



Zimbabwe Economic
Policy Analysis and
Research Unit

Multidimensional Poverty in Zimbabwe: A Gender Perspective

**Advanced policy-focused
poverty analysis in
Zimbabwe**

Miracle Benhura
Fadzai Mhariwa

February 2021

ACKNOWLEDGEMENT

ZEPARU acknowledges the financial support provided by the World Bank-administered Zimbabwe Reconstruction Fund (ZIMREF), without which this study would not have been possible. ZIMREF is a multi-donor trust fund supported by Canada, the European Union, Foreign Commonwealth and Development Office (UK), Norway, Sweden, Switzerland and the World Bank's State and Peacebuilding Fund.

CONTENTS

ACKNOWLEDGEMENT.....	2
ABSTRACT.....	4
INTRODUCTION.....	5
BACKGROUND.....	6
OBJECTIVES OF THE STUDY.....	11
METHODOLOGY.....	13
CHOICE OF DIMENSIONS.....	15
DATA SOURCE AND DESCRIPTIVE STATISTICS.....	17
DISCUSSIONS OF RESULTS.....	18
DECOMPOSING MULTIDIMENSIONAL POVERTY.....	22
SENSITIVITY CHECKS.....	23
CONCLUSION AND POLICY RECOMMENDATIONS.....	24
REFERENCES.....	45

Abstract

This study explores gendered multidimensional poverty at household level and its heterogeneities across pertinent socio-demographics in Zimbabwe, over time. It utilises the 2011/12 and 2017 Poverty Income Consumption and Expenditure Surveys (PICES), and the Alkire and Foster Multidimensional Poverty Index. Results show that 17.3 percent of female-headed households and 16.8 percent of male-headed households were multidimensional poor in 2011. While these percentages were of the same order, this changed in 2017 where female-headed households faced higher multidimensional deprivation than male-headed households, 19 percent versus 13.3 percent (gender gap). Further, de jure female-headed households had higher multidimensional poverty than de facto female- and male-headed households. In general households headed by widowed/divorced men and women experienced relatively higher poverty than those headed by single and married individuals. Worse still, households with widowed/divorced heads had a temporal increase in poverty while the reverse was the case for their counterparts with married or single heads. The study also finds that the gender gap varies by geographic location; higher in rural than urban areas, and the magnitude exhibits heterogeneity across provinces. Moreover, in 2011 and 2017 low asset base, low per capita consumption expenditure, lack of access to electricity and unclean sources of fuel for cooking were the greatest contributors to multidimensional poverty. These dimensions indiscriminately affected all households regardless of the heads' sex and time period. Lack of agriculture equipment and having no adult who surpassed grade 7 in the household were additional contributors to household deprivation in rural areas, as well as unemployment in urban areas. Overall, asset deprivation and having no adult who surpassed grade 7 in the household emerge as the key contributors to the increase in the gender gap from 2011 to 2017. These results champion for poverty eradication measures that are gender sensitive and cognisant of the highlighted disparities and contributory factors.

Introduction

Ending poverty, everywhere, in all its forms and dimensions is the utmost global challenge (UNDP, 2019). Therefore the transformative 2030 Agenda for Sustainable Development, to which Zimbabwe is a signatory, invites countries to exceed traditional money-metric measures of poverty and embrace contextualised multidimensional measures. This foremost sustainable development goal (SDG) has a set target for countries to at least halve the proportion of men, women and children that suffer from multidimensional poverty (UNDP, 2019). Achieving this would serve to promote gender equity and women empowerment as per SDG 5. As such, gender equity is a prerequisite for economic development given the different but complementary roles that men and women play in society (Klasen and Lamanna, 2009; FAO, 2017). This is even more relevant for Zimbabwe as women comprise 51.9 percent of the population (Zimstat, 2016).

Zimbabwe has clear commitments to gender equity (FAO, 2017). It is a signatory to several international instruments such as the Convention on the Elimination of all forms of Discrimination against Women (CEDAW) and the SADC Protocol on Gender and Development. The country has gender focal points in all government ministries to ensure gender mainstreaming (FAO, 2017). Its Revised National Gender Policy of 2017 calls for gender justice, equality, integration, inclusiveness and shared responsibility for sustainable development. Regardless of such commitments, Zimbabwe is still inundated with gender inequalities at individual and household levels (c.f. Horrel and Krishnan, 2007; FAO, 2017, Zimstat, 2019). The welfare implications are worrisome given that the country has historically been grappling with non-trivial levels of poverty (Stoeffler et al., 2016; IPRSP¹, 2016-2018; Zimstat, 2019).

Poverty in Zimbabwe has always been enmeshed with the country's socio-economic developments where three unique economic phases can be identified; a stable period (1980-1997), and a crisis period (1999-2008) that was chronologically followed by a recovery period (Stoeffler et al., 2016). Regardless of the recovery period, extreme money-metric poverty remains high at both individual and household levels. In 2011, 22.5 percent of individuals in Zimbabwe were extremely poor and this worsened to 29.3 percent in 2017. This also applied to 16.2 percent of households in 2011 which exacerbated to 21.9 percent in 2017 (Zimstat, 2019).

When considered by sex of the household head, male-headed households were generally poorer than female-headed households in 2017, which is contrary to the stylised fact for many countries (Zimstat, 2019; Rogan, 2016). However, this conclusion is based on a

¹Interim Poverty Reduction Strategy Paper for Zimbabwe.

unidimensional assessment of well-being which necessitates complementary studies that view well-being from a gender sensitised multidimensional perspective.

Currently, there is a dearth of recent Zimbabwean literature that measures the multidimensional gender gap in poverty especially in the economic recovery period, to check progress. Yet such studies are useful for designing relevant social assistance policies. Available studies on multidimensional poverty include Stoeffler et al. (2016) and Bérenger (2017) who focussed on temporal changes at the national level; for 2001-2011 and 2005-2015 respectively. Musiwa (2019) investigated multidimensional child poverty considering gender and location. Horrel and Krishnan (2007) compared the situation of de facto and de jure female-headed households to that of male-headed households using 2001 survey data. More recently, Thobejane and Nyathi (2018) focused on poverty among female-headed households in one rural province (Matabeleland South Province). While these studies enlighten us on the existence of multidimensional poverty in Zimbabwe, they do not educate us on a more recent picture of the situation by sex of the household head, across all provinces and over time. Hence, this study fills this gap in literature, which is important for relevant policy analysis to feed into the preparation of the new comprehensive national development plan.

Background

Poverty eradication strategies have been the major thrust of all economic programmes that the Government of Zimbabwe (GoZ) has been implementing since independence. Poverty in Zimbabwe is largely structural, but is also exacerbated by transient factors triggered by economic policy and political factors, and exogenous factors such as climate change (IPRSP, 2016). Its forms include hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusion, as well as the lack of participation in decision-making.

Some progress was made in reducing poverty during the period 1980-1990 because at independence, in 1980, the GoZ initiated development planning as an instrument of achieving rapid socio-economic development and poverty reduction. It followed a socialist ideology with redistributive policies that required a large public expenditure on the social sector; health, education and social welfare programs (UNDP, 2010). Concomitant expansionary income policies promoted employment security and raised living standards through minimum wages (Zhou and Masunungure, 2006).

However, the introduction of the ESAP² in 1991 saw a reduction in most social sector spending. This reversed most gains the country had made towards poverty reduction.

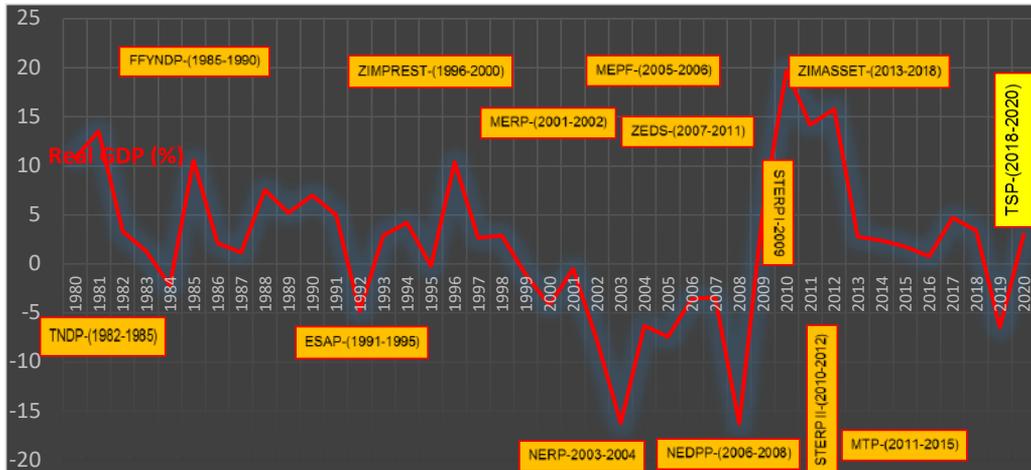
²Economic Structural Adjustment Programme.

The Zimbabwean economy plunged into a crisis during 1997-2008. This emerged from unsustainable budget deficits, high levels of inflation and interest rates, inter alia (RBZ, 2009). The GoZ embarked on unbudgeted for programmes which included participation in the civil war in the Democratic Republic of Congo and the provision of once-off payments and long-term pensions to veterans of the nation's liberation war. This dramatically increased government expenditures and resulted in unsustainable budget deficits (Wharton, 2014). This was worsened by the Fast Track Land Reform Program (FTLRP) launched in 2000 in violation of bilateral investment promotion and protection agreements (Madise, 2009).

Between 2000 and 2007 the Zimbabwean economy continued to shrink extensively as shown in Figure 1. This saw a prevalence of poverty and the unemployment rate was recorded at 80 percent (UNDP, 2010). During this crisis period, policy reversals exacerbated macroeconomic problems and resulted in little foreign reserves, a weak balance of payment and generally low economic growth (African Development Bank, 2009). In 2009, Zimbabwe adopted a multicurrency system to stabilise the economy. This improved economic growth. However, the country's fiscal position remained tight and the state remained under debt distress.

To redress the socio-economic challenges and in line with the Global Political Agreement (GPA) signed in 2008, STERP I and II were implemented for 2009-2012. A number of pro-poor policy measures were implemented through the 2009 national budget. These include cash budgeting that was complemented by resource allocations in support of strengthening the capacity of public institutions, restoring public service delivery in health and education, rehabilitating infrastructure, and improving social protection for vulnerable groups. Funds were also allocated to the Basic Education Assistance Module (BEAM) programme which had suffered from budget constraints. A positive GDP growth of 5.7 percent was achieved in 2009. Quasi-fiscal spending which had generated macro-economic instability was successfully eliminated.

Figure 1: National Economic Blue Prints and Real GDP growth rate for Zimbabwe: 1980-2020³



Source Ministry of Finance and Economic Development (2019)

Regardless of the gains, STERP faced implementation challenges including serious power shortages and inadequate supply of treated water to industry (Sibanda and Makwata, 2017). This increased unemployment due to company closures, at least 4610 companies closed between 2011 and 2014, forcing 55 443 people into joblessness (Budget Statement, 2015). The formal sector was performing below full capacity at 36.4% (CZI, 2019)⁴ which led at least 80 percent of the employed population into informal employment (Sibanda and Makwata, 2017).

In 2013 the GoZ launched the ZIMASSET, which was post the Government of National Unity. This was marked by deteriorating growth rates. The country was still facing economic challenges including poor service delivery by local authorities, water shortages, power shortages, foreign currency shortages, market distortions and rising inflation. These were aggravated by a severe 2018/19 drought which caused food insecurity. A humanitarian crisis also ensued from cyclone Idai and left about 270 000 people in urgent need of assistance

³TNDP (Transitional National Development Plan); FFYNDP (First Five Year National Development Plan); ESAP (Economic Structural Adjustment Programme); ZIMPREST (Zimbabwe Programme for Economic and Social Transformation); MERP (Millennium Economic Recovery Programme); NERP (National Economic Revival Programme); MEPF (Macro-Economic Policy Framework); NEDPP (National Economic Development Priority Programme), ZEDS (Zimbabwe Economic Development Strategy); STERP I & II (Short Term Emergency Recovery Programme); MTP (Medium Term Plan); ZIMASSET (Zimbabwe Agenda for Sustainable Socio-Economic Transformation); TSP (Transitional Stabilisation Programme).

⁴Confederation of Zimbabwe Industries.

(National Budget Statement, 2020). This saw the economy registering a negative economic growth rate of -6.5% in 2019. These national developments necessitate a temporal analysis of poverty in Zimbabwe.

