

Federal Democratic Republic of Ethiopia

**Development and Poverty in Ethiopia
1995/96-2010/11**

**Ministry of Finance and Economic Development
June 2013
Addis Ababa**

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**To His Excellency the Late Prime Minister, Meles Zenawi who sacrificed his whole life to
emancipate Ethiopia out of poverty**

Foreword

Poverty is pronounced deprivation in well-being. Lack of income and assets to attain basic necessities, lack of access to education and other basic services, and vulnerability to adverse shock are the main causes of poverty. The Government of Ethiopia believes that development should effectively address such deprivations of the society. Accordingly, the Government has formulated pro-poor and pro-growth development policies and strategies through public participation to ensure overall economic development and eradicate multidimensional poverty. By effectively coordinating and managing the implementation of these pro-poor and pro-growth development policies and strategies, Ethiopia has registered double digit economic growth as measured by real GDP and remarkable social development since the last decade.

The measurement and analysis of poverty and inequality is crucial for understanding peoples' situations of well-being and factors determining their poverty situations. The outcomes of the analysis are often used to inform policy making as well as in designing appropriate interventions and for assessing effectiveness of on-going policies and strategies. Since the last two decades, as part of the global and national initiatives, the Government of Ethiopia together with its development partners has been pushing with development with the aim of achieving a broad based, sustained and equitable economic growth and social development to eradicate poverty. In light of the objective of eradicating the depth and extent of chronic poverty over time, a strong System of Monitoring and Evaluation has been put in place in Ethiopia to monitor progress in poverty eradication.

The Welfare Monitoring System in the country arose as part of the objective of observing the effectiveness of the policies and strategies pursued on poverty eradication in Ethiopia and building the analytical capacity of the Government to monitor and evaluate such effects. To this end, the Government of Ethiopia has established a Welfare Monitoring System (WMS) in 1996. Moreover, the Government of Ethiopia has made poverty analysis to be an integral part of the overall Monitoring and Evaluation (M&E) System since 1996 as part of its endeavour to address the poverty eradication agenda. The 2010/11 Household Income and Consumption Expenditure Surveys (HICES) and Welfare Monitoring Survey (WMS) conducted by the Central Statistical Agency of Ethiopia and the corresponding analytical report prepared by the Ministry of Finance and Economic Development are part and parcel of the National Welfare Monitoring System.

This Poverty Analysis Report provides the status and trends of national, rural, urban and regional level poverty incidence, gap and severity as well as income inequality measured by Gini coefficient. The HICES/WMS conducted by the Central Statistical Agency of Ethiopia in 1995/96, 1999/00, 2004/05 and 2010/11 have been used to analyze poverty. This report enables to understand the temporal pattern of poverty and provides lessons on the effectiveness of various policies implemented between 1996 and 2011. The report reveals that incidence of income poverty has further declined markedly between 2004/05 and 2010/11. This is further reinforced by the significant improvements in the non-income dimension of welfare during the same period.

Likewise headcount poverty fell in all regions of the country. Moreover the headcount poverty rate fell both in rural and urban areas. Nationally, the *Gini* coefficient for per adult equivalent consumption remained constant indicating a low level of income inequality in Ethiopia. Finally the report shows that economic growth has been the prime driving factor that resulted in the reduction of poverty. The significant decline in poverty in all its dimensions indicates that Ethiopia is on the right track to achieve the MDG goals of halving poverty by 2015.

Such achievements in the reduction of poverty are attributed to the pro-poor development policies and strategies that have been implemented in rural and urban areas. These refer to the agricultural development strategy that aims at commercializing and improving the productivity of smallholder agriculture, and the industrial development strategy that focuses on promoting the development of competitive micro and small scale enterprises. In addition, expansion of medium and large scale private sector investments, the social sector development programs, the various infrastructure development programs, the food security program, as well as the various urban development programs have been instrumental in the progress made so far in poverty reduction. I hope that in this sense the report provides a useful insight into the effectiveness of the various policies pursued in addressing poverty. Yet, despite the substantial decline in poverty over the past five years, poverty remains high in Ethiopia. In this sense, the report also highlights the challenges ahead in improving the well-being and welfare of citizens.

The report is meant to inform the wider public, the Government, the private sector, the academia, the researchers and practitioners, the civil society organizations and development partners on the progress made so far and challenges ahead in eradicating poverty from Ethiopia. I am hopeful that we all become encouraged by the progress so far. Even more important is that we all learn lessons from our achievements and challenges so as to excel in our endeavors in the period ahead. Thus, I encourage all of us to remain uncompromising in our resolve and unity to achieve our shared goal of eradicating poverty from Ethiopia.



Abraham Tekeste Meskel (Ph.D.)
State Minister, MoFED

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EXECUTIVE SUMMARY

The main objective of the Ethiopian government is poverty eradication and improvements in the well-being of people. Achieving this important goal requires monitoring and evaluation of the implementation of policies and programs which in turn require empirical studies based on nationally representative survey data. In other words, effective policies and interventions must be based on an understanding of how many poor people there are in Ethiopia, where they are located, and what their characteristics are. Poverty itself is a multidimensional phenomenon and so this analysis must capture not only poverty as measured by low consumption but also other features, such as health, nutrition, and schooling.

This report, therefore, provides results of the full-fledged poverty analysis so as to inform on the progress of the Ethiopian government towards reducing poverty. There have been two major sources of information on poverty in Ethiopia: a series of WMSs, undertaken every three to five years since 1996, which track household characteristics and the non-income dimensions of poverty; the 5-yearly HICESs, which measures income poverty. CSA has been conducting the HICES every five years since 1996 in order to gather income and consumption expenditure data. So far, the HICES has been conducted four times: 1995/96, 1999/2000, 2004/05, and 2010/11. This report draws on these four surveys, which are the main official instruments for tracking poverty and welfare in Ethiopia, but with an emphasis on the results from the 2010/11 survey.

The summaries of findings are outlined below, with further policy recommendations to be found in the concluding chapter. This analysis should form the beginning of a policy discussion that aims to find policy solutions to some of the constraints to rapid poverty reduction outlined in the report.

In chapter 3, we describe the consumption profile of households. Family size was 4.8 in 2010/11, which was exactly equal to that of 2004/05, but slightly lower than that of 1995/96 and 1999/2000. Adult equivalent family size was 3.9, which was similar to that of 2004/05 and that of 1995/96 and 1999/2000. Both the unadjusted family size and adult equivalent family size were higher in rural areas than in urban areas. Between 2004/05 and 2010/11, real per adult equivalent consumption increased by 20 percent which is lower than that of the previous period (1999/00 to 2004/05).

Real per capita consumption averaged 4626 birr (US\$ 264) in 2010/11 (at 2010/11 constant prices). Food consumption accounted for just 2151 birr, with the remainder, nonfood expenditures, averaging 2475 birr. The average total calories consumed in Kcal per day by an adult person was 2928 with 2973 for rural people and 2706 for urban people, which are all well above 2200 Kcal per day, an amount required to walk and perform light works.

Nationally, food consumption, as a share of total consumption, has fallen from 60 percent to 56 percent between 1995/96 and 2004/05 and to 52 percent in 2010/11. Consequently, nonfood expenditures have grown rapidly, by 24 percent in rural areas, and by 38 percent in urban areas, between 2004/05 and 2010/11.

Though the difference in real consumption among regions is very small, real consumption levels are highest in Harari, when measured in per adult equivalent and Addis Ababa when measured in per capita terms. For the per capita terms it is followed by Harari, Tigray, Benishangul-Gumuz, and Dire Dawa regions, while Amhara, Afar, Oromiya, Benishangul-Gumuz, and Somale recorded lower consumption levels. In all regions, consumption is higher in urban areas.

In per capita and adult equivalent terms, unlike the consumption expenditure, the level of calories consumed is higher for rural areas than for urban areas. However, the level of calories consumed in per adult equivalent terms is very similar across regions in both rural and urban areas. For example, per adult calorie consumption in SNNP is the highest at 3288 Kcal per day while the lowest level is recorded for Addis Ababa, which is 2556 Kcal per day per adult, showing similarities in calorie intake across regions.

In chapter 4 we examine various components of non-income poverty, such as health, nutrition, education and literacy, sanitation, access to services and assets. There is an overall improvement in most indicators that mirrors the trend in consumption poverty. Rural areas in particular have seen quite dramatic improvements in water and sanitation, as well as primary school enrolment. The biggest differences are still between rural and urban residents, however, and policy efforts need to continue in order to maintain the gains achieved in education, as well as improve secondary enrollment.

We find a reduction in self-reported illness, and examining differences across the wealth distribution, richer people tend to report ill health more often. Richer households are more likely to consult a healthcare provider which suggests that better-off households are accessing available health providers more than worse off households. Similarly, child nutrition has improved considerably since 2000 in all the measured indicators. However, a high proportion of Ethiopian children have low height for their age, and there are significant differences between urban and rural areas.

Education has been expanding in Ethiopia over the past fifteen years, and net enrolments in primary school have almost tripled since monitoring began in 1994. Currently, 85.3 percent of Ethiopian primary age children are attending primary school. Secondary school enrolment has risen too, but remains at quite low levels, especially in rural areas, and amongst the poorest groups. Levels of literacy and numeracy (amongst the population over 10 years) have also increased significantly over time.

The number of people drinking from unsafe sources (unprotected well, river and lake, rain water) is still high in Ethiopia, at just over half the population (50.7%). However, compared to 1999 the change is quite remarkable – in rural areas 15 years ago, 90 percent of residents were drinking from unsafe sources. The reduction has been driven by rural areas, with increases in those with access to a communal tap or protected well in particular. This has been mirrored by a considerable improvement in sanitation facilities, especially in rural areas. Six years ago, 70 percent of rural residents were using open fields or the forest. This has more than halved in 2011 to, just under a third of households.

In chapter 5, we examine in more detail the growth in consumption across the whole distribution, and then analyse the decomposition of poverty reduction into two components: growth and inequality.

The incidence of poverty declined markedly between 2004/05 and 2010/11. The headcount poverty rate fell from 38.7 % in 2004/05 to 29.6 % in 2010/11. This implies that Ethiopia is on the right track to achieving the MDG target of reducing poverty by half by 2015. Over the same period, poverty gap is also reduced, but not the severity of poverty. Headcount poverty fell in all regions of the country.

The headcount poverty rate fell in rural areas from 39.3 % in 2004/05 to 30.4 % in 2010/11. Over the same period, in urban areas it declined substantially, from 35.1 % in 2004/05 to 25.7 % in 2010/11. In urban Ethiopia, in 2010/11, we observed significant decline in poverty gap and severity, while poverty gap remains the same and poverty severity increased for rural areas. Nationally, the *Gini* coefficient for per adult equivalent consumption remained constant. In urban areas there was a substantial decline in inequality from 44 % in 2004/05 to 37.8 % in 2010/11 while it was increasing until 2004/05 at an alarming rate.

In 2010/11, poverty head count index is the highest in Afar (36.1%) followed by Somali (32.8%) and Tigray (31.8%), while poverty estimates are lowest in Harari (11 percent) followed by Addis Ababa (28.1 percent) and Dire Dawa (28.3 percent). In terms of food poverty, the highest poverty is observed in Amhara (42.5 percent) followed by Tigray (37.1) and BenishangulGumuz (35.1%). The lowest food poverty is found again in Harari (5%) followed by Dire Dawa (21.7%) and SNNP (25.9). Overall, compared to the previous years, the difference in poverty incidence among the regional states in 2010/11 has narrowed substantially indicating a balanced growth among regional states. Moreover, absolute poverty is much lower than food poverty in all regions.

The poverty results indicate that absolute poverty in 2010/11 (compared to 2004/05) have decline over the past five years in all regions except Dire Dawa urban (where absolute poverty incidence increased by 6%). Poverty gap in 2010/11 also declined in all regions except in rural Afar, rural SNNP, Addis Ababa and urban Dire Dawa. Poverty severity also declined in 2010/11 in many of the regions including Tigray, Amhara, Benishangul-Gumuz, Harai, urban Afar, urban somale, and rural Dire Dawa, but poverty severity increased in rural Afar, Oromia, rural Somale, SNNP, Addis Ababa, and urban Dire Dawa.

Similarly food poverty incidence in 2010/11 (compared to 2004/05) declined in all regions except in rural Amhara where food poverty incidence increased by 14%. Similarly, the food poverty gap in 2010/11 is lower than that of 2004/05 for all regions except for Afar region where food poverty gaps increased by 14% in 2010/11 compared to 2004/05. The results for the food poverty severity index show that the food poverty severity (compared to that of 2004//05) declined in Amhara, urban Oromia, urban Somale, Benishangul-Gumuz, urban SNNP, Harari, and rural Dire Dawa. In the rest of the regions including rural Tigray, Afar, rural Oromia, rural Somaleand rural SNNP, food poverty severity has increased in 2010/11 compared to 2004/05.

Poverty reduction in the aggregate is driven by growth in the incomes of those below the poverty line. This can happen through two channels: either growth in incomes, or by redistribution that benefits the poor. In the case of Ethiopia, we find that growth plays the most important role in poverty reduction over the past fifteen years. In urban areas, the recent fall in inequality also plays a role.

The sensitivity of poverty to growth is also analysed in more detail to fully understand our results. We find that poverty reduction has become significantly more responsive to growth in recent years (as defined by the income elasticity of poverty). Further, this elasticity is higher in rural areas than in urban areas.

In chapter 6, we describe the characteristics of the poor and how poverty is correlated with certain household characteristics. In urban areas, headcount poverty is higher for female-headed households than for male-headed households for 2010/11 which is similar to that of 1999/00 and 2004/05 while in rural areas incidence of poverty is higher for male-headed households in 2010/11, but not for the previous years because most female-headed households have access to land and productive safety net programs which may partly explain why female-headed households are not poorer than that of male-headed households.

The incidence of poverty has declined for both male and female headed households, but depth of poverty declined only for male headed households. No decline for severity of poverty was observed for either group. The incidence, depth, and severity of poverty increase with household size for both rural and urban areas in 2010/11 and all other previous survey years. Across all survey years and in both rural and urban locations, all measures of poverty (poverty incidence, depth, and severity) are higher for households where the head is illiterate.

Consumption poverty incidence, depth, and severity sharply decline as the level of education of the household head increases implying the need for expansion of education to reduce poverty. Poverty is the highest among private households with employed persons (wage workers) in rural areas (71%) and the farming occupations including agriculture, hunting and forestry (31%), fishery (50%) in rural areas. Relative to farming, headcount poverty is lower in households headed by individuals who engage in wholesale and retail trade, hotels and restaurants, finance, government, education, and health. Poverty rates for those working in rural manufacturing and construction are also slightly lower than those engaged in primary occupations (agriculture, hunting, forestry, and fishing). Further, the urban rates of headcount poverty for manufacturing and construction are only slightly below that for primary occupations in rural areas.

Chapter 7 investigates some dynamic issues, such as vulnerability to poverty, households' exposure to shocks and how they cope with such adverse events. Since the 2004 WMS, there has been a significant expansion of government programmes to combat food insecurity. This has been reflected especially by a sharp drop in the number of rural households reporting shocks in the 2011 WMS. Nationally, the average food shortage reported also showed a significant drop compared with 2004.

The overall findings of the chapter are that there have been significant reductions in the shocks that households experience – however, there are some regions and sectors of society that have not experienced such a decline. Whilst most shocks have fallen there is one significant exception – food price shocks. This is the only shock which more Ethiopians reported experiencing in 2011 compared to 2004. The reason relates to the global trend in food prices, with cereal prices in particular almost doubling between January 2007 and January 2008.

In summary, whilst a significant proportion of Ethiopians suffer from shocks (approximately one third of the population), this number has fallen since 2005. In particular, the percentage of rural households reporting shocks has dropped most significantly. The most common shocks to affect Ethiopians are related to food insecurity and food prices. In terms of coping strategies, the number of households who considered themselves able to raise 200 Birr in an emergency was quite high at just under 82%.

In chapter 8 we use information on many of the characteristics of the poor that have been explored in previous chapters, to try to understand the aggregate picture. Using regression analysis, we analyze the correlation between household characteristics and consumption, as well as the probability of being poor.

Education has a clear and positive correlation with consumption, in both urban and rural areas. Even completing informal education shows significant increases in consumption, showing that investment in adult education may also pay returns in Ethiopia. Of the other assets measured in the survey, having acquired land increases consumption as well as owning plough animals or beehives. Female headed households, especially in rural areas are likely to have lower consumption. In terms of shocks, it is actually urban households that appear to be more negatively affected than rural households. This is surprising, given that there has been a lot of focus in the international community on rural livelihoods shocks, and flags the need to also understand urban vulnerability, especially in the context of a growing urban population.

Implications of this report

Results in this report point to several areas important for poverty reduction: economic growth; human capital formation; increasing assets; increasing returns to assets; and reducing the malign effect of shocks. In Ethiopia, growth reduces poverty because of very high growth elasticity of poverty and thus, as a general rule, policies and interventions that increase growth will reduce poverty.

Despite the fact that the number of people living in poverty has fallen, there is still a worrying concern that the indicator of severe poverty did not fall between 2004/5 and 2010, rather it increased. So efforts must increase in order to incorporate the poorest into the development process more effectively. We discuss this further in the conclusions section.

A recurrent finding in this report is the importance of human capital. Increasing education attainments are a critical component of sustainable poverty reduction. Maintaining the current high

rate of net primary enrolments will help Ethiopia reduce poverty substantially in the future. Despite the encouraging results in primary schooling, net enrolment rates in secondary education continue to be very low, especially in rural areas, and policies that encourage students to continue beyond primary school are key to increasing the stock of future human capital in Ethiopia. There has also been an increase in the literacy rate across both urban and rural areas. However rural women still continue to be the least advantaged in terms of this ability. Therefore, the current education program must be further strengthened so as to be inclusive of the vulnerable groups such as rural women and thereby become more effective in further reducing poverty.

