This paper is a draft submission to

Inequality—Measurement, trends, impacts, and policies

5–6 September 2014 Helsinki, Finland

The redistributive effects of social protection programmes in Namibia

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(Draft version 29 August 2014)

Abstract

The introduction of social protection in developing countries has coincided with a growing consensus that high levels of inequality have the undesirable effect of reducing the efficacy of economic growth to poverty reduction. In the context of Sub-Saharan Africa, an increasing number of countries have made important strides towards expanding social protection programmes to scale. Namibia is an outstanding case. The country has an extensive social protection system embedded into legislation that includes non-contributory programmes such as old age pensions, disability grants, foster parent allowance, and food/cash for work programmes. There is an important number of studies that have examined the poverty impacts of Namibia's social protection system, in particular the old-age social pension and child grants. However, to date there is no rigorous analysis of the redistributive effect of these programmes in the country. Using microdata from the Namibia Household Income and Expenditure Survey for the period 2009-10, this paper examines the redistributive effects of contributory and non-contributory social protection programmes across different household groups and geographical areas in the country. We find that together with the shares of income sources in total inequality, the major sources of inequality come from labour income and asset returns. Social assistance and remittances on the other hand, are the main equalizer sources across the income distribution.

Key words: Social Protection, Namibia, Inequality decomposition

JEL: H53, H55, D63, N37

1. Introduction

The introduction of social protection in developing countries has coincided with a growing consensus that high levels of inequality have the undesirable effect of reducing the efficacy of economic growth to poverty reduction. The wide range of negative implications of high levels of inequality, in terms of social cohesion, crime, conflict and political instability, governance, and social exclusion, are also widely acknowledged. Any assessment of countries' development achievements must therefore take into account the way income distribution is achieved overtime. In the context of Sub-Saharan Africa, an increasing number of countries have made important strides towards expanding social protection programmes. Namibia is an outstanding case. The country has an extensive social protection system embedded into legislation that includes contributory schemes such as maternity and sick leave, death, disability and retirement benefits, private and public pension

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funds, and employee compensation benefits; and non-contributory programmes such as old age pensions, disability grants, foster parent allowance, and food/cash for work programmes.

This paper explores the redistributive effects of Namibia's social protection schemes. It uses the 2009-10 Namibia Household Income and Expenditure Survey to analyse the extent to which the schemes reduce both poverty and inequality. Using the microdata, and following the approaches of Lerman and Yitzhaki (1985) and Stark, Taylor, and Yitzhaki (1986) to decompose inequality by factor components, the paper examines the redistributive effect of contributory and non-contributory social protection programmes in the country. The paper contributes to the existing literature in at least two important ways: first, it examines the overall and single effects of social protection programmes in the country. It examines the contribution of individual social protection programmes and the overall system to the variation in income inequality in the country. Second, it examines the impact of the heterogeneity of programmes on inequality across different household groups and geographical areas.

The structure of the paper is as follows: Section 2 presents the background analysis of the reasons behind the introduction of social protection schemes. Section 3 examines the structure and general outcomes of the social protection schemes in Namibia, while Section 4 details the methods used to analyse the distributive outcomes of the various social protection programmes. Section 5 analyses and presents the distributional outcomes, while Section 6 presents the conclusions and implications of the analysis.

2. The essence of social protection

Households and individuals have different capacities and mechanisms for coping with life risks, shocks and vulnerabilities. With no form of assistance, shocks can result in perpetual poverty and inequality. Idiosyncratic shocks can result in widening inequality within communities, while covariant shocks may condemn a whole community to perpetual poverty. The existence of market failures, missing markets and information asymmetries, especially in rural areas, cause many households to remain vulnerable to shocks. Under these circumstances, social protection schemes can be introduced so as to offer assistance to households to recover from shocks and to reduce their vulnerability. Social protection schemes can also enhance social cohesion and, when tailored properly, can enhance infrastructure development. Roy and Subramanian (2001) explain how a social pension in Mauritius contributed to social cohesion during the country's transformation from poverty to growth.

We broadly divide social protection into two types of schemes: the first are contributory and are usually linked to formal employment arrangements. The second are non-contributory, and are generally classified as social assistance programmes. The non-contributory social protection schemes are usually targeted at poor and vulnerable households to reduce the impact of shocks and vulnerabilities. An example is the social pensions in South Africa, Botswana and Namibia, which is aimed at reducing poverty among pensioners. By virtue of being out of the job market, pensioners are vulnerable to living impoverished lives.

Although social assistance schemes are designed to tackle poverty, they may also have income-redistribution effects that help the poor and vulnerable to improve their welfare and to build up their human capital and assets. This way, safety nets can be tailored to enhance growth. Alderman and Hoddinott (2007) discuss the design and implementation of safety net programmes that can enhance economic growth, incorporating the poor in the growth process.

In the absence of formal social protection schemes, communities adopt different coping mechanisms in the face of adversities. They shield their poorest from the worst of crises using intricate social networks and relationships that broadly revolve around the community's social capital. In Namibia, these informal social safety nets consist of help from the extended family (e.g. childcare and rearing by grandparents); taking care of orphaned children of relatives; sharing food, draught power and other productive assets with neighbours; gifts and contributions to social functions like marriage ceremonies, weddings and funerals; and soft loans to neighbours and relatives. There are also cash transfers from household members in urban areas to members in rural areas, and food transfers in reverse, especially from the Northern districts of the country (Devereux, 2001).

