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Institute for Social Development

Assessing the Impact of Government Grants on Poverty and Inequality: a Microsimulation Study in South African

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WESTERN CAPE**

A Mini thesis submitted in partial fulfilment of the requirement for the degree Master of Economics at the Institute for Social Development, Faculty of Economic and Management Sciences.

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November, 2014

Keywords

- Counterfactual
- Impact
- Inequality
- Poverty
- Microsimulation
- National Income Dynamics Study
- Government grant
- South Africa
- Social security
- Welfare policy



Abstract

Poverty and inequality are the major challenges of the post-apartheid government of South Africa. In order to address these challenges, the government designed a range of policies and strategies including social grant programs. The main objectives of social grants in South Africa focus on relieving poverty and enabling the previously disadvantaged communities to access basic social services. However, poverty and inequality remains high in the country (statistics SA, 2014). The main objective of this study is to critically examine the impact of selected government grant programs on poverty and inequality in South Africa. The study estimates households' consumption function using the third wave of National Income Dynamics Study (NIDS) of South Africa and simulates the impacts of government grant on poverty and inequality. It examined how these impacts vary across population groups, gender and geographical locations. The findings indicate that monthly government grants decrease the head count poverty by between 3.7% and 4.4%, the poverty gap by between 1.9% and 2.7% and severity of poverty by between 1.2% and 1.9%. Government grants also reduce the odds of being in a state of poverty by approximately 59.1%. In terms of inequality, the findings show that government grants have little to do with reducing inequality (1.6%).



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Declaration

I declare that the study "*Assessing the Impact of Government grants on Poverty and Inequality: a Microsimulation Study in South Africa*" is my own work, that it has not been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

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List of Abbreviations/ Acronyms

CDG	Care Dependency Grants
CSG	Child Support Grant
DASP	Distributive Analysis Stata Package
DG	Disability Grants
FCG	Foster Care Grants
FGT	Foster-Greer-Thorbecke
IES	Income and Expenditure Survey
KIDS	KwaZulu-Natal Income Dynamics Study
LPL	Lower Bound Poverty Line
PIR	Poverty and Inequality Report
PSU	Primary Sampling Units
PPP	Purchasing power parity
PIR	Poverty and Inequality Report
NPC	National Planning Commission
NIDS	National Income Dynamics Study
SA	South Africa
SOAP	State Old Age Pensions
UPL	Upper Bound Poverty Line

Acknowledgment

There are a number of people I want to thank for their help in finalizing this study.

Firstly, I must pay tribute to my supervisor, Dr. Mulugeta F. Dinbabo, for his unreserved supervision and guidance from the beginning to the end of this master thesis. I am also grateful to all staffs and colleagues of the Institute for Social Development who, in one way or the other, was very much helpful during the entire duration of the study program.

My heartfelt appreciation goes to Seada Hussien who was always there for me with kind words and support throughout this thesis. My utmost gratitude goes to my friends and colleagues Clement Mensah, Winnie Sambu and Joyce Marangu for their persistent help, encouraging words and friendship. Last but not least, I am thankful to have a very supporting and loving family who are always there for me.

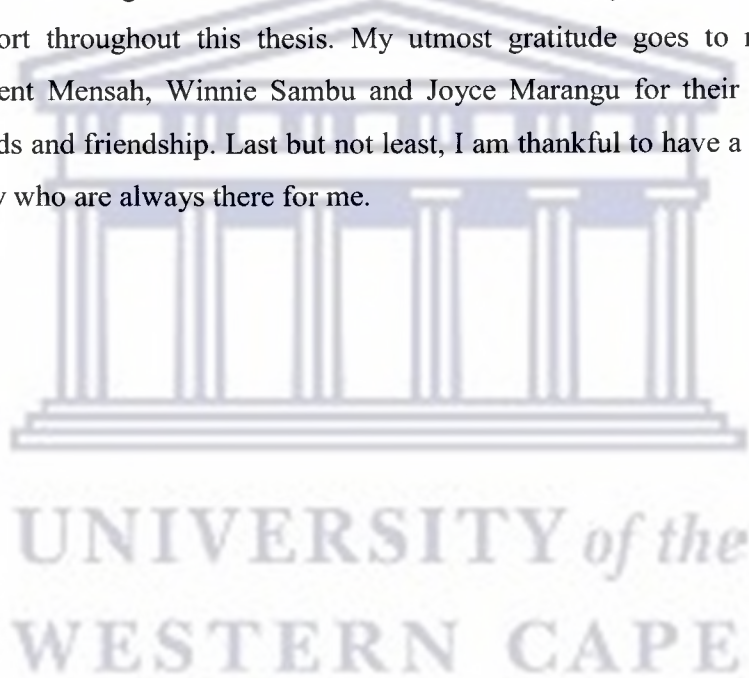


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CHAPTER ONE: INTRODUCTION

1.1. Introduction

Poverty and inequality remains a major challenge confronting many countries in the world. Almost half of the world's population lives below the poverty line of \$2 per day, whereas other parts of the world continue to enjoy enormous technological and economic advancement (Shepherd et al., 2014; Kharas, 2010; Haughton and Khandker, 2009 and Ferreira, 2008). In developing countries more than one billion people live on a per capita income less than \$1 per day. Surprisingly, in these countries inequality is also a big problem. Most of the countries with a high Gini coefficient (higher than 0.5) are developing countries (World Bank, 2009:81). South Africa is one of the countries with high poverty as well as wealth inequality.

Since the fall of apartheid and inception of a democracy in South Africa in 1994, the government designed a national strategy for social development, which was accompanied by the White Paper on Developmental Welfare (Dinbabo, 2011). The White Paper on Social Welfare (1997) marked a fundamental shift in South Africa's welfare strategy, with the government developed various policies and complementary programs. These included "government grants, unemployment insurance, public works programs for the working poor and the 'social wage' package, which comprises access to education, health and other services" (Woolard and Leibbrandt, 2010:4). The government grant program aims to provide support for the poorest of the poor and the vulnerable. Currently the program, which is executed by the South African Social Security Agency (SASSA), supports more than 30% of the population (SASSA, 2013).

The main purpose of this study is to critically examine the impact of government grant programs in South Africa. The study uses quantitative methods of research and makes use of the Foster-Greer-Thorbecke (FGT) index of poverty, logit regression and Gini coefficient measurements of inequality. Furthermore, the study used a microsimulation model to analyse the various possible scenarios of the social policy changes.

This chapter is divided into the following sections (1) the background and contextualisation of the study, (2) the significance/ rational of the study (3) problem statement, (4) aim and objectives of the study, and (5) research questions.

1.2. Background and contextualization

South African economy is the second largest in Africa (McKinsey Global Institute, 2014:2). It is a productive and industrialized one with different characteristics that are present in developing countries, such as labour division between the formal and informal sector and an unemployment rate of 24.1% in 2014 (statistics SA, 2014: 14). Most South African households are exposed to high levels of poverty or are continually vulnerable to poverty (Gradín, 2011 and Finn and Leibbrandt, 2013a). According to Statistics SA (2014), 20.1% of South Africans lived under \$2 a day in 2011. The human development is also low: the country ranked 118 from 187 countries in the Human Development Index (HDI) in 2014 and was categorized as a Medium Human Development country (UNDP, 2014). In addition to the high levels of poverty, South Africa is among countries with the highest income and wealth inequalities in the world. In 2011, the Gini coefficient was 0.69 (statistics SA, 2014).

Poverty in South Africa is more visible because it coexists with high wealth inequality, and also due to the fact that inequality has a correlation with race (see- Bhorat, et al. 2013, Yu, 2010; van der Berg et al., 2008 and Ozler, 2007). In 1994, the majority of Africans, for the most part were poor, whilst the majority of Whites were rich. A study by Gradín (2011) also indicates that the poverty level among most African is worse than the Coloured, who are poorer than the Whites. In 2008, the per capita income of the Whites was 8 times higher than that of Africans (Finn and Leibbrandt, 2013b). In 2008, using an upper bound poverty line of R946, Gradín (2011) discovered that 77% of Africans, 49% of Coloured, 9% of Asians/Indians, and only 1.5% of Whites fell below the threshold.

In order to address the problem of poverty and inequality, the democratic government introduced the Reconstruction and Development Program (RDP) which emphasised on economic growth and employment creation as essential components for reduction of poverty and inequality in the country (May, 2000). Furthermore, the program introduced the Poverty and Inequality Report (PIR) in 1997. The report aimed at analysing existing policies and identifying the cross cutting issues that affect the implementation of government policies and emphasises the importance of social welfare grants to reduce poverty and inequality.

Furthermore, the government expanded the scope and amount of government grant programs that support the disabled and vulnerable people. This study evaluates the impact of State Old

Age Pensions (SOAP), Disability Grants (DG), Child Support Grants (CSG), Care Dependency Grants (CDG) and Foster Care Grants (FCG) in reducing poverty and inequality.

1.3. Significance/rationale of the study

South Africa cannot eliminate poverty and inequality unless suitable policy measures are put in place to support the poor and vulnerable groups. Poorly designed policies and inefficient institutions can lead to wastage of resources and eventually fail to reach target beneficiaries. This makes impact assessment studies crucial and knowledge gained from such studies offers opportunity for the appropriate design of future projects and policies. Therefore, this research does not only contribute to existing knowledge and literature, but can be used by the government of South Africa, researchers, policy makers, and other relevant stakeholders to develop and implement strategies that can uplift the lives of the poor and reduce inequality.

1.4. Problem statement

Over the past two decades, major political and social changes have been made by the current South African government taking the lead role in introducing a range of social welfare policies and implementation modalities. Dinbabo (2011) notes that the major objectives of social welfare policies in South Africa include alleviating poverty and enabling the previously disadvantaged communities to access basic social services. However, poverty and inequality are still very high in the country (statistics SA, 2014). The Gini coefficient increased from 0.51 in 1959 to 0.63 in 2009 and 0.69 in 2011. While different studies (Bhorat, et al. 2013; Dinbabo, 2011; Yu, 2010; van der Berg et al., 2008; Ozler, 2007; Devereux, 2002; Case and Deaton 1998) have been carried out to determine the impact of different government grant programs [Old Age Grant (OAG); Disability Grant (DG); Child Support Grant (CSG); Foster Child Grant (FCG); Care Dependency Grant (CDG), War Veteran's grant (WVG), and Grant in Aid (GIA)] on household poverty, child poverty and inequality in South Africa, there are few studies which simulate the impact of social welfare policy change on poverty and inequality.

Therefore, undertaking empirical research to investigate the relationship between social welfare policies and poverty/inequality reduction in South Africa using a microsimulation model is crucial in making a contribution to the academic literature as well as informing policy.

1.5. Aim of the study

The main aim of the study is to evaluate the impact of government grants on poverty and inequality in South Africa.

1.6. Specific objectives

The following specific objectives are drawn on the basis of the general objective:

- Estimate, household consumption function using wave three of the National Income Dynamics Study (NIDS) of South Africa.
- Simulate the impacts of government grants on poverty and inequality.
- Assess the impact of government policy changes (no household will receive cash transfer) towards government grant on poverty and inequality.
- Make recommendations to government, policy makers, NGOs and other principal stakeholders of the programme to help enhance programme efficiency.

1.7. Research questions

The study attempted to answer the following questions:

- What are the impacts of government grants on poverty [(poverty rate (P0), poverty gap (P1), poverty severity (P2)] and inequality (Gini co-efficient)?
- What will happen to poverty [poverty rate (P0), poverty gap (P1), poverty severity (P2)] and inequality (Gini co-efficient), if the government decided to remove the existing cash transfers such as: State Old Age Grants, The Disability Grant, The Child Support Grant, The Foster Care Grant, Care Dependency Grant?
- Do government grants reduce the probability of households being in a state of poverty?

CHAPTER TWO: CONCEPTUAL AND THEORETICAL FRAMEWORK

2.1. Introduction

In this section, the study presents the theoretical underpinnings and conceptual framework within which the research was analysed. It also provides a review of literature on the concepts of poverty, inequality and government grants and more so, highlights the interplay between government grant programs, poverty and inequality.

2.2. Rawls' theory of justice

Rawls' theory of justice is based on philosophical and ethical foundations, which deal with the basic structure of society (Rawls, 1971). The theory tries to solve the way in which the distribution of fundamental rights and duties affect the division of advantages in a society. It provides a reasoned argument why it is socially just to distribute goods equally in a society and argues that the state has to redistribute wealth to the poor and vulnerable. According to Dinbabo (2011: 27), Rawls' theory of justice also explains "the principles of how society should be structured, how basic rights and duties should be assigned to individuals, and how social and economic advantages should be distributed to all members of society".

For Rawls, the concept of justice is defined by "the role of its principles in assessing rights and duties and.... appropriate division of social advantages." For him, justice has two principles that apply to the basic structure of society. "First: each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others. Second: social and economic inequalities are to be arranged so that they are both (a) reasonably expected to be to everyone's advantage, and (b) attached to positions and offices open to all under conditions of fair equality of opportunity " (Rawls, 1971: 266). Based on the above principles Rawls explains that the less fortunate members of the society should be compensated, so as to "maximize the worth to the least advantaged of the complete scheme of equal liberty shared by all" (Rawls, 1971:179).

Hence, Rawls theory of justice can be used to explain the importance of social protection programs in compensating the poor and vulnerable ('least advantaged' in Rawls's term) in order to have a just society. Dinbabo (2011) used Rawls' theory of justice to examine the effectiveness of and the extent to which the social welfare policies respond to child poverty. As part of the theoretical and conceptual framework of the study, Rawls theory of justice is

appropriate and applicable in terms of analysing the impact of government grants on poverty and inequality in South Africa.

2.3. The definition and measures of poverty

2.3.1. Definition of poverty

Poverty is a multidimensional and relative social phenomenon and as such it may have different meanings. According to the World Bank (2000:15), poverty is defined as “pronounced deprivation in well-being”. In this definition, well-being is linked with the access to commodities. This view, according to Haughton and Khandker (2009), sees poverty largely in monetary terms. Perhaps in a broader way Sen (1990) articulates poverty as the failure of some basic capability to function. For him well-being comes from a capability to function in society. Thus, poverty arises when people lack such capabilities. Statistics South Africa (2000:54) defines poverty as “... in a broader perspective than merely the extent of low income or low expenditure in the country. It is seen here as the denial of opportunities and choices most basic to human development to lead a long, healthy, creative life and to enjoy a decent standard of living, freedom, dignity, self-esteem and respect from others.”

In 2000, World Bank published “*voices of the poor*” in an attempt to understand poverty from the within. A poor man, in Kenya 1997 brought out his definition of poverty by describing his living conditions “... Look at the house and count the number of holes. Look at my utensils and the clothes that I am wearing. Look at everything and write what you see. What you see is poverty”. Another man in a poor area of Latvia in 1998 defined poverty as “humiliation, the sense of being dependent on them, and of being forced to accept rudeness, insults, and indifference when we seek help”. Many scholars (Alcock, 1997 and Alkire, 2008) agree that the definition of poverty has to be understood, at least in part, in relation to particular social, cultural and historical contexts.

2.3.2. Measures of poverty

According to Coudouel, Hentschel and Wodon (2002:30), computing poverty measures requires three ingredients. “First, one has to choose the relevant dimension and an indicator of well-being. Second, one has to select a poverty line, that is, a threshold below which a given household or individual will be classified as poor. Finally, one has to select a poverty

measure to be used for reporting at a population level as well as for population sub-groups only.” The following section expands on the three ingredients of poverty measures.

2.3.2.1. Indicators of poverty

Both monetary and nonmonetary indicators of poverty have been identified by different scholars (Ferreira, 2008; Frye, 2005 and Coudouel et al., 2002). Monetary indicators could be either income or consumption. Both of these indicators have their advantages and disadvantages. Income is generally seen as being easier to measure than expenditure; this is mainly because individuals or households can fail to remember everything that they have spent over a certain period. Coudouel et al., (2002:30), on the other hand, argue that “Consumption better reflects a household’s actual standard of living and ability to meet basic needs”. They further explain that consumption does not only indicate the amount of goods and services that households consume by current income, but also the possibility of accessing other sources such as: credit market or savings. For the purpose of this study household monthly consumption is used as an indicator of poverty.