Improvements in education attainments require investments in the quantity and quality of schooling available to Ethiopians but they also require investments in other sectors. An increasing body of evidence from Africa and elsewhere points to the causal links between poor preschool nutrition and subsequent schooling attainments. While there have been encouraging news in these data, rates of malnutrition remain unacceptably high.

One of the reasons why consumption levels are higher in urban areas is that the returns to education are higher in towns and cities than they are in rural areas. Thus, while asset formation and accumulation are important, so too will be policies and interventions that increase returns to those assets.

Complementary to nutrition is investments in water and sanitation facilities. This is one area where in particular, Ethiopia lags behind the average for sub-Saharan Africa. Water and sanitation are key to improved health, especially for children, and allow children to consolidate their nutritional gains that lead to improved outcomes in later life. In this respect, there has been encouraging progress, especially in the rural areas. In rural areas 15 years ago, 90 percent of residents were drinking from unsafe sources. This proportion has fallen to 50 percent in fifteen years. This is still very high, much higher than the regional average, and again, the realized gains must continue to improve this aspect of life in rural villages.

Policies and interventions are needed to offset the malign effects of shocks. These have direct effects on consumption and poverty. Further, the *threat* of shocks discourages innovation and risk taking. It is true that many Ethiopian households have developed ways of insuring themselves against risk. But these come with high opportunity costs. For example, the threat of shocks can make households reluctant to access credit markets because they fear the consequences of an inability to repay. Others are simply unable to obtain credit because they are perceived to be at risk of default. Through interventions such as the Productive Safety Nets Program, the Ethiopian government has taken steps to address the problems posed by drought shocks. Interventions that address illness shocks are likely to have significant welfare gains. Further, whilst much has been done to combat rural poverty and vulnerability, the report shows that the urban poor are increasingly vulnerable to shocks, especially price shocks, and that there are a growing number of extreme poor livings in urban areas. As Ethiopia develops and experiences further urbanization, the process should be managed in order to support severe poor individuals and households in urban areas.

There have been significant reductions in the incidence of poverty since the beginning of monitoring in 1996. The trend in poverty reduction has accelerated over time. However, significant challenges remain. If Ethiopia is not to create a class of “ultra poor”, those who are unable to benefit from the growth and prosperity of the country, then special attention must be paid as to how to include such people into economic life, or into welfare programmes. The reductions in monetary poverty have been mirrored by improvements in non-monetary dimensions of well-being, especially in the rural areas. However, large disparities still remain between urban and rural areas, and efforts must continue for economic growth and development that can benefit the poor.

CHAPTER 1

INTRODUCTION

The measurement and analysis of poverty and inequality is crucial for understanding peoples' situations of well-being and the factors determining their poverty situations. The outcomes of the analysis are often used to inform policy making as well as in designing appropriate interventions and for assessing effectiveness of on-going policies and strategies.

Since the last two decades, as part of the global and national initiatives, the government of Ethiopia has put in place a poverty reduction strategy in order to achieve broad based and sustained economic growth. In light of the plan to reduce the depth and extent of chronic poverty over time, a strong system of Monitoring and Evaluation has been put in place. Consequently, the issue of Welfare Monitoring in the country arose as part of the Economic Reform Program (ERP). The ERP specifically and strongly underlines to see the effect of the reform program on poverty and building the analytical capacity of the government to monitor and evaluate such effects. To this end, the government of Ethiopia has established a Welfare Monitoring System (WMS) in 1996. Moreover, the government of Ethiopia has made poverty analysis to be an integral part of the overall Monitoring and Evaluation (M&E) System since 1996 as part of its endeavor to address the poverty reduction agenda.

The objective of this report is, therefore, to provide results of the full-fledged poverty analysis so as to inform GTP on the progress of the Ethiopian government towards reducing poverty. There have been two major sources of information on poverty in Ethiopia: a series of WMSs, undertaken every three to five years since 1996, which track household characteristics and the non-income dimensions of poverty; the 5-yearly HICESs, which measures income poverty. CSA has been conducting the HICES every five years since 1996 in order to gather income and consumption expenditure data. So far, the HICES was conducted four times: 1995/96, 1999/2000, 2004/05, and 2010/11. This report draws on these four surveys, which are the main official instruments for tracking poverty and welfare in Ethiopia, but focuses most on the 2010/11 survey.

As in previous Poverty Analysis Reports, it describes the incidence and severity of poverty and the level and distribution of consumption at the national and regional levels as well as cross-tabulating the correlates of these. This report is also presented as the earlier reports and covers various areas of poverty. This includes an assessment of the role of growth and inequality in determining the evolution of poverty, explicit discussion of issues surrounding vulnerability, and a more extensive description of dimensions of poverty that go beyond consumption such as health, nutrition, and schooling.

The rest of the chapters are organized as follows. Chapter 2 describes how consumption poverty is measured in this report. It explains how the poverty line for 2010/11 was constructed and poverty indices were computed and analyzed. The levels and trends in household consumption are described in chapter 3. Chapter 3 also analyses the current consumption, the composition of consumption, and trends over time at the national and regional level. It also explores urban/rural

differences in consumption patterns. Chapter 4 presents the non-consumption dimensions of poverty in Ethiopia: nutrition, education, health, and housing.

Chapter 5 presents poverty and inequality in Ethiopia. It describes the levels of poverty and inequality in Ethiopia in 2010/11 at the national level, by region and by place of residence (urban/rural). It also describes how these have evolved over time. It decomposes the change in poverty into components: that due to growth in consumption and that due to changes in inequality. It also provides an estimate of how poverty responds to consumption growth.

The characteristics of the poor are described in chapter 6. Previous chapters have described levels and trends in poverty and other measures of well-being at national and regional levels. This chapter complements that analysis by describing characteristics of the poor in Ethiopia. It cross-tabulates poverty with the sex of the household head and other demographic characteristics; human capital; occupational status; farm assets and access to microfinance.

Chapter 7 deals with vulnerability, shocks, household coping mechanisms, and food shortages. Reducing vulnerability is increasingly seen as an important poverty reduction objective. Vulnerability reflects both the exposure of households to adverse events, “shocks” and the ability of the household to cope with these shocks, both *ex ante* and *ex post*. This chapter describes the shocks faced by Ethiopian households, the coping mechanisms available to them, and the extent of the food gap.

Correlates of consumption and poverty are provided in chapter 8. Chapter 8 documented a number of features relating to poverty in Ethiopia including their positive correlation with improved access to assets and public services and the negative effects of shocks such as food price increases. This chapter assesses the relative importance of these factors as determinants of consumption and poverty. It does so through regression analysis. The regressions in these tables document the relationship between assets and shocks and measures of household welfare, including per capita and per adult consumption and the likelihood that a household is poor. These results are generated by combining information from the HICES and WMS.

Chapter 9 provides conclusions and recommendations derived from the analysis. It discusses five areas important for poverty reduction in Ethiopia: economic growth; human capital formation; and reducing the malign effect of shocks.

CHAPTER 2

CONCEPTS OF CONSUMPTION POVERTY, DATA AND SAMPLING

2.1 Defining a Monetary Poverty Line for Ethiopia

Although the method used by the government in defining and measuring poverty has been explained in detailed the previous reports (MoFED, 2002, 2008), it is important to briefly describe the methodology of defining and measuring poverty again in this report to make the report self-contained so that readers do not have to look for previous reports for methodology. Income poverty measurement assumes that there is a well-defined level of standard of living, called the “poverty line,” below which a person is deemed to be poor. A welfarist approach sets this in terms of a reference utility level that can be thought of as a poverty line in utility space. In consumption space, the poverty line is the point on the consumer’s cost function corresponding to that reference utility that is the minimum expenditure needed to attain that utility.

More common is a non-welfarist approach based around the idea of basic needs. A core basic need is having an adequate diet and so the starting point for this type of poverty line is often minimum caloric requirements. There are three methods of setting poverty lines that use caloric requirement: *direct caloric intake*, *food energy intake*, and *cost of basic need* methods. In the direct caloric intake method, the poverty line is defined as the minimum calorie requirement for survival. Individuals who consume below a predetermined minimum calorie intake are deemed to be poor. However, this approach does not account for the cost of obtaining these calories and ignores nonfood needs.

The second non-welfare method of setting a poverty line is the food energy intake method. The basic idea in this method is to find the per capita consumption at which a household is expected to fulfill its caloric requirement. The poverty line then defined is the level of per capita consumption at which people are expected to meet their predetermined minimum caloric requirement. It is estimated by regressing per capita consumption expenditure on caloric intake. Then the predicted value of the per-capita consumption expenditure at the predetermined caloric intake is taken as the poverty line. This method improves over the direct caloric intake method because it provides a monetary value. However, if applied to different regions and periods within the same country, this method does not yield a consistent threshold (poverty line) across groups, regions, and periods because food consumption patterns differ across them.

The third method of setting a poverty line (which this report uses) is the cost of basic needs method. First the food poverty line is defined by choosing a bundle of food typically consumed by the poor. The quantity of the bundle of food is determined in such a way as to supply the predetermined level of minimum caloric requirement (2,200 kcal). This bundle is valued at local prices (or it is valued at national prices if the desire is to get a consistent poverty line across regions and groups). Then a specific allowance for the nonfood goods consistent with the spending pattern of the poor is added to the food poverty line. To account for the nonfood expenditure, the food poverty line is divided by the food share of the poorest quartile or quintile.

The choice between income or consumption as a measure of welfare is the main issue one should discuss before any analysis of poverty. In this report, consumption is used as the metric to measure poverty. Consumption is a better measure of longer-term household welfare because it is subject to less temporal variation than income. Also, in Ethiopia as elsewhere, consumption is likely to be measured more accurately than income. However, for consumption to be an indicator of the household's welfare, it has to be adjusted for differences in the calorie requirement of different household members (age). This adjustment can be made by deflating household consumption by an adult equivalent scale that depends on the nutritional requirement of each family member. The adult equivalent scale must therefore be different for different age groups and the gender of adult members. The household consumption may have to be adjusted for differences in prices across regions and at different points in time to take care of the differences in the cost of basic needs between areas and over time.

In Ethiopia, the methods described above were first applied in the context of the 1995/96 Poverty Analysis Report. This was based on the cost of 2,200 kcal per day per adult food consumption with an allowance for essential nonfood items. The food and total poverty lines used since 1995/96 in the country are 648 and 1075 birr at national average prices, respectively (Table 2.1). To use these poverty lines and compute poverty indices, the per adult consumption expenditure has been updated by deflating all food and nonfood consumption items by spatial price indices (disaggregated at the regional level relative to national average prices) and temporal price indices (relative to 1995/96 constant prices).

Table 2.1 Poverty line (1995/96, 1999/2000 and 2004/05) all measured at 1995/96 national average prices

	Food poverty line in birr per adult per year	Kcal per adult	Total poverty line in birr per adult per year
Poverty line	647.81	2,200	1,075.03
Moderate poverty line	809.76	2,750	1,343.78
Extreme poverty line	485.86	1,650	806.27

Source: MoFED (2002).

To calculate the 1999/00 and 2004/05 poverty indices, first the nominal values of per adult food and non-food consumption items were deflated by the spatial price indices (disaggregated at regional level relative to national average prices) and temporal price indices (relative to 1995/96 constant prices) to arrive at real per adult consumption. Second the 1,075 Birr poverty line is applied to real per adult household consumption expenditure in order to calculate head count, poverty gap and squared poverty gap indices. To compute the 2010/11 poverty indices, the 1995/96 poverty line was computed at 2010/11 prices. To do so groups of consumption items defined in 1995/96 that generate 2200 kilo calories are valued at 2010/11 national average prices in order to obtain food poverty line of 2010/11. Then this food poverty line is divided by the food share of the poorest 25 per cent of the population to arrive at the absolute poverty line for year 2010/11. The food and absolute poverty lines for 2010/11 are determined to be Birr 1985 and 3781, respectively (Table 2.2).

These poverty lines and the real per adult consumption expenditure are used to aggregate consumption poverty indices. The real per adult consumption is obtained by first dividing the nominal consumption expenditure by nutritional calorie based adult equivalence family size to arrive at per adult consumption expenditure. The calorie based adult equivalent scale used varies by age and gender (see MOFED 2008, page. 117, Table A2.4). Second, per adult consumption expenditure has been updated by deflating all food and nonfood consumption items by spatial price indices (disaggregated at the reporting level relative to national average prices) and temporal price indices to bring them to December 2010 constant prices (see Tables A2.1 and A2.2 for Reporting and Regional level spatial price indices). These adjustments result into real per adult food and non-food consumption expenditure measured at December 2010 national average prices. The real per capita consumption expenditure is obtained by dividing consumption expenditure by family size instead of adult equivalent family size.

Table 2.2 Total (absolute) and food poverty line in Birr (average price)

	1995/96	2010/11
Kilocalorie per adult per day (Kcal)	2,200	2,200
Food poverty line per adult person per year (Birr)	648	1,985
Total poverty line per adult person per year (Birr)	1,075	3,781

Source: HICE survey 1995/96 and 2010/11

2.2 Poverty Indices

The most widely used poverty indices are the percentage of the poor (headcount index), the aggregate poverty gap (poverty gap index), and the distribution of income among the poor (poverty severity index). The poverty measure itself is a statistical function that translates the comparison of the indicator of household well-being and the chosen poverty line into one aggregate number for the population as a whole or a population subgroup. Many alternative measures exist, but the three measures described below are the ones most commonly used.

Incidence of poverty (headcount index). This is the share of the population whose income or consumption is below the poverty line, that is, the share of the population that cannot afford to buy a basic basket of goods.

Depth of poverty (poverty gap). This provides information regarding how far households are far from the poverty line. This measure captures the mean aggregate income or consumption shortfall relative to the poverty line across the whole population. It is obtained by adding up all the shortfalls of the poor (assuming that the non-poor have a shortfall of zero) and dividing the total by the population. In other words, it estimates the total resources needed to bring all the poor to the level of the poverty line (divided by the number of individuals in the population).

Poverty severity (squared poverty gap). This takes into account not only the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor, that is, a higher weight is placed on those households further away from the poverty line.

More precisely, these measures can be defined in terms of the well-known Foster, Greer, and Thorbecke (1984) P_α class of poverty measures. When real per-adult (per capita) household expenditure, Y_i , is ranked as

$$Y_1 \leq Y_2 \leq \dots Y_q \leq Z < Y_{q+1} \dots \leq Y_n,$$

Where Z is poverty line, n is the total population, and q is the number of poor, then P_α is given by

$$P_\alpha = \frac{1}{n} \sum_{i=1}^q \left(\frac{Z - Y_i}{Z} \right)^\alpha; \quad \alpha \geq 0, \text{ for } Y < Z.$$

Here the parameter α reflects the policymaker's degree of aversion to inequality among the poor. If $\alpha=0$, there is no concern about the depth of poverty and the corresponding poverty index is called the **headcount index** (P_0). Hence P_0 corresponds to the fraction of individuals falling below the poverty line. The head-count index is easily understood and communicated, but it is insensitive to differences in the depth of poverty. It fails to capture the extent to which individual income (or expenditure) falls below poverty.

If $\alpha=1$, the poverty index is called the **poverty gap index** (P_1) and it measures the aggregate poverty deficit of the poor relative to the poverty line; we also call it poverty gap ratio. Poverty gap ratio can also be interpreted as an indicator of potentials for eliminating poverty by targeting transfers to the poor. The minimum cost of eliminating poverty using targeted transfer is the sum of all poverty gaps in a population - $(Z - \bar{Y}_0) \times q$. The drawback of the poverty gap measure is that it does not capture the differences in the severity of poverty among the poor, that is, it does not capture the transfer of income among the poor. If income is transferred from the poor to the least poor, the poverty gap index will be unaffected. When $\alpha > 1$, the P_α calculation gives more weight to the average income shortfall of the poorest of the poor. Thus P_2 (where $\alpha = 2$) measures the squared proportional shortfalls from the poverty line, which is commonly known as an index of the severity of poverty. However, it is not easy to interpret.

This report uses all three poverty indices described here: headcount poverty, the poverty gap, and the severity of poverty. The measures of depth and severity of poverty are important complements of the incidence of poverty. It might be the case that some groups have a high poverty incidence but low poverty gap (when numerous members are just below the poverty line), while other groups have a low poverty incidence but a high poverty gap for those who are poor (when relatively few members are below the poverty line but with extremely low levels of consumption or income).

2.3 Comparing Poverty between Groups and over Time

There are two ways of comparing poverty indices across groups or over time. The first way to compare poverty indices between, say, two groups (group 1 and group 2) is to conduct a statistical test or means separation test. If the poverty measures are estimated from unit record data (i.e., on

the basis of sample observations), it is possible to test whether the observed differences in their values are statistically significant. The hypothesis test developed by Kakwani (1993) can be used to test whether poverty indices (P_α) differ significantly between groups and over time. The standard error of P_α is calculated using the following formula (Ravallion 1992).

$$SE(P_\alpha) = \sqrt{\frac{(P_\alpha - P_\alpha^2)}{n}},$$

Where $SE(.)$ is the standard error. Consequently the standard error (SE) of the difference in poverty index between group one and group two ($SE(P_{\alpha 1} - P_{\alpha 2})$), having a random sample n_1 and n_2 , respectively, is given by

$$SE(P_{\alpha 1} - P_{\alpha 2}) = \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}},$$

Where s_1 and s_2 are the sample estimator of the variance of the asymptotic distribution of $P_{\alpha 1} \sqrt{n_1}$ and $P_{\alpha 2} \sqrt{n_2}$, such that

$$SE(P_{\alpha 1} - P_{\alpha 2}) = \sqrt{(SE(P_{\alpha 1}))^2 + (SE(P_{\alpha 2}))^2}.$$

The test statistic (t) is given by

$$t = \frac{(P_{\alpha 1} - P_{\alpha 2})}{SE(P_{\alpha 1} - P_{\alpha 2})}.$$

This is asymptotically normally distributed with zero mean and unit variance. In a large sample, if the calculated value of t (the test statistics) has an absolute value less than 1.96 (2.58), then the difference in the poverty indices between two groups or dates is not statistically significant at the 5 percent (1 percent) level, using a two-tail test.

