods all assumed to be normal goods.

It is also assumed that education is homogeneous across all households, what however differs is the investment allocated to the education of the child.

Assuming a general utility function denoted as;

$$U = (X_1, X_2) \dots \dots \dots (1)$$

Where

X_1 - represents education of a child

X_2 - represents other goods and services

U - represents a general utility function for the entire household

Maximised subject to a budget constraint denoted by

$$P_1 X_1 + P_2 X_2 = I \dots \dots \dots (2)$$

Where

P_1 and P_2 represent the prices of both the education of the child and other goods respectively while I represents income. Solving the above objective function will result to deriving the demand functions for both the education of the child and other goods whereby the education demand function will generally be denoted as

$$X_1^d = f(P_1, P_2, I) \dots \dots \dots (3)$$

Cash transfers to the household will be considered an additional income to the household resulting to an increase in the quantities demanded for a child's education and also an increase in the quantities demanded for other goods.

3.4 Empirical Model specification

The theoretical framework in the previous section demonstrates that the demand for education is a function of its price, the price of other goods and income. This is denoted as $X_1^d = f(P_1, P_2, I)$. This is the reduced demand function for education.

The conceptual framework also illustrates that the demand for education is not only influenced by income but also other variables. It is therefore plausible to state that the demand for education is a function of income and other variables (x) and therefore can be denoted as illustrated below.

$$\text{Therefore } X_1^d = f(I, x) \dots\dots\dots (4)$$

To determine the impact government cash transfers have on the demand for education, the study will employed the probit model. Long (1997) asserts that a probit model can be derived with respect to the regression of a latent variable (y^*). A latent variable is an unobserved however it is linearly linked to observed variables (x) through a structural model below.

$$y_i^* = x_i \beta + \varepsilon_i \dots\dots\dots (5)$$

The latent variable is connected to the observed binary variable y through the measurement equation below.

$$Y_i = \begin{cases} 1 & y_i^* > 0 \\ \text{if} & \\ 0 & y_i^* \leq 0 \end{cases} \dots\dots\dots (6)$$

Assuming that the threshold level is 0, if y^* is less or equal to 0 then y equals zero and if y^* is greater than the threshold 0 then y equals one.

$$\text{Therefore } \Pr (y = 1|x) = \Pr (y^* > 0|x) \dots\dots\dots (7)$$

By assuming that the error term has a standard normal distribution ($E(\varepsilon|x) = 0$) it is possible to predict the probability of $y=1$ for a given x. Where x refers to observed independent variables whose relationship to the latent variable results into the binary outcome of y.

Assume that ε has a standard normal distribution around $E(y^*|x) = x\beta$ and as illustrated in equation 5 the latent variable $y^*=x\beta+ \varepsilon$. Substituting $y^* = x\beta+ \varepsilon$ in equation 7 , consequently,

$$\Pr(y=1|x) = \Pr (x\beta+ \varepsilon > 0|x) \dots\dots\dots (8)$$

Based on the above logic it follows that in the event of two groups of independent variables, then

$$\Pr(y=1|x,z) = \Pr(\mathbf{x}\beta + \mathbf{z}\delta + \varepsilon > 0|x,z) \dots\dots\dots(9)$$

Subtracting ($\mathbf{x}\beta + \mathbf{z}\delta$) from either side of the inequality in equation 9. Then

$$\Pr(y=1|x,z) = \Pr(\varepsilon > -(\mathbf{x}\beta + \mathbf{z}\delta)|x,z) \dots\dots\dots(10)$$

The symmetry distribution of the error term warrants changing the direction of the inequality. It therefore follows that,

$$\Pr(y=1|x,z) = \Pr(\varepsilon \leq (\mathbf{x}\beta + \mathbf{z}\delta)|x,z) \dots\dots\dots(11)$$

The above therefore is the cdf of the error distribution evaluated at $(\mathbf{x}\beta + \mathbf{z}\delta)$. Consequently

$$\Pr(y=1|x,z) = F(\mathbf{x}\beta + \mathbf{z}\delta) \dots\dots\dots(12)$$

Where, F is the normal cdf (Φ) for the probit model. The functional form therefore of the resulting model given a binary response model with two independent variables would be as indicated below.

$$\Pr(y=1|x,z) = F(\alpha + \beta x + \delta z) \dots\dots\dots(13)$$

Where;

y - A binary variable that takes on the value of 1 if a child in a household is in school and 0 otherwise;

x - A vector of child and household characteristics;

z- A dummy variable that takes on the value of 1 if the household receives government transfers and 0 if otherwise;

α , β , and δ - Parameters to the model ;

Therefore, with the aid of the fore mentioned probit model, the study estimates the effect of a government cash transfer on school enrolment in Kenya.