Informal social safety nets suffer from the weakness that they are not robust to covariant shocks like drought. In addition, urbanisation, cultural diffusion and change, and the increasing role of the government in providing social protection, are degrading the informal social safety nets. There is general agreement on the need for social protection, but often there is no agreement on the blend of public and private schemes, especially because of the possible complementarity and/or substitutability between them. In general, the provision of publicly-funded social protection measures tends to substitute for private provision (Kanbur, 2013) rather than complement it. There is greater substitutability at low levels of income, and more complementarity at higher incomes, reinforced by the need for variety.

Contributory schemes are market-based schemes, and are usually linked to one's employment status and history. They have limited coverage and may be absent in communities where attachment to the labour market is weak. This limited coverage is one major reason why the governments may choose to introduce social safety nets as a form of forced risk sharing. However, this is not without its own critics: some researchers argue against government involvement in the provision of social assistance, postulating that possible institutional inadequacies and lack of oversight may result in elite-capture of such schemes, and that favouritism in the selection of beneficiaries can result in growing inequality and unpopularity of the programmes. On the other hand, Kanbur (2013), using the example of SEWA in India, argues that it is possible to reduce such possible capture by allowing participation of civil society organisations in the implementation and monitoring of the schemes.

Another argument against government provision of social protection is that government intervention may predate community-based schemes that are not subsidised. This may, in extreme cases, compromise the quality and quantity of community social capital. It has also been argued that some government programmes may not be sustainable, or that they may create dependency, thus 'killing' households' capacity to fend for themselves. However, CPRC (2008) argues that there is little empirical evidence of the dependency argument. Kunnemann and Leonhard (2008) advocate for a rights-based social protection system that creates entitlement rather than dependency, be it on the state or a particular individual in the household.

While accepting the need for social protection schemes, some scholars have argued for means-testing as a way of achieving greater effectiveness (Slater and Farrington, 2009), and of increasing political acceptability of the programmes. Others argue that in places where poverty is high across the population, it may be more appropriate to offer universal benefits to the easily identifiable and most vulnerable groups, e.g. households with children less than five years and households with income falling below a given threshold. This line of argument is supported by Standing (2007) and the BIG Coalition (2009) who contend that universality eliminates targeting costs and lowers administrative costs. Universality may also be preferred because it maintains and enhances community cohesion, whereas targeting may result in recipients 'leapfrogging' the income distribution spectrum to above their neighbours who may be non-beneficiaries and create animosity (Ellis, 2008). This is a serious problem where inter-quartile or inter-decile household income differences are very small. In general, there is a trade-off between the efficiency of means-testing and the coverage of universal schemes.

The discussion above shows that there are many strands or arguments and research in the field of social protection. There are arguments for and against different forms of social assistance, between private and public provision, and the mechanisms for the implementation of the schemes. In Namibia, political, economic and social challenges faced at independence necessitated the introduction of an elaborate system of social protection. Racial discrimination during years of colonial administration, high inequality in access to resources, and the need to redress the situation prompted the government to introduce the social protection schemes. The following section examines the structure and coverage of the existing schemes.

3. Structure and coverage of social protection programmes

Namibia has passed a number of laws that introduced social protection in the country. In addition, there are a number of studies that have examined Namibia's social protection programmes (Subbarao, 1998; Devereux, 2001; Schleberger, 2002; Levine *et al.,* 2009), most of which focus on the formal social protection schemes, especially the social pension and child grants. There still is no comprehensive analysis of the impacts of both contributory and non-contributory programmes together, and that is what this paper seeks to do.

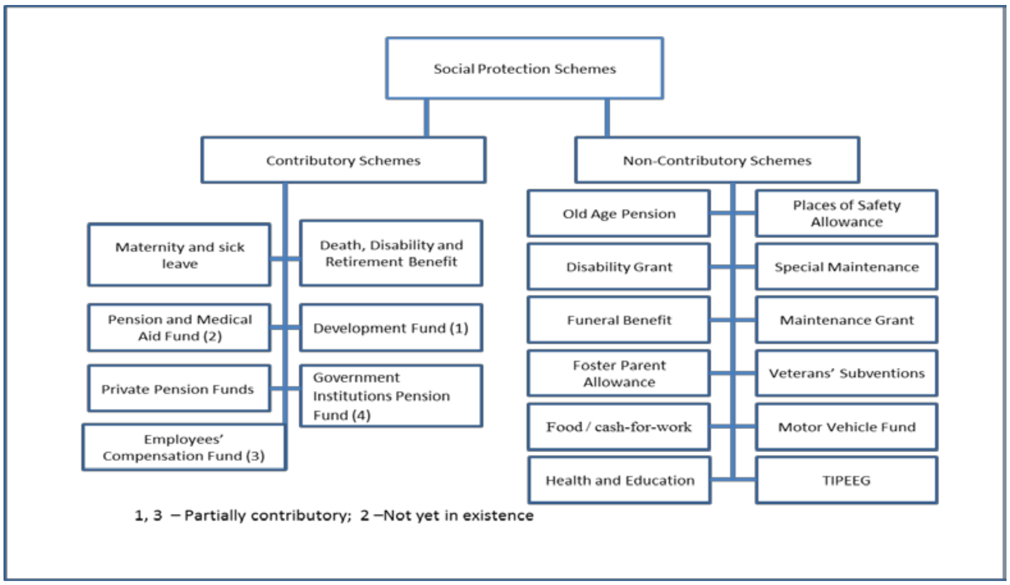
Namibia has a vast range of programmes that can be classified as social protection schemes (see Figure 1). These include housing and living expenses allowances for vulnerable groups, means-tested cash transfers, food-for-work programmes, and free access to primary healthcare and basic education. Contributory schemes apply to approximately 15 per cent of the population with links to the formal sector of the economy. Non-contributory schemes apply to all qualifying nationals. We first discuss contributory schemes (which are labour market-linked), followed by non-contributory schemes.