This method of testing has a serious limitation. It assumes that the poverty line is fixed and is not a random variable and the poverty line is estimated without error. If the poverty line is random and estimated with error, the above formulas developed for testing do not work. There are likely to be errors in our measurement of welfare. There are also uncertainty and arbitrariness in the estimation of poverty line and poverty measures.

Hence a second method of comparing poverty indices across groups and checking the robustness of poverty comparisons between groups and dates is to conduct a stochastic dominance analysis. Here we will discuss the first order stochastic dominance (FSD), the second order stochastic dominance (SSD), and the third order stochastic dominance (TSD) analyses in terms of comparing the distribution of a variable (for example, per capita household expenditure) among groups. FSD analysis is done by drawing the cumulative distribution function that shows the level of consumption expenditure on the horizontal axis (various poverty lines) and the cumulative percentage population (headcount ratios) on the vertical axis. This curve is called the *poverty incidence curve*. If the curves for the two groups (or dates) do not cross, we can say unambiguously that one group has higher poverty incidence than the other group. If two curves cross at any of the points on the graphs, we cannot say one group (rural) has higher or lower

poverty incidence than the other (urban people). If we fail to compare poverty between two groups using FSD, we have to conduct the SSD and TSD analysis.

The SSD curve is drawn by tracing the area under the poverty incidence curve, which is called the *poverty deficit curve*. Each point of the vertical axis on the poverty deficit curve corresponds to the value of poverty gap index (P_2) times the poverty line and values on the horizontal axis represent the value of poverty lines. The TSD curve traces the poverty severity curve or the area under the poverty deficit curve. Each point of the vertical axis of this curve is equal to the area under the poverty deficit curve (or poverty severity index (P_2)). The horizontal axis measures various poverty lines. If, again, the poverty deficit curves and the poverty severity curves of the two groups (which are under comparison) cross each other, we cannot say there is a difference in poverty between the two groups. This report provides statistical tests and the results of stochastic dominance analysis for key trends over time.

2.4 The 2010/11 HICE survey sampling and data collection

The 2010/11 HICE survey was designed and conducted by the Central Statistical Agency of Ethiopia (CSA). The core objective of the HICE survey is to provide statistical data that enable to understand the income (consumption-expenditure) dimension of poverty. The major objectives, among others, are (1) to furnish series of data for assessing poverty situations; for analyzing changes in the households' living standard over time; and for M&E the impacts of socio-economic policies and programs on households' livelihood, and (2) to provide data for compiling household accounts in the System of National Accounts (SNA), and for construction and/or rebasing of Consumer Price Indices.

2.4.1 Survey methodology

Sample design: The 2010/11 HICE survey covered all rural and urban areas of the country except non sedentary area in Afar and Somali (three and six zones, respectively) National Regional States. For the purpose of representative sample selection, the country was divided in to three broad categories, i.e., rural, major urban centers and other urban areas categories. Therefore, each category of a specific region, in most cases, was considered to be a survey domain (i.e., reporting level) for which the major findings of the survey are reported. However, Harari and Dire Dawa have rural and urban categories, only; while Addis Ababa has only urban areas divided into 10 sub-cities considered as survey domain or reporting levels.

In the first two categories, namely the rural and major urban, a two stage stratified sampling technique was implemented whereby the Enumeration Areas (EAs) were considered as a Primary Sampling Unit (PSU) and the households were considered as the Secondary Sampling Unit (SSU). The EAs were selected using the Probability Proportional to Size (PPS), size being the number of households obtained from the 2007 Population and Housing Census while the households were systematically selected from the fresh list of households within the EA made during the survey.

On the other hand, for the other urban category, a three stage stratified sampling technique was utilized. In this case, the urban centers, enumeration areas (EAs) and households were used as a primary sampling unit (PSU), secondary sampling unit (SSU) and the Tertiary Sampling Unit (TSU), respectively. Here, the PSUs and SSUs were selected using the PPS while the selection of households follow the same approach as described earlier.

Sample size: At country level, a total of 864 EAs and 10368 households (12 households per EA) were selected to represent rural and a total of 1104 EAs and 17,664 sample households (16 households per EA) were selected for urban domains, specifically, 576 EAs and 9216 households and 528 EAs and 8448 households to represent major urban and other urban areas, respectively.

Sample Coverage: In rural areas out of the 864 EAs 862 EAs and out of the 10368 households, 10320 households were successfully covered by the survey which gives a response rate of 99.7%. Similarly, in urban areas all EAs were fully covered by the survey. However, with respect to households, only 150 households were not covered by the survey. At the end it was possible to obtain very clean data from 27830 households, which is quite high compared to the sample size of HICE survey in 2004/05 (sample size of 21595) and 1999/00 (sample size of 17332) and 1995/96 (sample size of 12342)¹ (see Table A2.8 for the distribution of sample size by region, place of residence and by survey year).

2.4.2 Data collection

The data collection of the HICE survey has taken place for one full year from 8 July 2010 to 7 July 2011. A total of 82 data collection team, each composed of two enumerators and one supervisor/field editor, were organized in order to execute the field work. Furthermore, these 82 teams were organized in 25 CSA branch offices, each headed by an experienced statistician. Each team was responsible to collect data in at most 24 enumeration areas (EA). In the 2010/11 HICE survey, the data collection was distributed across all months ensuring balanced distribution across seasons. The 2010/11 HICE survey, therefore, have better seasonal distribution compared to the previous HICE surveys (conducted 1995/96, 1999/00, 2004/05).

¹ See MoFED (2002, 2008) and CSA (2007) for details of survey design, sampling and sample coverage of the 1995/96, 1999/00 and 2004/05 HICE surveys.

CHAPTER 3

PROFILE AND CHANGES IN HOUSEHOLD CONSUMPTION

3.1 National level consumption and caloric intake

Access to food and other basic needs are important dimensions of well-beings they ensure the absence of material deprivation. Following the standard convention mentioned in the previous chapter, this dimension of well-being is measured by consumption expenditure (hereafter consumption). In 2010/11 consumption was measured over 12 months as opposed to the previous surveys which measured consumption in two rounds.

All monetary figures of consumption expenditure have been adjusted for inflation across months in 2010/11. Consumption expenditures in this report are reported in terms of 2010/11 national average prices in Ethiopian Birr. Both per capita and per adult equivalent figures are used. Per capita real household consumption expenditure is obtained by dividing real household consumption expenditure by family size. Per adult real household consumption expenditure is per capita real household consumption expenditure adjusted for age and gender of household members, obtained by dividing real household expenditure by adult equivalent family size. We use the Dercon and Krishnan (1985) adult equivalent scale to calculate adult equivalent family size.

Tables 3.1 reports both real per capita consumption and real per adult equivalent consumption along with family size for 2010/11, and the level of calories consumed, along with percent changes between 2010/11 and 2004/05. While Table 3.2 provides information on the trends of calorie availability and household size since 1995/96, Table 3.3 presents trends in per adult equivalent consumption expenditure from 1995/96 to 2010/11 all measured in 2010/11 constant prices.

Table 3.1 Real consumption expenditure and calorie availability (in KCAL) in 2010/11 in Birr

	Rural	Urban	Total
Real per capita food consumption expenditure	2031	2758	2151
Real per capita non-food consumption expenditure	2305	3327	2475
Real per capita total consumption expenditure	4336	6085	4626
Real per adult food consumption expenditure	2515	3252	2637
Real per adult non-food consumption expenditure	2845	3910	3022
Real per adult total consumption expenditure	5360	7162	5659
Share of food in total expenditure	0.531	0.471	0.521
Household size	5.1	3.7	4.8
Adult equivalent household size	4.1	3.1	3.9
Per capita total net calorie consumed	2400	2283	2381
Per adult total net calorie consumed	2973	2706	2928
% change in per adult net calorie between 2004/05 and 2010/11	6.0	13.4	6.6

Source: HICE survey 2010/11; Number of observation=27830

Family size was 4.8 in 2010/11, which was exactly equal to that of 2004/05, but slightly lower than that of 1995/96 and 1999/2000. Adult equivalent family size was 3.9, which was similar to

that of 2004/05 and that of 1995/96 and 1999/2000. In general, both the unadjusted family size and adult equivalent family size were higher in rural areas than in urban areas.

Real per capita consumption averaged 4626 Birr (US\$264²) in 2010/11 (at 2010/11 constant prices). Food consumption accounted for just 2151 Birr, with the remainder, nonfood expenditures, averaging 2475 Birr. The average total calories consumed in Kcal per day by an adult person was 2928 with 2973 for rural people and 2706 for urban people, which are all well above 2200 Kcal per day, an amount required to walk and perform light works.

Table 3.2 Calories consumed in 1995/96, 1999/2000 and 2004/05

	1995/1996			1999/2000			2004/2005		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Kcal consumed/day per adult	1,938	2,050	1,954	2,723	1,861	2,606	2,806	2,387	2,746
Share of food in total .expenditure.	0.60	0.56	0.60	0.67	0.53	0.65	0.57	0.50	0.56
Household size	5.1	4.7	5.0	4.9	4.6	4.9	4.9	4.3	4.8
Adult equivalent household size	4.2	3.9	4.2	3.9	3.8	3.9	4.0	3.6	3.9

Between 2004/05 and 2010/11, real per adult equivalent consumption increased by 20 percent which is higher than that of the previous period (1999/00 to 2004/05). In the context of a growing economy (like Ethiopia), one should expect food and nonfood consumption to grow, with nonfood consumption growing more rapidly than food consumption. There is some evidence that this has occurred. Nationally, food consumption, as a share of total consumption, has fallen from 60 percent to 56 percent between 1995/96 and 2004/05 and to 52 percent in 2010/11. Consequently, between 2004/05 and 2010/11, nonfood expenditures have grown rapidly, by 31% nationally, by 24 percent in rural areas and by 38 percent in urban areas. Further, there has been a reported increase in caloric availability, by 6 percent in rural areas and 13 percent in urban areas.

Table 3.3 Trends in per adult consumption expenditure (1995/96 to 2010/11) measured at 2010/11 constant prices

Year	Rural			Urban			Total		
	Food	Non-food	Total	Food	Non-food	Total	Food	Non-food	Total
1995/96	2462	1494	3956	3348	1995	5343	2586	1564	4150
1999/00	2740	1329	4069	2695	2631	5326	2734	1505	4239
20004/5	2455	1946	4402	2765	3895	6661	2499	2223	4722
2010/11	2564	2412	4976	3808	5368	9176	2770	2902	5672
% change (04/05 to 10/11)	4.43	23.92	13.04	37.71	37.81	37.77	10.84	30.54	20.11
% change (99/00 - 2004/05)	-10.38	46.45	8.18	2.60	48.06	25.05	-8.58	47.68	11.40

Source: HICE survey 1995/95, 1999/00 , 2004/05 and 2010/11

The increment in food consumption expenditure (11% between 2004/05 and 2010/11) is higher than the previous survey periods (between 1999/00 and 2004/05) in which it was negative, while the increment in calorie intake is much lower than the previous year, which looks inconsistent and hence require further explanation. With regard to non-food expenditure, the result indicates that

² We used an exchange rate of a USD=17.5 Birr.

the increment in real non-food consumption was much higher in the previous years (48%) than the increment between 2004/05 and 2010/11, which was 31%.

3.2 Regional level consumption and caloric availability

The tables presented thus far present a nationally representative picture of trends in consumption. This section goes beyond these averages to assess how widespread growth in consumption has been. Results are presented in Tables 3.4 to 3.6. Though in general the difference in real consumption among regions is very small, real consumption levels are highest in Harari, when measured in per adult equivalent and Addis Ababa when measured in per capita terms. For the per capita terms it is followed by Harari, Tigray, Benishangul-Gumuz, and Dire Dawa regions, while Amhara, Afar, Oromiya, Benishangul-Gumuz, and Somale recorded lower consumption levels.

Table 3.4 Regional (rural + urban) consumption expenditure in Birr (at 2010/11 national average price)

Region	Food share	Per capita			Per adult		
		Food consump.	Non-food consump.	Total consump.	Food consump.	Non-food consump.	Total consump.
Tigray	0.504	2115	2803	4917	2590	3428	6018
Afar	0.619	2545	1927	4472	3059	2310	5370
Amhara	0.520	2018	2651	4668	2450	3210	5660
Oromia	0.519	2135	2436	4570	2636	2989	5625
Somali	0.637	2416	1863	4279	3013	2322	5336
B.G	0.517	2153	2628	4781	2660	3234	5894
SNNP	0.526	2145	2313	4458	2650	2847	5497
Gamb	0.593	2419	1907	4326	2935	2288	5222
Harari	0.565	2979	2536	5515	3637	3090	6728
A.A	0.456	2954	2647	5601	3440	3083	6523
DD	0.570	2721	2005	4727	3272	2407	5679
Total	0.521	2151	2475	4626	2637	3022	5659

Source: HICE survey 2010/11; Number of observation=27830

In all regions, consumption is higher in urban areas. Among those regions that are predominantly rural (Tigray, Amhara, Oromiya, Somale, Benishangul-Gumuz, and SNNP), there is remarkably little difference in consumption levels while rural Afar and Gambella have the same level, but slightly lower level of per adult equivalent consumption.

For example, per adult equivalent consumption varies from a high of 5600 birr per adult equivalent in Benshangul-Gumuz to a low of 5,062Birr per adult equivalent in Somale and 5185 in Tigray. Afar and Gambela, regional states with lower per adult equivalent consumption levels, achieved 4650 and 4691 Birr respectively, indicating the rural level of consumption among regions is very close to each other. For urban areas too, the variation among regions in consumption expenditure is not high except in Tigray, Harari and Benshangul-Gumuz regions.

Table 3.5 Regional rural consumption expenditure in Birr (at2010/11 national average price)

Region	Food share	Per capital			Per adult		
		Food	Non-food	Total	Food.	Non-food.	Total.
Tigray	0.524	1937	2275	4213	2384	2801	5185
Afar	0.643	2388	1464	3852	2884	1765	4650
Amhara	0.528	1905	2526	4431	2329	3086	5414
Oromia	0.526	2076	2263	4339	2582	2805	5387
Somali	0.650	2245	1808	4053	2806	2256	5062
B.G	0.525	2082	2403	4485	2591	2978	5569
SNNP	0.531	2075	2216	4291	2585	2751	5336
Gamb	0.617	2244	1596	3839	2750	1942	4691
Harari	0.612	2671	1867	4538	3374	2357	5731
AA	-	-	-	-	-	-	-
DD	0.592	2312	1983	4295	2880	2463	5344
Total	0.531	2031	2305	4336	2515	2845	5360

Source: HICE survey 2010/11; Number of observation=27830

Table 3.6 Regional urban consumption expenditure in Birr (at2010/11 national average price)

Region	Food share	Per capital			Per adult		
		Food	Non-food	Total	Food.	Non-food.	Total.
Tigray	0.428	2805	4857	7662	3390	5872	9262
Afar	0.559	2931	3067	5998	3489	3650	7139
Amhara	0.465	2812	3526	6338	3303	4087	7390
Oromia	0.474	2528	3580	6108	2992	4215	7207
Somali	0.581	3140	2095	5235	3892	2604	6496
B.G	0.470	2582	4007	6589	3081	4801	7883
SNNP	0.478	2749	3148	5897	3211	3672	6883
Gamb	0.542	2791	2567	5358	3327	3021	6349
Harari	0.512	3322	3282	6604	3931	3907	7838
A.A	0.456	2954	2647	5601	3440	3083	6523
DD	0.560	2916	2016	4931	3457	2381	5838
Total	0.471	2758	3327	6085	3252	3910	7162

Source: HICE survey 2010/11; Number of observation=27830

Growth rates, however, differ significantly by region and by place (urban/rural) of residence for consumption expenditure (Table 3.7 and 3.8). Over the five years between 2004/05 and 2010/11, the highest rate of consumption growth in rural localities is registered in Dire Dawa (40%) followed by Tigray (36%) and Benshangul-Gumuz (31%). Other rural areas of certain regions such as rural Amhara, rural Oromia, and rural Somale showed modest growth (in a range of 13% to 19%) while there was growth registered in rural SNNP.

In urban areas, between 2004/05 and 2010/11, the highest consumption growth is registered in Amhara (64%) and Addis Ababa (54%) Regions, followed by Somale (36%), Harari (36%), Tigray (35%), Afar (25%), Oromia (24%), Benshangul-Gumuz (25%), SNNP (20%) and Dire Dawa (20%) regions.

Table 3.7 Percent change in per adult consumption expend. between 2004/05 & 2010/11 measured at 2010/11 constant prices

Region	Rural			Urban			Total		
	Food	Non food	Total	Food	Non food	Total	Food	Non food	Total
Tigray	26.24	47.55	36.28	39.41	32.80	35.12	30.99	46.82	39.32
Afar	10.83	-5.07	4.75	32.71	18.18	25.44	15.61	-3.56	7.15
Amhara	10.34	29.66	18.94	49.56	74.86	64.34	16.24	43.39	28.84
Oromiya	-1.32	34.64	13.32	19.47	28.34	24.44	1.86	36.72	16.81
Somale	3.02	38.59	13.57	17.04	72.29	36.21	2.85	38.00	13.98
B.G	17.74	47.17	30.91	25.29	25.10	25.18	19.83	45.01	31.71
SNNP	1.33	-2.05	-0.38	37.67	9.37	19.97	5.81	1.51	3.58
Gambella									
Harari	4.90	-2.41	1.89	20.08	52.88	35.89	12.11	25.30	18.07
Addis Ababa				62.67	48.00	53.81	62.63	48.53	54.13
Dire Dawa	28.68	60.66	40.40	29.06	12.81	20.94	29.15	21.78	25.69
Total	4.43	23.92	13.04	37.71	37.81	37.77	10.84	30.54	20.11

We observe patterns difficult to explain when we compare the growth of per adult equivalent consumption between the two periods: period of 2004/05 – 2010/11 and period of 1999/00 – 2004/05 (see Table 3.8 for details). Tigray, SNNP and Harari Regions registered lower percent of growth of consumption in period 2004/05 – 2010/11 than in period 1999/00-2004/05, while Afar, Amhara, Oromia, Somale, Benshangul-Gumuz and Addis Ababa showed higher percent of growth in period 2004/05 – 2010/11 than in period 1999/00-2004/05. Only Dire Dawa City Administration has registered the same percent of growth in consumption between the two periods.