By estimating the probit model we will be determining the probability that the child is enrolled in school upon the household receiving the cash transfers conditional on all

other household and child characteristics. The estimates of the probit model generally give the direction to which the explanatory variables are likely to influence the dependent variable (school enrolment). In order to determine the extent to which the explanatory variables influence the dependent variable, average marginal effects were computed. Long (1997) defines a marginal effect as a partial change in the probability of an event. It follows that the study will find the average marginal effect of $\Pr(y=1|x,z) = F(\mathbf{x}\boldsymbol{\beta} + \mathbf{z}\boldsymbol{\delta})$ with respect to both x and z . The magnitude of the marginal effects depended on the values of other variables in the model and their coefficients. To avoid the perfect collinearity problem or the dummy variable trap problem in the estimation, for every variable, one category was dropped to serve as a benchmark dummy upon which the analysis was based.

3.5 Definition and measurement of Variables

The table below summarizes the model variables and how they were measured in the study.

Table 1: Variable Specification.

Variable	Measurement
Education	School enrolment of child (1 if enrolled to school and 0 otherwise)
Household Characteristics	
Household size	Number of household members
Male (household head)	1 if male, 0 otherwise
Married	1 if married 0 otherwise
Age of household head	Years
Education level of household head	1 no formal education 0 otherwise 2 primary education 0 otherwise 3 secondary education 0 otherwise 4 tertiary education 0 otherwise
Area of residence	Whether rural or urban (1 if urban 0 otherwise)
Cash Transfers	
Transfer to household	1 if household has received the cash transfer, 0 otherwise

3.6 Sources of Data and Data Analysis

The study utilised the 2005/2006 Kenya Integrated Household Budget Survey (KIHBS) data, collected by the Kenya National Bureau of Statistics. Poor households are those that fall below the Kenya national poverty line as constructed by the Kenya National Bureau of Statistics. The survey is a national representative of multiple topics with the topic on cash transfers being one of the covered topics. The data was sourced from the Kenya National Bureau of Statistics. The STATA econometric software package was used for data analysis.

CHAPTER 4

DATA ANALYSIS AND RESULTS

4.0 Introduction

This section's main objective is to present the findings of this study. The main focus of the study was to estimate the effect government cash transfers have on school enrolment in Kenya. To assess this relationship, a probit model was employed.

This section is organized as follows: section 4.1 specifies the basic characteristics of the data used in this study. As such the section presents the descriptive/summary statistics of the variables used in the study. These variables are: education of child, household size, sex of household head, marital status, age of household head, area of residence and cash transfer receipt. Section 4.2 presents marginal effects of the probit regression whose interpretation explain the relation between government cash transfers and school enrolment in Kenya. Lastly section 4.3 discusses the overall findings of the study.

4.1 Description of Data

This preliminary probe is essential in understanding the basic characteristics of the data before carrying out any econometric analysis.

4.1.1 Descriptive Statistics

Table 2 indicates the mean, standard deviation, maximum and minimum.

Table 2: Descriptive Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum	
Education	51,794	0.500	0.500	0	1	
Household size	65,030	6.622	3.034	1	29	
Cash transfer	31,992	0.011	0.106	0	1	
Male (household head)	12,860	0.702	0.458	0	1	
Area of residence	65,013	0.287	0.452	0	1	
Age of household head	12,860	44.41	15.71	15	99	
Married	45,065	0.415	0.493	0	1	
Education level of household head	No education	47,026	0.038	0.192	0	1
	Primary education	47,026	0.701	0.458	0	1
	Secondary education	47,026	0.239	0.426	0	1
	Tertiary education	47,026	0.016	0.127	0	1

Source: Own computation using STATA

The results in table 2 indicate that of the people observed in the study the average household size was characterised by 6 people. 50% were enrolled in school, 1.1 % received cash transfers, 70.2 % were male headed households and 28.7 % lived in the urban areas. The average age of a household head was 44 years and of these 41.5 % were married. With respect to the education level of the household head, 3.8 % had no formal education, 70.1 % had primary education, 23.9 % had secondary education while 1.6 % had tertiary education.