Non-monetary poverty indicators mainly include health, education and living standards (Leibrandt and Woolard, 2013). The establishment of the multidimensional poverty index is also an important step to recognize the importance of the multidimensional aspects of poverty. The index uses the three main dimensions of Human Development Index to identify deprivations across the three dimensions.

2.3.2.2. Poverty lines

Martin (1998:3), defines the poverty line as “the monetary cost of a given person, at a given place and time, of a preference level of welfare”. Martin further explains that people who do not obtain that level of welfare are considered poor”. Coudouel et al., (2002:30) also define a poverty line as “the cutoff points separating the poor from the non-poor”. The line, according to Coudouel et al., (2002:30), can be monetary (for example, a certain level of consumption) or non-monetary (for instance, a certain level of literacy).

There are two main ways of setting poverty lines: absolute and relative poverty lines (Frye, 2005 and Coudouel et al., 2002). Absolute line is a situation in which people are considered poor in comparison to certain criteria’s (Haughton and Khandker, 2009). According to World Bank, one of the main criteria is the \$2 a day. This is based on the assumption that this

amount of money has to cover the basics of food, shelter and water. The need for medicine, clothing and school books are not on the priority list. The other is by considering relative poverty line a situation in which people are considered poor in contrast to other people. Here an attempt will be made to compare between persons within the lowest income section and those of the upper income section (Ibid).

In South Africa there are three national poverty line measures based on the cost of basic needs in the country: the food poverty line (FPL), the lower-bound poverty line (LPL) and upper-bound poverty line (UPL) (statistics SA, 2014). The FPL measures the consumption level that people need in order to have an adequate diet. Individuals below the FPL consume insufficient calories. For 2011 the FPL was R321 (in 2011 prices) per capita per month. Both LPL and the UPL were derived based on the cost of adequate food and non-food items. However, for individuals below the LPL it is hard to consume both non-food and food items and they have to sacrifice non-foods. On the other hand, households at UPL can purchase both adequate food and non-food items. The upper-bound poverty line (UPL) was R620 (in 2011 prices) and the lower-bound poverty line (LPL) was R433 per person per month (in 2011 prices) (Ibid).

2.3.2.3. Poverty measures

There are alternative measurements of poverty, but the most commonly used measurement is the Foster-Greer-Thorbecke (FGT) measurement of poverty. FGT is based on calculations of poverty measures taking income shortfalls of the poor themselves as weights (Foster, Greer and Thorbecke, 1984). This helps to analyse the implications of social transfers on incidence, depth and severity of poverty. It has three components; the headcount index (P0), poverty gap index (P1) and poverty severity index (P2). The headcount index (P0) measures the percentage of the population that is poor. However, it does not indicate to what extent they are poor. It is popular because it is easy to understand and measure. The poverty gap index (P1), on the other hand, measures the degree to which individuals fall below the poverty line (the poverty gaps). By adding these poverty gaps, one can get the minimum cost of eliminating poverty. The squared poverty gap index (also known as the poverty severity index, (P2)) averages the squares of the poverty gaps relative to the poverty line.

2.2.4. Poverty in South Africa

South Africa is a country undergoing different fundamental transitions. Since 1994 different changes have taken place in the social, economic and political spheres. The post-apartheid government has put forward different program and strategy plans to eradicate poverty from the country. Some of the main programs and strategies include the Reconstruction and Development Plan (RDP) (Meeting basic needs), Accelerated and Shared Growth Initiative for South Africa (AsgiSA) (halve unemployment and poverty) and National Development Plan (NDP) (eliminating all poverty by 2030) and Twenty Year Review, 2014). In addition to the above programs and strategies, the government increased the scope and amount of social security programs to uplift the disabled and vulnerable groups.

Despite the different socioeconomic policies and programs in the post-apartheid period, there is an academic consensus on the rise of monetary poverty in the late 1990s. However, according to Seekings (2007), the findings differ in specific data used and assumptions made in the analysis. Carter and May (2001) using the first two waves (1993 and 1998) of the KwaZulu-Natal Income Dynamics Study (KIDS) found an increase in poverty among Black household in KwaZulu-Natal province. Meth and Dias (2004), who used expenditure data from the 1999 OHS and a 2002 LFS, discovered that both the number and proportion of households and individuals living in poverty had risen. Hoogeveen and Özler (2004) using the 1995 IES/OHS and the 2000 IES/LFS data on real per capita expenditures show that the number of poor people grew between 1995 and 2000. Grieger, Williamson, Leibbrandt, and Levinsohn (2013) used the first two waves of NIDS and discovered that 34% of the sample that were poor in 2008 was also poor in 2011. Finn and Leibbrandt (2013) also used the 3 waves of NIDS data from 2008 to 2011 learned that most of the poor were trapped in severe poverty, with income per capita less than half of the poverty line.

However, a recently released Statistics South Africa (2014:12) report, which used Income and Expenditure Survey (IES), found that the percentage of the population that is poor or lives below the national upper-bound poverty line (UPL) of R620 (in 2011 prices) decreased from 27 million people (57.2% of the population) in 2006 to 23 million people (45.5% of the total population) in 2011. Population living in extreme poverty or below the lower-bound poverty line (LPL) of R433 per person per month (in 2011 prices) also reduced from 26.6 million people in 2006 to 10.2 million people in 2011. Different studies (Economic Policy

Research Institute, 2013 and Borat and Van der, 2012) also show a reduction of poverty levels since 1994.

In addition to the decrease in the level of poverty, the poverty gap (the gap of those who remain poor) reduced from 26.7% for UPL in 2006 to 19.6% in 2011 (statistics SA, 2014:13). The poverty gap for LPL also decreased from 8.5% in 2006 to 6.2% in 2011. Nevertheless, such a high figures are high for an upper middle income country.

The figure slightly changes when one uses international poverty lines. The proportion of population below \$1.00 (PPP) per day reduced from 11.3% of the total population in 2000 to 5% in 2006 and 4% in 2011 (MDG, 2013:25). Proportions of population below \$2.00 (PPP) per day have also shown reduction from 33.5% in 2000 to 25.35 in 2006 to 20.1% in 2011. Furthermore, the poverty gap ratio (\$2.00 (PPP) per day) reduced from 13% in 2000 to 8.15 in 2006 and then to 6.5% in 2011 (Ibid).

Looking into other measurements of poverty, a study by Finn, Leibrandt and Woolard (2013:3-4) using the multidimensional headcount index shows that the proportion of multidimensional poor decreased from 37% in 1993 to 8% in 2010. The reduction shows that only 8% of the population were deprived in more than three of the nine areas of multidimensional poverty¹. The study further shows that the proportion of severely multidimensional poor² reduced from 17% in 1993 to just over 1% in 2010.

In general, different studies (statistics SA, 2014; Economic Policy Research Institute, 2013 and Borat and Van der, 2012) show a meaningful reduction of both monetary and multidimensional poverty level and poverty gap in South Africa in recent years. However, a great deal more still needs to be done to decrease the prevalence of poverty in the country

2.4. The definition and measures of inequality

The concept of inequality is broader than poverty because it does not only focus on the poor but on the entire population. Ray (1998:171) defines inequality as “the fundamental disparity that permits one individual certain material choices, while denying another individual those very same choices”. In his definition Ray is talking about both inequalities in opportunities

¹The nine indicators of multidimensional poverty include- schooling years, enrolment, child mortality, nutrition, cooking fuel, sanitation water, electricity and assets.

² Severe multidimensional poverty can be defined as being deprived in 50% or more of the indicators (Finn et al, 2013:4).

and inequality in outcomes. McKay (2002:1) simply defines inequality as “variation in well-being” between individuals and groups.

In recent years, the issue of inequality has received greater attention. The World Bank (2009) stresses the importance of equality of “opportunity” such as access to education and freedom from discrimination to alleviate poverty. Green (2008) points out five main negative impacts of inequality in a society; (1) inequality wastes talent, (2) inequality undermines society and its institution, (3) inequality undermines social cohesion, (4) inequality limits the impact of economic growth on poverty and (5) inequality transmit poverty from generation to the next.

There are different measurements of inequality. One of the most used measurements of inequality is the Gini coefficient. It is based on the Lorenz curve³ with a value between 0 (as perfect equality) and 1 (as perfect inequality). Based on these measures South Africa is one of the highest income and wealth inequality country with a 0.69 Gini coefficient in 2011 (statistics SA, 2014). Other measures of inequality include Generalized Entropy (GE) and Atkinson inequality measurement. GE measures vary between zero and infinity, with zero representing an equal distribution and higher values representing higher levels of inequality. Atkinson’s inequality measure, which is proposed by Atkinson (1970), is useful in determining what contributes to the observed inequality (Ibid).

2.4.1. Inequality in South Africa

In recent years, while the poverty situation has been improving, inequality is however increasing. South Africa still remains one of the countries with the highest income and consumption inequality in the world. In addition, inequality in the country is also demonstrated through lack of access to natural resources and other socioeconomic dimensions. According to the statistics SA report (2014:13), the country’s Gini coefficient based on expenditure data was as high as 0.64 in 1995, 0.65 in 2006 and 0.69 in 2011 based on income data. The World Bank data for 2009 also shows a Gini coefficient value of 0.631. The report further shows that the richest 20% of the population accounted for over 61% of consumption in 2011. Meanwhile, the bottom 20% shared only 4.3% of consumption in 2011.

Using the 1996 and 2001 Population censuses Leibbrandt et al. (2004: 9), found that the Gini coefficient increased from 0.68 in 1996 to 0.73 in 2001. A study by Van der Berg et al.

³ A cumulative frequency curve that compares the distribution of a specific variable (for example, income) with the uniform distribution that represents equality (Haughton and Khandker, 2009:104).

(2006) also indicates that overall income inequality rose from 1994 to 2004. Yu (2010) found a strong increase in the Gini coefficient between 1996 and 2001. Other studies (Simkins, 2004 and Ardington, Leibbrandt and Welch, 2005) also discovered an increase in the Gini coefficient over time in South Africa. According to Piketty (2013), Such a high increasing in inequality is also a worldwide phenomenon.

In addition to the interracial inequality, the intragroup divide between rich Blacks and poor Blacks has increased in recent years. A Study by Borat (2003: 4) identified the Gini coefficient value amongst Black households as having increased from 0.49 in 1970 to 0.59 in 2000. While among White households the value increased from 0.43 to 0.49 while amongst Indians/ Asian households it increased from 0.42 to 0.51 and amongst Coloured households from 0.53 to 0.55 for the same period of time.

2.5. Social welfare policies

Different scholars (Blau, 2007; Patel, 2005; Karger and Stoesz, 2002; Osei-Hwedie and Baron, 1999; Titmuss, 1963 and Friedlander, 1961) have proposed an alternative definition of social welfare policy. Blau (2007:21) defines social welfare policy as the “principles, activities, or framework” that are developed and adopted by government to ensure a socially defined level of individuals, families, and community's well-being.” Blau further explains that social welfare policy is a policy response by the public to tackle problems in a society and provide basic needs. Titmuss (1963:16) defines the concept of social welfare policy as “collective intervention that contribute to the general welfare by assigning claims from one set of people who are said to produce or earn national income to another set of people who may merit compassion or charity”. Karger and Stoesz (2002:3) also define social welfare policy as part of a social policy that mainly “regulates” the provision of basic life need for people.

For Patel (2005: 20), social welfare policies are “an integrated system of social services, benefits, programs and social justice and social functioning in a caring and enabling environment”. According to Friedlander (1961:4) social welfare policies are laws, programs and/or programs which aid both individuals and groups to develop their full capacities. In a more detailed definition Morales-Gómez (1999:89) defines social welfare policy as “the collective efforts of a nation’s people to address their basic welfare needs, related to health, education, employment, occupational training, housing, income security, and personal social

services at the local or national levels”. Despite the different definition of social welfare policy by different scholars, the key emphasis is that the concept of social welfare policy mainly includes improving the quality of life of individuals and groups.

Blau (2007) further explains that most definitions of social welfare policy ignore the relationship between public and private sector provisions. Blau argues that social welfare policy does not include policies and programs only in the public sector: federal, state and local governments; however, it also mainly involves the private sector (voluntary sector). Social welfare policy is also a primary portion of an international development-policy agenda attempting to address a broad range of matters, including economic growth, poverty, employment, and low standards of human and social development.

2.5.1 Social welfare policies in Sub-Saharan Africa

According to United Nation report (2013), 1.2 billion people lived in extreme poverty in the World in 2010. While the figure is high, in terms of proportion the number has reduced almost by half from 1990 to 2010. However, in Sub-Saharan Africa the number of people living in extreme poverty has increased from 290 million people in 1990 to 414 million in 2010 (Ibid). This means that the region currently accounts more than one third of the people living in less than \$1.25 (PPP) per day in the World. Hence, different social welfare policies are forwarded by government bodies and international bilateral and multilateral organizations.

However, according to Osei-Hwedie and Bar-on (1999) the development and definition of social welfare policies in Africa are mainly dominated by the ideologies of the West. They identify three distinctive periods in the development of social policy in Africa- the colonial period, the first decades of independence, and the more recent era of macroeconomic structural adjustment. During the colonial period the European countries, were mainly concerned with the development of capital infrastructure, ignoring other developments such as- human development. The welfare of Africans became subordinate to that of the colonialists. In this period social policies were mainly left to the voluntary efforts of religious organizations. Hence, at independence African nations inherited from their colonial masters a social-service infrastructure that was almost none existent. During the independence period, most African governments adopted a socialist economic system to foster greater equality and economic development. As a result, most of the countries made significant strides in uplifting

the well-being of their populations. However, due to escalating civil wars, low human development and international economic shocks resulted in the International Monetary Fund (IMF) intervention, which introduced a new era in the history of social policy; “the era of structural adjustment”. Nevertheless, according to Osei-Hwedie and Bar-on, such structural adjustment was neoliberal notions that make way for free-market ideology.

In recent years the social welfare policy reforms in developing countries in general and Sub-Saharan Africa in particular turned from a wider vision of social policy to narrow social protection concerns, with cash transfer (conditional and non-conditional) as the policy instrument of choice (Adesina, 2010:2). In the following section the study expands on social protection and its challenges in developing countries.

2.5.1.1. Social protection

In recent years social protection is rapidly gaining support from different developing countries and international bilateral and multilateral organization. Its overall objective is “to reduce economic and social vulnerability of the poor and the marginalised groups” (Green 2008:207). International Labour Organization (ILO) (1984:2) defines social protection as “... the protection which society provides for its members, through a series of public measures, against the economic and social distress that otherwise would be caused by the stoppage or substantial reduction of earnings...” According to this definition, social protection provides security from different shocks which cause reduction or loss of earnings. Getubig (1992:1) define social protection as “any kind of collective measures or activities designed to ensure that members of society meet their basic needs (such as adequate nutrition, shelter, health care and clean water supply)... to enable them to maintain a standard of living consistent with social norms”. The Getubig’s definition is more suitable for the developing world where the majority of people are not employed in the formal sector.

The World Bank (1997:7) categorizes social protection, narrowly, into two components; social assistance and social insurance. The social insurance concept focuses on allowing individuals and households to protect themselves from risks. This helps to smooth their income for a long period of time. In South Africa, the government mainly provides three main social insurance programs: the Unemployment Insurance Fund, the Compensation Funds and the Road Accident Fund. The other concept of social protection is the social assistance, which transfers resources in the form of grants such as a Child Support Grant,

Pension Grant and so on. The key element of these social protection programs is poverty relief. Social assistance is normally financed from tax, whereas social insurance is financed from contribution from workers and employers.

According to (Midgley and Tracy, 1996; Khan and Arefin, 2013), there are different challenges in establishing social protection transfers in developing countries. First, there is a growing fear that social protection could lead to dependency and decline in labour force participation. Second, there are different arguments that social protection transfers could crowd out public investment in other sectors such as infrastructure (schools, hospitals, roads.....). Third, sustainable social protection program requires strong political commitment and efficiency of execution, both of which most developing countries lack.