Table 3.8 Percent change in real per adult equivalent consumption by region, and place of residence

Region	1999/2000-2004/05			2004/05-2010/11		
	Rural	Urban	Total	Rural	Urban	Total
Tigray	31.4	124.7	50.9	36.28	35.12	39.32
Afar	20.2	8.1	20.4	4.75	25.44	7.15
Amhara	0.2	7.7	1.2	18.94	64.34	28.84
Oromiya	11.1	26.5	12.9	13.32	24.44	16.81
Somale	3.5	2.1	2.4	13.57	36.21	13.98
B.G.	18.2	23.4	22.1	30.91	25.18	31.71
SNNP	27.6	29.8	28.6	-0.38	19.97	3.58
Gambela				0.00	0.00	0.00
Harari	21.3	45.1	33.6	1.89	35.89	18.07
AA	40.7	28.9	29.3	0.00	53.81	54.13
Dire Dawa	5.9	35.5	26.2	40.40	20.94	25.69
National	12.7	29.1	16.1	13.04	37.77	20.11

Tables 3.9 and 3.10 present regional levels of calorie availability by place of residence in both per capita and per adult equivalent terms. In both terms, unlike the consumption expenditure, the level of calories consumed is higher for rural areas than for urban areas. However, the level of calories consumed in per adult equivalent terms is very similar across regions in both rural and urban areas. For example, per adult calorie consumption in SNNP is the highest at 3288 Kcal per day

while the lowest level is recorded for Addis Ababa, which is 2556 Kcal per day per adult, showing similarities in calorie intake across regions.

Table 3.9 Per capita total net calorie availability in 2010/11 by region and rural urban in KCAL per day

Region	Rural	Urban	Total
Tigray	2294	2330	2302
Afar	2303	2356	2318
Amhara	2124	2293	2145
Oromia	2430	2252	2407
Somali	2311	2241	2298
B.G	2483	2498	2485
SNNP	2676	2468	2654
Gambella	2663	2230	2524
Harari	2714	2222	2481
A.A		2195	2195
DD	2612	2185	2322
Total	2400	2283	2381

Source: HICE survey 2010/11; Number of observation=27830

Table 3.10 Per adult total net calorie availability in 2010/11 by region and rural urban

Region	Rural	Urban	Total
Tigray	2821	2834	2823
Afar	2775	2822	2788
Amhara	2599	2707	2613
Oromia	3022	2680	2978
Somali	2882	2783	2863
B.G	3091	3003	3079
SNNP	3332	2908	3288
Gambella	3264	2699	3083
Harari	3450	2645	3070
A.A		2556	2556
DD	3249	2608	2814
Total	2973	2706	2928

Source: HICE survey 2010/11; Number of observation=27830

Table 3.11 Percent change in per adult net calorie availability between 2004/05 and 2010/11 in %

Region	Change (%) between 1999/00-2004/05			Change (%) between 2004/05 - 2010/11		
	Rural	Urban	Total	Rural	Urban	Total
Tigray	3.3	30.8	6.1	8.0	19.7	9.8
Afar	40.1	17.9	31.7	7.0	20.2	11.9
Amhara	-3.2	19.1	-1.6	2.7	17.8	4.2
Oromia	4.9	44.9	7.6	2.9	6.5	2.9
Somali	19.3	36.5	24.7	6.3	2.4	5.5
B.G	-0.6	15.5	-0.1	16.7	23.2	17.3
SNNP	5.3	31.8	6.3	12.4	15.2	12.4
Gambella						
Harari	17.0	20.8	18.8	6.8	16.3	13.1
A.A	14.4	17.2	16.8		14.5	14.2
DD	15.6	12.6	14.9	11.2	20.1	16.4
Total	3.0	28.3	5.4	6.0	13.4	6.6

There is a modest difference among regions in growth rates of calorie intake which is shown in Tables 3.1. Between 2004/05 and 2010/11, the highest growth in per adult equivalent calorie intake was observed in Benshangul-Gumuz (17%) and Dire Dawa (16%) regions followed by Harari (13%), Addis Ababa (13%), Afar (12%) and SNNP (12%) Regions. The Tigray Regional State registered 10% growth in calorie intake in per adult equivalent term. Other regions including Amhara, Oromia, Somale, showed small increments ranging from 3% to 6% between the period of 2004/05 and 2010/11. Growth in general compared to the previous period (1999/00 to 2004/05) has a similar pattern (Table 3.11). For example the percent of national average growth in calorie intake is only 1.1 percentage points higher for the 2004/05 - 2010/11 period (6.6%) than for the 1999/00 - 2004/05 period (5.4%).

CHAPTER 4

NON-CONSUMPTION DIMENSIONS OF POVERTY IN ETHIOPIA

As outlined in the introduction and earlier chapters, although the headline “poverty rate” in Ethiopia is based on a monetary definition of poverty, it is well understood by policymakers and analysts that poverty is a multidimensional phenomenon. This chapter therefore examines non-income aspects of wellbeing such as health, nutrition, education and literacy, sanitation, access to services and assets using data from the 2011 Welfare Monitoring Survey. By merging the WMS data with the HICE we are also able to compare differences across the consumption distribution as well as a breakdown by location and gender. Whilst there are many improvements since 1995, and also since 2004, some aspects of non-monetary poverty remain stark in Ethiopia and are areas for improvement. For example rural road quality appears to be driving the low secondary school enrolment rates seen in rural areas. Electrification rates also remain low in rural areas at below five percent. Nationally, the average rate is 18% which is lower than the average for sub-Saharan Africa (24%). The rate of stunting remains just above that compared to other African countries (the average rate in sub-Saharan Africa is 40% compared to 44% in Ethiopia), but the gap has narrowed substantially between Ethiopia and the rest of the continent.

4.1 Illness

Self-reported illness has fallen since 2004, as shown in the table below. More rural than urban residents report being ill in the past two months, and slightly more women than men. The rates of illness reported are just below those reported in 1996 however, which contradicts some of the trends observed in consumption poverty as well as other indicators discussed later in the report. We therefore break down self-reported illness by consumption quintile and find in table 5.02 that it is actually richer households that are more likely to report an illness episode. This phenomenon has also been found in other countries (Thomas and Frankenberg, 1998), where it is posited that richer households are often more educated, or empowered to notice and report a health issue.

Table 4.01 Incidence of self reported illness, by gender and location over time

	National			Rural			Urban		
	Male	Female	All	Male	Female	All	Male	Female	All
1996	17.3	18.9	18.1	17.9	19.7	18.8	13.4	15.0	14.3
2004	22.4	25.1	23.8	23.1	26.0	24.6	17.7	20.3	19.1
2011	15.4	18.6	17.0	15.6	18.9	17.3	14.0	17.3	15.7

Notes: Source: calculations from WMS. Respondent reported having at least one illness episode in the two months prior to the survey.

Given that the incidences are self-reported, and may suffer from such bias, it is unclear how to interpret the trends over time. We therefore turn to another indicator of health, that is, access to health providers. For the subset of people who report a health issue in the past two months, the WMS also asked whether they consulted a health provider.

Table 4.02 Incidence of self reported illness, by gender and consumption quintile

<i>Consumption quintile</i>	Self-reported illness		
	All	Male	Female
1	15.6	14.6	16.7
2	16.3	14.3	18.2
3	16.5	14.9	18.0
4	17.7	15.8	19.5
5	18.9	17.2	20.5

Notes: Source=calculations from WMS and HICES merged. Respondent reported having at least one illness episode in the two months prior to the survey.

Table 4.03 shows that this figure has increased over time at the national level, and in the breakdown, the change happened in both urban and rural areas. Males in all areas are more likely to consult a health care provider than females, and urban residents are more likely than rural residents to visit the health centre. This could reflect differences in health facilities – which is examined later in this chapter.

Table 4.03 Percent who consulted health provider, by gender and location over time

	National			Rural			Urban		
	Male	Female	All	Male	Female	All	Male	Female	All
1996	53.7	45.0	49.1	51.1	42.0	46.4	76.5	66.3	70.7
2004	50.2	46.0	47.9	47.3	42.4	44.7	74.7	72.4	73.4
2011	63.1	60.7	61.8	60.9	58.3	59.4	76.8	74.1	75.2

Notes: Source: Calculations from WMS. Figures represent the percentage of individuals who reported being ill in the past two months and consulting with a health provider about it.

We also examine the likelihood of consulting a health provider by consumption quintile in table 5.04 below. Richer households are more likely to consult (and recall they are also slightly more likely to report) which suggests that better-off households are accessing available health providers more than worse off households. Compare the richest urban households, who consult a health provider more than 80 percent of the time, with the poorest rural households, where only half consult a healthcare professional. A policy which can encourage access of the poorer households to healthcare would likely have high payoffs.

Table 4.04 Consultation with health provider, over consumption quintile and location

<i>Consumption quintile</i>	Urban					Rural				
	1	2	3	4	5	1	2	3	4	5
Male	65.6	70.1	80.7	77.8	83.3	54.5	57.0	58.8	63.1	70.2
Female	65.7	69.4	75.7	74.5	80.0	51.4	55.7	61.1	57.4	64.1
All	65.7	69.7	77.6	75.9	81.4	52.9	56.3	60.1	59.9	66.8

Notes: Source: calculations from WMS merged with HICES. Figures represent the percentage of individuals who reported being ill in the past two months AND consulting with a health provider about it.

4.2 Nutrition

The Ethiopia Demographic and Health Survey (EDHS) is a detailed study of many aspects of adult and child health in Ethiopia. We present here indicators of child nutrition from the EDHS based on comparisons between Ethiopian children aged under 60 months with the latest WHO multi-country growth references (de Onis et al, 2011). This new reference, developed since 2004, incorporates an international reference group of well-nourished children as the ideal growth profile for child development. Statistics compare the height or weight of the child to the average for their sex and age group. If child is more than two standard deviations below the average height-for-age (HAZ), they are experiencing growth retardation, or stunting.

Stunting is a reliable indicator of childhood cumulative poverty, as height for age represents the cumulative investments in nutrition and health in the child's life thus far. Weight is an indicator of recent nutritional intake, and can be compared to the international reference group (weight-for-age or WAZ), or to the child's height (weight-for-height, WFH). If the child has weight-for-height that is greater than two standard deviations under the average of the well-nourished group, they are considered as wasted. If the child has WAZ of more than two standard deviations below the average of the well-nourished group, they are considered as underweight. Due to the new statistics being based on a different reference group, they are not directly comparable to nutrition information presented in the 2004/5 poverty report. However, the EDHS from 2000 and 2005 can shed some light on the trends as they have been recalculated using the new growth references.

Table 4.05 below shows stunting, wasting and underweight for the past decade. It shows a clear downward trend, indicating success in the nutritional policies pursued by the Government of Ethiopia, which has lowered the rate of stunting from 58 percent in 2000, to 44 percent in 2011. Underweight is similarly on a downward trend. The prevalence of wasting, or low weight-for-age has fallen less significantly, though was at a lower starting level in 2000.

Table 4.05 Ethiopian child nutrition indicators over time

Year	Stunted	Wasted	Underweight
2000	58	12	41
2005	51	12	33
2011	44	10	29

Source: EDHS

Table 4.06 below presents a breakdown of child nutrition indicators by gender and region. Overall, 44 percent of children under five years are stunted. There are slight differences between boys and girls, with girls actually slightly less likely to be stunted. The larger differences are between urban and rural areas, with a larger proportion of stunted children in rural areas. Proportion underweight has fallen to 29% which may indicate further decreases in the proportion of stunted children in the future, as stunting tends to reflect longer term nutrition.

Table 4.06 Indicators of child nutrition in Ethiopia in 2011, by gender and location

Proportion:	Stunted	Wasted	Underweight
Male	46.2	11.1	30.5
Female	42.2	8.2	26.8
Urban	31.5	5.7	16.3
Rural	46.2	10.2	30.4
All	44.4	9.7	28.7

Source: EDHS

Table 4.07 Indicators of child nutrition in Ethiopia, by wealth quintile

Proportion:	Stunted	Wasted	Underweight
Wealth Quintile			
1	49.2	12.1	35.6
2	47.7	12.3	33.2
3	45.6	9.4	28.8
4	45.0	7.7	25.8
5	29.7	5.1	15.1

Source: EDHS

The EDHS does not collect consumption data, but does compile information on wealth, and calculates an asset-based wealth index that is common to DHS surveys around the world. In the table above, it can be seen that stunting decreases quite rapidly as wealth increases, from almost half of all children in the bottom wealth quintile, to 30 percent of children in the top quintile. There is a similar pattern for the other indicators of nutrition.

Table 4.08 shows regional incidence of malnutrition, which mirror the consumption poverty regional profiles fairly consistently. The highest incidence of malnutrition is in Afar, Amhara and Tigray, whilst it is lowest in Addis Ababa and other urban areas.

Table 4.08 Indicators of child nutrition in Ethiopia, by region

Region	Stunted	Wasted	Underweight
Tigray	51.4	10.3	35.1
Afar	50.2	19.5	40.2
Amhara	52.0	9.9	33.4
Oromiya	41.4	9.7	26.0
Somali	33.0	22.2	33.5
Benishangul	48.6	9.9	31.9
SNNP	44.1	7.6	28.3
Gambella	27.3	12.5	20.7
Harar	29.8	9.1	21.5
Addis	22.0	4.6	6.4
Dire Dawa	36.3	12.3	27.6

Source: EDHS

4.3 Education

4.3.1 Literacy and Numeracy

Literacy continues to increase over time in both rural and urban areas, and for both males and females. There remain some considerable differences in literacy rates between men and women, though the gap has closed slightly in rural areas over the past six years. On average, just under half the population is literate and this breaks down into 56 percent of males and 47 percent of females. The gap between rural and urban residents is more striking, 78 percent of urban residents over ten years old reporting that they can read, compared to only 40 percent of rural residents. The proportion of rural women who can read is only 30 percent, which represents a considerable increase since 2004, and a great improvement since 1996 in the first WMS survey, where less than 10 percent of rural women could read. However, there is still a gap to catch up, as the current rate of literacy for rural women is around the same as it was for rural men 15 years ago, and it is less than half the rate of urban literacy.

Table 4.09 Literacy rates, by location and gender over time

	National			Rural			Urban		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2011	56.2	37.6	46.7	49.7	30.0	39.7	87.6	69.6	77.9
2004	49.9	26.6	37.9	43.4	18.7	30.9	86.2	64.4	74.2
1996	34.8	16.9	25.8	27.9	8.4	18.3	77.5	56.7	65.7

Notes: Source: Calculations from WMS. Includes individuals aged 10 and over.

Table 4.10 examines whether there are significant differences over consumption quintiles for literacy and numeracy. The results confirm that as households get richer, the probability of being able to read and write increases. The differences between the middle quintiles is not significant however moving up from the bottom quintile increases male literacy significantly, and moving to the top quintiles increases literacy for both males and females. Numeracy rates are much higher overall, though there are still differences across wealth.

Table 4.10 Literacy rates, by consumption quintile and gender

Consumption Quintile	Literacy			Numeracy		
	Total	Male	Female	Total	Male	Female
1	42.3	50.7	33.7	87.7	88.3	87.4
2	44.0	53.6	34.5	87.8	88.4	87.5
3	44.5	54.0	35.5	90.2	91.4	89.3
4	47.4	57.2	38.3	89.5	90.6	88.8
5	54.4	65.0	44.8	92.1	92.9	91.4

Source: Calculations from WMS merged with HICES.

4.3.1 Net enrolment rates in primary and secondary education

The 2011 WMS includes information on enrolment and in this section, school enrolment by location, gender and consumption quintile are presented. Note that the structure of primary education has been changed since the 2004 survey and now includes 8 grades rather than 6 grades, hence the results between years are not completely comparable.

Table 4.11 shows that the net enrolment rates for both primary and secondary have increased substantially compared to fifteen years previously. Primary enrolment has increased to over 62 percent of the relevant-age population, which is impressive progress. Secondary enrolment remains much lower, and is a priority area for improvement, given that there has been a fall since 2004 in secondary enrolment. Though we noted above, that the reason could be statistical, as grades 6-8 have been classified as primary in 2011. In primary and secondary school, the enrolment rates are not significantly different between boys and girls; the initial gender gap seen in 1996 in primary schools has now been closed. There remain substantial differences between urban and rural areas however, in both primary and secondary education. In urban areas, almost 85% of children are in primary school, compared to only 60% of rural children. Similarly, in secondary school, where just over 35% of urban children attend secondary school, the proportion of rural secondary school attendees is extremely low, at just under five percent. Central Statistical Agency reports that dropouts have increased due to the need to find work, which may reflect the nature of the global economic slowdown.

Table 4.11 Net primary and secondary school enrolment rates, by location and gender over time

	Primary			Secondary		
	1996	2004	2011	1996	2004	2011
National						
Male	24.0	38.9	60.7	8.8	16.6	11.4
Female	17.9	36.8	64.3	8.7	12.4	11.1
Total	21.0	37.8	62.4	8.8	14.5	10.8
Rural						
Male	17.4	34.2	57.3	1.9	10.6	5.6
Female	9.9	31.2	61.2	0.9	5.9	4.2
Total	13.7	32.8	59.2	1.4	8.3	4.9
Urban						
Male	67.6	78.8	85.4	48.6	50.1	39.4
Female	70.2	75.8	84.1	38.6	40.1	32.9
Total	68.9	77.2	84.8	42.9	44.5	35.7

Source: calculations from WMS

In table 4.12 below, we examine the impact of material wellbeing on enrolment and find that there is a significant impact, roughly a ten percentage point difference between the bottom and the top quintile for primary school enrolment, and a five percent gap for Secondary school. The consumption gradient appears to be slightly steeper for males in secondary school, though for females in primary school.