Standard deviation is a measure of variability. It indicates how far a variable is from its mean. Most of the variables were not far away from their mean, however the age of the household head and the household size indicated a huge variability. Of the observed variables, all but two were dummy variables. The largest household had 29 people while the smallest household had 1. The oldest household head was 99 years while the youngest household head was 15.

4.1.2 Correlation Matrix

Table 3: Correlation Matrix

	E	HHS	CT	MHH	AR	HHA	M	E1	E2	E3	E4
E	1										
HHS	0.227	1									
CT	0.020	0.027	1								
MHH	-0.121	0.107	0.019	1							
AR	-0.114	-0.173	-0.013	0.047	1						
HHA	0.125	0.155	0.022	-0.081	-0.260	1					
M	-0.117	-0.155	-0.015	0.575	0.041	-0.085	1				
E1	0.204	0.040	-0.012	-0.006	-0.046	-0.028	0.029	1			
E2	0.177	0.100	-0.006	-0.041	-0.207	0.106	-0.036	-0.306	1		
E3	-0.262	-0.108	0.013	0.029	0.200	-0.096	0.022	-0.112	-0.858	1	
E4	-0.055	-0.056	-0.004	0.049	0.131	-0.010	0.013	-0.026	-0.197	-0.072	1

E- Education, HHS-Household size, CT- Cash transfer, MHH- Male household head, AR- Area of residence, HHA- Household head age, M – Married, E1 – No formal education, E2- Primary education, E3- Secondary education, E4– Tertiary school

Source: Own computation using STATA

Table 3 indicates the relationship between variables, the table indicates that there is a possibility of multi-collinearity between primary level educated household heads and secondary level educated household heads. Notably, the rest are below 0.8 signifying that there is no multi-collinearity amongst the explanatory variables (Gujarati et al., 2014).

4.2 Probit Regression Results

Table 4: probit results

```

Probit regression                               Number of obs   =    4,444
                                                Wald chi2(9)    =    653.48
                                                Prob > chi2     =    0.0000
Log pseudolikelihood = -2516.6295             Pseudo R2      =    0.1549
  
```

education	Robust		z	P> z	[95% Conf. Interval]	
	Coef.	Std. Err.				
cashtransfer	.5150953	.2148138	2.40	0.016	.094068	.9361225
hhsz	.1430041	.009641	14.83	0.000	.1241082	.1619001
malehead	-.4695604	.0524262	-8.96	0.000	-.5723139	-.3668069
residence	-.0910355	.0488873	-1.86	0.063	-.1868528	.0047818
headage	.0036428	.0014	2.60	0.009	.000899	.0063867
maritalstatus	.031403	.0593124	0.53	0.596	-.0848473	.1476532
Education2	-1.042705	.1157066	-9.01	0.000	-1.269486	-.8159242
Education3	-1.704833	.1230573	-13.85	0.000	-1.946021	-1.463645
Education4	-1.337612	.211105	-6.34	0.000	-1.75137	-.9238533
_cons	.2672939	.1345985	1.99	0.047	.0034856	.5311021

Table 4 presents the probit results; it indicates that all the variables are significant at 95 percent confidence interval. All the variables fall within their calculated confidence intervals, indicative of their significance. It can however be noted that under an interpretation using the p values area of residence and the household head's marital status are insignificant. The model is significant at 5 percent significance level ($p > 0.0000$).

Table 5: Marginal effects

Method: Marginal effects after probit				
y = Pr(Education) (predict)= 0.37167147				
Education		Average marginal effects	Std. Err.	P>z
Cash transfer		0.2027	0.0843	0.016
Household size		0.0541	0.0037	0.000
Male (household head)		-0.1796	0.0200	0.000
Area of Residence		-0.3424	0.0183	0.061
Age of household head		0.0014	0.0005	0.009
Married		0.0118	0.0223	0.596
Education level of household head	Primary education	-0.3949	0.411	0.000
	Secondary education	-0.4865	0.232	0.000
	Tertiary education	-0.3297	0.0235	0.000

Results in table 5 indicate that cash transfers, household size, the age of the household head and being married positively influence school enrolment. The receipt of a cash transfer to a household increases the probability of school enrolment. Similar results were also obtained by the Kenya OVC-CT Evaluation Team (2012), Mariara and Ng'ang'a (2013) in Kenya.