Gender perspective of poverty in Zimbabwe

There is no universally accepted definition of household headship. It has been standard to equate headship with the person holding responsibility for the household's economic well-being and multiple versions have been attempted (Buvnic and Gupta, 1997). In sub-Saharan Africa male-headed households constitute the majority and culturally expected household type, while female-headed households are mostly an aftermath of marital shocks such as widowhood or divorce (Brown and van de Walle, 2020). As such, headship can be useful for identifying poor households in Africa, regardless of recent calls to abandon this dimension of welfare comparisons (Brown and van de Walle, 2020). However, standard welfare comparisons for male- and female-headed households require a consideration of two confounding factors which are particularly correlated to poverty in female-headed households; marital status and household characteristics (Brown and van de Walle, 2020). Empirical evidence from other developing countries (e.g. Buvnic and Gupta, 1997; Klaasen et al., 2015; Rogan, 2016; Liu et al., 2017) show that female- and male-headed households experience multidimensional poverty differently due to differences in power dynamics, economic opportunities and cultural norms, inter alia. On the one hand, some studies which include African countries find female-headed households to be the poorest of the poor (Buvnic and Gupta, 1997; Milazzo and van de Walle, 2015; Agbodji et al., 2013; Rogan, 2016). On the other, some studies find that female-headed households are not poorer than male-headed households. For instance, Quisumbing et al. (2000) using survey data for Africa, Asia, and Central America, found that female-headed were poorer than male-headed households only in 2 of 10 countries. Chant (2008) observed that poor male household heads were as vulnerable as female heads. There are a number of reasons for the lack of agreement, including inconsistent definitions of headship, considerable diversity among female-headed households and differences in how well-being is measured (Milazzo and van de Walle, 2015). Due to these empirical irregularities, results from existing literature cannot be generalised. Hence, the present study focusses on Zimbabwe.

There are several factors that may place female-headed households at high risk of poverty compared to male-headed households. These include gender wage gaps, women's prevalence in low-paid occupations, lack of work-family support and the challenges involved in accessing public benefits in developing countries.

Employment opportunities are limited for women world-wide. Although there has been a major growth in women's employment, the quality of the jobs still remains deeply unequal (Langdon, 2013). Informal employment is generally a large source of employment for women in Zimbabwe, they constitute 54 percent of the workforce (Zimstat, 2019). In 2017, the money-metric poverty rate among households without salaried workers was 89 percent higher than that for households with a salaried worker. In urban areas, poverty was highest among households that depended mostly on own business, reflecting low productivity of

these businesses where mostly women are employed (Zimstat, 2019). This may expose female-headed households to poverty, given that most of them do not have adult male members. However, with the considerable labour market informality in Zimbabwe, many men are also suffering from underemployment, low productivity and low salaries. The welfare impact could even be worse for male-headed households who lost their meaningful source of survival in the formal sector.

Female householders can be classified as *de jure* or *de facto*. *De facto* female headship occurs when a woman is head because her husband is temporarily absent. *De jure* female heads are identified by marital status such as never married, divorced/separated or widowed (Zimstat, 2019). This distinction has implications on prevalence of poverty. Households headed by married females who have remitting husbands may be better off than female- and male-headed households who have non-remitting members (Buvinic and Gupta, 1997; Horrell and Krishnan, 2007; Brown and van de Walle, 2020). In contrast, households headed by widowed/divorced women may be worse-off than others, if the husband was the main breadwinner or facilitated access to markets and services (Brown and van de Walle, 2020). In Africa, some widow-headed households have been identified as significantly impoverished (Appleton, 1996; van de Walle, 2013). This could be partly due to lack of spousal support and expenditure of resources during illness and death (Kennedy and Haddad, 1994). There is also a potential welfare heterogeneity among households headed by never married (single) women. Those headed by single women whose education and economic position allow them some independence could be better off than other female- and male-headed households (Brown and van de Walle, 2020). Poverty is however likely to be higher among single mothers than male-headed households due to the dual role of provider and caregiver (ZHDR⁵, 2012). Nonetheless, in 2017, male-headed households in Zimbabwe were economically poorer (23.1 percent extremely poor) than female-headed households (19.8 percent). Widowed female heads were somewhat poorer than their married counterparts - 22.5 percent vs. 21.2 percent (Zimstat, 2019).

Women in Zimbabwe are more likely to participate in the agriculture, fishery and forestry sector than men, which is the mainstay of the economy. About 54.6 percent of the sector's total workforce is female. The contribution of women in the sector is largely unpriced as they disproportionately work as unpaid family workers, and they comprise 70 percent of household and family labour in rural areas (FAO, 2017; Zimstat, 2016). Agricultural resource ownership is also skewed towards men. For instance, the FTLRP allocated only about 18-20 percent of A1 farms to women (small farms of communal area settlement patterns) and 12 percent of A2 farms (relatively large firms owned on an individual basis). Overall, of the 96 percent agricultural land acquired under the FTLRP, only 16 percent was allotted to women (Utete, 2002, cited in FAO, 2017; MoAMID, 2013). This compromises rural female-headed households' participation and productivity in the agriculture.

⁵Zimbabwe Gender Dimensions of Poverty Thematic Report.

Male-headed households are also more likely to use chemical fertilisers, have contact with agricultural extension services, and have at least one member with a formal farming qualification than female-headed households (Horrell and Krishnan, 2007; Matshe et al., 2010). Another constraint to agricultural productivity in small holder farms is unavailability of appropriate agricultural technology, limited access to agricultural machinery and equipment to timely perform major farm operations, such as tillage, weeding, harvesting and post-harvest processing (MAMID, 2013; FAO, 2017). While the constraint extends to both male and female farmers, the situation is worse for women (FAO, 2017).

Geographic location is another determinant of households' poverty status. A study for South Africa found that female-headed households are deprived largely because they are more likely to reside in rural areas than male-headed households. Therefore, they suffer more from the associated lack of access to water, sanitation, clean cooking fuels, and education (Klasen, 2000). In Zimbabwe, 69.2 percent of all households are situated in rural areas, and extreme poverty is higher among rural (31.9 percent) than urban (3.3 percent) households (Zimstat, 2019). The dissimilarity is partly explained by climate change which manifests as frequent droughts, floods, erratic rainfall and extreme temperatures. This negatively affects vulnerable households with little or no adaptation strategies (Mubiru et al., 2018). Climate change is also expected to jeopardize women's livelihoods by increasing the time-use burden and reducing economic opportunities, with negative effects on female-headed households. A study for the rural district of Chiredzi, in the southeast of Zimbabwe, found that the most vulnerable households to climate change included female-headed and child-headed households, those lacking access to irrigation and poor households generally (FAO, 2017). Therefore, it is important to study multidimensional poverty in Zimbabwe by sex of the household head.

Objectives of the study

This study characterises the magnitude, temporal evolution and spatial heterogeneity of household poverty among female- and male-headed households in Zimbabwe, using recent nationally representative datasets. Its objectives are three-fold. First the study investigates whether there are differences in experiences of multidimensional poverty between female- and male-headed households in Zimbabwe during the economic recovery period, and whether this has changed over time. That is, the gender poverty gap is measured using the multidimensional poverty index (MPI) and PICES data for 2011/12 and 2017. Results of this analysis are key for informing government policy on whether it should pursue a gender neutral or a gender sensitive stance to eradicate household poverty in Zimbabwe. The analysis of gendered multidimensional poverty trends serves as a stock take on whether government policies pursued during the economic recovery period served to reduce or worsen the gender poverty gap, over time. Households that incurred an improvement or deterioration in well-being are identified in the process; with implications for corrective measures.

The second objective is to explore whether there are differences in poverty dimensions that female- and male-headed households are deprived. Technically, we decompose the MPI and analyse the percentage contribution of each of its underlying dimensions by gender of the household head, over time. Dimensions of interest are Education, Health, Income, Living Conditions and Household Assets. This exercise identifies the most important contributors to poverty for each household type and inform targeted counter-policies. From an economic viewpoint, this characterisation is important given the scarcity of resources for poverty eradication in Zimbabwe and the associated opportunity cost of pursuing a certain policy.

The third objective is to analyse whether there are heterogeneities in gendered household poverty experiences by geographic area and marital status of the household head. Specifically, we explore multidimensional poverty experiences of male-headed and female-headed households within rural/urban areas and provinces. We also separately compare the situation of de facto and de jure female-headed households to that of male-headed households, given that male-headed households are the 'norm' in sub-Saharan Africa. We subsequently compare the situation of male- and female-headed households by type of marital status, to account for heterogeneity within household type. The results assist with information on whether poverty reduction policies in Zimbabwe should be sensitive to gender, marital status and geographic location of poor households.

The specific research questions are as follows:

- Do female- and male-headed households in Zimbabwe have different experiences of multidimensional poverty (gender poverty gap)?
- Was there a temporal evolution of the gender poverty gap in Zimbabwe over the period 2011/12-2017?
- How does the gender poverty gap and its change over time compare for rural versus urban households?
- Is the gender poverty gap sensitive to marital status of the household head?
- What is the relative percentage contribution of Education, Health, Income, Living Conditions and Household Assets to the multidimensional deprivations faced by female-headed and male-headed households?
- Are there differences in poverty dimensions that female- and male-headed households are deprived?

Methodology

This study utilises the Alkire and Foster (AF) (2011a and 2011b) Multidimensional Poverty Index (MPI) based on the ‘counting’ method to achieve its objectives. The AF method measures poverty at household level (i) and allows aggregation across male- and female-headed households. It is also flexible to inclusion of several dimensions of welfare, and applies to ordinal data. Further, the MPI is decomposable to show the relative contribution of deprivations in different welfare dimensions to poverty, by sex of the household head. This is fruitful for identifying any differences in poverty dimensions that female- and male-headed households are deprived.

Implementation of the AF method relies on a dual cut-off identification strategy. In the first step, five welfare dimensions d have been identified as discussed below. Each dimension has been assigned weight W^d given its relative importance. J indicators were chosen to capture each dimension and each has been assigned a sub-weight of the dimension⁶ (W_j^d). Then the first set of deprivation cut-offs $Z_j^d \in Z$ has been applied to each indicator in a dimension. Each cut-off has been set at discretion and presents the minimum achievement for a household to be classified as not deprived in that dimension, this is similar to a poverty line in money-metric measures of poverty. Thus a household is deprived in the J^{th} indicator if its achievement lies below Z_j^d .

For each household, the weights for dimensions that fall below the cut-offs were added c_i . Then the second cut-off k has been set at one third of the dimensions following Alkire and Santos’ (2010) Global Poverty Index (GPI). Thus a household is considered as multidimensional poor if its weighted deprivation count is at least k . However, robustness checks are conducted to check sensitivity of the analysis to choice of k .

Depending on the relative magnitudes of c_i and k households were then classified as multidimensional poor or non-poor. If for a given household $c_i \geq k$, then it is multidimensional poor. The headcount poverty ratio is calculated as $H = n/N$ where n = number of multidimensional poor households and N is the population. In order to account for the depth in severity of multidimensional poverty, intensity (A) is calculated as the average deprivation share across the poor.

$$A = \frac{1}{nj} \sum_{i=1}^N w_i c_i^*$$

⁶For instance, in the case of education if the indicators are limited to children’s school enrolment and adult education, and $W^d=1$ then $W_j^d=0.5$.

where $w_i c_i^*$ is the weighted number of deprivations for poor households. The adjusted head count is given by $M_0 = H * A = \mu(g^0(k))$. Where $g^0 = [g_{ij}^0]$ is a matrix whose ij^{th} entry is 1 if household i is deprived in the j^{th} indicator, and 0 otherwise (Alkire and Foster, 2011b; Rogan 2016). Thus, the adjusted headcount M_0 considers both the frequency and intensity of multidimensional poverty. It denotes the total number of weighted deprivations experienced by the poor divided by the total possible number of deprivations that could be experienced by the population.

To analyse whether female- and male-headed households in Zimbabwe incur different multidimensional poverty experiences M_0 is computed separately by sex of household head, i.e. MPI. Then ratios of female-headed to male-headed households' M_0 are calculated to show relative deprivation between these households (gender gap). To capture changes in the gender gap over time a comparable analysis is carried out for 2011/12 and 2017. To unpack whether there are geographic and marital status related heterogeneities in the gender gap, the analysis is also carried out separately for rural and urban households, by province, by household head's type of marital status, as well as for male-headed households versus either de jure or de facto female-headed households.

As for the second objective, it is achieved through separately decomposing the aggregate measure of the MPI for male-and female-headed households. This helps to show the relative contributions of individual indicators to the overall adjusted headcount (Alkire and Foster 2011a; Alkire and Santos, 2010; Rogan 2016). The contribution of each indicator J to M_0 is derived as

$$\frac{W_j^d * CH_j}{M_0}$$

where W_j^d and M_0 are as previously defined and CH_j is the censored headcount; proportion of the population multidimensional poor and simultaneously deprived in the indicator. This is computed for each indicator as discussed below. Results are analysed in a comparative context, to verify whether male-and female-headed households suffer from deprivations in similar dimensions, and which dimensions significantly drive these genders poverty with implications for policy.

Objective three is achieved using steps of the AF method discussed for objective one. Also different cut-off points are applied to verify sensitivity of the results to choice of cut-off points given that these are set normatively.