Table 4.12 Net primary and secondary school enrolment rates, by gender and consumption quintile

Consumption Quintile	Primary			Secondary		
	Total	Male	Female	Total	Male	Female
1	57.9	56.3	59.7	8.7	8.2	9.2
2	61.6	61.9	61.3	10.0	10.7	9.1
3	63.7	61.3	66.2	11.1	11.4	10.8
4	63.8	60.6	66.9	11.1	11.8	10.5
5	66.8	64.9	68.7	15.1	16.4	14.1

Source: calculations from WMS merged with HICES.

4.4 Housing Conditions and Consumer Durables

Just over 90 percent of households in Ethiopia own their homes, which is an increase compared to six years previous, in the 2004 WMS. The proportion of households that pay rent has fallen quite substantially to only 1.7 percent overall. The number of people who live in rent-free accommodation has remained approximately the same. Differences are still apparent between urban and rural areas, with almost all rural households living in a house that they own (97.3%), whereas just over half of urban households do (54.6%). The proportion has risen in both cases compared to 2004.

Table 4.13 Tenancy status and place of residence, now and in 2004

Tenancy status		2011			2004	
	All	Rural	Urban	All	Rural	Urban
Owned	90.3	97.3	54.6	83.4	91.1	42.9
Rented	1.7	1.2	4.2	7.0	7.1	6.8
Rented (free)	8.0	1.4	41.1	8.9	0.1	49.2
Not stated	0.0	0.0	0.1	0.5	0.0	0.1

Source: calculations from WMS

As shown in table 4.14, the mean number of rooms is almost two on average, and is higher in urban than in rural areas. The proportion of houses with corrugated iron sheet roofing (Table 4.16) has increased quite substantially since 2004, when only a fifth of rural households had such improved roofing. The proportion has almost doubled to just under two-fifths (37.6%). In urban areas the proportions have remained approximately the same, where quite a high proportion already have corrugated iron roof. Most housing continues to be made of wood and mud, and is relatively unchanged since 2004.

Table 4.14 Mean numbers of rooms, now and in 2004

Consumption quintile	2011			2004		
	All	Rural	Urban	All	Rural	Urban
1	1.9	1.8	2.2	1.6	1.6	2.0
2	1.8	1.7	2.3	1.7	1.6	2.2
3	1.8	1.8	2.4	1.6	1.6	2.1
4	1.9	1.9	2.4	1.6	1.6	2.2
5	2.0	1.8	2.4	1.8	1.6	2.3
Average				1.7	1.6	2.2

Source: calculations from WMS

Table 4.15 Construction material used in walls of dwelling, now and in 2004

Construction materials used	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Wood & mud	77.7	77.8	76.9	75.3	74.0	82.0
Wood & thatch	5.8	6.7	1.3	7.7	8.9	1.0
Reed/bamboo	2.4	2.8	0.6	3.3	3.8	0.4
Stone & mud	7.8	8.2	5.6	9.6	10.2	6.2
Stone & cement	0.8	0.1	4.7	0.7	0.04	4.3
Blocks	1.2	0.1	6.7	0.5	0.1	3.1
Bricks	0.1	0.0	0.6	0.07	0.0	0.4
Other	4.2	4.4	3.5	2.8	2.9	2.1

Source: calculations from WMS

Table 4.16 Roof material used in dwelling, now and in 2004

Roof materials	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Corrugated iron sheet	46.5	37.6	91.9	31.0	20.0	92.0
Thatch	47.1	55.3	5.8	60.9	71.2	5.6
Wood & mud	2.6	3.0	0.9	2.9	3.2	0.7
Reed/bamboo	2.3	2.7	0.4	1.5	1.7	0.2
Other	1.5	1.5	1.0	3.7	3.9	1.5

Source: calculations from WMS.

The 2011 WMS asked about how households light their homes. There are significant differences between urban and rural households. It can be seen that 85 percent of urban households have electricity, whereas under-five percent of rural households do. The majority of rural households use kerosene, whilst in urban areas, electricity is the most common source of light. A significant minority of rural households now use electrical batteries to light their homes, which did not appear in the 2004 WMS.

Table 4.17 Type of fuel used for lighting the dwelling, now and in 2004

	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Electricity –private	9.1	2.1	44.9	5.7	0.4	34.3
Electricity –shared	9.0	2.7	41.0	5.7	0.9	34.3
Electrical battery	13.1	15.2	2.9			
Kerosene light lamp	56.8	66.3	8.9	69.1	77.6	23.2
Fire wood	11.0	13.0	0.9	17.6	20.8	0.2
Other	0.9	0.8	1.4	1.9	0.3	8.0

Source: calculations from WMS.

Table 4.18 Electric power failures experienced (2011)

	All	Rural	Urban
No interruption	14.5	17.5	13.6
Once	13.4	14.1	13.2
Twice	19.7	20.7	19.4
Three times	14.8	12.1	15.5
More than thrice	37.7	35.7	38.3

Source: calculations from WMS.

For those households that have access to electricity (recall this is only 5 percent of rural residents, but 85 percent of urban residents), the WMS also asked about the reliability of electricity supply. A very small proportion (less than a fifth) experienced no interruption in the electric supply. However, almost 40 percent had more than three power cuts in the past year. This indicates that there is still considerable scope for improvement in electricity delivery.

Table 4.19 Type of fuel used for cooking, now and in 2004

	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Collecting fire wood	77.2	88.1	21.9	73.3	84.1	16.2
Purchase fire wood	10.2	3.1	46.2	10.7	3.2	49.9
Charcoal	2.7	0.1	15.8	1.3	0.1	7.8
Crop residue	7.5	8.3	3.3	11.0	12.0	5.2
Kerosene	0.6	0.1	3.3	2.4	0.2	14.0
Butane-gas	0.1	0.0	0.6	0.5	0.7	2.7
Electricity	1.2	0.0	7.2	0.4	0.1	2.4
None	0.2	0.0	1.1	0.4	0.7	1.9

Source: calculations from WMS.

The vast majority of households still use firewood (bought or collected) for cooking. The use of wood for cooking has actually increased slightly in the past five years, in both urban and rural areas. In particular it is collected firewood that has increased, which may be an effect of high fuel prices – particularly in urban areas, people appear to have switched from kerosene to collecting

firewood. The use of crop residue (leaves, dung cakes) has also slightly reduced in rural areas, but increased slightly in urban areas.

Table 4.20 Source of drinking water, now and in 2004

	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Tap inside the house	0.6	0.0	3.5	1.0	0.5	3.2
Private tap in the compound	5.0	0.5	27.3	3.2	0.05	20.3
Shared tap in the compound	3.1	0.2	17.8	2.9	0.3	16.9
Communal tap outside the compound	17.3	15.7	25.4	14.3	8.1	47.4
Protected well	19.3	22.1	5.0	11.3	12.6	4.4
Not protected well	27.5	32.4	2.6	34.9	40.6	4.1
River/lake/pound	22.4	26.3	2.8	30.8	36.1	2.6
Rain water	1.8	2.1	0.4	1.6	1.7	1.1

Source: calculations from WMS.

The number of people drinking from unsafe sources (unprotected well, river and lake, rain water) is still high in Ethiopia, at just over half the population (50.7%). However, this does represent progress over the past six years, and is a reduction from 68% in the previous 2004 WMS. The reduction has been driven by rural areas, with increases in those with access to a communal tap or protected well in particular. Indeed, compared to 1999 the change is quite remarkable – in rural areas 15 years ago, 90 percent of residents were drinking from unsafe sources. In urban areas, most people had access to safe water. There is still discernible improvement in the standard of living: more households have moved to taps within their own compound (private, or shared with others in the compound) rather than having to go to a shared tap.

Table 4.21 Toilet facilities, now and in 2004

	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Flush toilet-private	1.1	0.2	6.1	1.4	0.8	4.6
Flush toilet-shared	0.7	0.0	4.1	1.0	0.3	4.1
Pit latrine private	52.4	54.7	40.7	18.5	15.1	37.1
Pit latrine shared	13.3	8.8	36.1	8.6	3.8	34.5
Bucket	0.0	0.0	0.1	0.2	0.1	0.3
Field/forest	32.3	36.2	12.4	70.1	79.6	19.1
Others	0.2	0.1	0.5	0.2	0.2	0.3

Source: calculations from WMS.

There has also been considerable improvement in sanitation facilities, especially in rural areas. Six years ago, 80 percent of rural residents were using open fields or the forest. This has more than halved in 2011 to about 36 percent of households. Two thirds of households now have access to a pit latrine. In rural areas, these are mainly private, though in urban areas, access is split between private and shared facilities.

Table 4.22 Means of garbage disposal, now and in 2004

	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Waste disposal vehicle	5.4	0.1	32.5	2.0	0.1	12.2
Waste container	1.2	0.4	5.3	2.7	0.1	16.7
Dug-out	11.7	11.3	13.7	6.5	4.5	16.9
Throw away	31.4	32.4	26.0	33.3	33.8	30.9
Use as fertilizer	40.0	47.0	4.6	49.8	57.8	6.3
Burning the waste	9.3	7.8	17.4	4.5	2.7	14.0
Other	1.0	1.1	0.6	1.2	0.9	3.1

Source: calculations from WMS.

Table 4.22 shows that there have not been many striking changes in waste disposal since 2004, with around a third of households simply throwing away their garbage. The main improvement has been in urban areas, with waste disposal vehicles covering an increasing number of households, almost a third – which is up from 12 percent in 2004.

4.5 Ownership of durables (information and mobility)

The 2004 poverty report included a section on those durables that increase households' connectedness to Ethiopian society. This included television and radios, as a source of information for the household, as well as bicycles, which were considered as a means of accessing other households and local markets. In 2011 it is appropriate to also consider the use of mobile phones, which have become more and more widespread in Ethiopia, and improve communication and access to information in both public and private spheres.

Table 4.23 Ownership of mobiles, radios TV and bicycles, now and in 2004

	2011				2004		
	Mobile	Radio	TV	Bicycle	Radio	TV	Bicycle
Tigray	40.8	47.7	21.7	3.0	29.6	3.5	1.7
Afar	40.2	45.0	24.0	6.0	39.0	5.1	5.8
Amhara	27.5	36.0	11.9	2.0	16.2	1.4	0.5
Oromia	48.0	56.6	24.3	3.8	29.0	2.5	1.0
Somali	29.9	27.9	9.9	0.8	29.7	6.3	1.1
Benshang	41.1	53.5	14.8	3.8	30.9	1.1	2.1
SNNP	29.6	40.1	9.0	3.2	21.8	1.6	1.3
Gambella	61.1	44.1	27.0	11.8			
Harar	65.8	55.3	49.6	2.1	67.8	27.6	1.1
Addis	91.9	81.8	82.2	2.0	84.8	49.0	2.3
Dire Dawa	66.3	56.3	58.8	8.3	60.2	42.5	8.5
All	40.8	47.7	21.7	3.0	26.3	4.2	1.1

Source: calculations from WMS

Ownership of mobile phones is already fairly high, at 40 percent of the population. This splits into different patterns for rural and urban areas, with 70% of urban households owning a mobile phone compared to 20% of rural households. Table 5.19 above gives a regional breakdown of ownership – the lowest proportion of households with mobiles is in Amhara, Somali and SNNP regions, and as expected, the highest proportions in the urban areas of Addis, Harar and Dire Dawa. Around half the population own a radio, the lowest proportions again being in Amhara and Somali regions and the highest in Addis Ababa. This represents almost a doubling of radio ownership since 2004. Just over 25 percent own a television, which is a four-fold increase compared with 2004. However, there is some regional disparity. In SNNP less than 10 percent own a television compared with more than 80% in Addis Ababa. Bicycle ownership remains very low, at just three percent, though this does represent an increase compared to 2004.

4.6 Access to Public Services

Travel times to primary schools have reduced significantly for rural residents in particular since 2004. For example, rural residents are now on average under half an hour from the nearest primary school (down from 47 minutes in 2004). For secondary schools, the journey is somewhat longer, almost three hours away. This is however an hour shorter than it was six years ago. The time to reach secondary school is quite clearly a factor in the low enrollment rates discussed earlier in this chapter (below 5%). The time to reach a clinic or health centre has also fallen in rural areas, though remains long, at over two hours. Urban residents are now under an hour from most services, except a hospital, though it is not clear what is driving the increase in this figure.

Table 4.24 Distance to services, in minutes, now and in 2004

	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Primary School	24.3	26.8	12.1	42	47	19
Secondary School	146.7	171.7	26.3	192	223	38
Clinic	114.6	130.8	36.7	146	162	59
Health Centre	111.7	129.5	26.0	240	260	132
Hospital	482.1	537.5	215.2	465	545	74
All weather road	92.2	109.2	10.4	120	134	41

Source: calculations from WMS.

Table 4.25 reports the distance to the same services, but in kilometers. The picture is broadly similar, with a reduction in the distance to most services for both rural and urban areas. Road quality remains a priority for rural areas, since rural residents report that journeys of 36KM to a hospital could take them 537 minutes to complete. Improvements in road quality could increase accessibility to many important services, especially for the rural population.

Table 4.25 Distance to services, in kilometres, now and in 2004

	2011			2004		
	All	Rural	Urban	All	Rural	Urban
Primary School	2.0	2.3	0.8	1	2	0
Secondary School	12.4	14.8	2.7	18	20	6
Clinic	9.1	10.6	3.2	12	14	2
Health Centre	9.4	11.2	2.1	19	22	10
Hospital	32.5	36.8	15.0	70	75	43
All weather road	6.8	8.4	0.6	8	10	2

Source: calculations from WMS

CHAPTER 5

STATUS AND TRENDS OF CONSUMPTION POVERTY AND INEQUALITY

5.1 Status and changes in national, rural and urban poverty

Status of poverty and inequality: According to the 2010/11 HICES, the proportion of poor people (poverty head count index) in the country is estimated to be 29.6% in 2010/11 (Table 5.1). In 2010/11, while the proportion of the population below the poverty line stood at 30.4% in rural areas, it is estimated to be 25.7% in urban areas. The national level poverty gap index is estimated to be 7.8% while it is 8.0% for rural areas and 6.9% for urban areas. Similarly, the national level poverty severity index stood at 0.031 with rural poverty severity index (0.032) being slightly higher than that of urban areas (0.027). The mean separation test shows that the difference in poverty incidence, gap and severity between rural and urban is statically significant from zero. Moreover, stochastic dominance analysis (Figures 5.1, 5.2, and 5.3) also confirms a marked difference in poverty between rural and urban areas.

Between 2004/05 and 2010/11, income (consumption) inequality measured by Gini Coefficient has shown a slight decline from 0.3 in 2004/05 to 0.298 in 2010/11. Inequality as measured by the coefficient has declined in urban areas from 0.44 to 0.37, while rural inequality increased from 0.26 to 0.27 though inequality is still higher in urban than in rural areas.

Table 5.1 Poverty head count indices and inequality in 2010/2011

	Total poverty)	Food poverty	Gini-Coefficient. (inequality)
Urban	0.257	0.279	0.371
Rural	0.304	0.347	0.274
Total	0.296	0.336	0.298

Source: HICE survey 2010/11; Number of observation=27830

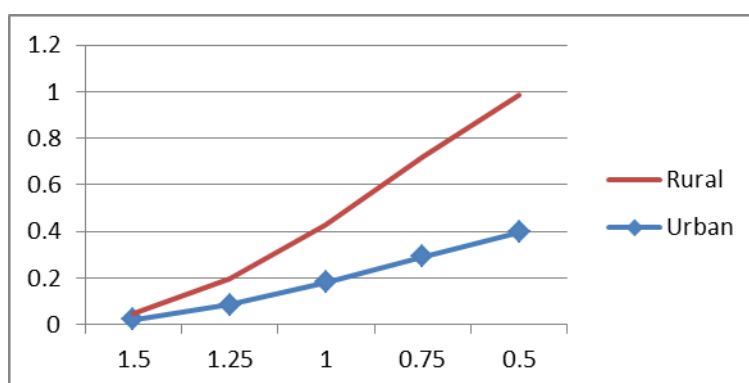


Figure 5.1 first order stochastic dominance (difference in consumption poverty head count index between rural and urban)

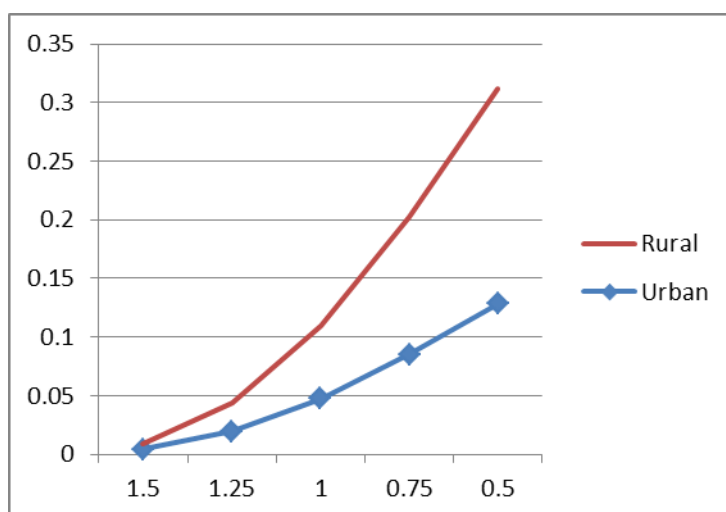


Figure 5.2 Second order stochastic dominance (difference in consumption poverty gap index between rural and urban areas)

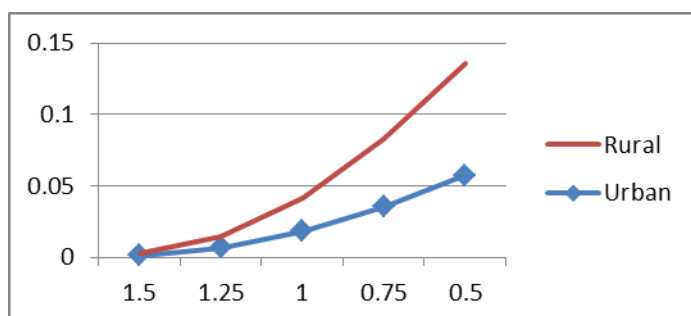


Figure 5.3 Third order stochastic dominance (difference in consumption poverty severity index between rural and urban areas)

Trends in national poverty: Using real per adult consumption expenditure, the levels of total, rural and urban poverty indices for 1995/1996, 1999/00, 2004/2005 and 2010/11 are provided in Table 5.2. Compared to 2004/05, poverty in 2010/11 has declined substantially and it is statistically significant, but limited to the incidence (head count) and depth of poverty (poverty gap). The 2010/11 poverty head count index (incidence of poverty) is lower than the index for 2004/05 by 24% while the poverty gap is lower by 5.5% indicating a substantial decline in poverty during the five-year period ending in 2010/11 (Table 5.2). Moreover, the decline in poverty is also much higher after 2004/05 (PASDEP period) than before 2004/05 (the SDPRP period). However, the severity of poverty (squared poverty gap) between 2004/05 and 2010/11 increased by 14.4% which is statistically significant indicating that growth has failed to adequately reach the poorest of the poor.