2.5.2. Social welfare policy in South Africa

In 1947 the National Party enacted a law in an attempt to institutionalize racial discrimination, with the basic objectives of securing White power in South Africa's social system (Potts, 2007). According to Brinkerhoff (2013:22), this law "disempowered and disenfranchised" South African blacks for 46 years (1948– 94). The apartheid government established different social welfare departments for different races. This decentralized social welfare system resulted in inefficiency, confliction and variation in standard between the different racial based departments. For example- "while Coloureds, Indians and Whites received payments monthly, blacks were given their allowance every second month and while Coloureds, Indians and Whites received payments through check, blacks were paid in cash at various mobile sites, such as schools, under trees or in stores". In addition to racial discrimination, Patel (2008) expresses the welfare system as staff intensive, costly, fragmented and had a limited reach.

In 1994 the democratic government implemented different programs to develop living standards for the majority of the South African population by providing basic services, health care, education, employment opportunities and housing (Learning, 2005). The government developed the Reconstruction and Development Program, which provided a framework for transforming the welfare system. For this, the government released and adopted the *White Paper for Social Welfare* which provides guidelines, proposed policies, recommendations, and programs for developmental social welfare service in South Africa. The document proposed access to services that would grant a minimum income for families and children,

sufficient to meet basic subsistence needs and a minimal standard of living. The system also transformed and reconstructed the fragmented organization of the welfare system by establishing a national Ministry for Welfare and Population Development and nine provincial departments of welfare.

The current social welfare policies and programs in South Africa, mainly includes the social security program which provides cash and other development services for vulnerable groups during unemployment, ill-health, maternity, child-rearing, disability, old age, etc. (White Paper, 1997). The following section provides a historical context of social security programs in South Africa and an overview of the existing social security programs.

2.5.2.1. Social security in South Africa

Social security programs provide a safety net for the poor population and for the mitigation of economic shocks (Green, 2008). Social security can also provide transfers for the most vulnerable population groups such as the elderly, the disabled, and children. Under the Constitution of the Republic of South Africa, Act 108 of 1996, every South African citizen and permanent resident is granted the right to social security (Brockerhoff, 2013). The following section will firstly provide a review of the development of social security in South Africa. Secondly, it will present the existing social security programs in South Africa.

1.5.2.1.1. History of social security in South Africa

The social security grant in South Africa goes back to 1921 when the non-contributory social pensions were given to Whites and Coloureds (Woolard and Leibbrandt, 2010). The Africans were not included in this grant program. In 1943, the pre-apartheid government expanded the welfare program to include 40% of Whites, 56% of Coloureds and only 4% of Africans, most of which targeted relief and pensions for the blind (Van der Berg, 1997). By the end of 1939 the government forwarded different government grant programs such as grants for blinds in 1936 and grants for the disables in 1937 (Woolard and Leibbrandt, 2010). In 1941 the grants were expanded to include non-Whites in 1946. In addition, a war veteran grant in 1941 and grant for large poor families was set up in 1941 and 1947 respectively. Both of these grants were available to Whites only.

In the 1950s (the beginning of the apartheid) 60% of the social old-pensioners were Africans. However, they only received 19% of old-age pension spending (van der Berg, 1997). In the 1970s and 80s the apartheid government tried to include all races in the social benefit program which resulted in a reduction of the amount of White benefits, while African benefits rapidly increased. For the period 1970 to 1993 African pension benefits increased by fivefold, while White pension benefits fell by a third. For the same period the spending on social old-age pensions increased rose from 0.6% of GDP in 1970 to 1.8% of GDP by 1993. According to Brockerhoff (2013), the old-age pension's grant of the apartheid era served as the main component in which other components of the post-apartheid social security system is developed.

Different studies (see Van der Berg 1997; Case and Deaton 1998) indicate that when the democratic government took power in 1994; social security in South Africa was well advanced for a developing country. However, it mainly targeted the Whites and the Coloured (Van der Berg, 1997). The democratic government, based on the 1996 Act 108 Section 27 (1) (c) of the Constitution of the Republic of South Africa, has expanded the already existent, but widely White centred social security system to include other groups of the population (Yu, 2010). Since then the system has expanded significantly, and now includes different grant programs such as disability grants, and child support grants.

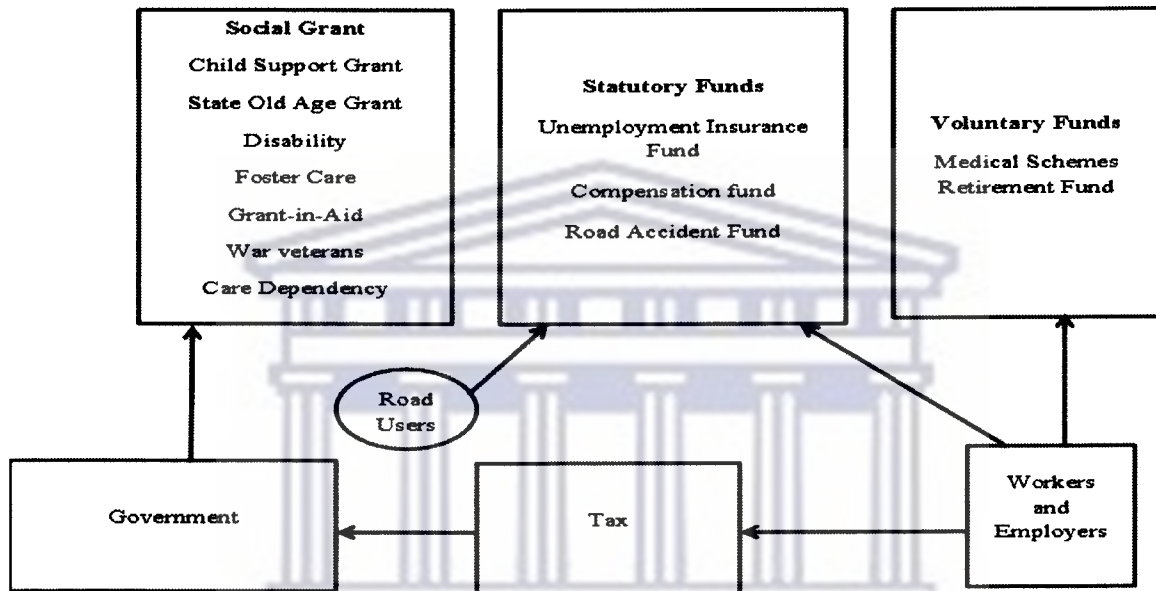
The current social security program in South Africa has two main objectives. The first objective is to reduce poverty among poor and vulnerable people with low income, such as the elderly, children, and people with disabilities who cannot participate fully in the labour market. The second objective is to accelerate economic growth and development by increasing investments in health, nutrition, and education. In addition, the program aims at providing social compensation and redistribution to prevent destitution in the face of shocks (Republic of South Africa, 2010).

1.5.2.1.2. Existing social security programs

The social security system in South Africa mainly focused on alleviating poverty that is rooted due to the legacy of apartheid (Brockerhoff, 2013; Potts, 2012 and Woolard and Leibbrandt, 2010). The system has two main aspects: social insurance and the social assistance (Potts, 2012). The social insurance program is smaller than the social assistance and mainly focus on insurance. The social assistance, on the other hand, focuses on

distribution. In addition to the social assistance and security aspects, the South African social security program includes other kinds of funds for different groups of people. The figure below illustrates the structure of the social security system and its source of funding.

Figure 2.1: Structure of social security system in South Africa



Source: *The evolution and impact of unconditional cash transfers in South Africa* (Woolard and Leibbrandt, 2010: 4)

1. Social assistance

Social assistance or the government grant in South Africa is the oldest social security program (Potts, 2012). It is provided by the government to vulnerable groups such as the disabled, the elderly and children in poor households. Unlike the social insurance program, which is financed through contribution, government grant is financed by taxes (Woolard and Leibbrandt, 2010). Hence, there is no relationship between the contribution and benefit

Currently the major government grant types in South Africa consist of the Old Age Grant (OAG) (over the age of 60), the Disability Grant (DG) (adults that are temporarily or permanently unable to work because of poor health or disability), the Child Support Grant (CSG) (for children under 18 living in low-income households) and the Foster Child Grant (FCG) (for children that have been placed with a foster parent by order of the court) (SASSA,

2014). In addition the grant program also includes Care Dependency Grant (CDG), War Veteran's grant (WVG), and Grant in Aid (GIA). According to Statistics SA (2013:13) report, the total amount of government grants beneficiary increase from 12.7% in 2003 to 30.2% in 2013. For the same period the percentage of households benefiting from at least one type of social grant increased from 29.9% to 45.5%. In the next section, the study will briefly discuss the five primary grant types that the study will focus on.

I. Old Age Grant (OAG)

This grant benefits South African men and women⁴ living in South Africa aged 60 or above (Potts, 2012). It includes both permanent residents and recognised refugees. In May 2014, 2,961,791 people received OAG (SASSA, 2014). Means Test (Max income and assets to be eligible) in 2012/13 is R 4,160 per month or R49, 920 per annum for singles and R831, 600 or R99, 840 per annum for those who are married (Brockerhoff, 2013: 31). The means test for the assets is R831, 600 for singles and R1, 663,200 for those married. The OAG amount of 2012/13 was R 1,260 (Ibid).

II. Disability Grant (DG)

The disability grant targets adults that are temporarily or permanently unable to work because of poor health or disability (Brockerhoff, 2013). The program provides permanent grant for those who are permanently disabled and also provide a temporary grant for individuals who are expected to recover in a short period. The recipient of the grant is expected to be between the age of 18 and 59. The DG has the same value as OAG and is supposed to be replaced by OLG once the individual reaches the age of 60 (Ibid). According to SASSA (2014:1), there were 1,122,334 recipients of DG in May 2014. The means Test in 2012/13 was R 4,160 pm or R49, 920 pa for singles and R831, 600 or R99, 840 per annum for married. The means test for the assets is R831, 600 for singles and R1, 663,200 for married. The amount OAG for 2012/13 was R 1,260 (Brockerhoff, 2013:31).

⁴In the past men became eligible for OAG at the age of 65 whilst women became eligible when aged 60. This gender discrepancy was eliminated by the Social Assistance Amendment Bill, 22 April 2008. Men became eligible for the OAG at the age of 63 by 1 April 2008, at the age of 61 by 1 April 2009 and at the age of 60 by 1 April 2010(Brockerhoff, 2013: 28).

III. Child Support Grant (CSG)

In April 1998 the government introduced the Child Support Grant (CSG) (Potts, 2012). At the time the grant only covered children younger than the age of seven. An amount of R100 (PPP\$37) per month was paid to the primary care giver of the child. By the year 2000, 150,000 children were receiving the grant. Following the establishment of the South African Cabinet which appointed a Committee of Inquiry into Comprehensive Social Security in 2000; the Department of Social Development extended the grant from age seven to age 14 in 2002 (Brockhoff, 2013). In 2010 the CSG included all children born after 1996 would cover them until they reached the age of 18. In May 2014, 11,302,312 grants were approved (SASSA, 2014:1).

IV. Foster Child Grant (FCG)

These grant targets children placed in foster and care and seeks to reimburse individuals for raising foster children (Brockhoff, 2013). The FCG targets children who are at risk of abuse, neglect or exploitation below the age of 18 (or up to 21 on the recommendation of social worker). It is designed to cope with approximately 50 000 children every year. The program is not subject to any kind of means test of the guardian of the child (Ibid). The amount of FCG is R800 per month, which is much higher than the CSG. In May 2014, 530,357 grants were delivered to the guardians of foster children (SASSA, 2014:1).

V. Care Dependency Grant (CDG)

This grant is targeted at children living with disabilities and turns into the disability grant once a child attains the age of 18 (Woolard and Leibbrandt, 2010). CDG can be awarded in addition to the Foster Care Grant in order to avoid discrimination against children living with a disability. Like the disability grant a medical certificate attesting the disability is required. In May 2014, 122, 813 people benefited from this grant (SASSA, 2014:1). The means test for care givers varies over the years. Every month the program provides an amount of R1, 260 for the parents, caregiver or foster parent of children.

According to the World Bank (2009), the government grant in South Africa was higher and more effective than in most developing countries. The coverage of government grants has increased significantly, from just over 2 million beneficiaries in 1996/97 to almost more than 16 million in 2013 (Woolard and Leibbrandt, 2010). More than 80% of the increase is due to

the extension of the Child Support Grant (CSG). In the year 2008/09 alone, 69,449 million Rand was spent on government grant payments (3.2% of GDP). This is much higher than the sub-Saharan African average and more than many European countries' percentage of GDP (Ibid).

2. Social insurance

Social insurance is a means of social security for insuring workers against risk of income loss (Woolard and Leibbrandt, 2010). It is mainly financed through contribution and premiums. Currently, the South African government provides three main social insurance systems- the unemployment insurance fund, the compensation fund and the road accident fund (Ibid). The unemployment insurance fund (UIF) pays benefits to workers in the case of unemployment, maternity, illness, adoption and benefit for dependants of deceased people. Both private formal sector employers and workers contribute to the UIF. During the 2009/10 fiscal year, the UIF paid out benefits amounting to R8.2 billion (Brockerhoff, 2013: 17). On the other hand, the compensation fund provides medical care and income assistance for workers injured or disabled while at work. The last social insurance type is the road accident fund which is paid as compensation to victims of road accidents for damages, medical and funeral costs.

3. Other social security programs

Other social security programs include; retirement fund and medical schemes (Woolard and Leibbrandt, 2010). The retirement fund includes pension and provident funds which are primarily funded by the employer and worker and mainly focus on income-earning households. It also provides security to dependants when a member dies. The medical scheme program aimed at providing essential, efficient and quality healthcare to all citizens of South Africa, regardless of their employment status, socio- economic background.

2.6. Social grant, poverty and inequality

Since the beginning of 1990s, government grant transfer programs have become widespread as a policy framework to reduce poverty and inequality in the developing World (GTZ, 2005). Different international development organizations and NGOs (United Nations 2000; ADB, 2001; ILO 2001; World Bank 2001; DFID 2005), have 'adopted and adapted' social protection strategies and policies. A number of developing countries are also developing and

adopting different social protection policies and programs in their poverty reduction plans (Barrientos, Shepherd and Holmes, 2005). Furthermore, there is growing interest in social protection among development researchers, development research institutes, and higher education.

According to Fajth and Vinay (2008), so far empirical studies on most government grant programmes indicate that their impacts have been positive. Bourguignon (2004:23) also states that income transfers helps beneficiaries to improve their standard of living, nutrition level and accumulation of human capital. Lindert (2006) and Soares et al., (2010) noted the impact of the Bolsa Família Program (BFP) brought about in reducing poverty in Brazil. A study by Skoufias (2001) reported a reduction of the number of people living below the poverty line by 10% due to social protection program in Mexico. A study by Soares et al., (2007: 19) estimated that the social protection program in Brazil, Mexico and Chile had significant contribution to the reduction of Gini-indices. In Asia a study by Samson (2009: 45) discovered that in Indonesia, China and Nepal social cash transfers have predominantly created “gains for those otherwise disadvantaged by economic reforms, helping to build stakeholder support for pro- poor growth strategies”

In Tanzania, a study by Cichon (2006) estimated a one-third reduction of poverty due to the introduction of basic universal old pension benefits and child benefits to school children. Studies by Rachel and Devereux, 2010; Bazezew, 2012 discovered that social transfer programs in Ethiopia are effective in graduating poor households from chronic food insecurity. A cross country study by Kunnemann and Leonhard (2008) also observe that, in Zambia, Namibia and Malawi, social cash transfers have stimulated the growth of local enterprises which led to increase in the income of beneficiaries.

In South Africa, different studies (see- Bhorat et al., 2013; Yu, 2010; Armsrong and Burger, 2009; van der Berg et al., 2008; Ozler, 2007; Devereux, 2002 and Case and Deaton, 1998) indicate that, a social security program has the potential to impact both poverty and inequality. Case and Deaton (1998) believe that South Africa’s wide basket of social cash transfer programmes has impacted greatly in reducing extreme poverty, destitution and inequality among its citizenry. Using the Income and Expenditure Survey of 2005 (IES2005), Burger (2009; 19) found that government grants in South Africa have considerable impact on poverty. However, their study further indicates government grants have less or no usefulness in reducing inequality. This, according to the study is mainly due to “high and rising incomes

of people at the top end of the income distribution”. However, less has been done regarding the impact of policy change, which this study will focus on.