Choice of dimensions

Conceptually the study is rationalised by Sen's (1985, 1999) Capability Approach. This captures the diverse, plural, or multidimensional nature of human conditions and development experiences which is not attainable from unidimensional measures. The choice of welfare dimensions for study is based on existing literature on multidimensional poverty (e.g. Alkire and Santos, 2010; Stoepler et al., 2016; Rogan, 2016; Mushongera et al., 2017), data and some contextual information about human conditions in Zimbabwe. Five welfare dimensions have been established for the study; Education, Health, Income, Living conditions and Assets. The indicators and weights are shown in Figure 2 and Table 1. It is notable that the main analysis of this study has, in line with international literature on multidimensional poverty, applied equal weights to the domains (Alkire and Foster, 2011a). Contextualised weights discussed below have been used for sensitivity checks of the results. Education is an important dimension of well-being. The right to education is enshrined in constitutions of most countries and global agenda such as the SDGs. Education and health contribute to human capital accumulation which may increase worker productivity and labour market income (Becker, 1993; Lam and Duryea, 1999). The World Bank (1980) opines that development of human resources is crucial to fight poverty. Hence, education has been considered in many studies of multidimensional well-being (c.f. Batana, 2013; Alkire and Santos, 2010; Levine et al. 2011). Education achievement is also important in Zimbabwe where literacy rates are high by developing country standards (UNESCO, 2020). This serves as a crucial underlying condition for households' socioeconomic development. Hence, a household is deprived if it has one child between 6 and 12 years who is not enrolled in school. This criteria follows the importance of human capital development in early stages of life. In addition, a household is deprived if none of the adult members surpassed grade 7. Normatively, this dimension is given a weight of 1 out of 5.

The Income dimension has been added to capture that currently economic status and human welfare in Zimbabwe cannot be well explained by educational attainment. The labour market has a large precarious informal sector and a lot of hidden unemployment, e.g. some graduates have been reduced to vendors (IPRSP, 2016; Zimstat, 2019). Therefore, the signalling role of education for economic empowerment has largely been weakened. This also brings into question, the suitability of reported unemployment as a measure of economic deprivation. The reality is that some households suffer from unemployment but have a better economic status than their employed counterparts as they are sustained by remittances from relatives in the diaspora. Thus, a better indicator of household economic deprivation would be expenditure status. To this effect, we classify deprived households as those with per capita consumption expenditure below the food poverty line (extreme poverty), and those with an unemployed adult member. Given the intricate link between education and income, this dimension has also been given a weight of 1 out of 5.

Living conditions are another significant determinant of household well-being in Zimbabwe. These include household access to public utilities such as water supply, sanitation and electricity, which are crucial both for humanitarian and pragmatic reasons (Brown, 2009).

They promote poverty reduction and improve household wellbeing in several ways (Komives et al., 2005). For instance, they allow individuals to improve their health status and education level, which results in a more productive society (Hailu and Tsukada, 2009). In Zimbabwe there has been poor service delivery by local authorities for over a decade and standards of living such as access to water, electricity, clean sources of fuel for cooking and sanitation deteriorated (Stoeffler et al., 2016). In the contextualised analysis, this dimension is accorded the highest weight (2) given that the deterioration of service delivery has brought a time-use burden for some household members. For instance, long periods of interrupted water supply imply that individuals need to forgo leisure or other productive activities to fetch water, especially females. Where the secondary water sources are unprotected this fuels health conditions such as cholera and typhoid. The same applies to respiratory conditions linked to unclear energy sources, and open defecation due to lack of sanitation. Indicators for this dimension, shown in Table 1 are closely linked to what has been used in the GPI literature (c.f. Alkire and Santos, 2010).

Good health status is also required for households to achieve life satisfaction/happiness. As highlighted above, in Zimbabwe the deteriorating living standards have exposed many people to health conditions and also rendered health care unaffordable or unavailable to some citizens. For this study, a household is deprived of health if one member has been ill but did not get healthcare in the previous 30 days. The presence of a household member with a chronic disease would be complementary to this indicator. However, information for this variable was captured differently in 2011 and 2017 which could bring comparability biases. In 2011 the survey question directly asked if a person was sick from an acute or a chronic illness, while in 2017 individuals indicated their actual disease and in some non-obvious cases did not distinguish whether the diseases was acute or chronic. Diseases that we classified as chronic include HIV, diabetes, mental disorders, hypertensive diseases, and respiratory diseases. Both indicators could be compromised by under reporting as they only capture health status in the past 30 days, while non-communicable diseases (NCDs) have been increasing in Zimbabwe (Chokunonga et al., 2010; Mutowo et al., 2014). Besides they are a limited portrayal of health status since the datasets at use do not have information on more generic indicators such as child nutrition or child mortality. Food sufficiency across households could have been utilised but the information is only available in 2017. Notably, in analyses that do not invoke equal weights health has been allocated a weight of 0.5 given that individuals' health in Zimbabwe is intricately linked to living conditions. Hence, improving living conditions would go a long way in reducing the health burden suffered by many.

Household assets have also been specified as another dimension. In generic MPI studies, assets fall under the living conditions dimension, in this study they have been singled out as they give an indicator of deprivation linked to permanent rather than recurrent consumption (Alkire and Santos, 2010). Ownership of physical assets can decrease the probability of being monetary poor (Sackey, 2005). Given that income is most often unstable, assets are useful for smoothing consumption (Brandolini et al., 2010). Asset ownership thus provides a better picture of the capacity of households to manage their vulnerability to poverty, a

lack thereof acts as a proxy for extreme poverty (McKay, 2009). Carter (2007) postulates that assets can characterise whether there is structural or stochastic poverty. For this study, a household is deprived if it does not own a vehicle and at least 2 of: television, radio, cell phone, landline telephone, fridge, bicycle, motorcycle. These assets facilitate human mobility, communication, entertainment, and storage of perishable food. This enhances quality of life through play and social inclusion. For rural areas, a household is also deprived if it does not own land and agricultural equipment which is closely linked to its means of survival (Stoeffler et al., 2016). In the case of land, this study utilises land ownership rather than land size, since in 2017 information on land size is only available for selected households in the agriculture module. This dimension is attached a weight of 0.5 given its intertwining with living conditions.

Data Source and descriptive statistics

The study utilises the 2011/12 and 2017 Poverty Income Consumption and Expenditure Survey (PICES) conducted by ZIMSTAT. To some extent, these nationally representative household surveys allow for a comparative analysis of household well-being over time. Hence, the two cross-sections are used to assess poverty dynamics among male-headed and female-headed households during Zimbabwe's recovery period. Only households that had information on our key variables are included in the study. In 2011 these were 29222 households of which 62 percent were male-headed, while 2017 had 29330 households and 62 percent were male-headed. De jure female-headed households comprised 63 percent of all female-headed households in 2011 and 2017. Urban households were around 20 percent of all households in both periods.

Table 2 presents headcount ratios of household deprivation across indicators used for the study by selected characteristics in 2011 and 2017. For all households, there has been a slight temporal improvement in living conditions except for access to clean sources of energy for cooking. In 2011, 67.8 percent were deprived in this indicator and this increased to 93.2 percent in 2017. Another deterioration occurred for households that had an unemployed adult as they increased from 5.2 percent to 9.6 percent. Similarly households whose expenditure per capita was below the food poverty line increased from 16.2 percent to 22.9 percent. On a positive note, there has been progress in education and health domains. For instance, households with school eligible children aged between 6 and 12 years who were not enrolled in school decreased from 8.1 percent to 2.6 percent from 2011-2017. Thanks to government intervention e.g. through the BEAM programme. For health, households that had a member who suffered from a chronic illness decreased from 16.4 percent to 9.2 percent. These changes suggest that multidimensional poverty could have also been slightly reduced from 2011-2017.

Concerning gender differences, in 2011, female-headed households were relatively less deprived in access to electricity, children's lack of school enrolment and unemployment. Male-headed households suffered lesser deprivation in adult education, chronic health conditions and access to health care than female-headed households. This could be

linked to household composition and that women disproportionately suffer from chronic diseases than men. There were no significant differences in male- and female-headed households who faced deprivation in the other indicators, see Table 2. In 2017, there were gender differences in deprivation across all indicators barring children's school enrolment. However, male-headed households had lower deprivation headcounts than female-headed households in most of the indicators, except for access to protected water and consumption expenditure. The latter could be suggesting that high informality in the labour market has made men worse-off since they were more likely to be in formal sector jobs, while many women already had experience participating in the informal sector. Taken together these statistics suggest that male-headed households were less likely to be multidimensional deprived in 2017 than female-headed households.

Further, Table 2 shows that, in 2017, de facto female-headed households were less deprived across indicators than de jure female-headed households, except for consumption expenditure and access to decent sanitation. This necessitate an analysis of MPI by marital status of the household head. Another notable disparity is that urban households were generally less deprived than their rural counterparts which requires a spatial analysis of MPI. Also a cursory look at Tables 3 and 4 reveals that deprivation headcounts varied across provinces in 2011 and 2017, respectively. Also within the provinces, male- and female-headed households seem to present different incidences of deprivation across some indicators. Hence, a rigorous analysis of MPI by gender of the household head was also carried out by provincial location.

Discussion of Results

Gender differences in Multidimensional poverty

Results for MPI are estimated for the multidimensional poverty cut off of $k=33\%$ of the weighted deprivations which sum to 1. Different cut off points are used to assess the sensitivity of the results. Households are classified as multidimensional poor if their weighted deprivation count is at least k . The discussion below focusses on the overall picture, rural and urban households, households by provincial location, and households by marital status of the household head.

National picture

MPI results for the country as a whole are presented in Table 5. The national multidimensional adjusted poverty headcount ratio (M_0) was 0.170 in 2011 and 0.153 in 2017. This multidimensional poverty incidence decreased by 0.017 percentage points i.e. (9.8 percent) between the two periods, which is statistically significant at 1 percent. While multidimensional poverty is still evident, this result suggests that the incidence is slowly decreasing within the country's economic recovery period. Notably, our result for 2011 is on the same order as Stoeffler et al. (2016) who reported M_0 of 0.193, although their study had a national rather than a gender perspective.

Concerning gender differentials, results for M0 show that 17.3 percent of female-headed households and 16.8 percent of male-headed households were multidimensional poor in 2011. However, these percentages are statistically similar at the 5 percent level. This follows as both poor female- and male-headed households were deprived in about 45 percent of the weighted indicators; measured by the intensity (A) of multidimensional poverty. The multidimensional poverty head counts (H) for both household types almost converged at a poverty incidence of 37 percent. The picture changed in 2017 as female-headed households faced higher multidimensional deprivation than male-headed households. The M0 for male-headed households was 0.133 while that for the female-headed was 0.19 suggesting a gender differential of 43 percent⁷. The disparity was entirely driven by the gender difference in observed poverty incidence (43 percent). Further, the M0 for female-headed households increased by 9.9 percent from 2011 to 2017 while that for male-headed households decreased by 21.3 percent. These results show that although both household types suffered from multidimensional deprivation in 2011, the situation for female-headed households deteriorated in 2017 while that for male-headed households improved. Inference can be made that gender parity could be achieved by lowering poverty incidence among female-headed households in Zimbabwe.

Rural-urban households

MPI results for rural and urban households are shown in Table 6. In 2011 the M0 for female-headed households in urban areas was 0.072 compared to 0.085 for their male-headed counterparts. However, these poverty experiences are statistically similar which dismisses evidence of a gender gap. The situation was different for rural households as the gender gap in M0 showed that female-headed households were more deprived by 9 percent, due to their relatively higher poverty incidence (H) than male-headed households (8 percent gender gap). In 2017, 4.6 percent of female-headed households and 3.6 percent of male-headed households in urban areas were multidimensional poor, again due to a high poverty incidence rather than poverty intensity (A). This yielded a statistically significant gender gap of 27 percent. The result also extended to rural areas as female-headed households were 22 percent multidimensional poorer than male-headed households. Thus, female-headed households in rural areas were consistently poorer than their male-headed counterparts, and the gender gap increased over time.

A temporal analysis of the multidimensional poverty experiences by sex of the householder reveals that female-headed households experienced a poverty increase from 2011 to 2017 regardless of geographic area, while a decrease was registered for male-headed households. The highest deterioration in poverty experience was encountered by female-headed households in urban areas (48.3 percent increase in M0) whilst the highest improvement accrued to male-headed households in rural areas (5.2 percent decrease in M0). When

⁷This is simply the ratio of the female-headed households' poverty to that of male-headed households', when the ratio is greater than 1 it implies that female-headed households are more likely to be poor than male-headed households (McLanahan et al., 1989 cited in Rogan, 2016).

considered alongside the national picture, this outcome links Zimbabwe's decline in multidimensional poverty over the given period to male-headed rather than female-headed households.

Marital status

In light of existing literature that household welfare may vary by the head's marital status, we further analyse multidimensional poverty by marital status of the household head. In the preceding discussion, female-headed households were shown to have a higher extent of deprivation than male-headed households. Hence, we compare the M0 of male-headed households to those for de facto and de jure female-headed households. Table 7 shows that in 2011, 17.8 percent of de jure and 16.5 percent of de facto female-headed households were multidimensional poor compared to 16.8 percent of male-headed households. These figures were, however, statistically similar which dispels the existence of a gender gap.

In contrast, there were evident differences in adjusted poverty head count ratios across household type in 2017. De jure female-headed households had an M0 of 0.206, while this was 0.164 for de facto and 0.133 for male-headed households. This shows that de jure female-headed households' deprivation score was 25.6 percent higher than de facto female-headed households'. Based on these figures, statistically significant gender differences in multidimensional deprivation emerged. De jure female-headed households were 55 percent more deprived than male-headed households, while this relative deprivation was 23 percent for de facto female-headed households. Thus, de jure female-headed households in Zimbabwe were relatively worse off than de facto female-headed households when compared to male-headed households. Results for changes in poverty over time show that de jure female-headed households incurred about 16.3 percent increase in multidimensional poverty from 2011 and 2017, while de facto female headed households incurred a negligible decrease of 0.3 percent.