3.1 Contributory schemes

The enabling legislation for the establishment of contributory social protection programmes is the Social Security Act (1994) which provided for the establishment of a Social Security Commission (SSC). The SSC was mandated with establishing a fund for the payment of a number of benefits to contributing employees on a 50-50 basis for employers and employees. All employers are obliged to register their employees with the SSC. The benefits for the employees are paid maternity leave, sick leave, and pension and death benefits. The monthly contribution is N$81. Another provision of the law is that employers are obliged to register with the Employees Compensation Fund (see below). The self-employed can also voluntarily register themselves to make contributions to the Fund at the full rate of 1.8% of their earnings/basic wage. Benefits will be payable to people with a membership of no less than six months, provided such persons are fully paid-up members.

In 2004, the scheme's target group was 320,000 employees, of which 88,600 were contributing members, giving a coverage rate of about 28%. The commission also funds the training of disadvantaged and unemployed persons through a dedicated development fund.

Figure 1: Structure of social protection schemes in Namibia



The contributing members are entitled to maternity and sickness benefits. Maternity benefits cover the period 4 weeks before the expected delivery date and 8 weeks after delivery, and are payable conditional on the person not resuming work during the prescribed period. The claim must be made no later than 7 days from the date of confinement. Sickness benefits are payable to all employees who are incapacitated for a period of at least 30 days beyond the normal sick leave as provided for under the Labour Act or employment contract. The benefits will terminate if the sick period is longer than two consecutive years.

Other benefits are death, disability and retirement benefits. The death benefit is a once-off payment made to the dependants of all employees, or to the member's estate, in the event of the death of the member. The retirement or disability benefit is a once-off payment made to the member in the event of retirement and/or permanent disablement. The retirement age is 60 years, which is rather low compared to gains in life expectancy and improvements in healthcare. The retirement age therefore has implications on the sustainability of the programmes.

The law also provided for the establishment of medical aid benefits, to be paid for from the National Medical Benefit Fund, but the fund has not yet been established. The medical aid benefits have not yet been prescribed either.

Additional benefits are derived from the Employees Compensation Fund. The fund was established under the Employees' Compensation Act of 1941 to compensate employees for occupational injuries. All employers are obliged to make annual contributions. It covers all employees whose employers make contributions, including domestic workers. The benefits include transportation to hospital and medical expenses for the injured employee. The employees are also compensated for temporary or permanent disablement (that is, the disability pension). The fund also pays for members' funeral/burial expenses. The dependants of members who sustain fatal work-related injuries are also entitled to receive compensation from the Accident Pension Fund.

The SSC's Development Fund provides funding for training and employment schemes for the unemployed and socially disadvantaged persons. The fund provides bursaries and loans to students enrolled at recognised institutions of higher learning in the SADC region. It is available to children of parents with a joint income of less than N$150,000 annually; and for orphans, the unemployed, and children of pensioners. It is partially contributory, and beneficiaries may have to meet some of their financial requirements.

Coverage and impacts

The coverage of the SSC programmes is dependent on the extent to which employers respond to the requirements of the Act as well as on the benefits levels. The SSC faces the challenge of acceptability among some employers. Such employers view the law establishing the SSC as increasing costs of employment. They view their contributions as an additional labour tax that is inhibiting employment creation. Thus, there is less than hundred per cent coverage of employers and workers. Fultz and Pieris (1998) observed that as of 1998, only half the formally employed workers were registered with the SSC. Some employees were not aware of their registration status, and only came to know when they sought compensation for occupational injury. With poor law enforcement (e.g. through low number of labour inspectors), there will always be some employers who remain outside the loop, and employees who will be disillusioned to learn that they cannot access the benefits when they really need them. The resistance to registering is observed by the high numbers of both employers and employees that register with the Commission when it exhibits at trade fairs around the country. However, the numbers of registered employers and employees have grown over time: there were over 23,500 employers and 232,700 employees registered with the SSC (subbarao, 1998) in 1998. By 2010, 37,585 employers and 348,141 employees had registered with the Commission. These figures show a 60% and 50% growth in membership, respectively. The coverage of the SSC is hindered by both non-registration and non-remission of contributions. It is estimated that in the early 1990s, only 50% of employers were remitting contributions to the Commission.

The benefits paid by the SSC have been increasing over time. The total benefits paid in 2011 amounted to N$121.9 million, a 12.2% increase from the 2010 figure. Between 2008 and 2009, benefit payment increased by 73%, and by 3% between 2009 and 2010. In general, maternity leave benefits have, over time, been dominant in total benefit expenditure. The maternity leave, Sick leave and Death Benefit Fund paid 19.5% more in benefits in 2011, up from a figure of N$91.2 million in 2010. The Employees' Compensation Fund, on the other hand, paid 4.5% less in 2011, down from the 2010 figure of N$13.2 million. A further breakdown shows that maternity leave beneficiaries received nearly 24% more in 2011 than in 2010. Sick leave beneficiaries received 16.4% more in 2011, and death benefits increased by 3.5% during the same period.