2.7. Theoretical models

2.7.1. Household consumption model

In the traditional unitary household model, household’s expenditure allocation does not depend on the source of income; all that matters is total household income (Beninger and Laisney, 2002). Whether the income source is earned or unearned (such as government grant), household members pool their incomes together to maximize their utility. The literature on social grant (Yu, 2010; Van der Berg et al., 2008 and Ozler, 2007) also argues that the characteristics of government grant receiving households and non-receiving households may be different and thus unobserved factors might determine both patterns of poverty and inequality.

$$\ln HPE_i = \alpha + \beta_1 GT_i + \beta_2 X_i + \varepsilon_i \dots \dots \dots [1]$$

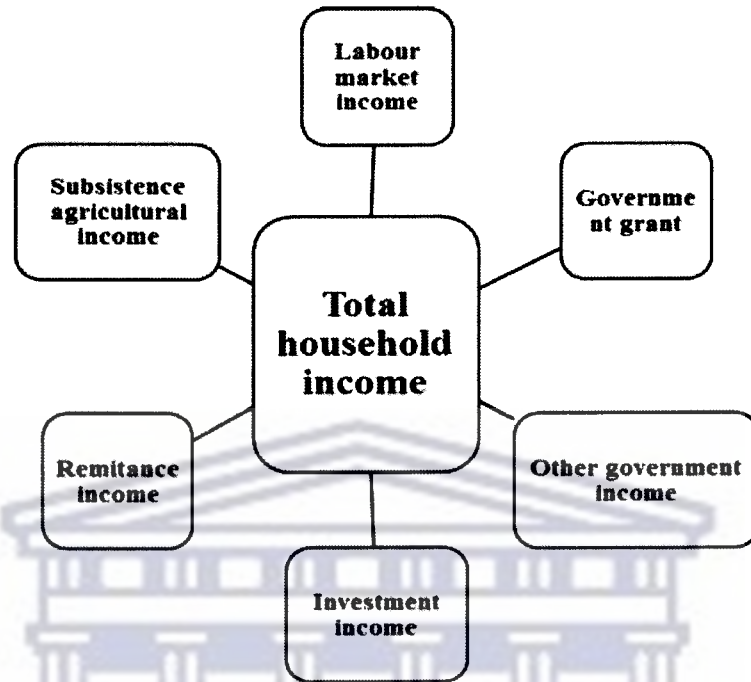
Where,

- According to the National Income Dynamics Study (NIDS) survey, which is the basis of this study, household is defined as “a construct which can be thought of as a ‘roof’ or compound/homestead/stand where individuals are members, residents or both” (Leibbrandt, Woolard and Villiers, 2009). Whereas household members are defined as “living in the household for at least 15 days during the last 12 months or arrived at the household in the last 15 days and the households are now their usual residence.” The household members also must live in the household more than 4 nights a week and share food from a common source with other household members.
- For the purpose of this study the total households’ expenditure includes households’ total food, non-food and rent expenditure for 30 days. The total food expenditure includes identified 32 food items, whilst the non-food expenditure includes 54 non-food items. $\ln HPC$ is the natural logarithm of household per capita expenditure, of a household i . It is calculated by dividing both food and non-food consumption of households by household size. This method is used by statistics SA (2014) poverty report; however, the method is inefficient as it fails to acknowledge the different consumption patterns of adults and children as well as males and females.

- GT_{it} is a government transfer regressor that represents the actual log social transfer received by households (log of 1 plus social transfer, so as to include the households who do not receive social transfer). GT_{it} also represents government-dummy which assumes the value 1 for a household receiving government grant and 0 for a household which does not receive a government grant. Both models are used parallel to compare the impact of government grants on household consumption. GT_{it} includes social transfers (State Old Age Grant, The Disability Grant, The Child Support Grant, The Foster Care Grant, Care Dependency Grant) provided by South African government.
- X_{it} is a set of household characteristics which include household size, gender of the household head (male or female), population group of the household head (Black, Coloured, Indians/Asians, and White), age (years), education status (years), per capita income (total monthly household income from different sources except government grant divided by household size) and geographic type (rural or urban).

In the NIDS dataset, the total income at the household level is composed of different sources- the labour market income, government grant income, other income from government, investment income, remittance income, subsistence agriculture income, imputed rental income. The income of households from the labour market is composed of different individual income generated from the labour market- main and second job income, casual wages, self-employment income, 13th cheque, bonus payment, profit share and help friends income. The government grants household level income which is the interest of this study includes state old age pension, disability grant, child support grant foster care grant and care dependency grant. In addition to government grants, households also received other income from government-unemployment insurance fund and workmen's compensation. The survey also included household income generated from investments by individual members of the household. This includes interest/dividend income, private pensions and annuities and rental incomes. Household income from remittance is other sources of income included in the study. Finally, household income also includes income from subsistence agriculture and value of own production consumed. The figure below illustrates the different sources of households' total monthly income.

Figure 3.1: Household income composition of NIDS dataset



Source: Households income: NIDS technical paper No.3 (Argent, 2009:23)

However, for the purpose of this study the total household income did not include the incomes received from a government grant. The government grant entered the regression as an independent variable.

- The parameter of interest β_1 captures the gain in household welfare, measured by log of household consumption, due to the transfer of cash from the government.

2.7.2. Microsimulation Model

Microsimulation is mainly used to analyse and forecast the impacts of policy changes. Martini and Trivellato (1997:85) define a microsimulation model as “computer programmes that simulate aggregate and distributional effects of a policy...”. Similarly Merz (1994:1) also define microsimulation as “forecasting instrument” that helps make policy decisions by observing individual (person, family or firm) behaviours and draw conclusions that apply to higher levels of aggregation (an entire country). In recent years the use of the microsimulation model expands in both academic and non-academic arena. Baroni and Richards (2007) indicate the growing use of microsimulation model in the public institutions

for policy making. Microsimulation models are being used in different public policy decisions such as: traffic flows, water supply, dental health, tax ...etc.

The study evaluated a counterfactual scenario; no household will receive social transfer. The counterfactual is constructed based on the above log expenditure, government grant income model. The study first estimated the per capita expenditure (PCE) of households using the log model in equation 1 and predicted the value. The predicted value expresses the world where there is a government grant. To estimate a scenario where there is no government grant, the study used the unstandardized coefficient from the estimation (where government grant is an independent variable) and estimating PCE without the government grant variable. Then the predicted value from the two estimations were compared to evaluate the impact of government grant on household expenditure and thereby poverty and inequality.

I. Poverty analysis

The study uses two approaches to assess the impact of government grant on poverty in South Africa. The first is to compare the level of poverty between two scenarios where there is a government grant and when there is no government grant monthly income. Here, the study used the FGT Indices to estimate for head count, depth and severity of poverty. The second is the estimation of the logit regression model to see how government grants, determine the probability of falling into a state of poverty.

1. FGT indices

Foster-Greer-Thorbecke (FGT) measurement of poverty is used to measure the impact on poverty. FGT is based on calculations of poverty measures taking income shortfalls of the poor themselves as weights (Foster et al, 1984). It helps to analyse the implications of social transfer on incidence, depth and severity of poverty.

The Foster-Greer-Thorbecke formula is expressed as;

$$P_{ai} = \frac{1}{n} \sum_{i=1}^q \left(\frac{y_i - z}{z} \right)^a \dots \dots \dots [2]$$

Where P_a is the household poverty level, a is a poverty aversion parameter which, when taking the values of 0, 1 and 2 denotes the household equivalents of the headcount, poverty gap and the squared poverty gap index respectively, n the total number of individuals in

society, q the number of people below the poverty line, z the poverty line, Y_i is the income of the earth individual (predicted consumption level from the consumption per capital based model) (Foster et al, 1984: 761). Both national poverty line⁵ lower-bound poverty line (R443) and upper-bound poverty line (R620) and international poverty line of 2 dollar per day were used to determine the poverty level.

2. The logit regression

The logit regression model was also employed to evaluate the probability that government grant decreases the probability households being in a state of poverty. The study used a logistic regression model where households are classified as either poor or non-poor based on their per capita expenditure. The dependent variable takes a value of 1 for a poor household or 0 for a non-poor household. An upper-bound poverty line of R620 is used to classify households as poor or non-poor. Based on Gujarati (2004) the following specific logit model is specified:

$$P_r(Y_i = 1) = \alpha + \beta_1 GT_i + \beta_2 X_i + \varepsilon_i \dots \dots \dots [3]$$

Where,

- Y_i is the probability that the household will be classified as poor
- GT_i a government grant dummy regressor that represents 1 if a household receives government grant and 0 if the household does not receive remittance.
- X_i is a set of household characteristics which include household size, per capita income (in Rand), geographic type (urban or rural) and characteristics of household head; gender (male or female), population group (Black, Coloured, Indians/Asians, White), age (years), education status (years) and geographic type (rural or urban).

II. Inequality analysis

Furthermore, the study uses the Gini index to evaluate the impacts of social transfer on consumption inequality. The Gini coefficient is a measure of degree of income and consumption inequality (Arnold, 2014). It assumes a value between 0 and 1. One extreme 0

⁵ Include the three national poverty lines adjusted for 2011 CPI price data.

represents perfect income equality and the other extreme 1- represents perfect income inequality.

2.8. Working hypothesis

Based on the theoretical and analytical framework and the vast literature on the subject, the following hypothesis will be tested:

- *Alternative hypothesis (H_1): government grants increase household consumption and decrease absolute poverty and inequality at the household level. The equation here is that if X = government grants [Old Age Grant (OAG); Disability Grant (DG); Child Support Grant (CSG); Foster Child Grant (FCG) Care Dependency Grant (CDG)] happens; there will be an observable change in Y (increase household consumption- decrease in poverty and inequality).*
- *Null hypothesis (H_0): government grants in South Africa do not decrease poverty and inequality at the household level. The equation here is that if X = government grants [Old Age Grant (OAG); Disability Grant (DG); Child Support Grant (CSG); Foster Child Grant (FCG); Care Dependency Grant (CDG)] happens; there will not be an observable change in Y (increase in household consumption- decrease absolute poverty and inequality).*
 - *Sub-hypothesis (I): - Alternative hypothesis (H_1) – If there is no cash transfer from government grants, both poverty and inequality will rise. Null hypothesis (H_0) – no cash transfer from government grants will not result in rising of poverty and inequality.*
 - *Sub-hypothesis (II): Alternative hypothesis (H_1) –Government grants decreases the probability that a household will be in a state of poverty. Null hypothesis (H_0) – Government grants do not decrease the probability that a household will be in a state of poverty.*

2.9. Chapter summary

The chapter presented the theoretical and conceptual framework in which the research is analysed. The chapter reviews the Rawl's theory of justice, which is the theoretical base of

this chapter, followed by the different definitions and measurements of poverty. The chapter expands on the indicators of poverty, poverty lines and poverty measures. The chapter also included an overview of poverty in South Africa by reviewing different academic and non-academic literatures. Furthermore, the chapter reviewed the different measurements and definitions of inequality. Finally, the chapter critically examined the social welfare programs in South Africa, the interplay between poverty, inequality and government grant programs and identified testable hypothesis. The next chapter provides detailed explanation of the research design and methodological approach used in the study.



CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

This chapter discusses the research design. It also expounds on the data types and sources, and the sample design. A discussion on the data analysis methodology is also included. The chapter further includes a review of the study limitations, and an ethics statement.

3.2. Research design

Research design is the essential part of social research (Craig, 2009 and Babie, 2008). According to Creswell (2014), it is the “conceptual structure” that enables us to gather efficient evidence and ensures the evidence obtained answers the initial question as unambiguously as possible.” In the context of this study, the research design outlines the methodology of research, data source and data analysis.

3.3. Research methodology

In social research there are two main traditions of research methods; qualitative and quantitative (Goertz and Mahoney, 2012). Qualitative research focuses on qualitative aspects and use methods that directly interact with people- trying to understand human behaviour and human action (Richards and Munsters, 2010). Quantitative researches, on the other hand, deal with quantitative aspects of measuring variables and testing hypotheses to explain causal relationships (Neuman, 2000). For the purpose of this study quantitative method was used to evaluate the causal relationship between government grants and poverty and inequality.

3.4. Data source

For the purposes of this study the third round of the South Africa National Income Dynamics Study (NIDS) (Wave III) was used. NIDS is a panel dataset survey that began in 2008. The First Wave included 28,000 individuals in 7,300 households selected from 400 Primary Sampling Units across the country (NIDS, 2013). The survey is conducted every two years with the same household members. It provides information about “how households cope with positive or negative shocks, changes in poverty and well-being; household composition and structure; fertility and mortality; migration; labour market participation and economic activity; human capital formation, health and education; vulnerability and social capital” (Ibid: 2). The First Wave (Wave I) was conducted in 2008, while the second round (Wave II)

was carried out in 2010 and third round (Wave III) was collected in 2012. Consequently, the study used the third round of the NIDS data (Wave III)..

3.4.1. Sampling frame

NIDS survey used a stratified; two-stage cluster sample design method to select household representatives (Leibbrandt et al., 2009). In stage one, 400 Primary Sampling Units (PSUs) were selected from statistics SA`s 2003 master sample of 3000. In the second stage, eight non corresponding representatives of houses were systematically drawn within each PSU.

The NIDS sampling frame targets private households in all the 9 provinces of South Africa. It also includes residences in workers` hostels, convents and monasteries. However, the sampling frame excludes collective livings in students` hostels, old age homes, hospitals, prisons and military barracks.

3.4.2. Weights

Two sets of weighting are provided in NIDS dataset: the design weights and the post-stratification weights (Leibbrandt et al., 2009). The design weight is based on the process of two-stage sampling from the statistics SA Master sample. Two sets of calculations were used- the first stage calculated the probability of sampling of each PSU and, second, there is a calculation of the probability of including each specific household in each PSU in the NIDS sample. The latter corrects for household non-response.

3.4.3. Survey Coverage

The NIDS Survey includes four types of questionnaires: Household questionnaires, Adult questionnaires, Child questionnaires and Proxy questionnaires. It includes data on the demographic and socioeconomic characteristics of all of the respondents (Leibbrandt et al., 2009). In addition, data on household food consumption was collected, showing the different food groups purchased and consumed in a week. Other indicators covered by the survey include health, child anthropometry, labour, household characteristics, agricultural holdings, household enterprises, and transfers.

3.5. Data analysis

Data analysis is a part of a research design that helps “to describe facts, detect patterns, develop explanations, and test hypotheses” (Lewis-Beck, 1995:1). The study employs both descriptive and inferential statistics. Descriptive statistics such as tabular, percentages, and frequencies were used to describe demographics, income and consumption expenditure of the sample population. Inferential statistics such as t-test and one way Analysis of variance (ANOVA) were also used to examine if any significant relationship exists between the different characteristics of households and monthly income, government grants and consumption of the households. Furthermore, linear multiple regression was used to estimate the impact of government transfer on household consumption. Finally, Foster-Greer-Thorbecke (FGT), logistic regression and Gini coefficient were used to estimate the impact of government grant on poverty and inequality. Both STATA 12 and DASP 2.3 software packages were employed to analyse the data.

3.6. Ethics statement

This study used secondary data and therefore not included any human subjects. It followed the NIDS procedure to use the data. The researcher takes the responsibility of ensuring that all the survey data were treated sensitively and confidentially. The researcher also undertakes to submit the research findings to all relevant bodies.

3.7. Chapter summary

The chapter thoroughly discussed the methodology applied to answer the main research questions. The study uses quantitative research methods to simulate the impact of government grant on poverty and inequality using NIDS wave three. NIDS is a national representative panel data that include information about household well-being, composition and structure. The chapter also presents the methodology used in the study. Both descriptive and inferential statistics methods are used. Inferential statistical methods such as; t-test and one way ANOVA is used to identify the relationship between household income and consumption with household characteristics. Multiple regression methods are used to estimate the impact of government grant on households' consumption thereof poverty and inequality. The next chapter presents data, analysis and discussion.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION OF RESULTS

4.1. Introduction

This Chapter presents the results of the data analysis. It begins with a presentation of descriptive statistics on household demography and characteristics, followed by an estimation of household consumption using multivariate regression. The chapter also presents the different scenarios in which a change in the social grant affects poverty and inequality using FGT and Gini coefficient respectively, and gives interpretations thereof.