Table 8 presents additional results that examine multidimensional poverty by gender of household head and marital status. We compare outcomes of never married (single), married and widowed/divorced female-headed households to their male-headed counterparts.

Never married (single) heads: In 2011, adjusted poverty head count was marginally higher among single female- (M0 of 0.161) than single male-headed households (M0 of 0.156). The opposite was observed in 2017 as female-headed households' M0 was 0.098 compared to 0.109 for the male-headed. Both single female- and male-headed households experienced a decrease in multidimensional poverty from 2011 and 2017, with higher decreases registered among the single female-headed households (39.1 percent compared to 30.1 percent).

Married heads: In 2011, the incidence of multidimensional poverty was marginally lower among married female- relative to married male-headed households; 16.5 percent against 16.9 percent. This position was reversed in 2017 as 16.4 percent of households headed by married females were multidimensional poor compared to 13.1 percent of their

male-headed counterparts. From 2011-2017, male-headed households experienced a considerable decrease in multidimensional poverty (21.9 percent) while a trivial decrease was observed (0.30 percent) among female-headed households. Thus, married female-headed households were worse off over time compared to married male-headed households.

Widow/divorced heads: In both 2011 and 2017, multidimensional poverty was higher among households with widow/divorced female heads compared to their counterpart male-headed households. For instance, 21.5 percent of the female-headed households were multidimensional poor in 2017 compared to 18.2 percent for the male-headed. Generally, both widowed/divorced male- and female-headed households experienced an increase in multidimensional poverty from 2011 to 2017. The poverty increase was much higher among female-headed households (20.1 percent) compared to male-headed households (5.20 percent). When considered across marital status groups, multidimensional poverty was higher among households headed by the widowed/divorced, in both 2011 and 2017. Worse still, households with widowed/divorced heads experienced a temporal increase in poverty while other groups had a decrease. These results indicate that poverty eradication among female-headed households in Zimbabwe should be sensitive to the householder's marital status; widows and divorcees are worse off compared to their married and single counterparts.

Provincial Location

Multidimensional poverty has also been estimated for the country's ten provinces which include two cities (Harare and Bulawayo). Table 9 presents the overall results for 2011 and 2017. In brevity, these show that experiences of multidimensional poverty varied across the provinces. In 2011, Bulawayo (0.007) and Harare (0.055) had the lowest multidimensional poverty head counts (M0) while Matebeleland North had the highest (0.349). At the same time, M0 ranged from 0.21 to 0.24 for Mainland, Midlands and all Mashonaland provinces (East, West and Central) and it was 0.28 in Masvingo and Matebeleland South. Table 9 also shows percentage point differences in the provinces' multidimensional poverty head counts over time. The adjusted poverty headcount increased by 0.014 percent points in Bulawayo while it did not show a statistically significant change in Harare and Mashonaland central. The remaining provinces saw a decrease in multidimensional poverty from 2011 to 2017. This decrease ranged from 0.04 to 0.06 points in Mashonaland West, Matebeleland provinces, Midlands and Masvingo. Manicaland and Mashonaland East had a lower decline which hovered around 0.02 percent points. These relatively small changes explain the modest decrease in poverty across the country from 2011-2017.

Next, we discuss results for the gender gap in multidimensional poverty by provincial location that are presented in Table 10 for both 2011 and 2017. In 2011 male- and female-headed households within the country's seven out of ten provinces had similar incidences of multidimensional poverty from a statistical viewpoint. Exceptions were Mashonaland East and Matabeleland North and South provinces where female-headed households were about 10 percent more deprived than male-headed households. When considered with

the overall result for 2011, this suggests that rural areas in these three provinces were key drivers of the gender gap in 2011.

Table 9 also shows that Harare and Bulawayo did not present evidence that male- and female-headed households incurred different experiences of deprivation in 2017. The respective M0 for male- and female-headed households in Bulawayo (Harare) were 0.020 and 0.022 (0.045 and 0.050), these did not differ statistically. These findings follow those for urban areas in 2017, of which these provinces are a subset. Outcomes for the remaining provinces show that female-headed households within the provinces were more deprived than male-headed households. Ranking the provinces by size of the gender gap places Midlands and Mashonaland West as being relatively better followed, in corresponding order, by Matebeleland North, Masvingo, Manicaland, Matebeleland South, Mashonaland Central and Mashonaland East. The specific gender gaps were 9.9 percent for Midlands and Mashonaland West, 15 percent for Matebeleland North, 25.3 percent for Masvingo, 28.1 percent for Manicaland, 29.9 percent for Matebeleland South, 33.3 percent for Mashonaland Central and 34 percent for Mashonaland East. These results suggest female-headed households in other provinces than Harare and Bulawayo became more deprived over time compared to their male-headed counterparts. Moreover, devolution policies in Zimbabwe should be sensitive that the gender gap in poverty is heterogeneous across provinces.

Decomposing multidimensional poverty

The multidimensional poverty index M0 can be decomposed to assess the contribution of each dimension to poverty, which is important for policy purposes. Tables 11 and 12 show results for the overall picture, male- and female-headed households in general and by rural and urban areas, in 2011 and 2017. In both 2011 and 2017, low asset base, lack of access to clean sources of fuel for cooking, access to electricity and extreme poverty, were the greatest contributors to multidimensional deprivation. These dimensions indiscriminately affected all households regardless of the heads' sex and time period. However, in 2011 poor adult education also had a significant influence on female-headed households' deprivation, while it affected both household types in 2017. Notably, low household asset base and unclean source of fuel for cooking contributed 51 percent to overall poverty in 2011 and 2017.

For urban areas, in 2011, low asset base explained almost 35 percent of deprivation faced by both household types, chronic diseases, no access to health care, poor adult education, unclean source of fuel for cooking and low access to electricity were also notable contributors. Extreme poverty also contributed to deprivation in male-headed households while poor adult education had a slightly larger contribution to poverty for female- than male-headed households. In 2017, health and education were low contributors, whereas unemployment and unclean source of cooking fuel became greater sources of deprivation for both household types, although less than assets.

Similar to urban households, low asset base and unclean source of fuel for cooking were also significant sources of deprivation in rural households in 2011, regardless of household type. Other sizeable contributors were agriculture equipment deprivation, low access to electricity, extreme poverty and poor adult education. While these indicators were also significant in 2017, extreme poverty overtook assets to become the largest contributor to deprivation in male-headed households (15 percent versus 12 percent). Notably, extreme poverty had a relatively larger contribution to deprivation in male-headed (15.3 percent) than female-headed (11.7 percent) households. The relative contribution of agriculture equipment deprivation, poor adult schooling and extreme poverty to multidimensional poverty in female-headed households also increased from 2011 to 2017. More importantly, a meticulous analysis of the results shows that, overall, asset deprivation and having no adult who surpassed grade 7 in the household were the key contributors to the increase in the gender gap from 2011 to 2017. This discussion largely shows that male- and female-headed households in Zimbabwe were deprived in similar dimensions. Also rural households faced many contributors to their poverty than urban households. This explains why multidimensional poverty is relatively higher in rural areas. To a large extent, these results indicate that although female-headed households in rural areas are more deprived than others, blanket policies to eradicate poverty should be adopted within a given area.

Sensitivity checks

To assess robustness of our results we carry out two types of sensitivity checks that are linked to indicator weights and cut off points given normative choices surrounding their specification in the A-F method. Poverty domains in the main analysis were equally weighted. In this section, context specific weights were applied to the variables as discussed earlier. The five domains were weighted as follows: Education (20%), Health (10%), Income (20%), Living conditions (40%) and Assets (10%), see Figure 3. Results in Table 13 confirm that nation-wide poverty decreased (by 12.1 percent) from 2011-2017. Also in 2011, there was no statistically significant gender bias in occurrence of multidimensional poverty. In 2017 female-headed households were generally more deprived than male-headed households – gender gap of 24.9 percent (MO of 20.6 compared to 16.5). The results also confirm that multidimensional poverty decreased among male-headed households (by 19.5 percent), while it increased among female-headed households (by 1 percent), although the latter is statistically insignificant.

To assess sensitivity of the results to different cut offs, multidimensional poverty was estimated using equal weights and cut off points of 10 percent, 20 percent, 30 percent, 40 percent and 50 percent. The results are presented in Figure 4 (overall results), Figure 5 (by sex of the household head). A meticulous analysis of the graphs shows that the results are qualitatively in congruence with those obtained at cut-off of 33 percent, which shows less sensitivity to choice of cut-off point. Taken together, these robustness checks, shows that our main results can be relied on.

Conclusion and Policy Recommendations

Multidimensional poverty incidence in Zimbabwe decreased by 9.8 percent between 2011 and 2017. This result suggests that the decline in poverty from the crisis period to the beginning of the recovery period that was unearthed by Stoeffler et al. (2016) over the period 2001-2011 is being sustained. Occurrence of multidimensional poverty did not discriminate households by sex of the household head in 2011. This could be due to a lagged effect of the economic crisis that generally eroded household welfare. However, the landscape changed in 2017 as female-headed households faced higher multidimensional deprivation than male-headed households. This suggests that the relative position of female-headed households became worse over time. De jure female-headed households were more deprived than de facto female-headed households, and they were also more deprived when compared to male-headed households. In addition, households with widow/divorced heads experienced higher poverty in both 2011 and 2017 compared to households headed by single or married heads. This result holds for both female- and male-headed households, with the former experiencing a higher increase in multidimensional poverty. Further, multidimensional poverty varied across the ten provinces but an analysis of the gendered household poverty gap by geographic location showed that only rural areas were affected since they faced many contributors to their deprivation than urban households.

Generally, in 2011 and 2017, low asset base, low per capita consumption expenditure, lack of access to electricity and unclean sources of fuel for cooking were the greatest contributors to multidimensional poverty. These dimensions indiscriminately affected all households regardless of the heads' sex and period. Therefore, sources of deprivation in female- and male-headed households affected both households alike. Lack of agriculture equipment and having no adult who surpassed grade seven in the household were additional contributors to household deprivation in rural areas, as well as unemployment in urban areas. We also noted that asset deprivation and having no adult who surpassed grade 7 in the household were the key contributors to the increase in the gender gap from 2011 to 2017.

Several recommendations to the GoZ come out of this study's findings. Importantly, policies that relax constraints to asset ownership and strengthen poor households' welfare and their economic empowerment are essential. This could include strengthening land rights for poor households with particular attention to female heads, and promoting alternative forms of collateral to improve poor female household heads' and other vulnerable group's access to credit.

The GoZ and its stakeholders can also implement graduation-type ('cash-plus') social protection approaches to equip poor households, and poor female heads in particular, with a package of assets, skills, and livelihoods that can help them emerge from poverty.

Low household income/expenditure can be improved by promoting the creation of decent jobs and bolstering small-to-medium enterprises (SMEs). For instance, the GoZ can support training programs which teach female entrepreneurs socio-emotional skills (personal

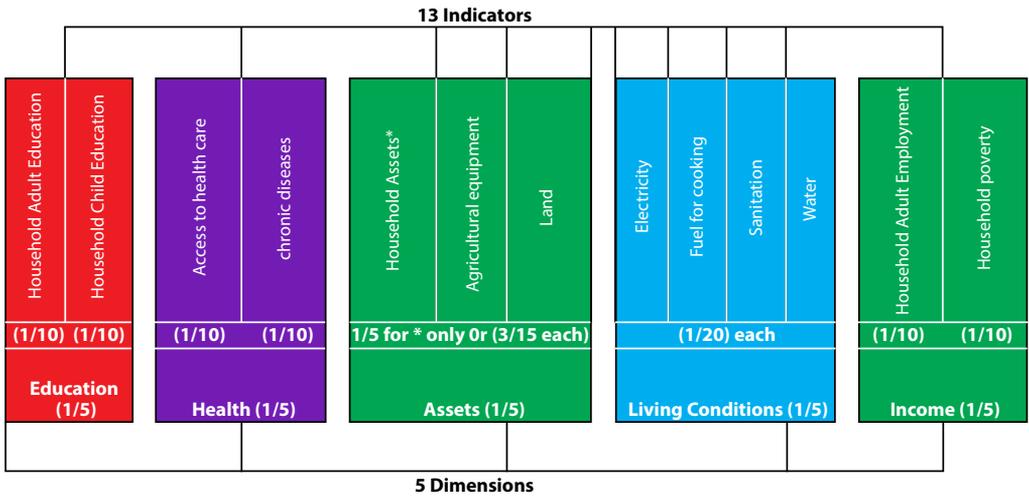
initiative skills) that can help them to thrive economically and in turn boost household income. In addition, the GoZ can implement innovative microfinancing programmes that support expansion and start-up of viable enterprises, and offer standard managerial training.