There are cases of claims that are processed but are never claimed. These amounted to over a million dollars by the end of 2011. There is no effective mechanism in place to trace the claimants since the current approach of providing the list of beneficiaries to some regional councils and trade union offices is failing to reach the beneficiaries. The SSC also publishes the names of outstanding benefits in the press, and also makes radio announcements.

3.2 Non-contributory schemes

The formal sector forms an enclave of prosperity with higher average incomes than the rest of the economy. The accompanying contributory social protection schemes offer better protection than the non-contributory schemes. Non-contributory schemes offer general social protection to the rest of the population. The introduction of non-contributory schemes was necessitated by the political, economic and social conditions that were inherited at independence. The right side of Figure 1 shows the structure of non-contributory programmes.

The Old Age Pension / Basic Social Grant, Disability Grant and Funeral Benefit are administered by the Ministry of Labour and Social Welfare; the Places of Safety Allowance is administered by the Ministry of Health and Social Services; the Special Maintenance Allowance, Maintenance Grant, and Foster Parent Allowance are administered by the Ministry of Gender Equality and Child Welfare; and the War Veterans Grant is administered by the Ministry of War Veteran Affairs.

a) *The Old Age Pension (OAP) / Basic Social Grant (BSG)*

The Old Age Pension, later renamed the Basic Social Grant (BSG), is a universal and unconditional cash transfer to persons aged 60 years and above. It is aimed at preventing poverty among pensioners. The OAP was introduced in 1949 as a preserve of the white minority. Its coverage was extended to mixed race Namibians in 1965, and to African Namibians in 1973. At independence, the government built on this foundation to introduce a number of social protection programmes. The National Pensions Act of 1992 eliminated all forms of racial discrimination in access and levels of the social pension. The Act made age and citizenship the main qualifying criteria.

At independence, the OAP paid seven times more to white Namibians than to the Oshiwambo, Caprivi and Kavango ethnic groups (Devereux, 2001). In the colonial profiling, the three ethnic groups occupied the lowest echelons of the social hierarchy. To equalise the social assistance income, the government opted to freeze the top level while adjusting the lower levels upwards. In 1994, all social assistance income was equalised at N$120 per month, to the chagrin of white pensioners whose incomes were reduced by over a third. The monthly pension increased to N$160 in 1996 but remained stagnant for a long time. The OAP was rechristened the Basic Social Grant in 1998. The monthly payment was increased to N$450 in 2008/9, and to N$500 in 2010. As from April 2013, it amounted to N$600 per month.

The coverage of the social pension amounted to 50% of old-aged people in 1990. Subbarao (1998) reported that coverage increased from 49% in the period 1993-94, to 88% in 1998. The International Labour Organisation's Social Security Department (ILO SSD, 2013)[3] reported a 95% coverage in 2001. The Namibia Household Income and Expenditure Survey (NHIES) of 2009/10

[3] http://www.ilo.org/dyn/ilossi/ssimain.schemes?p_lang=en&p_geoaid=516

shows an equally high coverage of approximately 95%. Long distances to payment points are one of the main challenges faced by qualifying persons (Levine *et al.,* 2009), together with illiteracy and lack of documentation required for registration. There is greater coverage and access in urban than in rural areas. In addition, richer and better-educated pensioners are more likely to have access than the poor and less educated ones (Beattie and McGillivray, 1995). It is for this reason that Subbarao (1998) suggested the possible need for means-testing the social pension. Targeting may also ensure the long-term sustainability of the programme.

b) Disability grant and funeral benefit

The disability grant is given to people with temporary or permanent disability, including the blind, while the funeral grant is given for the burial of pensioners and disabled people. The disability grant supports disability prevention and rehabilitation. As from April 2013, it amounted to N$600 per month (up from N$550).

The funeral grant amounted to N$3,000 from April 2013 (up from N$2,200). It is paid directly to the undertaker for the burial of a qualifying individual. Old age pensioners and those receiving the disability grant automatically qualify for the funeral grant. Apart from giving pensioners and disabled persons decent burials, the funeral grant also makes it possible for the authorities to update their records when someone is declared dead at the time of application for the funeral assistance.

The coverage of these two benefits is generally low and it differs by region. Coverage is limited by lack of information, illiteracy, long distances to benefit points, and complex claiming procedures that put off some potential beneficiaries.

c) Child and family grants and allowances

Four grants and allowances fall under this category. These are the Child Maintenance Grant, the Foster Parent Grant (FPG), the Places of Safety Allowance, and the Special Maintenance Grant. These grants and allowances are targeted at protecting orphaned and vulnerable children.

The Child Maintenance Grant is received by a biological parent to a child younger than 18 years, and/or with a spouse receiving the disability or old age grant, or is deceased, or is serving a jail term of not less than 3 months, and whose income amounts to less than N$1,000 per month. It is also given to persons whose spouses are certified as unfit for labour market participation. The applicants must produce the child's birth or baptism certificate in order to access the grant. As with other social grants, the monthly payments were kept constant for some time (at N$200 for the first child and N$100 for an additional child, up to a maximum of six children) but were recently reviewed and equalised for all qualifying children at N$200 per month. The number of beneficiaries increased from 15,625 (in 2004) to 86,086 (in 2008).