A unit increase in household size increases the probability of school enrolment and it is significant at 5 percent level of significance. This could be attributed to the fact that the larger the household size the higher the poverty level. Therefore, the probability that such a household will be eligible for government support in facilitating school enrolment is higher which increases the probability of school enrolment.

The older the head of the household, the higher the probability of school enrolment. This is because the older an individual is the more aware they are on the returns to education. Marital status has a positive influence in school enrolment such that a

married couple increases the probability of school enrolment. This is attributed to the larger income pool from both individuals, which then facilitates school enrolment.

A male headed household reduces the probability of school enrolment. Therefore this implies that a household headed by a female would prioritize education more than that headed by a male. Ideally, women are more likely to prioritize the education of their children in their expenditure plans than men in an intra-household bargaining model (Fiszbein et al., 2009 and Attanasio et al., 2012).

A primary, secondary and tertiary educated household head reduce the probability of school enrolment. This can be linked to the fact that households are generally headed by men who, as aforementioned, prioritize education of their children less than women. Finally, living in an urban area decreases the probability of school enrolment.

Conclusion

This section used STATA software to provide empirical results of the study. It first provided results of descriptive statistics, followed by Pearson correlation results and average marginal effects of the probit model. The descriptive statistics carried out to give indicative results on normality were mean, standard deviation, maxima and minima. All but one of the correlation results of the variables had a magnitude of less than 0.8 indicating lack of multi-collinearity. The overall findings from the probit model indicate that the probability of school enrolment is increased by cash transfers, household size, marital status and age of the head of the household. Conversely, the probability of school enrolment is decreased when the head of the household is male, is either primary, secondary or tertiary educated and urban residency.

CHAPTER 5

SUMMARY CONCLUSIONS AND POLICY IMPLICATIONS

5.0 Introduction

This section first provides a summary of the study followed by its conclusions and policy implications. In addition the limitations of the study and areas for further research are availed.

5.1 Summary

The main objective of this study was to investigate the effect of government cash transfers on school enrolment controlling for other potential determinants. The study further set out to probe the determinants of school enrolment other than cash transfers; sex of the household head, education level of the household head, area of residence, marital status, age of the household head and size of the household. These objectives are complimented by policy implications.

The study used the Kenya Integrated Household Budget Survey Data 2005/2006. It used the probit model as the basis for its econometric analysis with school enrolment as the dependent variable. Explanatory variables were: cash transfer sex of the household head, education level of the household head, area of residence, marital status, age of the household head and size of the household. Preliminary investigation of the data was carried out using descriptive statistics. This was done through establishing the mean, standard deviation, minima, and maxima. The standard deviations of most of the variables were close to their means indicating normality.

The probit regression marginal effects results indicated that cash transfers positively and significantly influenced school enrolment. This is attributed to the fact that the cash transfer has the effect of relaxing the income constraint in households, enabling them to spend more on education. This affirms results by The Kenya OVC-CT Evaluation Team (2012) and Mariara and Ng'ang'a (2013).

5.2 Policy Implications

The results of this study have significant contributions to social assistance programmes in the country. Cash transfers as a form of social assistance programs is a new initiative adopted by the Kenyan government who have mainly utilized non -cash

forms social assistance programmes. The results of this study indicate that cash transfers should be enhanced because they positively influence school enrolment. Equally this increases social welfare of the poor and aids in breaking the viscous cycle of poverty. It is important to note that a primary, secondary and a tertiary educated male headed household has a negative effect on school enrolment. This implies that women more than men prioritize the education of their children in their expenditure plans. Therefore cash transfers should be channelled through women.

5.3 Limitations of the Study

The main limitation of this study is the use of data that is a decade old. Therefore, there are possibilities that it is not representative of the current state of affairs. Furthermore, the use of experimental data would help reduce the problem of heterogeneity. This is the reason experimental studies have been recently lauded in studies on cash transfers.

5.4 Areas of Further Studies

Future studies should consider using updated data. There is also need for future studies to investigate the impact of cash transfers on school enrolment of marginalized children i.e. children who suffer from intellectual disability.

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