4.2. Descriptive Statistics

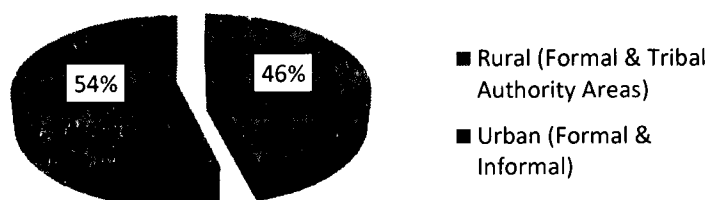
4.2.1. Household demography and characteristics

The National Income Dynamics Study (NIDS) is the first national panel study in South Africa and covered the whole country and was therefore inclusive of 9 provinces. According to the 2011 census, South Africa has a population of 51,770,560 people and 14,450,161 households. The national representative NIDS Wave 3 includes 10,236 households and 31,994 individuals in both rural and urban areas. In the following section, the study presents the different characteristics of households in the survey.

1. Geographical type

Based on the 2011 census, 56% of the households in the NIDS survey live in urban areas that include both formal and informal. The rest (46%) lives in rural areas that include formal and tribal authority areas. This is similar to the South African 2011 census, which estimated that 62% of South African live in urban areas and the rest 38% in rural areas. The graph below shows the distribution of households based on their area of residence.

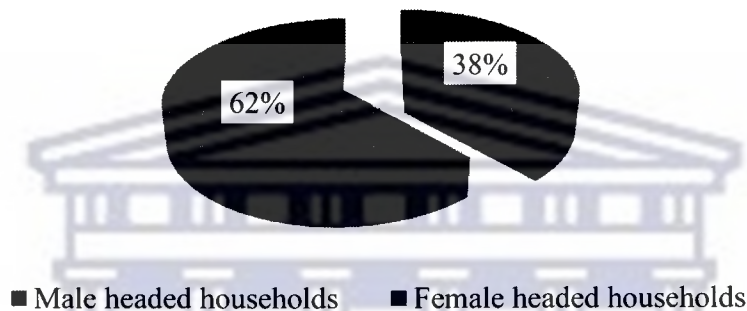
Figure 4.1: Distribution of households by geographic type



2. Gender of Household heads

The NIDS survey includes 8,039 household heads of which 38% of the households are headed by male. The rest (62%) is headed by a female member of the household. However, the South African 2011 census found that approximately six out of every ten households were headed by men.

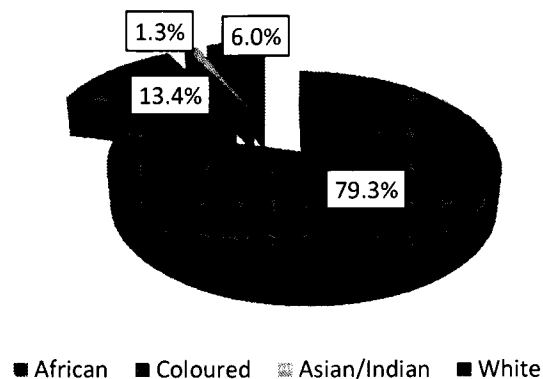
Figure 4.2: Distribution of households by gender of the household head



3. Population group

South Africa is composed of different racial groups. According to the 2011 census, the country's population stands at 51.77 million. Africans (Black) make up 79.2% of the population; Coloured and White people each make up 8.9% of the total; and the Indian/Asian population 2.5%. "Other" population group makes up 0.5% of the total population. In the NIDS survey, 79% of the total participating households are African, 13% of the households are Coloured, 6% of the households are White and the rest 1% of the households are Asians/Indian. The figure below shows the distribution of households by population group.

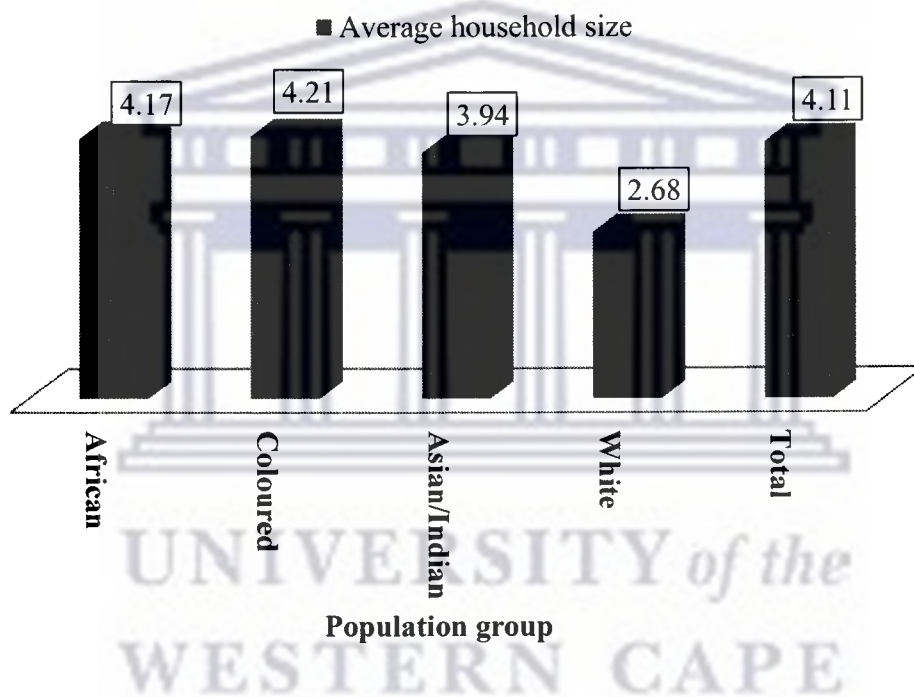
Figure 4.3: Distribution of households by population group



4. Household size

Household size is the main factor of household consumption and source of income. The graph below shows the average household size is 4.11 members. Coloured households have a higher number of household members with an average of 4.21 members per household, followed by African households with 4.17 and Indian/Asian households with 3.94 members. White households have a lower household size with an average of 2.68 members per household.

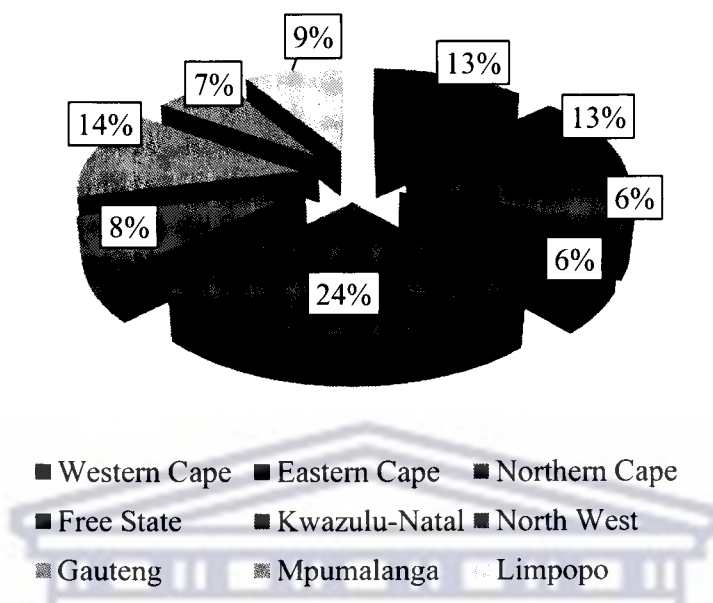
Figure 4.4: Distribution of households by population group and household size



5. Distribution of households by provinces

NIDS survey covers all the 9 provinces in all of South Africa. 25% of the households in the country live in Kwazulu-Natal, 14% lives in Gauteng, 13% in Western Cape, 13% Eastern Cape, 9% lives in Limpopo, 8% in Northern West, 7% of the households live in Mpumalanga and both Northern Cape and Free Sate each comprise 6% of the households in the survey. The graph below shows the distribution of households by provinces.

Figure 4.5: Distribution of households by provinces



4.2.2. Household income

The survey found that households generate income from different sources such as the labour market, government grants, other incomes from government, investment, remittance, subsistence agriculture and rental. All the income sources were summed to generate total household income. Table 4.1 shows the differences in average income between the different population groups. The result shows average monthly income from government grants for Coloured households is the lowest at R1, 323 followed by African households at R1,333. The monthly average household income from government grants for White households is R1,891 and R1,818 for Indian/Asian households.

When comparing total household income by different population group, African households earn the lowest average total household income, followed by Indian/Asian household and Coloured households. Households headed by African earn the lowest average monthly income. White households earn close to five times what African households earn on average per month. The study by Finn and Leibbrandt (2013) in 2008, found that the per capita income of the White household was 8 times higher than the African households. The high income gap between the two population groups shows the income inequality in the country. The finding from the survey is similar to the findings of the 2011 South African census where White households earn higher income, with R30, 427 average monthly household income, followed by Indians/Asians households with average monthly of R20,961, Coloured headed

households at R9,347 while households headed by African with a monthly average income of R5,051 (Census, 2011). The table below shows the different average household monthly income by population group.

Table 4.1: Average household income by population group (in Rand)

Income types	Average income by population group				
	African	Coloured	Asian/Indian	White	Total
Average monthly government grant	1,333	1,321	1,658	1,959	1,342
Average monthly total household income	4,661	6,639	18,505	23,316	5,817
Average total household income without government grant	3,869	5,869	17,774	22,970	5,045
Average per capita income without government grant	1,432	1,664	5,840	9,316	1,824

In addition to comparing household monthly income by population group, it is also important to make sense of the proportion of household income that is comprised of government grant to total monthly income. To do this the study divided the total household income into four quartiles: poor, low income, middle income and rich. The result shows that the poorest African (68%), Coloured (65%) and Asian/Indian (70%) households receive more than half of their income from government grants. Low income African (56%) and White (64%) households also derive more than half of their total household income from the government grant, while low income Coloured (44%) and Indian/Asian (43%) derive their total household income from monthly government grants. The proportion of government grant to total household income reduces for middle income and richest households. This is expected as the government grant programs are established to help low income households.

In a general comparison, African households that receive a monthly government grant derive more than half of their total income from government grants (51%). Whereas, Coloured

Indian/Asian and White government grant receiving households derive 28%, 26% and 25% of their monthly total income from government grant, respectively.

Table 4.2: Proportion of government grant income to total household monthly income by population group and income group

4 quartiles of total household monthly income	Proportion of government grant to total monthly income by population group				
	African	Coloured	Asian/Indian	White	Total
Poor	68%	65%	70%	-	68%
Low income	56%	44%	43%	64%	54%
High income	38%	32%	31%	37%	37%
Richest	18%	17%	14%	14%	17%
Total	51%	36%	26%	25%	49%

A cross comparison of household income by gender of the household head shows that for all income types the average monthly income of female headed households is less than that of male headed households. The difference for all the types of income between the male and female headed households is statistically significant at 99% significance level.

Table 4.3: Average household monthly income by the gender of household head (in Rand)

Income types	Gender of the household head		t-value
	Male	Female	
Average monthly government grant	1,329	1,185	2.9722*
Average monthly total household income	6,316	4,632	6.1182*
Average total household income without government grant	5,914	3,864	7.3663*
Average per capita income without government grant	3,105	1,512	12.55921*

* Statistically significant at 1% level.

The income of households also differs across the different geographic types. Households living in urban areas earn higher amounts of average monthly total income and average per

capita income than rural ones. Rural households, on the other hand, receive higher monthly government grant than households in the urban areas. The differences in all the types of income across the rural and urban households are statistically significant at 99% significance level.

Table 4.4: Average monthly household income by geographic type (in Rand)

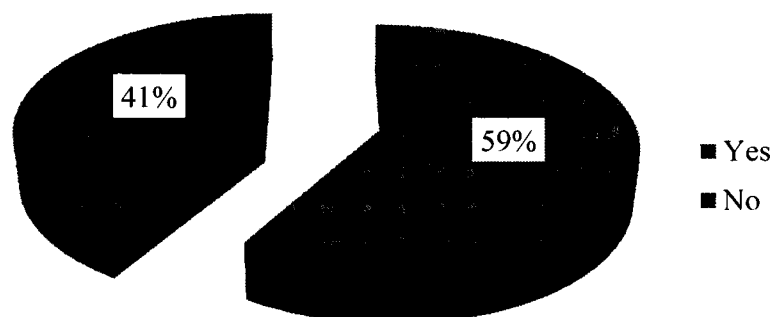
Geographical type	Average monthly total income minus the government grant	Average monthly per capita income minus the government grant	Average monthly government grant
Rural	3,038	952	1,445
Urban	6,712	2,571	1,205
t-value	16.9015*	19.9197*	7.9416*

* Statistically significant at 1% level.

4.2.3. Government grants

The Government grants included in the NIDS dataset is comprised of 5 main government grant programs: States (RSA) Pension Grant, Child Support Grant, Disability Grant, Foster Care Grant, Care Dependency Grant. 59% the households in the survey were found to have received one or two types of government grant while 41% received no government grant at all. The figure below shows the distribution of households by the recipient of a government grant.

Figure 4.6: Distribution of households by government grants



4.2.3.1. Government grant by household characteristics

1. Gender of the household head and population group

The mean comparison of government grant by different population group and gender of the household head indicates that for African, Coloured and White households, male headed households received, on average, a higher government grant than female headed ones. For Indian/Asian households, female headed households on average received a higher government grant than male headed ones. The differences between female and male headed households among African, India/Asian and White households are statistically insignificant at the 90% confidence interval, while the differences for the Coloured households are statistically significant for at the 1% level of significance.

Table 4.5: Average monthly government income by population group and gender (in Rand)

	Africans		Coloured		Indian/Asian		White	
	Male	Female	Male	Female	Male	Female	Male	Female
Average government grant	1,284	1,181	1,412	1,086	1,230	1,360	2,400	2,131
t-value	1.9383*		3.1615**		0.3168*		0.2372*	

[*statistically insignificant at 10% level] [**statistically significant at 1% level]

2. Geographic type

As shown in the figure below, 42% of the households that receive a government grant are located in a rural area which includes both formal and tribal authority areas. The rest (58% of the households reside in formal and informal urban areas.

Figure 4.7: Distribution of government grant receiving households by geographic type



3. Provinces

KwaZulu-Natal holds 29% of the households that receive government grants, followed by Eastern Cape and Western Cape, with 14% and 10%, respectively. North West province has the lowest number of households that receive government grants. In terms of the average government grant received, KwaZulu-Natal, Limpopo and Western Cape received the highest mean government grant. Gauteng has the lowest average government grant monthly income. The table below shows average household government grant in all the 9 provinces.

Figure 4.6: Distribution of household monthly government grant income by province (in Rand)

Provinces	Mean	Std. Dev	Percentage
Western Cape	1,353	1316	10%
Eastern Cape	1,366	959	15%
Northern Cape	1,272	824	6%
Free State	177	1083	6%
KwaZulu-Natal	1,524	1049	29%
North West	1,257	873	8%
Gauteng	955	985	8%
Mpumalanga	1,118	789	6%
Limpopo	1,374	921	11%

4. Age group

The distribution of government grants by the age of the recipient household member shows that 16% of the grant is received by households with a household member above the age of 65, followed by 13% between ages of 20-24 and 11% between the ages of 25-29. Households with a member between the ages of 60-64 also received a higher average amount of grant compared to other age groups. Households with a member between the ages of 40-44 received lower average amounts of grant. The table below shows the average household monthly income from government grant by age group.