The FPG is a means-tested transfer given to persons that care for any children placed in their custody in terms of the Children's Act of 1960. It amounts to N$200 per month, and there is no restriction on the number of children one can claim for. The grant is payable until the day of termination of the placement order by the Social Assistance Clerk.

The Places of Safety Allowance is given to families and individuals taking custody of a child under the age of 21 years placed in their care by the Commissioner of Child Welfare or under the Criminal Procedure Act of 1977 or under the Children's Act. It amounts to N$10 per day per child.

The Special Maintenance Grant is paid to persons who look after children under 16 years of age who have been diagnosed with temporary or permanent disablement, including those that are blind and those with HIV/AIDS. It amounts to N$200 per month.

The coverage of family allowances and grants is varied. Some have high coverage while others have low coverage. In general, the coverage has been lower than that of the basic social grant even though the population has more children than pensioners. As of 2008, a total of 250,000 beneficiaries was recorded. FPG beneficiaries increased by nearly 40% between 2004 and 2008; Child Maintenance Grant beneficiaries increased almost ten-fold (Levine *et al.,* 2009). There were over 124,000 beneficiaries of the maintenance and foster parent grants in 2011. Reasons for the low coverage of some transfers include lack of the required documentation for registration, lack of information, illiteracy and remoteness of some communities.

There are significant regional differences in access to family and child and family grants and allowances. Windhoek has the largest number of beneficiaries, and communities in the north of the country reported lower access. This indicates the extent to which access to information influences the coverage. In most cases, better-off households have access to information and are therefore more poised to access the grants and allowances. Needier children, usually under the care of grandparents, miss out on the grants and allowances.

d) War Veterans' Grant

The War Veterans' Grant was established under the Veterans Subventions Act of 1999, and is administered by the Ministry of Veterans' Affairs. It is designed to benefit persons who participated in the war of liberation against colonialism. Those who fought on the colonial administration side are not eligible. Beneficiaries have to undergo a comprehensive vetting process before they can access the grants. The benefits include a once-off gratuity that ranges from N$20,000 to N$50,000, depending on the level of participation in the liberation struggle; a monthly pension of N$2,200 for unemployed veterans, and houses for disabled and aged veterans. Other benefits include medical assistance, land for resettlement, counselling, funeral assistance, subsidies for utilities, and educational grants for their dependants.

The coverage of the War Veterans Grant has been restricted by the vetting process and qualification conditions. Thus, by 2007, there were 1,767 beneficiaries and by 2011, 6,896 beneficiaries were receiving the monthly pensions out of a total of 70,000 registered veterans. Changes to the qualification criteria increased the number of beneficiaries between 2008 and 2013.

e) Other social transfers and subsidies

Other social transfers and subsidies offered by the government include transfers to non-governmental organisations and churches that offer social services to communities. Organisations that look after pensioners, orphans and the disabled receive subsidies. Although the extended family system helps in looking after pensioners, orphans and the disabled, there is no transfer specifically meant for this. The government has initiatives for the provision of affordable housing to low-income earners under the Build-Together and the National Housing Enterprise (NHE) programmes. The latter programme is targeted at households with monthly earnings of between N$5,000 and N$20,000. The Build-Together programme was targeted at households with low to very low monthly incomes. It was incorporated into the mass housing programme that was launched in November 2013. The implementing agency of the mass housing programme is the NHE. The main challenge for housing provision across the country is low delivery of houses relative to the demand for housing.

Other social expenditures by the government are on health and education. In 2001, the government made primary education compulsory, and prohibited the charging of school fees in government schools. It went further to declare free primary education in 2013. To enhance performance and attendance at school, the government funds school feeding programmes. The feeding programmes mainly benefit pre-primary and primary school children. Health sector expenditure is on primary healthcare provision and subsidisation to ensure accessibility by poor households. The government charges nominal user fees for access to some services like maternity, yet some households still cannot afford the fees. Expenditure on both health and education increased steadily from 2008 onwards. However, expenditure on health increased at a lower rate than that on education. Despite the high expenditure on education, Chiripanhura *et al.,* (2014, forthcoming) argue that there is need to improve the quality and variety of education outcomes in order to enhance labour market performance.

The government also has initiatives to assist disadvantaged communities like the San community by improving their food security and nutritional status. One such programme provides agricultural support and livestock for draught power to the San community. The government also provides water for community gardens, and a small livestock-revolving scheme so that poor households can own and produce small livestock.

Other initiatives that help improve community welfare are the food-for-work/cash-for-food programmes, public works programmes, and informal sector and micro-enterprise support. The food-for-work programmes are usually implemented in times of covariant shocks like drought or floods. For example, the poor rainfall of the 2012/13 season resulted in the government introducing the food-for-work programme in the worst affected districts. Since the able-bodied are not eligible for free food distribution, they have to participate in some economic/development programme and receive food in return. In addition to getting food or cash, the participants also gain useful experience that helps improve their labour market outcomes.

Public works seek to create jobs for people in given localities. An example is the Targeted Intervention Programme for Employment and Economic Growth (TIPEEG) programme that was introduced in 2011 to promote employment in high growth sectors of agriculture, tourism, housing, transport and public works. The programme had a skills development component that was anticipated to increase the long-term employability of the recipients.