Concerted efforts to improve general living conditions and access to basic services (water, electricity and ablution facilities) are also essential. As an example, the GoZ can promote the supply and use of alternative clean sources of energy such as solar power and liquefied petroleum gas (LPG). It can increase the supply of LPG and affordable gas stoves and cylinders by imposing low or no import duties on LPG and its related products.

Devolution policy should contain unique poverty reduction strategies and funding for each province since there is spatial variation in the incidence of multidimensional poverty. Priority should be accorded to provinces with the highest incidences of multidimensional poverty such as Masvingo, Matabeleland North and Matabeleland South, without neglecting other provinces. The same applies to Matabeleland South, Mashonaland Central and Mashonaland East when it comes to closing the gender gap. The GoZ and its development partners should also concentrate their efforts on the gender gap in rural as compared to urban areas. Lastly, donor programmes and the GoZ's targeting of social safety nets should be sensitive that *de jure* female-headed households (widow/divorced heads) are more deprived than their *de facto* counterparts.

This study is not without limitations. First, due to data constraints, our analysis excludes other important indicators of poverty such as food security and nutrition that contributes considerably to poverty in Zimbabwe. Second, this study does not analyse poverty at an individual level. The household level analysis with a focus on female- and male-headed households, does not explicitly consider the position of women within these households. Hence, some of our policy recommendations may not directly apply to women who live in male-headed households as they may face different constraints. In addition, our study did not pay much attention to other household characteristics that may be confounding factors for poverty in female-headed households since our main focus was on the marital status. Future studies can benefit from analysing Zimbabwe's multidimensional poverty at an individual level and within households.

Figure 2: Components of the MPI using equal weights for dimensions



Source: adapted from existing literature (c.f. Alkire and Santos, 2010; Stoeffler et al., 2016; Frame et al., 2016).

Notes: For assets a weight of 3/15 is assigned to each indicator in analyses for rural areas only, otherwise 1/5 is applied to household assets only when rural and urban areas are combined.

Table 1: Suggested dimensions, weights and indicators used to calculate the MPI by household headship; equal weighting

Dimension	Dimension Weight	Indicator	Weight - urban	Weight -rural
Education	0.2	The household has one child between 6 and 12 years not enrolled in School	0.1	0.1
		No adult in the household has surpassed grade 7	0.1	0.1
Health	0.2	One member of the household has been ill but did not get healthcare in the previous 30 days	0.1	0.1
		One member of the household is chronically ill	0.1	0.1
Income	0.2	per capita household consumption expenditure is below the food poverty line (extreme poverty)	0.1	0.1
		One member of the household was unemployed as main occupation in last 12 months	0.1	0.1
Living conditions	0.2	The house does not have electricity	0.05	0.05
		The house does not have toilets (pit, Blair, or flush toilets) in rural areas or flush toilets in urban areas	0.05	0.05
Assets		The source of water in rural areas is an unprotected well or (worse) or is located farther than 1 km away in rural areas; the source of water is not piped water on premise in urban areas	0.05	0.05
		The household does not cook with electricity gas or paraffin	0.05	0.05
Assets	0.2	The household does not own at least 2 of: TV, Radio, telephone, landline, fridge, bicycle, motorcycle And does not own a vehicle	0.2	0.066
		The household in a rural area has no agricultural equipment: plough tractor scotchcart, cultivator, wheelbarrow	-	0.066
		The household in a rural area does not own land	-	0.066

Source: adapted from existing literature (c.f. Alkire and Santos, 2010; Stoeffler et al., 2016). Assets for rural areas has a weight of 0.2 in a combined analysis with urban areas.

Table 2: Raw Headcount Ratios for the indicators used in 2011 and 2017 by selected characteristics

2011							
	All	FH	MH	DFFH	DJFH	Urban	Rural
Electricity	0.473	0.457	0.482***	0.457	0.457	0.101	0.678***
Water	0.348	0.341	0.353	0.342	0.340	0.210	0.424***
Sanitation	0.300	0.288	0.308	0.284	0.290	0.094	0.414***
Fuel for cooking	0.678	0.673	0.681	0.679	0.670	0.163	0.962***
Child school enrolment	0.081	0.076	0.084***	0.085	0.071***	0.080	0.081
Adult education	0.209	0.243	0.189***	0.234	0.248***	0.201	0.214
Chronic conditions	0.164	0.190	0.148***	0.120	0.231***	0.174	0.158
Access to health care	0.160	0.170	0.154***	0.148	0.183***	0.155	0.162*
Unemployment	0.052	0.044	0.056***	0.031	0.051***	0.049	0.053
Extreme poverty	0.162	0.162	0.165	0.150	0.158	0.040	0.229***
Assets	0.417	0.414	0.419	0.413	0.415	0.119	0.582***
Equipment		-	-	-	-	-	0.440
Land		-	-	-	-	-	0.161
Observations	29225	10969	18256	4039	6930	5780	23445
2017							
	All	FH	MH	DFFH	DJFH	Urban	Rural
Electricity	0.412	0.451	0.390***	0.416	0.472***	0.102	0.573***
Water	0.329	0.312	0.338**	0.327	0.303**	0.260	0.364***
Sanitation	0.271	0.276	0.268**	0.285	0.271	0.077	0.372***
Fuel for cooking	0.932	0.941	0.926***	0.937	0.944**	0.830	0.985***
Child school enrolment	0.026	0.026	0.026	0.025	0.027**	0.019	0.030***
Adult education	0.164	0.217	0.135***	0.192	0.232***	0.048	0.225***
Chronic conditions	0.092	0.112	0.081***	0.075	0.134***	0.080	0.098***
Access to health care	0.099	0.103	0.097***	0.087	0.112***	0.086	0.106***
Unemployment	0.096	0.101	0.093**	0.089	0.108***	0.245	0.018***
Extreme poverty	0.229	0.208	0.242***	0.228	0.195**	0.025	0.335***
Assets	0.416	0.529	0.352***	0.453	0.575	0.155	0.552***
Equipment	-	-	-	-	-	-	0.530
Land	-	-	-	-	-	-	0.321
Observations	29330	11004	18326	4094	6910	5307	24023

Notes: FH= female-headed households, MH= male-headed households, DFFH= de facto female-headed households; DJFH= de jure female-headed households.

*significantly different at 10%, ** different at 5 percent, and *** significantly different at 1 percent from a statistical test of significance.

Table 3: Raw Headcount Ratios for the indicators used in 2011 by Gender of the household Head and Province

	Bulawayo		Manicaland		Mash Central		Mash East		Mash West	
	FH	MH	FH	MH	FH	MH	FH	MH	FH	MH
Electricity	0.008	0.016	0.595	0.602	0.636	0.656	0.566	0.562	0.519	0.540
Water	0.008	0.008	0.302	0.320	0.362	0.360	0.350	0.327	0.427	0.425
Sanitation	0.008	0.013	0.241	0.239	0.268	0.279	0.256	0.262	0.344	0.354
Fuel for cooking	0.041	0.045	0.848	0.843	0.895	0.892	0.892	0.873	0.756	0.786
Child school enrolment	0.074	0.077	0.076	0.078	0.068	0.081	0.076	0.080	0.079	0.089
Adult education	0.280	0.153	0.241	0.201	0.249	0.194	0.263	0.181	0.249	0.210
Chronic conditions	0.187	0.161	0.205	0.145	0.169	0.145	0.187	0.143	0.164	0.146
Access to health care	0.145	0.137	0.162	0.146	0.155	0.152	0.178	0.153	0.193	0.150
Unemployment	0.046	0.046	0.050	0.053	0.040	0.046	0.044	0.057	0.035	0.046
Extreme poverty	0.004	0.037	0.199	0.193	0.234	0.235	0.184	0.171	0.201	0.225
Assets	0.081	0.088	0.564	0.548	0.514	0.486	0.483	0.479	0.410	0.425
Observations	338	508	1282	2117	1224	2041	1639	2644	1121	1757

	Mat North		Mat South		Midlands		Masvingo		Harare	
	FH	MH	FH	MH	FH	MH	FH	MH	FH	MH
Electricity	0.636	0.624	0.646	0.651	0.462	0.494	0.579	0.598	0.092	0.157
Water	0.380	0.402	0.451	0.423	0.376	0.377	0.472	0.483	0.272	0.315
Sanitation	0.648	0.649	0.456	0.441	0.382	0.406	0.494	0.503	0.073	0.123
Fuel for cooking	0.860	0.852	0.852	0.845	0.747	0.754	0.882	0.896	0.130	0.128
Child school enrolment	0.067	0.081	0.081	0.092	0.072	0.092	0.074	0.082	0.085	0.087
Adult education	0.248	0.170	0.263	0.197	0.241	0.184	0.241	0.209	0.208	0.167
Chronic conditions	0.193	0.143	0.207	0.124	0.178	0.145	0.177	0.142	0.223	0.167
Access to health care	0.187	0.147	0.185	0.150	0.191	0.167	0.173	0.148	0.148	0.167
Unemployment	0.040	0.055	0.041	0.051	0.055	0.065	0.052	0.064	0.033	0.066
Extreme poverty	0.387	0.362	0.218	0.200	0.158	0.158	0.133	0.152	0.016	0.042
Assets	0.652	0.617	0.526	0.491	0.472	0.476	0.525	0.540	0.083	0.121
Observations	1241	2056	1201	2067	1400	2423	1211	2154	312	489

Notes: FH= female-headed households, MH= male-headed households

Table 4: Raw Headcount Ratios for the indicators used in 2017 by Gender of the household Head and Province

	Bulawayo		Manicaland		Mash Central		Mash East		Mash West	
	FH	MH	FH	MH	FH	MH	FH	MH	FH	MH
Electricity	0.043	0.056	0.562	0.454	0.699	0.562	0.632	0.553	0.446	0.429
Water	0.033	0.052	0.314	0.286	0.310	0.324	0.287	0.345	0.326	0.350
Sanitation	0.017	0.055	0.221	0.237	0.240	0.236	0.259	0.245	0.276	0.331
Fuel for cooking	0.854	0.821	0.969	0.964	0.981	0.985	0.944	0.903	0.960	0.961
Child school enrolment	0.030	0.006	0.029	0.031	0.028	0.031	0.027	0.031	0.032	0.033
Adult education	0.085	0.051	0.294	0.165	0.281	0.197	0.239	0.110	0.200	0.117
Chronic conditions	0.111	0.089	0.096	0.062	0.151	0.112	0.114	0.076	0.093	0.073
Access to health care	0.163	0.127	0.097	0.084	0.131	0.114	0.118	0.098	0.127	0.122
Unemployment	0.325	0.266	0.028	0.035	0.021	0.020	0.053	0.084	0.056	0.043
Extreme poverty	0.006	0.011	0.305	0.334	0.423	0.481	0.222	0.276	0.247	0.297
Assets	0.210	0.141	0.641	0.461	0.690	0.425	0.604	0.417	0.497	0.317
Observations	355	507	1414	1924	1064	2592	1442	2634	908	2289

	Mat North		Mat South		Midlands		Masvingo		Harare	
	FH	MH	FH	MH	FH	MH	FH	MH	FH	MH
Electricity	0.535	0.499	0.569	0.491	0.412	0.374	0.506	0.414	0.097	0.133
Water	0.358	0.352	0.330	0.356	0.325	0.367	0.402	0.387	0.319	0.408
Sanitation	0.596	0.559	0.389	0.342	0.370	0.379	0.454	0.427	0.040	0.075
Fuel for cooking	0.987	0.989	0.983	0.975	0.980	0.978	0.980	0.986	0.794	0.780
Child school enrolment	0.037	0.024	0.031	0.026	0.025	0.030	0.021	0.020	0.016	0.020
Adult education	0.324	0.298	0.286	0.216	0.180	0.122	0.246	0.170	0.065	0.048
Chronic conditions	0.134	0.128	0.144	0.099	0.106	0.084	0.086	0.069	0.128	0.070
Access to health care	0.117	0.102	0.127	0.093	0.087	0.090	0.080	0.077	0.050	0.086
Unemployment	0.029	0.041	0.018	0.047	0.063	0.054	0.019	0.027	0.385	0.265
Extreme poverty	0.301	0.298	0.240	0.212	0.219	0.297	0.192	0.241	0.021	0.031
Assets	0.669	0.495	0.575	0.379	0.542	0.396	0.654	0.427	0.178	0.143
Observations	1271	2000	1497	1747	1329	2359	1524	1811	193	453

Table 5: Overall Multidimensional Poverty, 2011 and 2017

	Overall			Female			Male			Female - Male gap			
	Coef.	SE.		Coef.	SE.		Coef.	SE.		Coef.	SE.		Ratio
2011													
H	0.375	(0.004)	***	0.380	(0.006)	***	0.372	(0.005)	***	0.008	(0.008)		1.021
M0	0.170	(0.002)	***	0.173	(0.003)	***	0.168	(0.002)	***	0.005	(0.004)		1.028
A	0.454	(0.001)	***	0.456	(0.002)	***	0.453	(0.001)	***	0.003	(0.002)		1.007
2017													
H	0.344	(0.004)	***	0.425	(0.006)	***	0.297	(0.004)	***	0.128	(0.008)	***	1.431
M0	0.153	(0.002)	***	0.190	(0.003)	***	0.133	(0.002)	***	0.058	(0.003)	***	1.435
A	0.447	(0.001)	***	0.447	(0.001)	***	0.446	(0.001)	***	0.001	(0.002)		1.003
Change over time													
H	-0.031	(0.006)	***	0.046	(0.009)	***	-0.075	(0.006)	***				
	[-8.3]			[12]			[-20.0]						
M0	-0.017	(0.003)	***	0.017	(0.004)	***	-0.036	(0.003)	***				
	[-9.8]			[9.9]			[-21.4]						
A	0.007	(0.001)	***	-0.009	(0.002)	***	-0.007	(0.002)	***				
	[1.6]			[-1.9]			[-1.5]						

Notes: All estimates are bootstrapped (500 replications). Significance level: ***=1%, **=5%, *=10%. For changes over time percentage points and standard errors are shown on top while percentage changes are in square brackets.