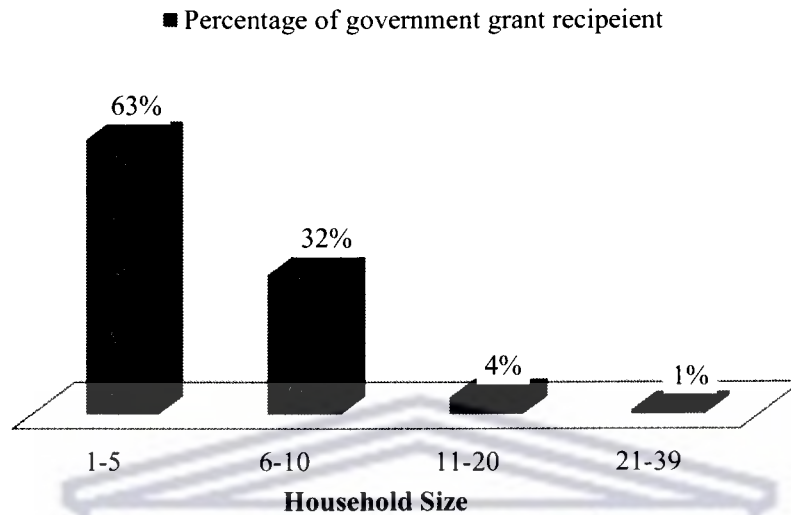
Table 4.7: Household monthly government grant by the age group of household head (in Rand)

Age group	Mean	Std. Dev	Percentage
Under 15	1,149	901	5%
15-19	1,238	1007	4%
20-24	1,234	1048	13%
25-29	1,122	1141	11%
30-34	1,156	1065	9%
35-39	1,094	830	9%
40-44	1,168	1046	7%
45-49	1,160	924	7%
50-54	1,183	797	6%
55-59	1,310	849	6%
60-64	1,931	885	7%
65 and over	1,886	988	16%

5. Household size

In the figure below, 63% of government grants receiving households have a family size of between 1 and 5. 33% of the households receiving grants had household sizes of between 6 to 10 members, while households with sizes of between 11 and 20 only receive 4% of the government grant followed by the lowest 1% for households with household numbers between 21 and 39. The graph below shows the distribution of government grant by the household size.

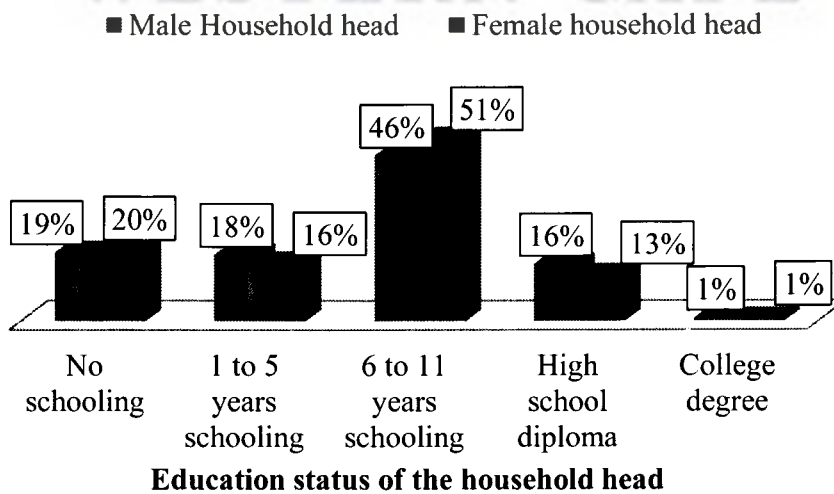
Figure 4.8: Distribution of household monthly income from government grant by household size



6. Education status of the household head

The graph below shows the distribution of social grants by household head education status. The result shows that households with a household head who has between 6 and 11 years of education received a higher grant than other education status followed by no schooling. Households with a household head with a college education level received the least social grant.

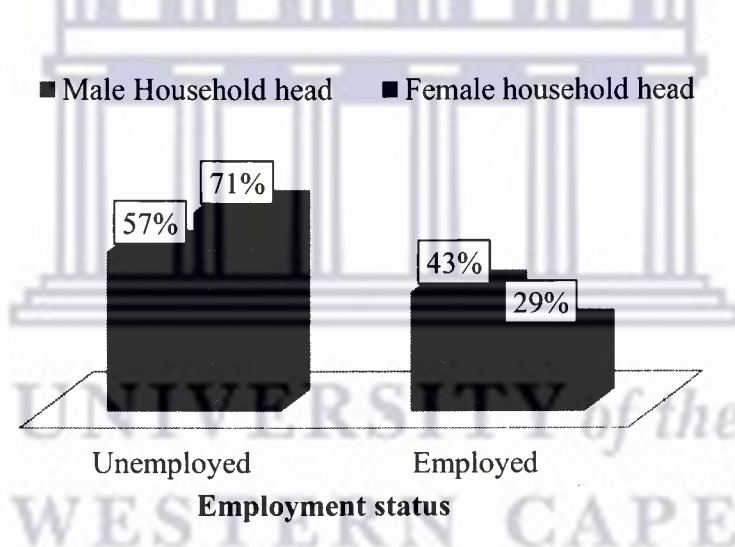
Figure 4.9: Distribution of household monthly income from government grant by education status of the household head



7. Employment status of the household head

The employment status question in NIDS questionnaire was coded using the International Labour Organization's (ILO) definitions and assigned respondents to one of the following categories - Employed, Unemployed (strict definition), Unemployed (broad definition) and Not Economically Active. For the purpose of this study, employment status was coded as employed and unemployed (including unemployed strict definition, unemployed broad definition and not economically active). The result shows households with a female unemployed household head received a higher amount of the government grant compared to their male counterparts. Households with employed male household head received a higher amount of government grant compared to their female counterparts.

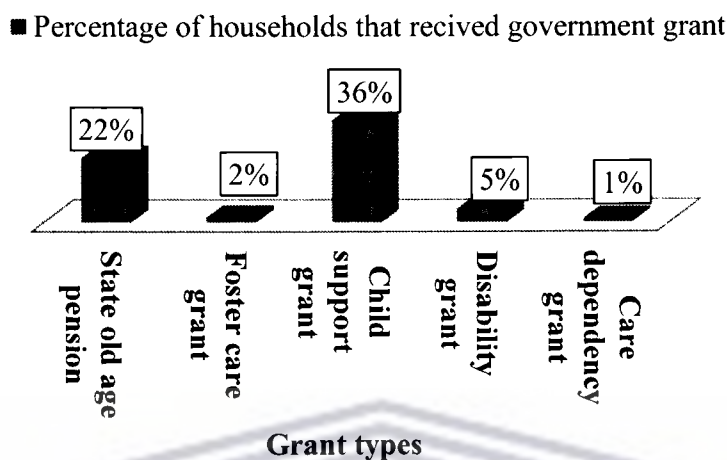
Figure 4.10: Distribution of household monthly government grant by gender and employment status of the household head



4.2.3.2. The five government grants

This study mainly focuses on the five grants offered by the government of South Africa: Old Age pension, Child Support Grant, Disability Grant, Child Foster Grant and Independency Grant. Child support and Old age pension grant are the most common grants offered by the South African government. The graph below shows that out of the total 4,074 households that receive a government grant, 36% of them received the child support grant while 22% received the Old Age Grant. Whereas 5% received the disability grant, 2% received foster care grant and 1% received the care dependency grant. In the next section the study evaluates the distribution of the five different grants by population group and gender of the household head.

Figure 4.11: Distribution of households by government grant type



1. State (RSA) Old Pension Grant

The State Old Age Pension provides support for men aged over 65 years and women aged over the age of 60. The cross tabulation between the racial group of the households and State Old Age Pension shows on average African households receive R1, 181, which is the highest, compared to R1, 173 received by Coloured households, R1, 180 received by Asian/Indian households and R1, 155 received by White households. The one way Analysis of variance (ANOVA) test shows there is a statistically insignificant difference in the mean Old Age Pension between the different racial groups at 90% confidence level.

Table 4.8: Average household monthly Old Age Pension by population group (in Rand)

Grant Type	Average monthly income from OAP by population group				Total	P- value
	African	Coloured	Asian/Indian	White		
Old Age Pension	1,180	1,179	1,179	1,149	1,179	0.5924*

[*statistically insignificant at 10% level]

The Old Age Pension also differs between the male and female headed households. Male headed households receive more Old Age Pension Grant than female headed households. The t-test, however, shows there is a statistically insignificant difference in average state pension grant received by male and female headed households at 90% confidence interval.

Table 4.9: Average household monthly Old Age Pension by gender of the household head (in Rand)

Grant type	Gender of the household head		t-value
	Male	Female	
State Old Age Pension	1,182	1,181	0.1763*

*[*statistically insignificant at 10% level]*

2. Child Support Grant

The Child Support Grant (CSG) provides support to families with children under the age of 18. The CSG was first introduced in 1998 and for the past 14 years, the grant program has developed into one of the most comprehensive social protection systems in the developing world. According to the NIDS survey, White households received an average of R2, 158, which is almost 5 times higher than other households from different racial groups. Coloured households receive a lower amount of CSG compared to other groups. The one way ANOVA test shows there is a statistically significant difference in the mean CSG across the different racial groups at the 1 % level of significance.

Table 4.10: Average household monthly Child Support Grant by population group (in Rand)

Grant Type	Average monthly income from CSG by population group				Total	P- value
	African	Coloured	Asian/Indian	White		
Child Support Grant	546	479	508	2,158	544	0.0000*

*[*statistically significant at 1% level]*

The amount of CSG households received also differs based on the gender of the household head. On average, female headed households received a higher amount of CSG than male headed households. The t-test result shows, these differences are not statistically insignificant difference at the 90% of confidence level.

Table 4.11: Average household monthly Child Support Grant by gender of the household head (in Rand)

Grant type	Gender of the household head		t-value
	Male	Female	
Child Support Grant	465	563	0.5265*

[*statistically insignificant at 10% level]

3. Disability grant

The Disability Grant (DG) provides support to adults (both male and female) with disabilities. On average Asian/Indian households with a member with a disability received a lower amount of the disability grant followed by Coloured households, which is lower than African households. White households received the highest amount of DG compared to other racial groups. The differences between the different population groups are statistically insignificant at the 90% confidence level.

Table 4.12: Average household monthly Disability Grant by population group (in Rand)

Grant Type	Average monthly income from DG by population group				Total	P-value
	African	Coloured	Asian/Indian	White		
	Disability Grant	1,244	1,171	1,160		

[*statistically insignificant at 10% level]

Male headed households received a higher amount of CSG than female headed households. These differences are statistically insignificant at 90% confidence level.

Table 4.13: Average household monthly Disability Grant by gender of the household head (in Rand)

Grant type	Gender of the household head		t-value
	Male	Female	
Disability Grant	1,445	1,192	1.6281*

[*statistically insignificant at 10% level]

4. Child Foster Grant

Foster Child Grant (FCG) provides support to families with children, below the age of 18, in foster care. White households, with a foster child received an average of R1, 500 followed by Coloured households, who received more than African households. From the survey, there are no Asian/Indian households with a foster child,. The differences in average grant received by different population group are statistically insignificant at 90% confidence level.

Table 4.14: Average household monthly Child Foster Grant by population group(in Rand)

Grant Type	Average monthly income from FCG by population group				Total	P- value
	African	Coloured	Asian/Indian	White		
Foster Child Grant	9,98	1,062	-	1,500	1,011	0.5842*

*[*statistically insignificant at 10% level]*

Male headed households receive a higher amount of FCG than female headed households. The difference in monthly received FCG amount is statistically insignificant at 90% confidence level.

Table 4.15: Average household monthly Child Foster Grant by the gender of household head (in Rand)

Grant type	Gender of the household head		t-value
	Male	Female	
Foster Child Grant	1,445	1,192	1.6281*

*[*statistically insignificant at 10% level]*

5. Care Dependency Grant

The Care Dependency Grant (CDG) provides additional support to families with children, below the age of 18, with disabilities. From the NIDS survey Asian/Indian households do not receive any form of the CDG. African households receive the highest average monthly amount of CDG, followed by White households which received higher monthly CDG than Coloured households. The difference in monthly CDG by the different population grant is statistically significant at 90% significance level.

Table 4.17: Average household monthly Care Dependency Grant by population group (in Rand)

Grant Type	Average monthly income from CDG by population group				Total	P- value
	African	Coloured	Asian/Indian	White		
Care Dependency Grant	1,139	562	-	650	1,023	0.0036*

*[*statistically insignificant at 10% level]*

Male headed households receive a higher amount of CDG than female headed households. The difference in monthly received CDG by gender of the household head is statistically insignificant at 90% confidence level.

Table 4.18: Average household monthly Care Dependency Grant by gender of the household head (in Rand)

Grant type	Gender of the household head		t-value
	Male	Female	
Care Dependency Grant	893	1,131	0.8308

*[*statistically insignificant at 10% level]*

4.2.4. Household Expenditure

Total Household expenditure is composed of four main sources- food expenditure, non-food expenditure, rental expenditure and imputed rent for owner-occupied houses. The average total household monthly expenditure for African households is lower than Coloured households (however, this is lower than the Indian/Asian households which also smaller than White households). Average total monthly expenditure for White households is more than five times higher than that of African households. This indicates the existing expenditure inequality between different population groups in the country. The table below shows the different expenditure types by population group.

Table 4.18: Average household monthly expenditure by population group (in Rand)

Income types	Population group				Total
	African	Coloured	Asian/Indian	White	
Average monthly food expenditure	855	1,261	2,579	2,616	998
Average monthly non-food expenditure	1,692	2,384	9,172	10,323	2,209
Average monthly rental expenditure	559	550.	2,468	3,286	732
Average total monthly household expenditure	3,186	4,511	15,034	17,700	4,069
Average per capita household monthly expenditure	1,155	1,345	4,937	7,276	1,465

Household expenditure also differs based on the gender type of household head. Male headed households spent more on food and non-food product as compared to female headed households. Whereas female headed household on average spent more than male headed households on rent. The differences between male and female headed households for monthly total, food, non-food and per capita expenditure are statistically significant at 99% significance level. The difference in rental expenditure between male and female headed households is statistically insignificant.

Table 4.19: Average household monthly expenditure by gender of the household head (in Rand)

Income types	Gender of the household head		
	Male	Female	t-value
Average food expenditure	969	889	2.6056*
Average non-food expenditure	2,506	1,772	4.8417**
Average monthly rental expenditure	663	711	0.7445*
Average total household expenditure	4,393	3,457	4.7060**
Average per capita household expenditure	2,266	1,370	9.4213**

[*statistically insignificant at 10% level] [**statistically significant at 1% level]

Households living in the rural areas on average spent a lower amount on food, non-food and rent compared to households living in urban areas. This could mainly be, because the fact that many rural households produce most of their food for consumption, the cost of living in rural areas is cheaper than urban areas and that most rural households own assets such as a house. The monthly expenditure differences between households in the rural and urban areas are statically significant at 99% significance level.

Table 4.20: Average household monthly expenditure by geographic type (in Rand)

Geographic type	Average monthly food expenditure	Average monthly non-food expenditure	Average monthly rent expenditure
Rural	863	1,288	405
Urban	1,118	2,995	816
t-value	11.6981*	14.0366*	5.4657*

*[*statistically significant at 1% level]*

Household expenditure also differs across the different province that households reside in. Households living in the Western Cape and Gauteng on average spent more on food, non-foods and rents per month than other households living in other provinces. Households living in Limpopo spent less on food, while households living in KwaZulu-Natal spent less on non-food items and households living in the Eastern Cape spent less on rent compared to households in other provinces.

Table 4.21: Average household monthly expenditure by province (in Rand)

Provinces	Average monthly food expenditure	Average monthly non-food expenditure	Average monthly rent expenditure
Western Cape	1,402	3,423	917
Eastern Cape	856	1,346	416

Northern Cape	1,078	2,774	588
Free State	883	2,128	512
KwaZulu-Natal	910	1,401	587
North West	878	2,130	631
Gauteng	1,115	3,260	964
Mpumalanga	1,036	2,625	542
Limpopo	834	1,705	652

4.3. Econometric analysis

Gujarati (1988:1) simply explains Econometrics as economic measurement. Tintner (1968: 74) defines econometric analysis as “the result of a certain outlook on the role of economics, consists of the application of mathematical statistics to economic data to lend empirical support to the models constructed by mathematical economics and to obtain numerical results”. For Goldberger (1964:1) Econometrics is “the social science in which the tools of economic theory, mathematics, and statistical inference are applied to the analysis of economic phenomena”. For the purpose of this study econometric analysis is referred as the use of statistic, mathematics and economics to analyse the impact of government grants on household expenditure, poverty and inequality.

The study estimates the Per Capita Expenditure (PCE) based on the specifications discussed in chapter two. First, the study presents the summary results of the regressions using Ordinary Least Square (OLS) method. The PCE in an estimation 1 (E1)- the remittance-dummy model was used and for estimation 2 (E2) the government grant income model was used. All estimation methods used standard errors that are robust to correct for heteroskedasticity and intra-individual autocorrelation.