The government also provides support to the informal sector for employment creation. The support is directed through the Namibia Development Corporation (NDC). NDC is a state institution mandated with providing credit and business training to small enterprises. Interest on loans is charged at the going bank rate, and the loan duration is up to five years. Usually no collateral is required, but the purchased equipment belongs to the corporation until the loan has been fully repaid. However, the challenge to this initiative is the urban-bias of the activities (Seiche, 1995), and the lack of attention to marketing and business training. The latter are critical for the performance of SMEs. Another challenge is the organisation's venture-capital nature, which makes it unlikely for poor people and the unskilled to benefit substantially from the programme. It also suffers from a high default rate (Subbarao, 1998), thus compromising its sustainability.

Some NGOs complement the government initiatives by providing small loans to rural households intent on starting small businesses. The main challenge they face is deficient demand because of viability problems that result in high enterprise death rates. The discussion above shows the variety of social welfare interventions in the economy. We are going to assess the extent to which these interventions reduce poverty and inequality. In the following section we develop the method of analysis to be adopted for the analysis.

4. Analytical methods

In order to assess the redistributive impacts of social protection programmes in Namibia, we use microdata from the Namibia Household Income and Expenditure Survey for 2009-10, and follow Lerman and Yitzhaki (1985) and Stark, Taylor, and Yitzhaki (1986) to decompose inequality measures by factor components.

The level of inequality is measured using Lorenz Curves for particular transfers and/or groups. The assumption is that the welfare variable (consumption expenditure or income) is calculated net of taxes. The Lorenz curve is calculated on the assumption that the sum of the welfare variable and the population can be normalised to 1 such that cross-plotting the welfare shares would result in a concave curve that increases on the welfare variable and population axes from (0,0) to (1,1). Thus, with perfect equality, the Lorenz curve falls on the diagonal of a two-dimensional graph. The further away the concave curve is from the diagonal, the greater the degree of inequality.

In addition to Lorenz Curve analysis, we also use quintiles and percentiles and other inequality statistics. Where categorisation is possible, for example, by region or between urban and rural location, we present the corresponding summary statistics of inequality.

The analysis includes calculating the area between the diagonal and the concave curve. This measures the Gini Coefficient. Given the discrete nature of the individual k's welfare variable w(k), we can turn the integral distribution into a cumulative continuous and normalised welfare variable. The variable can be used to calculate the Gini Coefficient using the formula:

$$Gini = \left(\sum_{k=1}^{n} e(k) - w(k) \right) \Big/ \sum_{k=1}^{n} e(k) = \sum_{k=1}^{n} (k * \overline{w} - w(k)) \Big/ \left(\sum_{k=1}^{n} k * \overline{w} \right) \qquad (1)$$

where $\overline{w}$ is the average of the welfare variable of all individuals $k = 1, \ldots n$, with welfare variables $e(k)$ and $w(k)$ representing the cumulative welfare of the k poorest welfare benefactors in the equal distribution case. The Gini Coefficient formula is thus equal to:

$$Gini = 1 - 2\frac{\sum_{k=1}^{n} w(k)}{w * n * (n+1)} \qquad (2)$$

The Gini coefficient lies between 0 (no inequality) and 1 (maximum inequality). In this study, the welfare variable used to calculate the Gini Coefficient is the equivalised household consumption expenditure, and where this is not available, income is used. The Gini Coefficient will be decomposed so as to determine the impacts of different income sources on inequality.

One of the objectives of social protection programmes is to reduce poverty. In particular, the basic social grant aims to reduce poverty among pensioners. This study therefore examines the poverty impacts of the different programmes. It focuses on two main indicators: the poverty headcount and the poverty gap indices. It adopts the poverty lines established by the Namibia Statistics Agency. From 2003/04, the national poverty line is established using the cost of basic needs approach. The applicable poverty lines for 2009/10 are a lower bound of N$277.54 and an upper bound of N$377.96. Households whose consumption expenditure falls below the latter are counted as poor. Households whose consumption expenditure falls below the lower bound are considered to be very poor and failing to meet daily caloric intake.

The poverty headcount index is measured as the proportion of persons in the total population whose welfare variable is below the established poverty line. The poverty gap index is measured by the summation of all differences between the (relative or absolute) poverty line and the per capita welfare variable of people whose welfare is below the poverty line. This measure allows for the establishment of the extent of poverty in the country.

Results

The empirical analysis starts with a summary of the main household characteristics. Table 1 summarises the main variables of the 2009/10 NHIES.

Table 1: Summary of statistics

Variable		Descriptive measure
Average annual household net income		N$94,064
Proportion of female-headed households		43%
Average age of head of household		46.6 years
Proportion of composite households (with relatives)		53.6%
Main Income sources: (n = 9388)	Labour	N$86,169.84
	Social security	N$1,399
	Social assistance	N$3,549
	Remittances	N$1,201
	Assets income	N$1,254
	Other sources	N$492
Households' highest educational attainment	No education	35.4%
	Primary education	52.8%
	Tertiary education	11%
Average household size:	Rural	4.9 persons
	Urban	4.2 persons

The table presents the main household characteristics. It shows that households had an average annual income of nearly N$100,000. The minimum household income was N$1,570, while the maximum was above one million dollars. Household incomes were mainly derived from labour, social assistance and remittances. Slightly over two fifths of households were female-headed, and the average age of the head of household was about 47 years. There was a significant number of household heads with no education, and only about a tenth had tertiary education. On average, rural households were larger than urban households. The distribution of households and their characteristics have significant influence on the nature of poverty and inequality in the country. These issues are discussed below.