Trends in rural and urban poverty: As shown above, poverty has declined substantially between 2004/05 and 2010/11. In 2010/11, much of the decline in national poverty is attributed to a decline in urban poverty in contrast to the decline in poverty in 2004/05 which was mainly due to a decline in rural poverty. The decline in both rural and urban poverty incidence is substantial; and the declines are much higher than during the SDPRP period (see Table A5.1 in the appendix

for detailed analyses results). The 2010/11 rural poverty head count and poverty gap are lower than that of 2004/05 by 23% and 5.5%, respectively, but only statistically significant for the incidence of poverty. The severity of poverty in 2010/11 is higher than that of 2004/05 by 17%, indicating that inequality in rural areas started to rise because growth failed to adequately reach the poorest of the poor. The analysis indicates that there has been a decline in the proportion of rural people who are below the poverty line, but the poverty gap remains the same and the distribution of income among the rural poor worsened. The decline in rural poverty can be attributed to the wide-ranging and multi-faceted pro-poor programs that have been implemented in rural areas such as extension of improved agricultural technologies and farming practices, commercialization of smallholder farming agriculture, rural infrastructural development and a range of food security programs (productive safety net programs, provision of credit etc.). However, such programs enabled increases in the incomes of those close to the poverty line only, but not those who are far below the poverty line.

Urban poverty declined substantially between 2004/05 and 2010/11, but only limited the incidence and depth of poverty. The 2010/11 urban poverty head count and poverty gap are lower than that of 2004/05 by 27% and 10%, respectively, and poverty severity of 2010/11 is higher than that of 2004/05 by 5%. The changes of poverty incidence are all statistically significant. The decline in urban poverty incidence and gap could be attributed to the pro-poor activities undertaken in urban areas since 2005 including the on-going efforts waged by the government to creating favorable environment for private sector investment, promote micro and small enterprises development, job creations and distribution of subsidized basic food items provided to the urban poor in times of inflation over the last five years. However, in urban areas too, the growth fails to significantly reach the bottom poor as these extreme poor people are unable to cope with the inflation.

Despite the decline of poverty incidence and gap in both rural and urban areas, poverty is still more of a rural phenomenon. The gap in poverty between rural and urban areas was narrowing until 2004/05, but it slightly widened after 2004/05.

Table 5.2 Trends of national and rural/urban poverty

	Poverty indices over time				Change (%)	
	1995/96	1999/00	2004/05	2010/11	2004/05 over 1999/00	2010/11 over 2004/05
National						
Head count index	0.455	0.442	0.387	0.296	-12.4***	-23.5***
Poverty gap index	0.129	0.119	0.083	0.078	-30***	-5.5*
Poverty severity index	0.051	0.045	0.027	0.031	-39.8***	14.4***
Rural						
Head count index	0.475	0.454	0.393	0.304	-13.4***	-22.7***
Poverty gap index	0.134	0.122	0.085	0.080	-30.***8	-5.5 ^{NS}
Poverty severity index	0.053	0.046	0.027	0.032	-40.6***	17.0*
Urban						
Head count index	0.332	0.369	0.351	0.257	-4.7***	-26.9***
Poverty gap index	0.099	0.101	0.077	0.069	-23.6***	-10.1***
Poverty severity index	0.041	0.039	0.026	0.027	-33.5***	5.1***

Source: HICE survey of 1995/96, 1999/00, 2004/05 and 2010/11

Note: *** Significant at 1 %; ** significant at 5 %; * significant at 10 %; NS=Not significant.

Current status and trends of food poverty:

The achievement of food self-sufficiency is one of the key objectives of the government as articulated in its GTP and rural development policies and strategies, which is also consistent with the MDG goal of eradicating extreme poverty or hunger. As for total poverty, the various aggregate poverty measures are also computed for food poverty. The food poverty index measures the proportion of food-poor people that fall below the food poverty line.

Current Status of food poverty: The proportion of food poor people (food poverty head count index) in the country is estimated to be 33.6% in 2010/11 (Table 5.3) while it stood at 34.7% in rural areas and 27.9% in urban areas. The food poverty gap index is estimated to be 10.5% while it is 11.1 % for rural areas and 7.3 % for urban areas. Similarly, the national food poverty severity index stood at 0.046, with the rural food poverty severity index (0.05) being slightly higher than that of urban areas (0.029). The overall result indicates that all kinds food poverty indices (incidence, depth and severity) is higher in rural than in urban areas.

Trend in food poverty: The national food poverty index declined from 38% in 2004/05 to 33.6% in 2010/11 while it declined from 42% in 1999/00 to 38% in 2004/05 in which all changes are statistically significant (Table 5.3, see also Table A5.2 for details). This showed that the food poverty head count index declined by 12% from 2004/05 to 2010/11 while it declined by 9% from 1999/00 to 2004/05 (Table 5.3 and Table A5.2) indicating better achievement in food security during the PASDEP period. The same pattern was observed in the other measures of poverty such as food poverty gap and food poverty severity indices in which food poverty gap and severity increased between 1999/00 and 2004/05, but declined between 2004/05 and 2010/11, but the decline in food poverty severity index between 2004/05 and 2010/11 is not statistically significant.

When food poverty is decomposed in to rural and urban areas, we see more decline of food poverty index in urban areas (by 21%) than in rural areas (by 10%) between 2004/05 and 2010/11. Despite the huge decline in rural food poverty incidence and gap between 2004/05 and 2010/1, no statistically significant change has been observed in the food poverty gap and severity of food poverty (squared poverty gap) during the same period in rural areas. In urban areas the decline in food poverty gap and severity indices declined substantially (by 38% and 40%, respectively) and statistically significantly. Given the occurrences of huge food inflation and frequent droughts incidences since 2004/05, it is very encouraging to witness a reduction in food poverty incidence in rural and in food poverty incidence, gap and severity indices in urban areas of Ethiopia. This resilience of people can be attributed to the broad based economic growth, the ability of the Ethiopian government to manage crisis and protect the vulnerable people from economic shocks.

Table 5.3 Trends of national and rural/urban food poverty

	Poverty indices over time				Change in %	
	1995/96	1999/00	2004/05	2010/11	2004/05 over 1999/00	2010/11 over 2004/05
National						
Head count index	0.495	0.419	0.38	0.336	-9.2***	-11.6***
Poverty gap index	0.146	0.107	0.12	0.105	12.8***	-12.5***
Poverty severity index	0.06	0.039	0.049	0.046	24.5***	-6.1 ^{NS}
Rural						
Head count index	0.516	0.411	0.385	0.347	-6.5***	-9.9***
Poverty gap index	0.152	0.103	0.121	0.111	16.8***	-8.3 ^{NS}
Poverty severity index	0.062	0.038	0.049	0.05	29.0***	2.0 ^{NS}
Urban						
Head count index	0.365	0.467	0.353	0.279	-24.5***	-21.0***
Poverty gap index	0.107	0.127	0.117	0.073	-8.0*	-37.6***
Poverty severity index	0.044	0.047	0.048	0.029	1.5 ^{NS}	-39.6***

Source: HICE survey of 1995/96, 1999/00, 2004/05 and 2010/11

5.2. Status and trend in consumption inequality

Trends in consumption inequality as measured by the Gini-coefficient are reported in Table 5.4. In 2010/11, the Gini coefficient for urban areas become 0.37 and rural 0.27. Similar to the previous years, inequality is higher in urban areas than in rural areas. However, rural inequality marginally increased, while urban inequality declined substantially leaving the national Gini coefficient unchanged. Since 1995/96 urban inequality was increasing at an alarming rate reaching 0.44 in 2004/05, but because of the change in urban development policy after 2005 the rising trend of urban inequality reverted. The decline in income inequality in urban areas has resulted into a huge decline in poverty. Such positive developments in urban areas are because of the urban focused development activities carried out in the country including urban infrastructural development (road, private and condominium housing construction), promotion of labor intensive activities (use of cobblestone to construct urban roads), promotion of micro and small scale enterprises via the provision of training, credit and business development support, and the distribution of subsidized basic food items to urban poor in times of crisis over the past five years.

Table 5.4 Trends national, rural and urban Gini coefficients

Year	Rural	Urban	Total
1995/96	0.27	0.34	0.29
1999/00	0.26	0.38	0.28
2004/05	0.26	0.44	0.30
2010/11	0.27	0.37	0.30

Source: HICE survey of 1995/96, 1999/00, 2004/05 and 2010/11

5.3 Status of regional poverty, inequality and number of poor

The regional distribution of total and food poverty in Ethiopia and trends in this distribution are shown in Tables 5.5, 5.6 and 5.7 (see also Tables A5.3, A5.4 and A5.5 for details in trends). In 2010/11, poverty head count index is the highest in Afar (36.1%) followed by Somali (32.8%) and Tigray (31.8%), while poverty estimates are lowest in Harari (11 percent) followed by Addis Ababa (28.1 percent) and Dire Dawa (28.3 percent). In terms of food poverty, the highest poverty is observed in Amhara (42.5 percent) followed by Tigray (37.1) and BeneshangulGumuz (35.1%). The lowest food poverty is found again in Harari (5%) followed by Dire Dawa (21.7%) and SNNP (25.9). Overall, compared to the previous years, the difference in poverty incidence among the regional states in 2010/11 has narrowed substantially indicating a balanced growth among regional states. Moreover, absolute poverty is much lower than food poverty in all regions.

Table 5.5 Consumption poverty indices in 2010/11

	Poverty head count			Poverty gap			Squared Poverty		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Tigray	0.318	0.137	0.365	0.077	0.033	0.089	0.027	0.011	0.031
Afar	0.361	0.237	0.411	0.097	0.052	0.116	0.036	0.017	0.044
Amhara	0.305	0.292	0.307	0.074	0.080	0.073	0.026	0.032	0.025
Oromia	0.287	0.248	0.293	0.075	0.069	0.076	0.029	0.028	0.029
Somali	0.328	0.231	0.351	0.090	0.054	0.099	0.035	0.018	0.038
B.G	0.289	0.213	0.301	0.081	0.060	0.085	0.031	0.024	0.032
SNNP	0.296	0.258	0.300	0.091	0.070	0.093	0.042	0.029	0.043
Gambella	0.320	0.307	0.325	0.090	0.127	0.072	0.037	0.066	0.024
Harari	0.111	0.117	0.105	0.018	0.020	0.016	0.005	0.005	0.005
A.A	0.281	0.281		0.073	0.073		0.027	0.027	-
Dire Dawa	0.283	0.349	0.142	0.068	0.089	0.023	0.024	0.033	0.006

Table 5.6 Food consumption poverty indices in 2010/11

	Poverty head count index			Poverty gap index			Squared Poverty gap index		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Tigray	0.371	0.249	0.402	0.108	0.061	0.120	0.043	0.022	0.049
Afar	0.322	0.281	0.339	0.086	0.063	0.095	0.034	0.021	0.039
Amhara	0.425	0.280	0.446	0.123	0.072	0.130	0.050	0.027	0.053
Oromia	0.331	0.317	0.333	0.105	0.090	0.107	0.047	0.038	0.048
Somali	0.267	0.171	0.289	0.077	0.036	0.086	0.030	0.011	0.035
B.G	0.351	0.261	0.365	0.107	0.084	0.111	0.045	0.040	0.046
SNNP	0.259	0.271	0.258	0.099	0.075	0.101	0.051	0.031	0.054
Gambella	0.260	0.302	0.240	0.079	0.114	0.062	0.032	0.056	0.021
Harari	0.046	0.049	0.043	0.010	0.009	0.010	0.003	0.002	0.004
A.A	0.261	0.261		0.059	0.059		0.019	0.019	
Dire Dawa	0.217	0.254	0.137	0.046	0.057	0.022	0.016	0.021	0.005

The poverty results indicate that absolute poverty in 2010/11 (compared to 2004/05) have decline over the past five years in all regions except Dire Dawa urban (where absolute poverty incidence increased by 6%) (Table 5.7). Poverty gap in 2010/11 also declined in all regions except in rural Afar, rural SNNP, Addis Ababa and urban Dire Dawa. Poverty severity also declined in 2010/11 in many of the regions including Tigray, Amhara, Benshangul-Gumuz, Harai, urban Afar, urban

somale, and rural Dire Dawa, but poverty severity increased in rural Afar, Oromia, rural Somale, SNNP, Addis Ababa, and urban Dire Dawa.

Table 5.7 Change in consumption poverty incidence, gap and severity between 2004/05 and 2010/11 in %

	Change in poverty incidence			Change in poverty gap			Change in poverty severity		
	Rural	Urban	Total	Rural	urban	total	rural	urban	total
Tigray	-28.4	-62.7	-34.4	-14.6	-58.2	-22.6	-2.1	-50.4	-12.0
Afar	-4.2	-15.1	-1.4	48.4	-14.4	39.1	109.9	-27.5	64.4
Amhara	-24.0	-22.8	-23.9	-30.1	-16.7	-28.5	-30.0	-10.8	-27.6
Oromiya	-21.2	-28.3	-22.4	0.7	-13.6	-1.7	20.8	4.8	20.4
Somale	-22.3	-34.6	-21.7	0.1	-32.2	-1.8	28.2	-32.9	19.2
B.G	-34.3	-38.3	-35.1	-20.0	-23.4	-21.0	-7.6	-9.5	-8.2
SNNP	-21.5	-32.6	-22.5	31.6	-10.9	26.4	95.6	16.7	89.0
Gambella									
Harari	-49.0	-64.1	-58.9	-52.1	-71.2	-66.0	-33.6	-73.8	-64.8
AA		-13.8	-13.5		15.3	15.3		40.4	40.4
DD	-64.3	6.1	-19.6	-63.2	37.2	6.1	-62.2	84.5	43.2

Similarly food poverty incidence in 2010/11 (compared to 2004/05) declined in all regions except in rural Amhara where food poverty incidence increased by 14% (Table 5.8). Similarly, the food poverty gap in 2010/11 is lower than that of 2004/05 for all regions except for Afar region where food poverty gaps increased by 14% in 2010 compared to 2004/05. The results for the food poverty severity index show that the food poverty severity (compared to that of 2004/05) declined in Amhara, urban Oromia, urban Somale, Benshangul-Gumuz, urban SNNP, Harari, and rural Dire Dawa. In the rest of the regions including rural Tigray, Afar, rural Oromia, rural Somale and rural SNNP, food poverty severity has increased in 2010/11 compared to 2004/05.

Table 5.8 Changes in consumption food poverty gap and severity indices between 2004/05 and 2010/11 in %

	Food poverty incidence			Food poverty gap			Food poverty severity		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Tigray	-16.2	-39.7	-20.8	-7.3	-39.0	-9.7	22.0	-45.2	8.3
Afar	-22.2	-15.2	-17.8	5.2	5.4	7.0	29.9	3.8	12.3
Amhara	14.0	-22.4	9.5	-13.3	-51.8	-18.1	-24.0	-61.2	-28.6
Oromia	-10.1	-10.0	-10.2	-3.0	-24.7	-4.9	19.8	-23.2	16.6
Somali	-34.1	-50.6	-34.8	-4.3	-55.1	-15.0	15.1	-61.8	0.4
B.G	-20.4	-21.8	-21.0	-30.9	-39.9	-33.2	-34.0	-33.7	-35.3
SNNP	-30.1	-28.6	-29.9	-7.9	-37.2	-10.3	33.9	-38.8	27.9
Gambella									
Harari	-76.6	-84.0	-81.6	-65.5	-85.5	-76.1	-57.3	-89.4	-67.5
A.A		-19.4	-19.4		-40.6	-40.6		-51.5	-51.5
Dire Dawa	-64.2	-22.0	-37.2	-64.1	-18.6	-24.1	-49.9	4.3	-21.2

The observed increase in poverty incidence, gap and severity in certain regions mentioned above is difficult to explain and further investigation may be necessary to know the exact reason why poverty has increased. Despite the few disappointing results in the changes of poverty, the overall reduction in absolute and food poverty incidences, gap and severity in majority of regional rural and urban areas is remarkable while the country has suffered from frequent domestic economic shocks such as inflation and drought and worldwide shocks. Registering substantial poverty reduction in times of such domestic shocks and global crisis show the appropriate policies put in

place and the capability of the Ethiopian Government to protect its vulnerable people from the economic crises.