4.3.1. Estimation of household consumption

As described in chapter two, household consumption is affected by the amount of government grant transfer to the household, income of the household, household size and other characteristics of the household head. The study identifies 7 explanatory variables for estimation: monthly government grants (measured in Rand), monthly income of the household without the government grant (measured in Rand), number of household members, gender of the household head (male or female), racial group of the household head (African, Coloured, Asian/Indian or White), age of the household head (measured in years), education status of the household head (measured in number of years spend in class) and geographic type the households live (rural or urban). The first Estimation (E1) uses the government-dummy model which assumes the value 1 for a household receiving government grant and 0 for a household which does not receive a government grant. The second estimation (E2), uses the natural logarithm of one plus government grant income to include non-receiving households. The table below shows the results of the estimation.

Table 4.22: Estimation of household per capita expenditure

	Government grant dummy Model (E1)		Social grant income Model (E2)	
	Coefficient	Robust standard errors	Coefficient	Robust standard errors
log government grant	0.063*	0.021	0.021*	0.003
log household per capita income	0.345*	0.009	0.359*	0.010
log household size	-0.434*	0.016	-0.442*	0.016
Household head characteristics				
<i>Gender of the household head</i>	-0.023**	0.021	-0.032**	0.021
<i>Coloured dummy</i>	0.095*	0.029	0.088*	0.029
<i>Asian/Indian dummy</i>	0.796*	0.085	0.784*	0.085
<i>White dummy</i>	0.713*	0.049	0.714*	0.050
<i>Household head age</i>	0.010*	0.0007	0.009*	0.0007

<i>Household head education in years</i>	0.050*	0.002	0.050*	0.002
Geographic type dummy	0.139*	0.032	0.140*	0.021
Constant	3.865*	0.080	3.773*	0.083
<i>Number of observations</i>	4,290		4,290	
<i>Prob>F</i>	0.0000		0.0000	
<i>R-squared</i>	69.1%		69.3%	

Source: Own calculation using NIDS wave III data 2012.

[*statistically significant at 1% level] [**statistically insignificant at 10% level]

The regression result includes 4,290 households that received government grants and households that did not receive government grants. The number of households reduced due to the high number of missing values in some of the identified variables. Both models are statistically significant for predicting the change in household per capita expenditure (prob>F= 0.0000). This means that both models are able to distinguish between the various explanatory variables used for estimation. The government grant dummy model (E1) predicts 69.1% of the change in household expenditure, while the government grant income model (E2) predicts 69.3% of the changes in household Per Capita Expenditure (PCE). This value of R-squared is considered as good when one uses cross-sectional analysis. Both models were also analysed for possible presence of multicollinearity using the VIF (refer Annex I and II). The result confirms multicollinearity is not a concern in the models.

The government grants regressor represents either a dummy for whether a household received government grants or the natural log of government grant income received (log of 1 plus government grant income, so as to include the households who do not receive government grants). According to the result, a 100% change in government grants brings a 2.1% change in PCE for the E2 model. The results of the E1 model show households that receive government grants have a 5.1% higher per capita consumption than households who do not receive government grants. The result is significant at the 1% level of significance. The smaller coefficient values may suggest that the estimation might not capture the full welfare effect of a government grant. A similar study by Ravski (2010:13) using the first wave of the NIDS survey shows a positive significant impact of government grants on household monthly food expenditure.

Both the natural logarithm of household per capita income and household size has a significant impact on households' per capita expenditure at 1% level of significance. The total household income in the regression includes different income sources, except the government grant income. A 100% change in total household monthly income without government grant results in a 34.5% change on PCE in E1 model and 35.9% change on PCE in E2 Model. Household size, on the other hand, has a negative impact on monthly household PCE. A 100% changes in household size results a reduction of household monthly PCE by 43.4% in E1 and 44.2% in E2 model.

A study by Meng, Florkowski and Kolavali (2012) and Jolly, Awauah, Fialor, Agyemang, Kagochi and Binns (2008) indicates that the social-demographic characteristics- age, gender, education and race of households and household expenditure is statistically correlated. Duflo (2003) and Lund (2006) found the gender of the household head as the main indicator of change in household food consumption in South Africa. The regression result shows the household consumption reduces by 2.3% when the household head is female for E1 model. For E2 model the per capita expenditure reduces by 3.2%. This indicates female headed households have lower per capita consumption than their counterpart male headed households. However, the gender of the household head is statistically insignificant at 10% level of significance.

For the race variable, the coefficients of the Coloured dummy in the E1 model shows there is an added effect of R0.095 over the omitted category (Africans) while for the government grant income model there is an R0.088 added effect of over African households controlling for other variables. This means that Coloured households spent R0.095 more than African households for E1 specification and R0.088 more for E2 specification. Similarly, those classified as Asian\Indian households monthly spent R0.796 more than Africans for E1 and R0.784 for E2. White households spent R0.713 more per month compared to Africans households for E1 and R0.714 for E2 other variables remain constant.

Thus, in general, the race dummies show that the impact of race on household per capita consumption in comparison to the omitted category (African households) other things remaining constant. For the entire race dummies the result is statistically significant at 99% confidence level. Hence, it is possible to conclude that in South Africa race is a predictor of change in household consumption.

The age and education level of the household head are also some of the demographic characteristics used in the models. The household head age has a positive impact on household per capita expenditure. A 1 year increase in household age results in a R0.01 change in household per capita expenditure for E1 model and a R0.009 increase for E2 model. This means households with older household head spend more per capita compared to younger households. As the age of the household increases, the household per capita expenditure also increases. In similar direction a 1 year increase in education year of the household head results in a R0.05 increase in household per capita expenditure in E1 model and R0.14 in E2 model. The more the household is educated, the more the household spends on food, rent and non-food items. Both household age and the number of years of education of the household head are statistically significant at 99% confidence level.

The geographic type dummy has a value of 1 for urban areas and 0 for rural areas. Urban areas in the survey include both formal and informal areas. Rural areas include formal and tribal authority areas. The result of the regression shows households living in urban areas have added effect of R0.13 PCE than rural households living in the rural areas of the E1 model. In the E2 model households living in urban areas have the added effect of R0.14 more than households living in rural areas.

4.4. Microsimulation analysis

In this section the study presents the impact of government grant by simulating a scenario- no household receives any monthly government grant. The study uses the government income model (E2) used in the previous section to estimate household monthly per capita expenditure without the government grant. The counterfactual is constructed by taking the unstandardized coefficient from the E2 model and estimating for PCE without the government grant. Then the predicted value from the simulation model is compared to the baseline value (the predicted value of E2 model) to evaluate the impact of government grant on household expenditure and thereby poverty and inequality. The table below shows the mean comparison of household PCE for predicted value from the E2 model and the simulated value. The result shows on average household monthly PCE decrease by 3.8% when there is no income from government grants (see- table 4.23). In the next section the study evaluates the impact of government grant on poverty and inequality using the baseline and simulated values.

Table 4.23: Impacts of government grant on household expenditure (simulation based on government grant income model (E2) (in Rand)

	Baseline	Simulated value	% change
Household monthly expenditure	1,350	1,298	-3.8%

Source: Own calculation using NIDS wave III data 2012.

4.4.1. Impact of government grant on poverty

Poverty for the purpose of this study is measured using household monthly per capita expenditure/consumption. The study uses two approaches to assess the impact of government grant on poverty in South Africa. The first is to compare the level of poverty between two scenarios where there is a government grant and when there is no government grant monthly income. Here, the study uses the FGT index to estimate for head count, depth and severity of poverty.. It uses both national poverty line (the upper-bound poverty line (UPL) (R620) and the lower-bound poverty line (LPL) (R433) per person per month (in 2011 prices) and international poverty lines (\$2 per day). Using the software DASP Stata Package Version 2.3, the head count, depth and severity of poverty were calculated for households in the survey and decomposition was also made between the different geographic type, population group and gender of the household head. The second is the estimation of the Logit regression model to see how government grants, determine the probability of falling into a state of poverty. The table below presents the DASP FGT index output.

Table 4.24: Impacts of government grant on poverty (simulation based on income model)

Poverty measures	Baseline	Simulated vale	% Change
National upper bound poverty line (R620)			
<i>Head count (P0)</i>	35.7%	40.1%	4.4%
<i>Poverty Gap (P1)</i>	14.2%	16.8%	2.6%
<i>Poverty Severity (p2)</i>	7.5%	9.3%	1.8%
National lower bound poverty line (R433)			

<i>Head count (P0)</i>	22.2%	25.9%	3.7%
<i>Poverty Gap (P1)</i>	7.8%	9.7%	1.9%
<i>Poverty Severity (p2)</i>	3.8%	5%	1.2%

National food poverty line (\$2)

<i>Head count (P0)</i>	37.8%	41.9%	4.1%
<i>Poverty Gap (P1)</i>	15.4%	18.1%	2.7%
<i>Poverty Severity (p2)</i>	8.3%	10.2%	1.9%

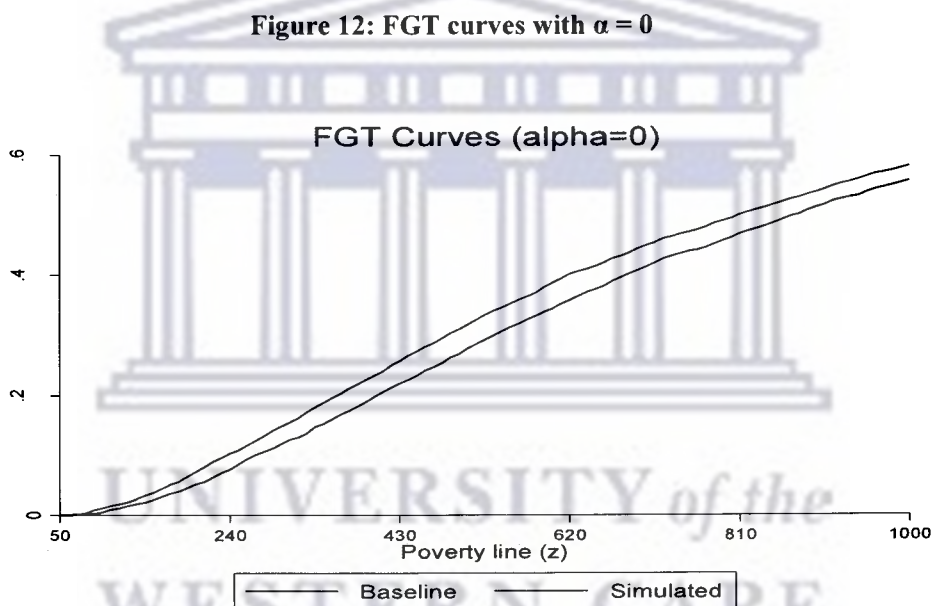
Source: Own calculation using NIDS wave III data 2012.

As it can be inferred from the table above, using the upper bound poverty line (UPL), the headcount index for the entire simulation increased from 35.7% in the baseline estimation to 40.1% in the simulated scenario. This means that the number of households below the UPL increases by 4.4% when there is no government grant income. In other words, government grant reduces the headcount ratio by 4.4%. The poverty gap index also increases from 14.2% in the baseline to 16.8% in the simulated scenario. This shows that the average income/consumption needed to eliminate poverty decreases by 2.6% due to government grant income. Furthermore, poverty severity, which shows the squares of the poverty gaps relative to the poverty line, decreases by 1.8%.

According to statistics SA (2014: 14), the 2011 LPL is set at R433 per person per month. This amount is expected to include food and non-food consumptions, but individuals have to sacrifice food consumption to obtain non-food consumptions. Based on the LPL the head count poverty reduces by 3.7% due to a government grant. The National Planning Commission (NPC) has set a long term plan to eliminate all poverty below the LPL by 2030. Hence, expanding the scope and coverage of government grant can be used as a policy instrument to achieve the ambiguous plan. The simulation result also shows the poverty gap reduces by 1.9% and the poverty severity also decreases by 1.2%. Furthermore, when the international poverty line of 2 dollars per day is used, there is a reduction of headcount ratio and the poverty gap by 4.1% and 2.7% respectively.

Generally, the simulation analysis shows how monthly government income impacts poverty by generating a counterfactual world where there is no government grant as compared to the

real world situation where there is income from a government grant. The comparison in poverty profile using the FGT indices shows that headcount ratio, poverty gap and poverty severity increases when there is no monthly income from a government grant. The significance test confirms that the differences for both scenarios are statistically significant at the 1 % level. The results are similar the study of Armstrong and Burger (2009: 12-14) who also found, using the Income and Expenditure Survey of 2005 (IES, 2005), that there was a significant reduction in headcount ratio, poverty gap and poverty severity due to government grant programs in South Africa. The figure below illustrates the difference in headcount poverty between the baseline and simulated per capita consumption using the UPL. The gap between the lines indicates the impact of government grant on poverty.



Source: Own calculation using NIDS wave III data 2012.

4.4.1.1. Decomposition of poverty by population group of the household head

In this subsection poverty is decomposed by population group of the household head. For presentation simplicity the researcher chose the UPL of R620 in order to have a consistent comparison with the 2014 report of statistics SA which use the UPL to compare poverty over time. The table below presents the results obtained when poverty was decomposed according the population group of the household head.

Table 25: Decomposition of poverty by population group

Population group	Population share	Baseline			Simulated		
		P0	P1	P2	P0	P1	P2
Africans	82.4%	39.6%	16.2%	8.7%	43.8%	18.9%	10.7%
Coloured	12.2%	24.6%	7%	2.9%	32.6%	9.4%	4.1%
Asian/ Indian	1%	0	0	0	0	0	0
White	4.1%	0	0	0	0	0	0

Source: Own calculation using NIDS wave III data 2012.

The headcount ratio result shows there is a substantial difference in poverty across different racial groups and that poverty decreases due to government grants. The table indicates that poverty among the proportion of the population that falls below the UPL increases by 4.4% among African households and 8% increase among Coloured households. This means Coloured households are more reliant on government grant than African households. On the other hand, none Indian/Asian and White households were found below the UPL. This result is expected, mainly due to higher per capita consumption among Asian/Indian (R4, 937) and White households (R7, 276). The findings of Armstrong and Burger (2009:7) also confirmed zero poverty shares among Asian/Indian and White households. However, the report of statistics SA (2014:42) indicates that 2.1% Asian/Indian and 0.4% White households were living under the UPL in 2011.

The poverty gap increases among African and Coloured households by 2.7% and 2.4% respectively. This means that if there is no government grant, the average distance poor African households from the poverty line increases higher than Coloured households. In other word, the poverty situation of African households is worse than Coloured households. The poverty severity also increases by 2% and 1.2% among African and Coloured households respectively.

4.4.1.2. Decomposition of poverty by gender of the household head

According to the 2011 South African survey, there are more male headed households in South Africa. However the Statistics SA (2014:40) report indicates female-headed households make up majority of poor households in the country. The following table presents the decomposition of poverty by the gender of the household with and without the government grant.

Table 26: Decomposition of poverty by gender of the household head

Gender of the household head	Baseline			Simulated		
	P0	P1	P2	P0	P1	P2
Male headed	14.6%	6.6%	3.1%	22.4%	8%	4%
Female headed	46.3%	19.2%	10.5%	51.9%	22.6%	12.8%

Source: Own calculation using NIDS wave III data 2012.

In the baseline scenario more 46.3% of female headed households live below the UPL which is higher than the 14.6% of male headed households that live below the poverty line. Similarly the statistics SA report shows that in 2011 there were 43.9% female headed and 25.7% male headed households that lived below the UPL. The figure increases by 5.6% for female headed households and by 7.8% for male headed households when there is no grant received from the government. More male headed households fall below the poverty line because there is no income from government grant compared to female headed households.

The poverty gap also increases from 6.6% in the baseline scenario to 8% in the simulation scenario for male headed households. Similarly, the average distance of poor female headed households from the UPL increases by 3.4% when there is no government grant. The poverty severity among female headed households is higher than in the male headed households and increases when there is no government grant.

4.4.1.3. Decomposition of poverty by geographic type

The decomposition of the poverty indexes by geographic type illustrate that, rural households have the highest percentage of poor people compared to urban households. While 57% of rural households are deemed to be poor, only 19% of urban households are classified as poor under the baseline scenario. Under the simulated scenario the number of poor people based on UPL increases to 61.2% for rural and 23.8% for urban households. The table below indicates poverty decomposition by the gender of the household head.