Table 6: Multidimensional Poverty for Rural and Urban areas, 2011 and 2017

Urban - Female			Urban - Male			Rural Female			Rural Male			Urban gender gap			Rural Gender Gap				
	Coef.	SE.		Coef.	SE.		Coef.	SE.		Coef.	SE.		Coef.	SE.	Ratio	Coef.	SE.		Ratio
2011																			
H	0.072	(0.008)	***	0.085	(0.008)	***	0.403	(0.006)	***	0.371	(0.005)	***	-0.013	(0.011)	0.8499	0.032	(0.008)	***	1.0872
M0	0.031	(0.004)	***	0.037	(0.003)	***	0.170	(0.003)	***	0.155	(0.002)	***	-0.006	(0.005)	0.8447	0.015	(0.003)	***	1.0935
A	0.435	(0.010)	***	0.437	(0.008)	***	0.422	(0.002)	***	0.419	(0.001)	***	-0.003	(0.013)	0.9937	0.002	(0.002)		1.0057
2017																			
H	0.111	(0.010)	***	0.088	(0.008)	***	0.428	(0.006)	***	0.351	(0.005)	***	0.023	(0.012)	1.2592	0.076	(0.008)	***	1.2176
M0	0.046	(0.004)	***	0.036	(0.003)	***	0.181	(0.003)	***	0.147	(0.002)	***	0.010	(0.005)	1.2718	0.034	(0.003)	***	1.2289
A	0.417	(0.009)	***	0.413	(0.007)	***	0.423	(0.001)	***	0.420	(0.001)	***	0.004	(0.011)	1.0098	0.004	(0.002)	**	1.0093
Change over time																			
H	0.039	(0.013)	***	0.003	(0.011)		0.025	(0.009)	***	-0.019	(0.007)	***							
	[53.7]			[3.5]				[6.1]			[-5.2]								
M0	0.015	(0.006)	**	-0.001	(0.005)		0.011	(0.004)	***	-0.008	(0.003)	***							
	[48.3]			[-2.7]				[6.6]			[-5.2]								
A	-0.017	(0.013)		-0.024	(0.010)	**	0.002	(0.002)		0.000	(0.002)								
	[-4.0]			[-5.5]			[0.4]			[0.1]									

Notes: All estimates are bootstrapped (500 replications). Significance level: ***=1%, **=5%, *=10%. For changes over time percentage points and standard errors are shown on top while percentage changes are in square brackets.

Table 7: Multidimensional poverty for De jure and De facto Female-headed Households and Male-headed Households

	Male		De jure Female		De facto Female		De jure Female - Male Gap			De facto Female - Male Gap		
	Coef.	SE.	Coef.	SE.	Coef.	SE.	Coef.	SE.		Coef.	SE.	Ratio
2011												
H	0.372***	(0.005)	0.384***	(0.008)	0.371***	(0.011)	0.012	(0.024)	1.032	-0.001	(0.023)	0.997
M0	0.168***	(0.002)	0.178***	(0.004)	0.165***	(0.005)	0.009	(0.012)	1.059	-0.004	(0.011)	0.982
A	0.453***	(0.001)	0.463***	(0.002)	0.444***	(0.002)	0.010	(0.023)	1.022	-0.009	(0.022)	0.980
2017												
H	0.297***	(0.004)	0.461***	(0.008)	0.367***	(0.010)	0.164***	(0.029)	1.552	0.070***	(0.024)	1.236
M0	0.133***	(0.002)	0.206***	(0.004)	0.164***	(0.005)	0.074***	(0.014)	1.549	0.032***	(0.012)	1.233
A	0.446***	(0.001)	0.477***	(0.002)	0.447***	(0.003)	0.001	(0.023)	1.069	0.001	(0.023)	1.002
Change over time												
H	-0.075***	(0.006)	0.077***	(0.012)	-0.004***	(0.014)						
	[-20]		[20]		[-1.1]							
M0	-0.036***	(0.003)	0.029***	(0.006)	-0.0005*	(0.0003)						
	[-21.4]		[16.3]		[-0.30]							
A	-0.007	(0.002)	-0.015***	0.003***	(0.003)	(0.0002)						
	[-1.5]		[-1.8]		[0.68]							

Notes: All estimates are bootstrapped (500 replications). Significance level: ***=1%, **=5%, *=10%. For changes over time percentage points and standard errors are shown on top while percentage changes are in square brackets

Table 8: Multidimensional poverty by marital status and gender of household head (2011 – 2017)

	Single			Married			Widow/divorced		
	Female	Male	Diff.	Female	Male	Diff.	Female	Male	Diff.
2011									
H	0.365	0.360	0.005***	0.371	0.372	-0.001**	0.386	0.372	0.014***
	(0.001)	(0.001)	(0.002)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)
A	0.442	0.434	0.009***	0.444	0.453	-0.009***	0.464	0.465	-0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
M0	0.161	0.156	0.005***	0.165	0.169	-0.004***	0.179	0.173	0.006***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
2017									
H	0.231	0.267	-0.036***	0.367	0.292	0.075***	0.480	0.424	0.055***
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
A	0.426	0.410	0.017***	0.447	0.449	-0.002***	0.448	0.430	0.019***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
M0	0.098	0.109	-0.011***	0.164	0.131	0.033***	0.215	0.182	0.033***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Changes over time									
H	-0.134***	-0.093***		-0.004***	-0.080***		0.093***	0.052***	
	(0.002)	(0.001)		(0.001)	(0.000)		(0.001)	(0.001)	
	[-36.7]	[-25.8]		[-1.08]	[-21.5]		[24.1]	[14]	
A	-0.016***	-0.024***		0.003***	-0.004***		-0.016***	-0.035***	
	(0.000)	(0.000)		(0.0002)	(0.000)		(0.000)	(0.000)	
	[-3.61]	[-5.53]		[0.68]	[-0.88]		[-3.45]	[-7.53]	
M0	-0.063***	-0.047***		-0.0005*	-0.037***		0.036***	0.009***	
	(0.016)	(0.001)		(0.0003)	(0.0002)		(0.000)	(0.001)	
	[-39.1]	[-30.1]		[-0.30]	[-21.9]		[20.1]	[5.20]	

Notes: All estimates are bootstrapped (500 replications). Significance level: ***=1%, **=5%, *=10%. For changes over time percentage points and standard errors are shown on top while percentage changes are in square brackets

Table 9: Multidimensional poverty by province, 2011 and 2017

	2011			2017			Changes overtime		
	Coef.	SE		Coef.	SE		Diff.	SE	
Bulawayo									
H	0.013	(0.004)	***	0.048	(0.008)	***	0.035	(0.009)	***
M0	0.007	(0.002)	***	0.021	(0.004)	***	0.015	(0.004)	***
A	0.500	(0.046)	***	0.440	(0.019)	***	-0.060	(0.049)	
Manicaland									
H	0.491	(0.010)	***	0.438	(0.009)	***	-0.053	(0.013)	***
M0	0.228	(0.005)	***	0.210	(0.005)	***	-0.019	(0.006)	***
A	0.465	(0.003)	***	0.478	(0.003)	***	0.014	(0.004)	***
Mashonaland Central									
H	0.516	(0.009)	***	0.510	(0.010)	***	-0.005	(0.013)	
M0	0.241	(0.005)	***	0.242	(0.005)	***	0.001	(0.006)	
A	0.468	(0.002)	***	0.475	(0.002)	***	0.007	(0.003)	**
Mashonaland East									
H	0.455	(0.008)	***	0.407	(0.009)	***	-0.048	(0.012)	***
M0	0.214	(0.004)	***	0.190	(0.004)	***	-0.023	(0.006)	***
A	0.470	(0.002)	***	0.468	(0.002)	***	-0.002	(0.003)	
Mashonaland West									
H	0.472	(0.011)	***	0.400	(0.010)	***	-0.072	(0.015)	***
M0	0.231	(0.006)	***	0.190	(0.005)	***	-0.041	(0.007)	***
A	0.490	(0.003)	***	0.475	(0.003)	***	-0.015	(0.004)	***
Matebeleland North									
H	0.687	(0.009)	***	0.575	(0.009)	***	-0.113	(0.013)	***
M0	0.349	(0.005)	***	0.287	(0.005)	***	-0.062	(0.007)	***
A	0.507	(0.002)	***	0.498	(0.003)	***	-0.009	(0.003)	***

Table 9: Multidimensional poverty by province, 2011 and 2017 continued

	2011			2017			Changes overtime		
	Coef.	SE		Coef.	SE		Diff.	SE	
Matebeleland South									
H	0.578	(0.010)	***	0.479	(0.009)	***	-0.099	(0.014)	***
M0	0.282	(0.006)	***	0.226	(0.005)	***	-0.056	(0.007)	***
A	0.488	(0.003)	***	0.472	(0.002)	***	-0.016	(0.004)	***
Midlands									
H	0.493	(0.009)	***	0.419	(0.009)	***	-0.074	(0.013)	***
M0	0.241	(0.005)	***	0.202	(0.004)	***	-0.039	(0.007)	***
A	0.488	(0.002)	***	0.481	(0.003)	***	-0.007	(0.004)	*
Masvingo									
H	0.581	(0.010)	***	0.475	(0.009)	***	-0.106	(0.013)	***
M0	0.284	(0.005)	***	0.230	(0.005)	***	-0.054	(0.007)	***
A	0.488	(0.002)	***	0.483	(0.002)	***	-0.005	(0.003)	
Harare									
H	0.119	(0.014)	***	0.113	(0.013)	***	-0.005	(0.020)	
M0	0.055	(0.007)	***	0.048	(0.006)	***	-0.007	(0.009)	
A	0.465	(0.013)	***	0.426	(0.009)	***	-0.038	(0.016)	**

Notes: All estimates are bootstrapped (500 replications). Significance level: ***=1%, **=5%, *=10%. For changes over time percentage points and standard errors are shown on top while percentage changes are in square brackets.

Table 10: Poverty for Male- and Female-headed Households by Province, 2011 and 2017

	2011							2017							
	Female		Male		Gender gap (F - M)			Female		Male		Gender gap (F - M)			
	Coef.	SE	Coef.	SE	Coef.	SE	Ratio	Coef.	SE	Coef.	SE	Coef.	SE	Ratio	
Bulawayo															
H	0.013	(0.006)	0.012	(0.005)	0.000	(0.007)	1.0131	0.043	(0.011)	0.052	(0.012)	0.034	(0.017)		0.8203
M0	0.006	(0.003)	0.006	(0.003)	0.000	(0.004)	1.0277	0.020	(0.006)	0.022	(0.005)	0.018	(0.008)		0.8885
A	0.502	(0.108)	0.494	(0.050)	0.008	(0.116)	1.0171	0.461	(0.036)	0.426	(0.019)	0.005	(0.041)		1.0802
Manicaland															
H	0.506	(0.016)	0.482	(0.013)	0.024	(0.020)	1.0505	0.509	(0.014)	0.390	(0.013)	0.119	(0.020)	***	1.3040
M0	0.235	(0.008)	0.223	(0.006)	0.012	(0.010)	1.0536	0.241	(0.007)	0.188	(0.006)	0.053	(0.010)	***	1.2817
A	0.465	(0.004)	0.464	(0.003)	0.001	(0.006)	1.0030	0.474	(0.004)	0.482	(0.004)	-0.008	(0.006)		0.9829
Mashonaland Central															
H	0.520	(0.016)	0.512	(0.013)	0.008	(0.021)	1.0165	0.615	(0.017)	0.468	(0.011)	0.147	(0.020)	***	1.3135
M0	0.243	(0.008)	0.239	(0.006)	0.004	(0.010)	1.0164	0.295	(0.009)	0.221	(0.005)	0.074	(0.010)	***	1.3334
A	0.467	(0.004)	0.467	(0.003)	0.000	(0.005)	0.9999	0.479	(0.004)	0.472	(0.003)	0.007	(0.005)		1.0152
Mashonaland East															
H	0.479	(0.013)	0.439	(0.010)	0.040	(0.016)	1.0911	0.483	(0.016)	0.367	(0.011)	0.116	(0.019)	***	1.3149
M0	0.227	(0.007)	0.205	(0.005)	0.022	(0.008)	1.1051	0.228	(0.008)	0.170	(0.005)	0.058	(0.009)	***	1.3403
A	0.474	(0.003)	0.468	(0.003)	0.006	(0.005)	1.0128	0.473	(0.004)	0.464	(0.003)	0.009	(0.005)	*	1.0193
Mashonaland West															
H	0.456	(0.017)	0.484	(0.013)	-0.028	(0.021)	0.9423	0.424	(0.019)	0.390	(0.012)	0.034	(0.022)		1.0874
M0	0.224	(0.008)	0.237	(0.006)	-0.013	(0.011)	0.9470	0.203	(0.009)	0.185	(0.006)	0.018	(0.011)	*	1.0997
A	0.492	(0.005)	0.489	(0.004)	0.002	(0.007)	1.0051	0.479	(0.005)	0.473	(0.003)	0.005	(0.006)		1.0113
Matabeleland North															
H	0.710	(0.014)	0.674	(0.012)	0.036	(0.018)	1.0530	0.621	(0.014)	0.542	(0.012)	0.079	(0.019)	***	1.1447
M0	0.363	(0.007)	0.341	(0.006)	0.022	(0.010)	1.0633	0.311	(0.008)	0.270	(0.006)	0.041	(0.010)	***	1.1515
A	0.511	(0.004)	0.506	(0.003)	0.005	(0.005)	1.0098	0.500	(0.004)	0.497	(0.003)	0.003	(0.005)		1.0059
Matabeleland South															
H	0.613	(0.017)	0.557	(0.013)	0.056	(0.022)	1.1006	0.548	(0.013)	0.422	(0.013)	0.126	(0.018)	***	1.2988
M0	0.300	(0.009)	0.271	(0.007)	0.029	(0.012)	1.1068	0.259	(0.007)	0.199	(0.006)	0.060	(0.009)	***	1.2998
A	0.490	(0.005)	0.487	(0.003)	0.003	(0.006)	1.0057	0.472	(0.003)	0.472	(0.004)	0.000	(0.005)		1.0007