Inequality by region: Table 5.9 summarizes Gini-coefficient estimates by region and rural and urban areas. Based on inequality estimates, we can categorize the regions into two: (1) regions with Gini-coefficients below 0.3 are Amhara, Oromia, Somale, Gambella, Harari, and Dire Dawa with Harari region having the lowest; and (2) regions with Gini-coefficients above 0.3 are Tigray, B.G., SNNP, and Addis Ababa with inequality the highest in Tigray Region. When we compare inequality by rural urban residence, we found inequality is higher in urban areas for all regions. Among the regional urban, highest inequality is observed in Amhara (0.41) followed by BenshalgulGumuz and Tigray.

Table 5.9 Inequality measured by Gini-coefficient by region and rural/urban

Region	Urban	rural	Total
Tigray	0.375	0.295	0.344
Afar	0.333	0.262	0.305
Amhara	0.416	0.270	0.296
Oromia	0.368	0.262	0.283
Somali	0.301	0.276	0.286
B.G	0.380	0.299	0.319
SNNP	0.360	0.293	0.303
Gambella	0.381	0.211	0.289
Harari	0.309	0.189	0.266
A.A	0.336	na	0.336
Dire Dawa	0.332	0.187	0.292
National	0.371	0.274	0.298

Trend in the number of poor people: Table 5.10 takes these headcount statistics and translates them into numbers of people. It is not always true that the proportion of poor people decline when the prevalence of poverty declines. However between 2004/05 and 2010/11, not only poverty incidence declines, but also the number of poor people declined. The total number of population increased from 71 million in 2004/05 to 84.2 million in 2010/11. In the same period, the number of non-poor population increased from 45.5 million to 59.1 million while the number of poor-population declined from 27.5 million to 25.1 million. However, in the previous survey years, the number of poor population increased while prevalence of poverty declined. The number of poor people in Ethiopia rose from 25.6 million in 1995/96 to 27.5 million in 2004/05, but it declined to 25.1 in 2010/11, which is quite a remarkable achievement as it is below that of 1995/96 while the population is growing more than 2.5% per annum. The region with the largest number of poor people is Oromia, accounted for above one-third of all Ethiopian living in poverty in 2004/05 (actually 36%). Large numbers of poor people are also found in Amhara (5.7 million) and SNNP (5.1 million) in 2010/11. In general, the poverty level in Ethiopia is unacceptably high.

Table 5.10 The number of poor people in 1995/96, 1999/2000 and 2004/05

Region	Population ('000)				Number of poor people			
	1995/96	1999/00	2004/05	2010/11	1995/96	1999/00	2004/05	2010/11
Tigray	3299	3694	4113	4930	1850739	2268116	1994674	1568396
Afar	1106	1216	1330	1603	366086	680960	487305	578120
Amhara	14552	16295	18143	18866	7901736	6811310	7281720	5757027
Oromiya	19779	22354	25098	31295	6724860	8919246	9279662	8981694
Somale	3332	3698	4109	5149	1029588	1401542	1723139	1687327
BG	483	537	594	982	226044	289980	264232	283827
S.N.N.P	11001	12515	14085	17359	6138558	6370135	5380722	5135774
Gambela	190	211	234	386	65170	106555	NA	123375
Harari	139	160	185	210	30580	41280	50038	23214
AA	2220	2495	2805	3041	670440	900695	912594	854091
DD	271	318	370	387	79945	105258	130057	109364
Total	56372	63493	71066	84208	25649260	28063906	27523414	25102210

Source: own calculation and MoFED (2008)

In summary, this sub chapter provides the status and trends of national, rural, urban and regional level poverty incidence, gap and severity as well as income inequality measured by Gini-coefficient. Household Income and Consumption Expenditure Surveys (HICES) conducted by Central Statistical Agency (CSA) of Ethiopia in 1995/96, 1999/00, 2004/05 and 2010/11 have been used to analyze poverty. The principal findings of the analyses are the following.

- i. The incidence of poverty declined markedly between 2004/05 and 2010/11. The headcount poverty rate fell from 38.7 % in 2004/05 to 29.6 % in 2010/11 which results a decline in the number of poor people. This implies that Ethiopia is on the right track to achieving the MDG target of reducing poverty by half. Over the same period, poverty gap is also reduced, but not the severity of poverty. Headcount poverty fell in all regions of the country.
- ii. The headcount poverty rate fell in rural areas from 39.3 % in 2004/05 to 30.4 % in 2010/11. Over the same period, in urban areas it declined substantially, from 35.1 % in 2004/05 to 25.7 % in 2010/11.
- iii. In urban Ethiopia, in 2010/11, we observed significant decline in poverty gap and severity, while poverty gap remains the same and poverty severity increased for rural areas.
- iv. Nationally, the *Gini*-coefficient for per adult equivalent consumption remained constant. In urban areas there was a substantial decline in inequality from 44 % in 2004/05 to 37.8 % in 2010/11 while it was increasing until 2004/05 at an alarming rate. However, inequality is still higher in urban areas and this is true in all regions of the country.

Despite the fact that the number of people living in poverty has fallen, there is still a worrying concern that the indicator of severe poverty did not fall since 2004/5, rather it increased. This means that the poorest of the poor are not significantly seeing the benefits of growth and government policies to reduce poverty, so efforts must increase in order to incorporate them into these.

5.4 Growth, inequality and poverty reduction

Poverty has declined substantially between 2005 and 2011. Taking a longer term view, poverty has declined even more since 1995. The rate of poverty remains higher in rural areas than urban areas, though poverty has fallen further in rural areas since 1995 than in urban areas- recall that in 1995, almost half of all people living in rural areas were poor. In the past five years, poverty reduction has accelerated in both areas, but especially in urban areas as measured by the headcount. The poverty gap index has also fallen, though more modestly. The poverty severity index has increased however, in both urban and rural areas, indicating that the poorest of the poor are not benefitting from improved economic growth. We now investigate these trends in more detail, by examining consumption growth for different groups of the population.

Table 5.11 Growth in per-adult real consumption across the distribution

Year	Percentile								
	1st	5th	10th	25th	50th	75th	90th	95th	99th
1996	1,150	1,604	1,933	2,597	3,612	4,963	6,775	8,339	13,185
2000	1,254	1,708	2,034	2,697	3,691	5,030	6,781	8,403	13,881
2005	1,533	1,990	2,308	2,919	4,100	5,397	7,333	9,170	17,141
2011	1,279	1,867	2,402	3,386	4,709	6,553	9,423	12,153	21,962
Changes									
2011-2005	-16.5%	-6.1%	4.1%	16.0%	14.9%	21.4%	28.5%	32.5%	28.1%
2011-1996	11.3%	16.4%	24.3%	30.3%	30.4%	32.0%	39.1%	45.7%	66.6%

Table 5.11 shows the growth in expenditure (per adult) across the distribution. Compared with 1996 all groups have registered a substantial increase, with those at the very top growing by over 60%. The poorer groups have seen expenditure grow more modestly, at only 11.3% for the bottom 1% of the population. Compared to 2005, we see that it is the middle groups (25th-95th percentiles) that have recorded highest growth in their consumption, which has driven the reduction in headcount poverty.

Table 5.12 Changes in per adult expenditure across the distribution, Rural households

Year	Percentile								
	1st	5th	10th	25th	50th	75th	90th	95th	99th
1996	1,153	1,599	1,918	2,557	3,511	4,792	6,294	7,619	10,717
2000	1,253	1,706	2,030	2,686	3,646	4,895	6,409	7,681	11,656
2005	1,537	1,989	2,308	2,910	4,017	5,183	6,839	8,023	13,354
2011	1,260	1,814	2,306	3,261	4,441	6,018	7,984	9,662	14,333
Changes									
2011-2005	-18.0%	-8.8%	-0.1%	12.1%	10.5%	16.1%	16.7%	20.4%	7.3%
2011-1996	9.3%	13.4%	20.2%	27.5%	26.5%	25.6%	26.8%	26.8%	33.7%

As noted in section 5.3, there have been differing trends in inequality in rural versus urban areas, and we therefore present in Tables 5.12 and 5.13 the percentile growth tables disaggregated into rural and urban households, respectively. Inequality between rural households increased in the period from 2005 to 2011. This can be seen as the poorest quartile of the distribution has seen a considerable reduction over the six year period. This is especially severe for the bottom 1% of

households. Compared to 1996, all quintiles of the distribution are better off in real terms however.

Table 5.13 Changes in per adult expenditure across the distribution, Urban households

Year	Percentile								
	1st	5th	10th	25th	50th	75th	90th	95th	99th
1996	1,062	1,683	2,023	2,924	4,391	6,736	9,800	12,459	17,225
2000	1,300	1,722	2,072	2,801	4,083	6,404	9,743	13,112	22,398
2005	1,481	1,995	2,304	2,972	4,836	7,383	11,810	16,516	31,785
2011	1,680	2,592	3,259	4,701	6,911	10,800	16,480	21,431	37,265
Changes									
2011-2005	13.4%	29.9%	41.4%	58.2%	42.9%	46.3%	39.5%	29.8%	17.2%
2011-1996	58.2%	54.0%	61.1%	60.8%	57.4%	60.3%	68.2%	72.0%	116.3%

In urban areas, the reduction in the Gini Coefficient of inequality is driven by the fact that the middle quartiles of the distribution have seen a higher increase in expenditure over the past six years than those at the top or the bottom of the distribution. This could be due to the food price inflation that the poor in urban areas tend to suffer more significantly. The poorest 1% of the distribution experienced the smallest increase in expenditure, though the amount of growth is also somewhat lower than average for the richer groups.

We further examine these trends by showing the breakdown by region in Table 5.14 and Table 5.15. The first of these two tables shows the growth in real consumption per adult since 1996, i.e. over a fifteen year period. Most percentiles of the consumption distribution grew strongly in each region. The bottom first percentile however shows a decline in several regions, including Dire Dawa, Oromiya, SNNP.

Table 5.14 Change in consumption in 2011, since 1996 (by region)

Region	Percentile								
	1st	5th	10th	25th	50th	75th	90th	95th	99th
Tigray	91%	86%	60%	66%	73%	75%	102%	131%	226%
Afar	41%	22%	29%	23%	-7%	-13%	-11%	0%	14%
Amahara	22%	29%	28%	35%	36%	39%	52%	67%	73%
Oromiya	-14%	-6%	1%	8%	12%	11%	10%	17%	13%
Somali	1%	1%	-8%	8%	8%	19%	5%	8%	17%
Beni-Gumuz	2%	7%	24%	25%	34%	36%	43%	59%	61%
SNNP	-17%	3%	14%	39%	36%	29%	34%	41%	82%
Harari	64%	64%	55%	49%	32%	21%	15%	23%	86%
Addis Ababa	20%	120%	100%	99%	106%	99%	95%	94%	97%
Dire dawa	-18%	52%	57%	46%	45%	54%	54%	52%	56%

Notes as above.

In Table 5.15 below we show the comparison of 2011 with 2005, the previous survey round. This table shows more significant falls in real consumption per adult in the lower tenth percentile and below for several regions. SNNP appears to be the worst affected region in this case. Detailed

tables showing the values of real consumption per adult and percentage changes for each region and year are at the back of this chapter, in annex A5.

Table 5.15 Change in consumption in 2011, since 2005 (by region)

Region	Percentile								
	1st	5th	10th	25th	50th	75th	90th	95th	99th
Tigray	15%	19%	25%	38%	50%	37%	38%	32%	35%
Afar	24%	-5%	-1%	11%	16%	10%	2%	5%	6%
Amahara	-6%	2%	9%	20%	12%	27%	41%	47%	47%
Oromiya	-15%	-7%	0%	11%	15%	19%	25%	32%	26%
Somali	-3%	-2%	0%	13%	16%	22%	17%	16%	3%
Beni-Gumuz	-17%	-11%	4%	9%	31%	21%	36%	41%	39%
SNNP	-41%	-26%	-20%	7%	2%	1%	10%	11%	10%
Harari	48%	57%	52%	60%	16%	10%	10%	4%	25%
Addis Ababa	-14%	61%	65%	78%	95%	76%	74%	64%	47%
Dire Dawa	-32%	26%	29%	32%	49%	40%	35%	25%	21%

5.4.1 Decomposing changes in poverty into growth and inequality components: Methodology

We showed in the previous section that growth of consumption is far from homogenous across rural and urban areas, or by region and by percentile of the consumption distribution. In this section we employ a methodology that was developed in the early 1990's by two World Bank Economists (Datt and Ravallion, 1992) in order to decompose the changes in poverty into two contributing factors – growth, and inequality. An increase in average consumption should reduce poverty, if that increase affects all parts of the distribution equally. However, the distribution of consumption is also likely to change over time – an increase in inequality could increase poverty. Earlier in section 5 we introduced the Gini coefficient which measures inequality. This is based on the Lorenz curve, which shows the cumulative distribution of poverty across the whole population. Datt and Ravallion (1992) showed that the change in poverty can be stated as a change in average consumption and a change in the parameters of the Lorenz curve over time. If the Lorenz curve remains unchanged (e.g. each % of the population receives the same share of national consumption in both periods), then any change in poverty can be attributed simply by the change in consumption.

As in previous Ethiopia Poverty Reports (MOFED: 2000, 2005, 2008) we define P_t as the rate of Headcount Poverty at time t ; μ_t as mean consumption at time t ; z as the poverty line (as in the previous section, we calculate consumption in real terms so z remains constant over time); π_t as the parameters of the Lorenz curve at time t . For time periods 0 and 1, headcount poverty can be written as $P(\frac{\mu_0}{z}, \pi_0)$ and $P(\frac{\mu_1}{z}, \pi_1)$ respectively. In the example above, if the Lorenz curve is unchanged over time, then $\pi_0 = \pi_1$ and therefore a change in poverty is a function solely of the change in mean consumption, $(\frac{\mu_0}{z} - \frac{\mu_1}{z})$.

It is clear from our descriptive analysis that both the mean and the distribution of consumption have changed over time in Ethiopia, therefore we can examine the contribution of both of these components to the reduction in poverty headcount experienced over time in Ethiopia. Let P_{00} equal $P(\frac{\mu_0}{\pi}, \pi_0)$; i.e. the first subscript refers to the time period in which we measure mean consumption, and the second refers to the time period in which we measure the Lorenz curve. We can thus write:

$$P_{11} - P_{00} = P(\frac{\mu_1}{\pi_1}, \pi_1) - P(\frac{\mu_0}{\pi_0}, \pi_0)$$

This can be rewritten as:

$$P_{11} - P_{00} = (P_{10} - P_{11}) + (P_{11} - P_{00})$$

Or in words, the change in poverty that occurs between period 0 and period 1 is equal to the change in inequality, holding mean consumption constant at period 1 level (the first term on the right hand side), PLUS the change in mean consumption, holding inequality fixed in period 1 (the second term). If we switch the time periods, we would most likely get a slightly different result, given that period 0 would be our “base” period. The usual way of resolving the matter adopted in previous Ethiopia Poverty Reports is to take a simple average of the two “base” period calculations, to calculate:

$$P_{11} - P_{00} = [(P_{10} - P_{00}) + (P_{11} - P_{10})]/2 + [(P_{11} - P_{01}) + (P_{01} - P_{00})]/2$$

5.4.2 Decomposing changes in poverty into growth and inequality components: Results

Table 5.16 below shows the results of the decomposition analysis carried out using the methodology outlined above. Of the total nine percentage point reduction in headcount poverty during the six year period, it is divided into five percentage point distribution due to growth, and four due to redistribution. The pattern between urban and rural households is quite different, despite the fall in the headcount being almost the same, however. For rural households, the changes are mainly due to average growth (six percentage points), whereas in urban areas, growth contributed negatively to poverty reduction, and it was redistribution, or the fall in inequality, that contributed disproportionately to poverty reduction.

Table 5.16 Decomposition of change in headcount poverty between 2005 and 2011

	Headcount poverty 2005	Headcount poverty 2011	Total change in poverty	Growth Component	Redistribution component
All households	0.387	0.296	-0.091	-0.042	-0.050
Rural Households	0.393	0.304	-0.090	-0.069	-0.021
Urban Households	0.351	0.257	-0.095	0.036	-0.131

In Table 5.17 we repeat the analysis, but for the period 1996-2011. In this case, the growth component clearly dominates for both urban and rural areas. Inequality has changed at times during the interim period, but in rural areas, the Gini coefficient at 0.27 is the same in 2011 as it was in 1996. In urban areas, the Gini has increased very slightly over this long time period, as

reflected in the results below. The recent fall in urban inequality has almost outweighed the sharp increase in inequality that was recorded in the 2005 HICE survey, though urban inequality is at 0.37 still higher than in rural areas.

Table 5.17 Decomposition of change in headcount poverty between 1996 and 2011

	Headcount poverty 1996	Headcount poverty 2011	Total change in poverty	Growth Component	Redistribution component
All households	0.455	0.296	-0.159	-0.160	0.000
Rural Households	0.475	0.304	-0.171	-0.162	-0.009
Urban Households	0.332	0.257	-0.075	-0.105	0.030

Table 5.17 shows the decomposition of the change in poverty severity since 1996. Poverty as measured in this way has fallen by two percentage points. For both urban and rural households, growth contributed to a reduction in poverty, but inequality offset this very slightly.

Below we provide a breakdown by region of the decomposition analysis over this fifteen year period. All regions except Afar recorded a fall in total headcount poverty over the period. Growth was the strongest contributing factor in Tigray, Amhara and Benshangul-Gumuz regions. In these regions, if inequality had remained unchanged, the total fall in poverty would have been higher – as it is, rising inequality over the time period has contributed in a negative way to poverty reduction, offsetting the gains made by the increase in average growth. Inequality reductions in Afar and Harar contributed to poverty reduction, but average growth was less effective at causing poverty reduction in these regions.

We now focus on poverty severity, and conduct a similar analysis. The poverty severity index (p2) is the square of the shortfall experienced by those with consumption below the poverty line, and therefore weights changes in consumption of the very poorest households more heavily.