Poverty and inequality

Poverty and inequality have been declining in Namibia since the 1990s. Levine et al., (2009) and Schmidt (2009), among others, have reported the decline. Table 2 shows the FGT poverty indices.

Table 2: FGT Poverty Indices, headcount elasticity and Gini Coefficients

	Poverty Headcount Rate (P0)	Poverty Gap (P1)	Squared Poverty Gap (P2)	P(0) elasticity	Gini Coefficient
Urban	14.6	4.4	2	-1.94	58.1
Rural	37.5	11.6	5	-1.68	48.3
Total	28.8	8.9	3.9	-1.73	59.4

Author's Calculations using NHIES 2009/10

The table shows that there was greater poverty in rural than in urban areas across all indices. Also, female-headed households were poorer than male-headed households, and there was greater inequality among the latter. Compared to Schmidt (2009)'s calculations using the NHIES 1993/94 and 2003/04, the table shows that there has been persistent decline in poverty over time. The elasticity of headcount poverty show that a 1 per cent increase in per capita consumption expenditure can potentially reduce the number of poor households by 1.94 per cent in urban areas and by 1.68 per cent in rural areas. It appears that poverty sources in rural areas are less sensitive to changes in per capita consumption expenditure. This may be because of consumption expenditure measurement problems in rural areas where households are largely producer-consumers and may therefore undervalue consumption of own production. This may also be an indication that there is need to adopt different strategies to address poverty in rural and urban areas.

The data shows that poverty was higher among bigger households, especially those with children younger than six years. More than 49 per cent of households with three or more children under six years were classified as poor. Some of these households were expected to have benefitted from the family and child grants and allowances.

One way to examine the impact of transfers on poverty is to disaggregate total household income into its main components, and then examine intra-group poverty levels and differences. That is, the extent of poverty in households whose main income source is x. Non-contributory transfers are grouped together as 'social assistance', and occupational pensions are grouped as 'social security'. Table 3 below shows the within-group poverty levels (by main income source).

Table 3: Poverty among households with main income source *x*.

Main source of income (*x*)	Estimate P(0) within group	STE	Lower bound	Upper bound
Labour	0.2566	0.0075	0.2418	0.2714
Social security	0.1186	0.0428	0.0348	0.2024
Social assistance	0.4728	0.019	0.4355	0.51
Cash and in-kind	0.3548	0.0331	0.2898	0.4198
Assets	0.1166	0.0787	-0.0377	0.2709
Other sources	0.494	0.0742	0.3486	0.6394

The table shows that poverty is lowest among households whose main sources of income are assets, social security, and labour, respectively. As discussed below, these are also main sources of inequality among households. Income from social security is associated with labour market participation, and therefore the combination of the two sources of income play a significant role in increasing income inequality.

On the other hand, there are greater levels of poverty among households whose main sources of income are cash and in-kind transfers, social assistance, and other sources of income, respectively. Social assistance and cash and in-kind incomes tend to reduce income inequality in the economy. In general, social transfers have important poverty-reducing effects (and therefore inequality-reducing effects at national level) (see below and appendix).

On inequality, quintile analysis of income distribution shows that the proportion of income going to the top quintile declined from 78.7 per cent in 1993/94 to 57.3 per cent in 2009/10, while the proportion going to the lowest quintile increased from 1.4 per cent to 5.5 per cent during the same period. The proportion going to the second quintile increased from 3 per cent to 8.2 per cent during the same period. However, the overall decline in inequality hides disturbing inter-quintile dynamics. The dynamics show growing inequality between the bottom four quintiles, with the worst of it being between the third and the fourth quintiles. The only decline in inter-quintile inequality is between the fourth and the fifth quintiles. Under these circumstances, the main challenge for the government is to find mechanisms to curb the inter-quintile inequality growth trend. In addition, the government needs to develop mechanisms of reducing rural-urban inequality. Table 2 above shows the Gini Coefficient figures for rural and urban areas. It shows greater inequality in urban than in rural areas. This may not be surprising given the fact that the main source of income for the majority of urban households is labour income, and that the labour market is more vibrant in the urban areas.

Analysis of rural inequality shows significant variation across the country's thirteen regions. In 2009/10, the highest levels of inequality existed in Karas (0.629), Khomas (0.604) and Otjozondjupa (0.59) regions. The lowest Gini Coefficients were calculated for Omusati (0.405), Oshikoto (0.435) and Kavango (0.452) regions.

In order to establish the different drivers of inequality in the country, we estimate the decomposition of inequality by income source following Lerman and Yitzhaki (1985) and Stark, Taylor, and Yitzhaki (1986)'s approaches. This method of decomposition allows calculation of the impact that a marginal change in a particular income source will have on inequality. Table 4 shows the decomposition.

Table 4: Decomposition of income inequality by income source

Source of income	S_k	G_k	R_k	Share	% Change
Labour income	0.916	0.799	0.972	0.946	0.03
Social security	0.015	0.995	0.732	0.014	-0.0005
Social assistance	0.038	0.937	0.271	0.013	-0.025
Remittances	0.013	0.985	0.375	0.006	-0.007
Assets income	0.013	0.999	0.854	0.015	0.002
Other income	0.005	0.998	0.732	0.005	-0.0001

Columns 2, 3 and 4 represent the shares of each income source in total income (S_k), the share of each income source in the Gini Coefficient (G_k), and the Gini correlation of income from each source (R_k). Column 5 shows the share of each income source in total inequality.