2011								2017							
	Female		Male		Gender gap (F - M)			Female		Male		Gender gap (F - M)			
	Coef.	SE	Coef.	SE	Coef.	SE	Ratio	Coef.	SE	Coef.	SE	Coef.	SE		Ratio
Midlands															
H	0.500	(0.014)	0.490	(0.012)	0.010	(0.019)	1.0197	0.447	(0.015)	0.405	(0.011)	0.042	(0.019)	**	1.1041
M0	0.241	(0.007)	0.241	(0.006)	0.000	(0.010)	0.9989	0.215	(0.007)	0.195	(0.005)	0.019	(0.009)	**	1.0998
A	0.482	(0.004)	0.492	(0.003)	-0.010	(0.005)	0.9796	0.480	(0.004)	0.482	(0.003)	-0.002	(0.006)		0.9961
Masvingo															
H	0.578	(0.015)	0.582	(0.012)	-0.004	(0.019)	0.9929	0.533	(0.014)	0.429	(0.012)	0.104	(0.019)	***	1.2433
M0	0.282	(0.008)	0.284	(0.006)	-0.003	(0.010)	0.9905	0.259	(0.007)	0.206	(0.006)	0.052	(0.009)	***	1.2539
A	0.487	(0.004)	0.488	(0.003)	-0.001	(0.004)	0.9975	0.485	(0.003)	0.481	(0.003)	0.004	(0.005)		1.0085
Harare															
H	0.093	(0.020)	0.134	(0.019)	-0.041	(0.028)	0.6968	0.105	(0.023)	0.117	(0.016)	-0.013	(0.029)		0.8929
M0	0.043	(0.010)	0.062	(0.009)	-0.019	(0.014)	0.6897	0.045	(0.010)	0.050	(0.007)	-0.005	(0.012)		0.8918
A	0.461	(0.023)	0.466	(0.017)	-0.005	(0.029)	0.9898	0.426	(0.018)	0.427	(0.011)	0.000	(0.021)		0.9994

Notes: All estimates are bootstrapped (500 replications). Significance level: ***=1%, **=5%, *=10%.

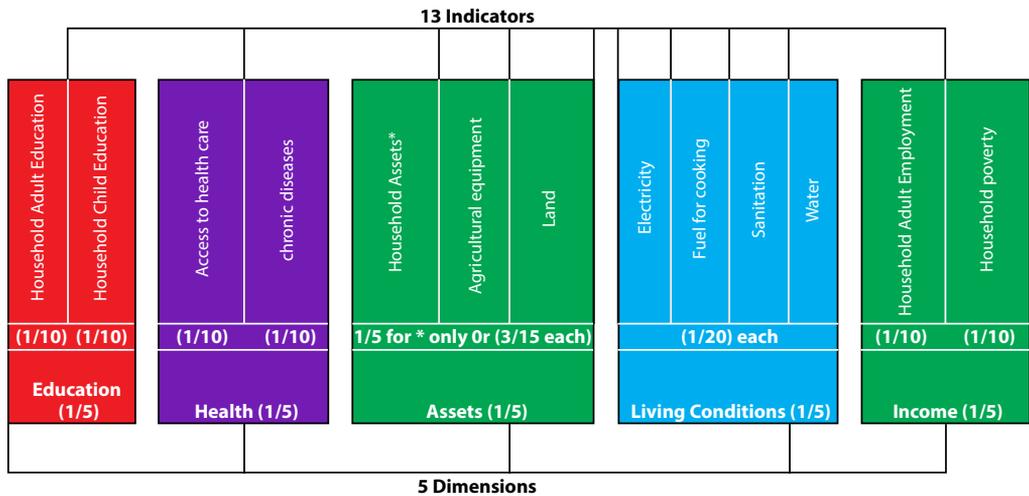
Table 11: Percentage Contribution of Each Dimension to Multidimensional Poverty for k=33%, 2011

		All			Urban		Rural	
		Overall	Male	Female	Male	Female	Male	Female
	M0	0.170	0.168	0.173	0.037	0.031	0.155	0.170
Contribution of subgroup to M0 (%)								
Domain 1	Electricity	0.092	0.094	0.091	0.072	0.061	0.103	0.100
	Water	0.060	0.061	0.058	0.077	0.072	0.067	0.065
	Sanitation	0.062	0.063	0.060	0.058	0.058	0.070	0.067
	Source of fuel for cooking	0.107	0.107	0.107	0.073	0.076	0.118	0.117
Domain 2	Child school enrolment	0.026	0.028	0.023	0.052	0.040	0.038	0.030
	Adult education	0.062	0.056	0.071	0.072	0.100	0.076	0.093
Domain 3	Chronic conditions	0.049	0.046	0.055	0.073	0.102	0.065	0.074
	Access to health care	0.051	0.049	0.053	0.086	0.093	0.068	0.073
Domain 4								
	Unemployment	0.015	0.016	0.014	0.017	0.015	0.022	0.018
	Extreme poverty	0.075	0.078	0.072	0.071	0.051	0.105	0.096
Domain 5								
	Assets	0.401	0.404	0.397	0.349	0.333	0.129	0.129
	Agriculture Equipment						0.105	0.106
	Land						0.034	0.032
% Contribution of each domain								
	Domain 1	0.321	0.324	0.315	0.280	0.267	0.358	0.349
	Domain 2	0.088	0.084	0.094	0.124	0.140	0.114	0.123
	Domain 3	0.100	0.095	0.108	0.159	0.195	0.133	0.147
	Domain 4	0.090	0.093	0.086	0.088	0.066	0.127	0.114
	Domain 5	0.401	0.404	0.397	0.349	0.333	0.268	0.267
	Total	1.000	1.000	1.000	1.000	1.001	1.000	1.000

Table 12: Percentage Contribution of Each Dimension to Multidimensional Poverty for k=33%, 2017

		All			Urban		Rural	
		Overall	Male	Female	Male	Female	Male	Female
	M0	0.153	0.133	0.190	0.036	0.046	0.147	0.181
% Contribution of subgroup to M0 (%)								
Domain 1	Electricity	0.083	0.081	0.085	0.048	0.049	0.091	0.098
	Water	0.054	0.057	0.050	0.069	0.047	0.060	0.056
	Sanitation	0.057	0.059	0.054	0.035	0.023	0.067	0.062
	Fuel for cooking	0.110	0.109	0.111	0.093	0.108	0.119	0.118
Domain 2	Child school enrolment	0.013	0.014	0.011	0.030	0.021	0.017	0.014
	Adult education	0.078	0.069	0.089	0.046	0.057	0.089	0.112
Domain 3	Chronic conditions	0.033	0.031	0.036	0.037	0.054	0.040	0.046
	Access to health care	0.036	0.037	0.034	0.056	0.062	0.048	0.045
Domain 4	Unemployment	0.014	0.016	0.012	0.113	0.122	0.009	0.005
	Extreme poverty	0.106	0.119	0.088	0.050	0.034	0.153	0.117
Domain 5	Assets	0.417	0.406	0.430	0.423	0.423	0.121	0.142
	Agriculture Equipment						0.118	0.127
	Land						0.070	0.058
% Contribution of each domain								
	Domain 1	0.304	0.307	0.300	0.245	0.227	0.337	0.334
	Domain 2	0.091	0.083	0.100	0.076	0.078	0.106	0.126
	Domain 3	0.069	0.068	0.070	0.093	0.115	0.088	0.091
	Domain 4	0.120	0.136	0.101	0.163	0.157	0.162	0.122
	Domain 5	0.417	0.406	0.430	0.423	0.423	0.308	0.327
	Total	1.001	1.000	1.001	1.000	1.000	1.001	1.000

Figure 3: Components of the MPI using unequal weights for dimensions



Source: adapted from existing literature (c.f. Alkire and Santos, 2010; Stoeffler et al., 2016; Frame et al., 2016).
 Notes: For assets a weight of 1/30 is assigned to each indicator in analyses for rural areas only, otherwise 0.5/5 is applied to household assets only when rural and urban areas are combined.

Table 13: Robustness check to context specific weights, Overall results and by sex of the household head, k=33%

	Overall			Female			Male			Female - Male gap			Ratio
	Coef.	SE.		Coef.	SE.		Coef.	SE.		Coef.	SE.		
2011													
H	0.425	(0.004)	***	0.424	(0.007)	***	0.425	(0.005)	***	-0.001	(0.008)		0.9976
M0	0.204	(0.002)	***	0.204	(0.003)	***	0.204	(0.003)	***	-0.001	(0.004)		1.0000
A	0.481	(0.001)	***	0.481	(0.002)	***	0.481	(0.001)	***	0.000	(0.002)		1.0000
2017													
H	0.377	(0.004)	***	0.431	(0.006)	***	0.347	(0.005)	***	0.084	(0.008)	***	1.2421
M0	0.179	(0.002)	***	0.206	(0.003)	***	0.165	(0.002)	***	0.041	(0.004)	***	1.2485
A	0.476	(0.001)	***	0.478	(0.002)	***	0.474	(0.001)	***	0.004	(0.002)	*	1.0084
Change over time													
H	-0.048	(0.006)	***	0.006	(0.009)		-0.078	(0.007)	***				
	[-12.7]			[1.5]			[-18.4]						
M0	-0.025	(0.003)	***	0.002	(0.004)		-0.040	(0.004)	***				
	[-12.1]			[1.0]			[-19.6]						
A	-0.005	(0.002)	***	-0.002	(0.002)		-0.007	(0.002)	***				
	[-1.0]			[-0.4]			[-1.4]						

Notes: All estimates are bootstrapped (500 replications). Significance level: ***=1%, **=5%, *=10%.

For changes over time percentage points and standard errors are shown on top while percentage changes are in square brackets.