Table 27: Decomposition of poverty by gender of the household head

Geography type	Baseline			Simulated		
	P0	P1	P2	P0	P1	P2
Rural	57%	24.7%	13.8%	61.2%	28.6%	16.7%
Urban	19%	6.1%	2.7%	23.8%	7.7%	3.6%

Source: Own calculation using NIDS wave III data 2012.

The finding also reveals that the poverty depth is higher for rural households compared to urban households. This implies that rural households need more resources to move out of poverty compared to urban households. The comparison of baseline and the simulated scenario shows that rural household resources need increases by 3.9%, while urban household's resources need only increases by 1.6%. For rural households the cost of eliminating poverty almost increased by 4%. Hence, government grant can be used as a rural development policy instrument.

The poverty severity index is widely used to compare poverty rankings between two groups. The higher the poverty severity index, the greater the inequality among the poor and the severity of poverty. The above table shows that rural households have a higher poverty severity index compared to urban households in both scenarios. This implies that, there is higher inequality among the poor in rural households compared to urban households. Poverty severity in both areas increases when there is no government grant; this implies government grant can be used as policy instrument to reduce inequality among the poor in South Africa.

4.4.1.4. Probability of households being poor

A binomial logit regression model is used to estimate how government grant determines the probability of falling into a state of poverty. The regression uses a backward stepwise approach, starting with a model which contains the full set of independent variables that are then reduced to find the model with the best statistical parameters. The study uses the national upper bound poverty line of R620 to classify the poor and non-poor. The table below shows the state output of the logistic regression.

Table 28: Logistic regression results

Variables	Coefficient	Robust Std. Err.	Odds ratio	Marginal effect	P> z
Government grant dummy	-0.525	0.103	0.591	-0.125	0.000
Household monthly per capita income	-1.098	0.055	0.333	-0.262	0.000
Household size	1.71	0.082	5.74	0.416	0.000
Gender of the household head	0.171	0.099	1.186	0.04	0.084*
Coloured dummy	-0.491	0.131	0.611	-0.111	0.000
Age of the household head	-0.027	0.003	0.973	-0.006	0.000
Household education	-0.126	0.014	0.88	-0.03	0.000
Geographic type	-0.409	0.095	0.663	-0.097	0.000
Constant	7.738	0.445			0.000

Number of observations=

4,064

LR chi2 (8) = 2532.9

Prob>chi2=0.0000

Pseudo R2=0.4549

Source: Own calculation using NIDS wave III data 2012.

[*statistically insignificant at 10% level]

Hosmer-Lemeshow goodness-of fit statistic was used to check whether the model adequately fits the data. The result shows that the model fits the data very well as the goodness-of-fit statistic was insignificant (Prob > chi2 = 0.0946) (refer Annex III).

The variable of interest government grant dummy is statistically significant at the 99 % confidence level and the sign of the coefficient indicates that access to government grant reduces the probability to be in a state of poverty. The value of the odds ratio for a government grant dummy also shows that a household receiving government grant reduces the odds of being in poverty by approximately 59.1%, other variables remain the same. Hence, based on the results, it is possible to confirm that monthly government grant reduces the probability of being in a state of poverty at 1% level of significance. This supports the hypothesis that government grant decreases the probability that the household will be in a state of poverty

The household monthly per capita income variable lowers the probability of being poor. The odds ratio shows household monthly per capita income reduces the probability of being poor by 33.3%. The marginal effect also shows the same outcome and the coefficient is highly significant at the 1 % level. In addition, the geographic location that a household lives in also has a positive impact. Households located in the urban areas are coded 1 and those in the rural areas coded 0. The log odds of a household being poor reduces by 66.3% when household reside in the urban areas. The marginal effect also shows living in the urban area reduce the possibility of being poor by 9.7% as opposed to households living in the rural areas.

The size of a household has a positive effect on the probability to be in a state of poverty. Households with high number of members have a higher probability of being in poverty. The marginal effect value shows, other things remaining the same, a 1 person increase in household member increases the probability of being in poverty by 41.6%. The result is significant at 99% confidence level. Similarly the study by Sekatane and Sekhampu (2014: 17) indicates the household size is associated with an increased probability of being poor in South Africa. Gender of the household head also has a positive relationship with the probability of a households being in a state of poverty. However, the result is insignificant at 90% confidence level.

The age and education of the head of the household are also very important in reducing the probability of being poor. The coefficients are negative and significant at the 1% level. Moreover, the marginal effects of education show a contribution of 3% in reducing the probability of being poor, whereas the marginal effects of age are very low (less than 1%).

4.4.3. The impact of government grant on inequality

To analyse the impact of government grants on consumption inequality, the study uses the Gini index. The Gini index is a measure of degree of income and consumption inequality (Arnold, 2014). It assumes a value between 0 and 1. On one extreme 0 represents perfect income equality and at the other extreme, 1 represents perfect income inequality.

The table below shows the effects of government grants on consumption inequality at the national level. Using the government grant income model under a scenario where there is no government grant the inequality increases as compared to the baseline predicted value. Hence, results indicate that the government grant decreases inequality by a small margin (1.6%). The study by Armstrong and Burger (2009: 17) also showed that the government grant in South Africa did little to decrease inequality.

Table 4.29: Impacts of government grant on inequality (simulation based on income model)

Inequality	Baseline	Estimated value	% change
Total	0.493	0.509	1.6%
Population group			
Africans	0.422	0.44	1.8%
Coloured	0.353	0.372	1.9%
Asian/ Indian	0.351	0.367	1.6%
White	0.274	0.278	0.4%
Gender of the household head			
Male	0.439	0.45	1.1%
Female	0.509	0.526	2.3%
Geographic type			
Rural	0.442	0.464	2.2%
Urban	0.454	0.471	1.7%

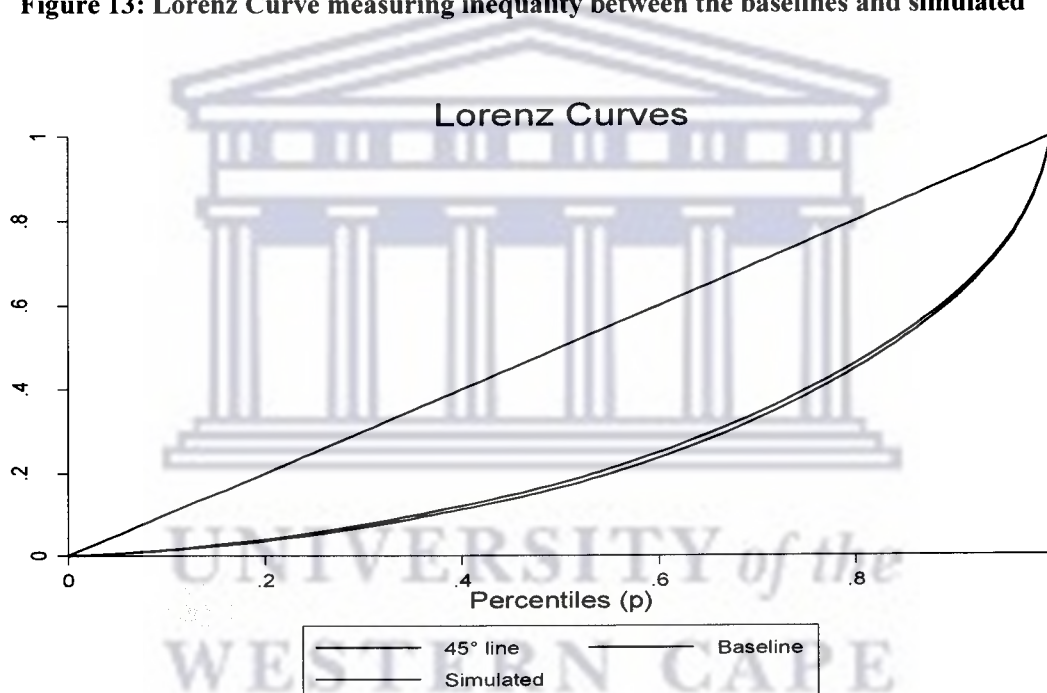
Source: Own calculation using NIDS wave III data 2012.

The table above shows the contribution that a government grants have on inequality across various groups in South Africa. When inequality is decomposed within race group, the results show that the government grant contributes little to the reduction of consumption inequality

within race groups (less than 2%). Furthermore, the results show that among Coloured and African households, government grants contribute a higher percentage to the reduction of inequality compared to Asian/Indian and White households. The same pattern was observed across all dimensions along which inequality was decomposed.

The figure below also shows a high overall inequality between households and a very small gap between the simulated and baseline per capita consumption, which confirms the small impact of government grants on inequality. However, the smaller the impact is, the more possible it is to justify the hypothesis- government grant reduces inequality.

Figure 13: Lorenz Curve measuring inequality between the baselines and simulated



Source: Own calculation using NIDS wave III data 2012.

4.5. Conclusion

This section presented the results of the analyses. The study used descriptive and inferential statistics. The results of the study show that monthly government grant is a significant predictor of household per capita consumption. Furthermore, the results indicate that government grants reduce the headcount, poverty gap, poverty severity and the probability of households being in a state of poverty. The findings also indicate that government grant reduces consumption inequality.

CHAPTER FIVE: CONCLUSION, RECOMMENDATIONS AND LIMITATION

5.1. Introduction

This chapter will present the summary and conclusions based on the findings of the research and will also give recommendations. Lastly, the section will also discuss the limitations of the study and possible areas for future research.

5.2. Summary and Conclusion

Poverty and inequality remain crucial developmental challenges confronting the post-apartheid government of South Africa even though recent statistics have hinted mild declines in poverty. Leveraging the contributions of anti-poverty instruments, particularly government grant, has become an imperative. Globally, international and national government grant programs have been identified as vital catalysts for actualizing the poverty and inequality reduction agenda, particularly in developing countries. For recipients of government grant, it offers them the opportunity to smooth consumption, increase their access to social services such as decent housing, health care and quality education as well as bolster their livelihoods. While a government grant is an important source of income for the majority of households in South Africa, literature on its effectiveness in addressing the challenge of poverty and inequality remains limited.

Consequently, this study sought to critically examine the impact of social grant programmes in South Africa. Using quantitative method of data analysis, the researcher tested two different hypotheses that are in line with the basic research questions which motivated the study.

The empirical findings indicate that government grants have a significant impact on household expenditure. According to the result, a 100% change in government grants brings a 2.1% change in per capita consumption. In addition, the result also shows that households that received a government grant have better per capita consumption than households with no monthly government grant income. The findings further indicate that per capita monthly income; household head age and household education have a positive and significant impact on household expenditure. Households living in urban areas also have better monthly consumption than rural households, while Coloured, Indian/Asian and White households

have higher household consumption than African households. Household size, on the other hand, has a negative impact on household expenditure.

This study has also shown that government grants are very effective in reducing poverty. The comparison in poverty profile using the FGT indices shows that government grant reduces the headcount ratio, poverty gap and poverty severity. Decomposing poverty by different population group also shows that government grants are more effective in reducing headcount ratio among Coloured households. It is even more effective in narrowing the poverty gap among African households. In addition, government grants are more effective in reducing poverty among female headed households compared to male headed ones, and rural households compared to urban ones. Further analysis also shows the government grant reduces the probability of households being in a state of poverty. Results from different studies (Armstrong and Burger, 2009 and Case and Deaton, 1996) imply that government grants might have a bigger impact on reducing poverty, and exceeds the extent of the impact recorded in this study. As far as the impact on poverty is concerned, it is possible to conclude South African government grants are well-targeted.

However, in reducing inequality, government grant proved less useful. Decomposition of inequality across different group shows the government grant did little to reduce inequality. This may be because, in general, inequality in a country is mainly determined by the rising income of the richest people on the top of the distribution and government grants are mainly designed to push the vulnerable and the disabled over the poverty line. Hence, it is difficult for a government grant to significantly reduce inequality to the extent that it reduces poverty. Therefore, it is possible to conclude that although government grants were notably effective in reducing poverty, the same cannot be said for their role in terms of reducing inequality.

5.3. Recommendations

- From the results of the study, government grants were effective in pushing poor people closer to the poverty line. Hence, government grant is important in providing relief from severity of poverty. However, in order to bring sustainable solutions to poverty and inequality, the proportions of the population living in poverty should have the capability to access higher levels of income on a permanent basis. Hence, it is important if policy makers consider other supplementary programs that can help the poor people access higher level of sustainable income.

- The National Planning Commission (NPC) has set a long term plan to eliminate all poverty below the LPL by 2030. As it is evident from the findings, government grants can significantly reduce the poverty below the LPL. Hence, expanding the scope and coverage of government grant can be used as a policy instrument to achieve the ambiguous plan.
- The findings of the research show that government grant programs in South Africa are more effective in reducing poverty and inequality in rural areas compared to urban areas. Hence, government policy on rural development should be inclusive of government grant programs.
- Similarly, government grant programs are more successful in reducing poverty and inequality amongst female headed households compared to male headed households. This could mainly be because female household members tend to spend household resource towards household expenses compared to male household members. Therefore, it is important to monitor if transfers from government grants are being properly used by the targeted population for targeted purposes.
- It is evident that government grant programs in South Africa are clearly designed and effective in comparison to other developed and developing countries. In view of the fact that, the findings of this research clearly support the proposition that government grants have a significant effect in reducing household poverty and inequality, the researcher duly recommends that the government of South Africa, NGOs and other stakeholders operating in the sector should put in concrete and have coordinated mechanisms to support the program reaching the poor and the vulnerable.

5.4. Limitations and suggestions for future researches

This study has developed a framework to identify the impact of government grant on poverty and inequality and derived testable hypotheses. Even though this study meets the objectives set at the beginning, it is not free from limitations. The first limitation of this study is that it is only based on the third wave of the NIDS survey and it is possible that the effect of government grant on consumption for a particular year does not capture the full impact on household welfare. The study also evaluated the direct impact of government grant on

consumption, but the crowding effect of massive investment of government grants on other public investment and public donation is not covered in this study.

Furthermore, the study only considered the monetary dimensions of poverty. It is evident that poverty is more than just shortfall of income and may be the result of a multitude of causes. Therefore, the impact assessment could have been more extensive if the other dimensions were also considered. However, this will require considerable resources and time

There are questions which, although could have enhanced the plausibility of the impact assessment, were not addressed by this study primarily because they were beyond the scope of this master thesis. These questions will therefore be a very good basis for further studies and an in depth examination of the impact of government grant on poverty and inequality. Evidently the following questions/areas are suggested; what will be the impact of government grant on poverty and inequality if the current government grant increases? Is cash transfer as a form of government grant the best alternative compared to other poverty and inequality reduction investments? What is the impact of government grants on household formation (i.e. people are attaching themselves to households in which government grants are received as a source of income)? What are the weights of government grants on fiscal deficit of South Africa?

Acknowledging the limitations outlined above, the researcher is optimistic that the findings from this study will be informative and contribute to the existing literature of the government grant -poverty- inequality nexus.

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Annex I. Government grant income model multicollinearity test

Variable	VIF	1/VIF
hh_head_ed~s	1.96	0.508983
lnhhincome~c	1.87	0.533625
hh_head_age	1.58	0.634819
lnhhsizer	1.36	0.736340
geotype_d~y	1.25	0.799834
white_dummy	1.25	0.802014
gender_hh~d	1.15	0.868188
coloured_d~y	1.09	0.919343
Asian_Indi~y	1.03	0.971564
Mean VIF	1.39	

Annex II. Government grant dummy model multicollinearity test

Variable	VIF	1/VIF
lnhhincome~c	2.01	0.497503
hh_head_ed~s	1.97	0.508860
hh_head_age	1.61	0.621965
govgrant_d~y	1.50	0.667831
lnhhsizer	1.43	0.700875
geotype_d~y	1.25	0.799648
white_dummy	1.25	0.801193
gender_hh~d	1.18	0.850257
coloured_d~y	1.09	0.918294
Asian_Indi~y	1.03	0.971563
Mean VIF	1.43	

Annex III: Hosmer-Lemeshow test of goodness of fit

Logistic model for poverty dummy, goodness-of-fit test

(Table collapsed on quantiles of estimated probabilities)

number of observations =	4064
number of groups =	10
Hosmer-Lemeshow chi2(8) =	13.54
Prob > chi2 =	0.0946



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