The table shows that the Gini correlations of income from labour and assets are highest. Together with the shares of these income sources in total inequality, it appears that the major sources of inequality in the country arise from the labour market (that is, labour social security incomes), and asset returns. However, social assistance and remittances appear to be the main equalizer sources across the income distribution. The last column shows that a 1 per cent change in labour income will likely contribute to a 0.03 per cent increase in total inequality. In fact, labour and asset incomes increase inequality.

Bootstrapping the standard errors of the estimated impacts on inequality can validate the result above. The results confirm that indeed labour income is the main driver of inequality. This has important implications for the policy.

Another way of looking at inequality is to examine the contributions of the different income components. Household income can be disaggregated into its individual components of income from family and child grants and allowances, remittances, labour income, social pensions income, and other sources of income. Conditional in sampling weights and household size, it emerges that labour and social pension incomes have the greatest relative contributions to overall income inequality, but as shown above, they pull in different directions. The presence of at least one employed person in the household has a relatively higher contribution to income inequality than for households with no-one employed. In addition, there is greater inequality among households with no orphans, and such households contribute relatively more to inequality than those households with orphaned children. The latter tend to be poorer too. The figure in the appendix shows the influences of different sources of income on inequality.

The appendix figures contrast Lorenz curves for households' main sources of income. Labour income is shown to increase the level of inequality when contrasted with social assistance (non-contributory social protection measures) and with cash and in-kind transfers. The latter two tend to reduce inequality among households. A comparison between labour income and social security income (that is, income derived from contributory pension schemes), shows that at lower levels of income, social security income contributes more to inequality than labour income. However, for households at the top end of the distribution, social security income reduces inequality, while labour income increases inequality. Compared to income from assets, labour income tends to reduce inequality. This may be indicative of the inequality in access and in control of resources like land.

In general, social security income tends to increase inequality when compared to other main sources of income. Social assistance and cash and in-kind assistance both reduce inequality when compared to social security income. Social assistance income also reduces inequality when compared to assets income. The differences in inequality among households with different main sources of income provide insights into possible ways of reducing inequality in the country. Assets and labour market-related incomes are the main drivers of inequality. It may be necessary to improve the functioning and outcomes of the labour market as a way of addressing inequality. Access and control of assets may also be necessary. In this regard, access to land plus the necessary infrastructure may play an important role in enterprise development and employment creation. Important as these issues are, they are not testable using the data at hand.

The different income sources and their impacts on inequality differ within and between regions. Decomposing income inequality by region shows that Khomas (in which Windhoek is located), Karas, Erongo and Oshana are the greatest contributors to inequality. The first two regions appear above as highly unequal. Decomposition by location indicates that urban areas contribute relatively more to income inequality than rural areas. This is not surprising given that labour income has been found to be the major driver of inequality, and the largest share of the workforce is urban-based. There is greater inequality among male-headed households, and such households make a larger contribution to overall inequality. There is greater dominance of females and female-headed households in the rural economy, and it is in the rural economy where poverty is higher. Thus, the gender of the head of household seems to have influence on inequality. These results remain consistent, irrespective of whether one uses consumption expenditure per capita or net household income per capita.

Different household characteristics influence the level of income and hence inequality within the country. Decomposing inequality by household characteristics sheds light into the extent to which these characteristics contribute to total inequality. Primary education has the largest relative contribution to total inequality (at 13.5 per cent), followed by no equation (at 4 per cent). The larger the population size with these characteristics, the more likely it is that inequality will be higher.

Analysis of inequality by language spoken in the home shows a higher level of inequality among Khoisan-speaking households, followed by 'other European languages', Afrikaans and Caprivi language households. However, decomposition by language shows that Oshiwambo speaking households contribute relatively more to overall inequality, followed by Afrikaans and Nama/Damara languages respectively. Oshiwambo-speakers form the majority around the sources of power from independence, while the Khoisans remain marginal to the mainstream economy. Afrikaners controlled all spheres of life before 1990, and they still wield significant economic power. Decomposition by tenure of accommodation shows that households with no mortgage payments have a relatively larger contribution to inequality. This could be because they have greater flexibility in their expenditure allocations than households with rent and mortgage commitments.

The discussion above shows that inequality is driven by many different factors, and to varying extents. The policies aimed at reducing the inequality need to be designed with this in mind to ensure that those factors with the greatest impacts are addressed first.

6. Conclusion

The discussion above examined the structure of poverty and inequality. It examined the extent to which social protection reduces and/or enhances poverty and inequality. Starting from a premise that social protection schemes can reduce poverty and inequality, it has been shown that indeed social assistance and social protection schemes reduce inequality, but to different extents. Through various decomposition approaches and measures, it has been shown that inequality is driven by many factors. Central to the discussion is the labour market and associated incomes, which have been shown to increase inequality. Thus, ensuring that there are enough jobs and that the jobs pay a decent wage can go a long way in reducing inequality. As part of this strategy, the full implementation of the national employment policy of 2012 for the creation of decent jobs may need to be emphasised. Implementation of the policy will help reduce unemployment, which is pegged at a rate close to 30%. It has therefore been argued that there is a need for different approaches to addressing poverty and inequality, depending on the dominant forces behind the two social issues.

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Appendix: Main income sources' contributions to inequality