Figure 4: Results for the nation based on different cut off points, $k=33\%$

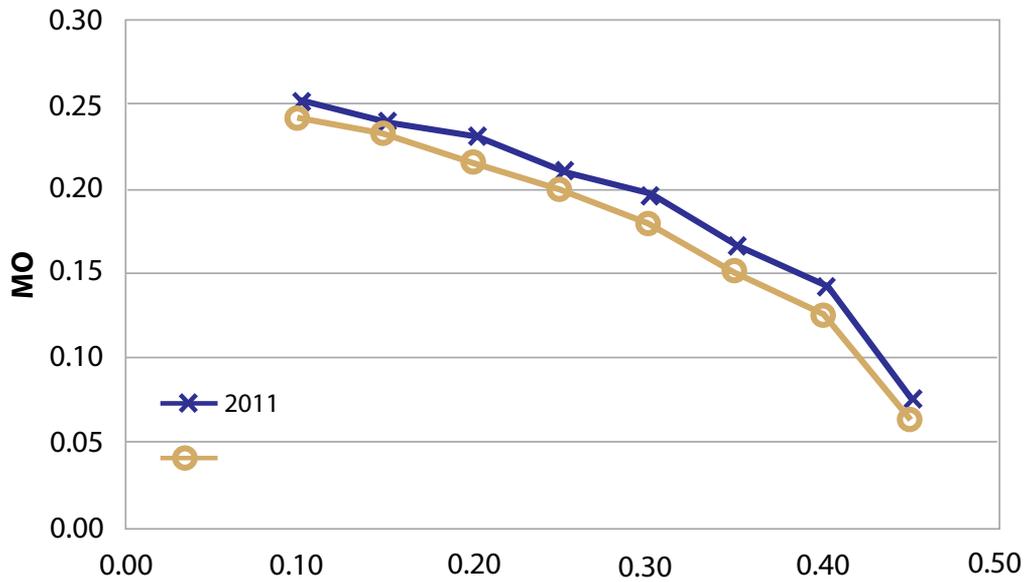
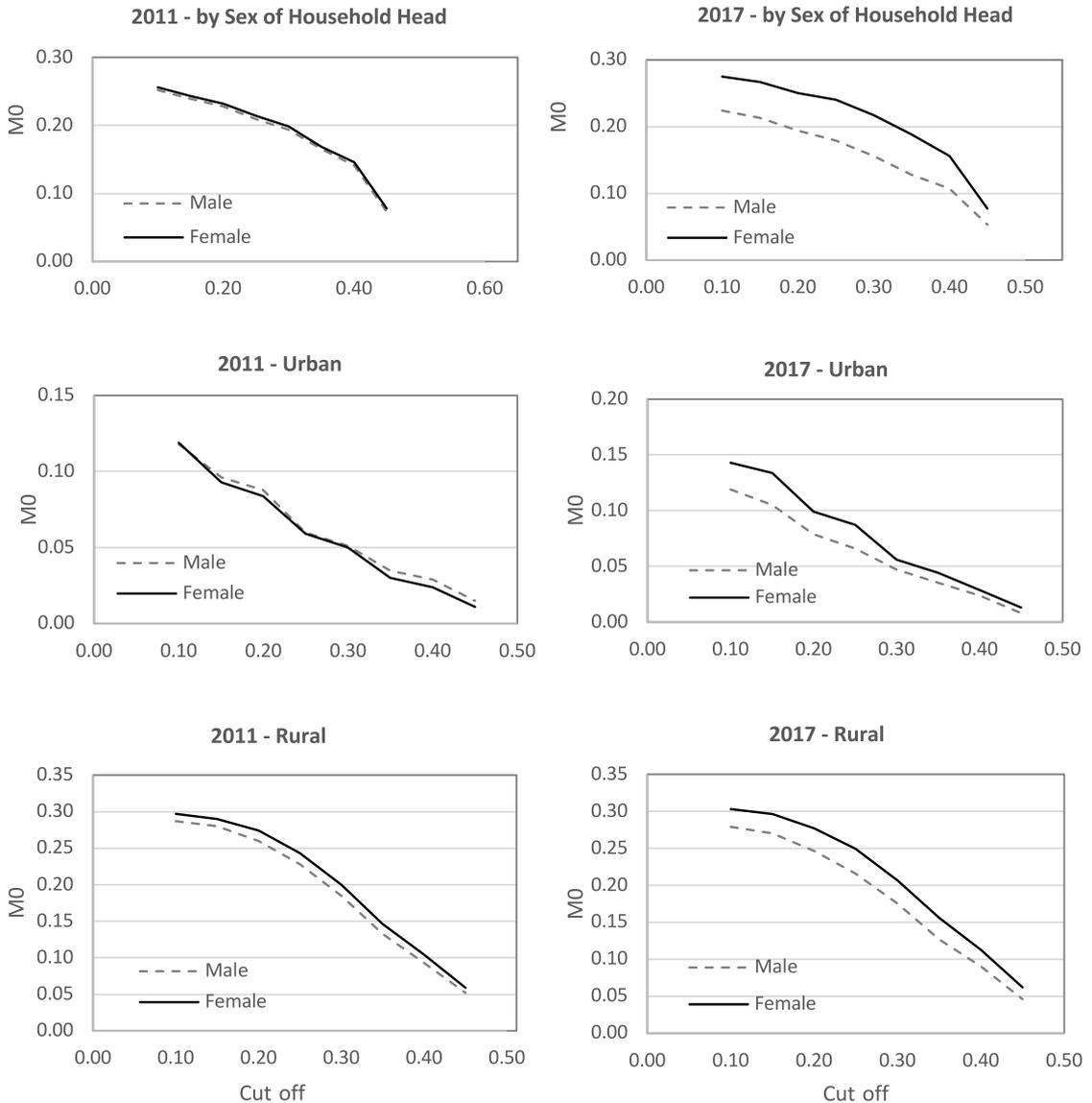


Figure 5: Results based on different cut off points by Sex of the Household Head, $k=33\%$



References

- African Development Bank. (2009). Zimbabwe Short-Term Strategy: Concept Note. AfDB, Harare.
- Agbodji, A., Batana, M., and Ouedraogo, D. (2013). Gender Inequality in Multidimensional Welfare Deprivation in West Africa: The Case of Burkina Faso and Togo. The World Bank Africa Region, Policy Research Working Paper 6522.
- Alkire, S., and Foster, J. (2011a). Counting and multidimensional poverty measurement. *Journal of Public Economics*, 95(7–8), 476–487.
- Alkire, S., and Foster, J. (2011b). Understandings and misunderstandings of multidimensional poverty measurement. *The Journal of Economic Inequality*, 9(2), 289–314.
- Alkire, S., and Santos, M.E (2010). Acute multidimensional poverty: A new Index for developing countries. OPHI Working Paper No.38. Oxford: Oxford Human Poverty and Development Institute (OPHI), Oxford Department for International Development, University of Oxford.
- Baah Boatang, W., Nketiah-Amponsah, E., and Frempong, R. (2013). The effect of fertility and education on female labor force participation in Ghana. *Ghanaian Journal of Economics*, 1 (1), 119 – 137.
- Batana, M. (2013). Multidimensional Measurement of Poverty among Women in Sub-Saharan Africa, World Bank, USA.
- Bérenger, V. (2017). The counting approach to multidimensional poverty. The case of four African countries. WIDER Working Paper 2017/210.
- Brown, C. and van de Walle, D. (2020) Headship and Poverty in Africa. CGD Working Paper 531. Washington, DC: Center for Global Development.
- Buvinic, M., and Gupta, G.R. (1997). Female-headed households and female-maintained families: Are they worth targeting to reduce poverty in developing countries? *Economic Development and Cultural Change*, 45(2), 259–280.
- Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H., McKenzie, D and Mensmann, M. (2018). Personal initiative training leads to remarkable growth of women-owned small businesses in Togo. The Gender Innovation Lab (GIL) Policy Brief 22.
- Carrión, D., Dwommoh, R., Tawiah, T., Agyei, O., Agbokey, F., Twumasi, M., Mujtaba, M., Jack, D and Asante, K.P. (2018) *BMC Public Health*, 18:689.

- Chant, S. (2008). The 'Feminisation of Poverty' and the 'Feminisation' of Anti-Poverty Programmes: Room for Revision? *The Journal of Development Studies*, 44:2, 165-197.
- Desarrollo, Y. (2004). *Understanding Poverty from a Gender Perspective*. United Nations Publication, ISSN printed version 1564-4170.
- Food and Agriculture Organization of the United Nations. (2017). *Zimbabwe National gender profile of agriculture and rural livelihoods*. Harare.
- Frame, E., De Lannoy, A., Koka, P., Leibbrandt, M. (2016). *Multidimensional Youth Poverty: Estimating the Youth MPI in South Africa at ward level*. A Southern Africa Labour and Development Research Unit Working Paper Number 189. Cape Town: SALDRU, University of Cape Town.
- Horrell, S., and Krishnan, P. (2006). *Poverty and Productivity in Female-Headed Households in Zimbabwe*. Economics, University of Cambridge, Cambridge CB3 9DD.
- Kumaraswamy, S.K., Mattern, M and Hernandez, E. (2020). *Assets Matter to Poor People But What Do We Know about Financing Assets?* World Bank. Washington, D.C.
- Klasen, S., and Lamanna, F. (2009). The impact of gender inequality in education and employment on economic growth: new evidence for a panel of countries. *Feminist Economics* 15(3), 91–132.
- Klasen, S., Lechtenfeld, T. and Povel, F. (2015). A feminization of vulnerability? Female headship, poverty, and vulnerability in Thailand and Vietnam. *World Development*, 71, 36–53.
- Liu, C., Esteve, A. and Trevino, R. (2017). Female headed households and Living conditions in Latin America. *World Development*, 90, 311–328.
- Madise, K. M. (2009). *An Appraisal of Zimbabwe's economic performance: Issues, problems and prospects*. <http://marshalmadise.blogspot.com/2009/11/appraisal-of-zimbabwes-economic.html>.
- Mahoozi, H. (2015). *Gender and Spatial Disparity of Multidimensional Poverty in Iran*. Oxford Poverty & Human Development Initiative OPHI, working paper NO. 95.
- MAMID. (2013). *Ministry of Agriculture, Mechanization and Irrigation Development Agricultural Sector Gender Assessment*. [Report].
- Matshe, I., Zikhali, P. and Chilonda, P. (2010). Education and agricultural inputs use by female farmers in Zimbabwe, *Agenda*, 24:86, 96-110.

- Mayimbo, S., and Ngoma, C. (2017). The Negative Impact of Poverty on the Health of Women and Children. *Ann Med Health Sci Res* 7: 442-446.
- Milazzo, A., and van de Walle, D. (2015). Women Left Behind? Poverty and Headship in Africa. World Bank Group, WPS733.
- Ministry of Finance and Economic Development. (2019). National Development Strategy Approaches Paper. Harare.
- MoAMID. (2013). Ministry of Agriculture, Mechanization and Irrigation Development. Agricultural Sector Gender Assessment. [Final Synthesis Report].
- Mubiru, D. et al. (2018). Climate trends, risks and coping strategies in smallholder farming systems in Uganda. *Elsevier, Climate risk management*, 22, 4-21.
- Mushongera, D., Zikhali, P. and Ngwenya, P. (2017). A Multidimensional Poverty Index for Gauteng Province, South Africa: Evidence from Quality of Life Survey Data. *Social Indicators Research*, 130, 277–303.
- Musiwa A. S (2019). Child Poverty and Gender and Location Disparities in Zimbabwe: A Multidimensional Deprivation Approach. *Poverty and Public policy*. <https://doi.org/10.1002/pop4.246>.
- Payne, S. (2009). How can gender equity be addressed through health systems? World Health Organization, Europe.
- Quisumbing, A.R., Haddad, L and Pena, C. L. (2000). Are Women Overrepresented Among the Poor? Poverty Measures and Dominance Analysis for Ten Developing Countries. International Food World Bank. Policy Research Institute, Washington, D.C.
- Reserve Bank of Zimbabwe. (2009). Zimbabwe Macroeconomic Situations. Fidelity Printers, Harare.
- Rogan, M. (2016). Gender and Multidimensional Poverty in South Africa: Applying the Global Multidimensional Poverty Index (MPI). *Social Indicators Research*, 126, 987–1006.
- SADC Gender Protocol. 2013. Barometer. Zimbabwe.
- Sen, A. (1985). Well-being, agency and freedom: The Dewey lectures 1984. *The Journal of Philosophy*, 82(4), 169–221.
- Sen, A. (1999). *Development as freedom*. Oxford, UK: Oxford University Press.
- Sibanda, V., and Makwata, R. (2017). *Zimbabwe Post Independence Economic Policies: A critical view*. LAP LAMBERT Academic Publishing.

Stoeffler, Q., Alwang, J., Mills, B. and Taruvinga, N. (2016). Multidimensional Poverty in Crisis: Lessons from Zimbabwe. *The Journal of Development Studies*, 52(3), 428-446.

Thobejane, T., and Nyathi, A. (2018). Poverty among female headed households in Matabeleland South Province in Zimbabwe: A perennial problem or an enlightening experience. Ife Centre for Psychological Studies/Services, Ile-Ife, Nigeria, ISSN: 1596-9231.

UNDP (2010). Human development Report 2010. United Nations Development Programme 1 UN Plaza, New York, NY 10017 USA.

http://hdr.undp.org/sites/default/files/reports/270/hdr_2010_en_complete_reprint.pdf

UNDP (2019). Human development Report 2019. United Nations Development Programme 1 UN Plaza, New York, NY 10017 USA. <http://hdr.undp.org/sites/default/files/hdr2019.pdf>.

Yun Low, W., and Binns, C. (2016). Gender Issues and Public Health. *Asia Pacific Journal of Public Health* 2016, Vol. 28(2) 104 –106.

ZADT Annual Report 2018 Online.pdf.

ZIMSTAT (2016). Women and Men Report 2012. ZIMSTAT, HARARE.

ZIMSTAT (2019). Zimbabwe Poverty Report 2017. ZIMSTAT, HARARE.

Zimbabwe Interim Poverty strategy reduction Paper (I-PRSP), 2016-2018, Ministry of Finance and Economic Development, 2016.

Zhou, G and Masunungure, E (2006). An Analysis of the Objectives and Effects of Privatisation on the Public Sector and the Role of the State in Zimbabwe. Publisher, Harare: Zimbabwe Coalition on Debt and Development & the Southern Africa Peoples' Solidarity Network.

<http://uis.unesco.org/country/ZW>

Zimbabwe Economic Policy Analysis and Research

 55 Mull Road, Belvedere, Harare, Zimbabwe

P. O. Box CY 244

Causeway, Harare



Tel: +263 242 778 423 / 785 926/7



Fax: +263 242 778 415



Email: administration@zeparu.co.zw



www.zeparu.co.zw