Table 5.18 Decomposition of change in headcount poverty between 1996 and 2011, by region

Region	Headcount poverty 1996	Headcount poverty 2011	Total change in poverty	Growth Component	Redistribution component
Tigray	0.561	0.318	-0.243	-0.336	0.093
Afar	0.331	0.361	0.029	0.095	-0.066
Amahara	0.543	0.305	-0.238	-0.272	0.034
Oromiya	0.340	0.287	-0.053	-0.060	0.007
Somali	0.309	0.328	0.018	0.025	-0.007
Benshangul-Gumuz	0.468	0.289	-0.179	-0.237	0.058
SNNP	0.558	0.296	-0.262	-0.253	-0.008
Harari	0.220	0.111	-0.109	0.004	-0.114
Addis ababa	0.302	0.281	-0.021	0.005	-0.026
Dire dawa	0.295	0.283	-0.012	-0.049	0.037

Table 5.18 shows the decomposition of the change in poverty severity since 2005. Poverty has actually increased very slightly by just under half a percentage point. For rural households, growth contributed to a reduction in poverty, but inequality offset this to record a net increase. For urban households, the opposite is true. These changes are very small however, so any decomposition should necessarily be interpreted with caution.

In all cases we conducted sensitivity analysis by computing under different methodologies but did not find significant differences in the results. The methodology chosen is such that we average the baseline and final figures in order to be sure that the choice of baseline is not driving the results.

Table 5.19 Decomposition of the change in poverty severity 1996-2011

	Squared poverty gap 1996	Squared poverty gap 2011	Total change in squared poverty gap	Growth Component	Redistribution component
All households	0.051	0.031	-0.020	-0.025	0.005
Rural Households	0.053	0.032	-0.021	-0.025	0.004
Urban Households	0.041	0.027	-0.014	-0.018	0.004

Table 5.20 Decomposition of the change in poverty severity 2005-2011

	Squared poverty gap 2005	Squared poverty gap 2011	Total change in squared poverty gap	Growth Component	Redistribution component
All households	0.027	0.031	0.004	-0.004	0.008
Rural Households	0.027	0.032	0.004	-0.007	0.012
Urban Households	0.026	0.027	0.002	0.010	-0.008

Table 5.21 Decomposition of the change in poverty severity 1996-2011, by region

Region	Squared poverty gap 1996	Squared poverty gap 2011	Total change in poverty	Growth Component	Redistribution component
Tigray	0.071	0.027	-0.043	-0.061	0.017
Afar	0.041	0.036	-0.005	0.024	-0.028
Amahara	0.065	0.026	-0.039	-0.047	0.008
Oromiya	0.029	0.029	0.000	-0.008	0.008
Somali	0.023	0.035	0.012	0.004	0.004
Benshangul-Gumuz	0.052	0.031	-0.021	-0.035	0.015
SNNP	0.073	0.042	-0.031	-0.044	0.012
Harari	0.033	0.037	0.004	0.002	0.002
Addis ababa	0.016	0.005	-0.011	0.000	-0.011
Dire dawa	0.035	0.027	-0.009	0.001	-0.009

5.5 Income-Poverty elasticity and sectoral composition

The previous section showed some significant differences between growth and inequality contribution to poverty reduction in urban versus rural regions. In this section, we further investigate the role of growth in reducing poverty, nationally, and separately for urban and rural regions. We calculate the “income elasticity of poverty” which shows how much poverty reduction one can expect from a given rate of growth. These calculations have been used frequently in policy discussions at the global level, and estimates range from -0.5 to -0.2. To interpret, this means that with an elasticity of -2, a one percent increase in consumption (the growth rate) translates into a two percent reduction in the headcount rate of poverty. This upper rate was used in the 2002 influential paper by Collier and Dollar “Growth is good for the poor”. Kalwij and Verschoor (2005) undertake a detailed study of such elasticity in many countries of the world, and find significant differences across global regions. In Africa they find an income elasticity of poverty of around -0.8. The highest regional elasticity is in Eastern Europe and the Middle East, and the lowest in South Asia. Their overall global estimate is around -1, i.e. for every percent growth in income there is a corresponding one-for-one percent change in the headcount rate of poverty.

In the previous poverty report the Ethiopian income elasticity of poverty was calculated as -1.7, somewhat higher than the Africa region as a whole. We now calculate updated estimates based on the latest 2010/2011 HICE. In addition, we examine whether the elasticity of poverty has changed over time, and whether it is different between urban and rural areas. Our methodology is similar to that of the 2004/5 poverty report, so the reader is referred to that for further details. We use the DASP module in Stata to compute the results and confidence intervals.

Table 5.22 shows the elasticity of poverty is -1.94, slightly higher than the estimate that included data up to 2004/5. We see also from the table that rural poverty elasticity is considerably higher than urban. This confirms the findings from the decomposition analysis that growth contributed more to poverty reduction in the rural areas than in urban areas.

Table 5.22 Income elasticity of Poverty Estimates, 1996-2011

	Elasticity of poverty
Rural	-1.972
Urban	-1.396
Population	-1.943

We test in Table 5.23 whether the elasticity of poverty is different over time, by separately calculating it for each pair of years: 1999-1996, 2004/5-1999 and 2011-2004/5. We also do this separately for urban and rural.

Table 5.23 Income elasticity of Poverty Estimates, disaggregated by time period and region

Year	Region	Poverty elasticity	Std. Error	Lower bound	Upper bound
2011-2005	Rural	-2.106	0.070	-2.244	-1.969
	Urban	-1.654	0.066	-1.783	-1.525
	Total	-2.094	0.068	-2.228	-1.961
2005-1999	Rural	-1.917	0.073	-2.060	-1.774
	Urban	-1.545	0.088	-1.718	-1.372
	Total	-1.904	0.071	-2.042	-1.765
1999-1995	Rural	-1.834	0.074	-1.979	-1.689
	Urban	-1.198	0.173	-1.537	-0.860
	Total	-1.789	0.069	-1.925	-1.653

The table shows that the income elasticity has actually increased over time, a finding that is different to that of Kalwij and Verschoor (2005). In the far two right-hand columns we provide confidence intervals for the estimates. In the first period (1994/5-1999), elasticity is -1.79, with a 95 percent confidence interval between -1.93 and -1.65. In the latest period (2004/5=2011), the point estimate goes up to -2.09 (i.e. a higher elasticity of poverty with respect to income), and the 95 percent confidence interval lower bound at -1.96 is higher than the upper bound for the first period. We cannot say that the elasticity in the interim period is significantly different from either the first or second periods, but we can conclude that income elasticity of poverty has increased in the time between 1999 and 2011.

Turning now to the disparity between rural and urban areas, in each period there is a significant difference between the two, with rural elasticity being higher than urban. There is also a similar increasing trend over time. We do not find evidence that this gap is either widening or narrowing, remaining at around 0.7 higher in the rural areas, though the trend looks qualitatively that it may be narrowing.

CHAPTER 6

CHARACTERISTICS OF THE POOR

This chapter substantiates the previous chapter that described levels and changes in poverty and other measures of well-being by describing characteristics of the poor in Ethiopia – the main component of the poverty profile. Are poor households more likely to be headed by women? Do they have more dependents? Are they educated? Do they own valuable assets? In what sectors are the poor found? In this chapter, questions such as these are addressed.

6.1 Poverty and Sex of Household Head

Table 6.1 shows the level and changes in poverty indices by sex of the household head in 2010/11 (see Table A6.1 for details of the trends since 1995/96). The result shows that in urban areas, headcount poverty is higher for female-headed households than for male-headed households for 2010/11 which is similar to that of 1999/00 and 2004/05. These differences are statistically significant. In rural areas incidence of poverty is higher for male-headed households which is also statistically significant for 2010/11, but not for the previous years. One would expect that female-headed households would have higher poverty incidence in both rural and urban areas because women in Ethiopia tend to have completed less schooling and may have lower levels of physical capital. In rural areas, however, most female-headed households have access to land and productive safety net programs which may partly explain why differences in poverty are not as marked as those found in urban areas.

Table 6.1 Poverty indices in 2010/11 and % changes in poverty indices (2004/05 and 2010/11)

		National	Rural	Urban	
P0	Male-headed	0.3	0.309	0.245	
	Female-headed	0.277	0.275	0.282	
P1	Male-headed	0.08	0.082	0.066	
	Female-headed	0.074	0.072	0.077	
P2	Male-headed	0.031	0.032	0.026	
	Female-headed	0.029	0.029	0.031	
% Change (2004/05-2010/11)					
P0	Male-headed	-33	-31.4	-39.2	
	Female-headed	-22.4	-18.9	-31.9	
P1	Male-headed	-7.5	-7.3	-12.1	
	Female-headed	2.7	5.6	-9.1	
P2	Male-headed	9.7	12.5	7.7	
	Female-headed	20.7	27.6	9.7	

Note: SE stands for standard error

Looking at the prevalence of poverty between 2004/05 and 2010/11, the incidence of poverty has declined for both male and female headed households, but it only declined for male headed households in terms of depth of poverty. No decline for severity of poverty was observed for either group. There are rural-urban differences. Rural areas follow the national level pattern in which poverty incidence declined for both groups but the depth of poverty declined only for male headed households, and no decline was observed for severity of poverty. For urban areas, we observed declines on both incidence and depth of poverty for both male and female headed households. However, the severity of poverty did show a small increase though this is not statically significant.

6.2 Poverty and Household Size

The 2010 survey indicated that average household size in Ethiopia was 4.8 persons or 3.9 adult equivalents (Tables 6.2, see Tables A6.2, A6.3 for details on the trends of family size and adult equivalence). Similar to the previous survey results household size is slightly higher in rural areas than in urban areas for both family size and adult equivalents family size. While there are some slight regional differences, these are small. Family size declined slightly in a few regions including Amhara, Oromia, BenshagulGumuz, Dire Dawa and Addis Ababa, while it increased in Afar, Somale, SNNP and Harari regions (Table 6.3). The same patterns of changes were observed among regions when family size measured in adult equivalence.

Table 6.2 Mean family size and adult equivalent in 2010/11 by region and place of residence

Region	Family size			Adult equivalent family size		
	Rural	Urban	Total	Rural	Urban	Total
Tigray	4.9	3.6	4.6	4.0	2.9	3.7
Afar	5.0	3.6	4.5	4.2	3.0	3.8
Amhara	4.7	3.2	4.4	3.9	2.7	3.7
Oromiya	5.2	3.6	4.9	4.2	3.0	4.0
Somale	5.4	5.1	5.3	4.4	4.1	4.3
B.G	4.6	3.9	4.5	3.7	3.2	3.7
SNNP	5.3	4.0	5.1	4.3	3.4	4.2
Gambella	5.1	4.3	4.8	4.2	3.6	4.0
Harari	5.4	3.7	4.4	4.3	3.1	3.6
AA	.	3.9	3.9	.	3.4	3.4
DD	5.2	3.8	4.2	4.2	3.2	3.5
Total	5.1	3.7	4.8	4.1	3.1	3.9

Source: HICE, 2010/11

Are larger households poorer? Answering this question is not that easy in Ethiopia as it is elsewhere. Ethiopian households typically consist of both adults and children. If children “need” less than adults, per capita measures will, all else equal, overstate poverty in households with many children and this is why this report adjusts household size in terms of adult equivalents. Additionally, certain expenses, such as heating, lighting, and, to a certain extent, housing, are household rather than individual expenses. For such items, a number of people living together can do so more cheaply, in per capita terms, than living separately. Adjustments for this come under the heading of “scale economies.”

Deaton and Zaidi (2002) and Lanjouw, Milanovic, and Paternostro (1998) provide guidance on this topic, which was also mentioned during the 2004/05 poverty report by the Ministry of Finance. They propose the following equation:

$$\text{Adult Equivalents} = (A + \alpha K)^\beta,$$

Where α adjusts for age equivalences, and β , for economies of scale. A per capita measure of household welfare assumes that there are no economies of scale ($\beta = 1$) and that children and adults have the same requirements ($\alpha = 1$). If household consumption is largely food, as in the case of the ultra-poor in very poor countries, there are few economies of scale, thus β is close to

one. Since children eat less than adults, equivalence scales would be important and much different than one for young children, since infants need few calories relative to adults, thus $\alpha < 1$. As households and nations grow wealthier, consumption patterns change. The share of resources spent on food declines and the share of household “public” goods such as housing and durable goods rises, so the scale economies increase, implying that $\beta < 1$. At the same time, children consume more nonfood goods such as clothing and toys, all of which add to the cost of supporting them and reduce the importance of food-based equivalence scales, causing α to rise closer to 1.

Table 6.3 Percent change in mean family size and adult equivalent between 2004/05 and 2010/11

Region	Family size			Adult equivalent family size		
	Rural	Urban	Total	Rural	Urban	Total
Tigray	2.1	-7.7	0.0	2.6	-9.4	-2.6
Afar	0.0	-5.3	2.3	2.4	-6.3	2.7
Amhara	2.2	-13.5	-2.2	5.4	-12.9	0.0
Oromiya	-1.9	-14.3	-5.8	-2.3	-14.3	-4.8
Somale	12.5	6.3	10.4	12.8	5.1	10.3
B.G	-4.2	-2.5	-4.3	-7.5	-3.0	-5.1
SNNP	10.4	-13.0	6.3	10.3	-10.5	7.7
Gambela						
Harari	8.0	-2.6	2.3	7.5	-6.1	2.9
Addis Ababa		-20.4	-20.4		-20.9	-20.9
Dire Dawa	6.1	-7.3	-4.5	5.0	-8.6	-2.8
Total	4.1	-14.0	0.0	2.5	-13.9	0.0

Source: HICE, 2010/11

As explained in the methodology section, throughout this report, consumption expenditure used for the computations of poverty indices are adjusted for age equivalences. As explained in Chapter 3, apart from certain housing costs, nearly all expenditures by Ethiopian households are for goods consumed individually (e.g., food) rather than goods consumed collectively (e.g., lighting). Given this, it is reasonable to assume that in Ethiopia, β is close to one. Consequently, in the patterns described below, while differences in poverty status by household size may be slightly overstated, they are unlikely to be driven solely by failing to account for scale economies.

Table 6.4 Poverty, by household size and place of residence in 2010/11

HH size	Rural			urban			Total		
	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂
One	0.007	0.001	0.000	0.017	0.004	0.001	0.012	0.003	0.001
Two	0.062	0.010	0.003	0.080	0.017	0.006	0.068	0.012	0.004
Three	0.114	0.023	0.007	0.127	0.030	0.010	0.118	0.025	0.008
Four	0.177	0.033	0.009	0.204	0.048	0.017	0.182	0.036	0.011
Five	0.239	0.057	0.020	0.278	0.073	0.027	0.246	0.059	0.021
six	0.327	0.080	0.030	0.348	0.091	0.034	0.329	0.082	0.030
Seven	0.368	0.098	0.039	0.373	0.106	0.043	0.368	0.099	0.040
Eight to 11	0.452	0.136	0.058	0.454	0.144	0.065	0.452	0.137	0.058
>=12	0.576	0.215	0.110	0.525	0.125	0.047	0.566	0.197	0.097
Total	0.304	0.080	0.032	0.257	0.069	0.027	0.296	0.078	0.031

P₀ = headcount index, P₁ = normalized poverty gap, P₂ = squared poverty gap.

Source: HICE, 2010/11

The estimates of poverty incidence, depth, and severity by family size are presented in Table 6.4. The incidence, depth, and severity of poverty increase with household size for both rural and urban areas in 2010/11 and all other survey years (see Table A6.4 in the appendix). Note that since the proportion of “household public goods” has remained the same over time, these trends are largely unaffected by any change of consumption items or not, made for economies of scale.

6.3 Poverty and human capital

Is there an association between poverty and human capital? This section looks at three measures of human capital: self-reported literacy and the completed level of schooling by the household head. We begin with self-reported literacy. As Table 6.5 shows, across all survey years and in both rural and urban locations, all measures of poverty (poverty incidence, depth, and severity) are higher for households where the head is illiterate (see Table A6.5 for details of trends in literacy and poverty). In 2010/11, households headed by individuals who reported themselves to be illiterate were 34 percent more likely to be poor at the national level, 33 percent more likely to be poor if they lived in rural areas, and 41 percent more likely to be poor if they lived in urban areas. These differences are statistically significant and pass stochastic dominance tests indicating the robustness of the results.

Table 6.5 Level of and changes in poverty, by literacy, sex of head, place of residence in 2010/11

Index type	Education	Rural		Urban		National	
		Index	SE	Index	SE	Index	SE
Poverty indices							
P0	Literate	0.254	0.014	0.197	0.007	0.238	0.010
	Illiterate	0.333	0.012	0.406	0.013	0.339	0.011
P1	Literate	0.063	0.005	0.048	0.002	0.059	0.003
	Illiterate	0.090	0.005	0.122	0.006	0.093	0.004
P2	Literate	0.024	0.002	0.018	0.001	0.022	0.002
	Illiterate	0.036	0.002	0.051	0.003	0.037	0.002
% change in poverty between 2004/05 – 2010/11							
P0	Literate	-31.2		-31.4		-31.6	
	Illiterate	-17.8		-15.3		-17.6	
P1	Literate	-13.5		-13.8		-14.4	
	Illiterate	0.3		3.0		1.0	
P2	Literate	8.4		3.9		5.4	
	Illiterate	20.4		22.6		20.6	

Notes: P₀ = headcount index, P₁ = normalized poverty gap, P₂ = squared poverty gap, SE is standard error corrected for stratification and primary sampling units. The test statistics for the difference in poverty between literate and illiterate people is calculated as 12.20, which is greater than the absolute value of the Z-score (2.58) at 1 percent level of significance.

Source: HICE, 2010/11

When we looked at the changes in poverty for the literate and illiterate people, we found that the percent of decline in poverty between 2004/05 and 2010/11 is higher for literate than for the illiterate. The depth of poverty also declined for the literate, but increased for illiterate. Severity of poverty increased for both the literate and illiterate, but the increase was much higher for the illiterate than for the literate. This implies that literacy is an important entry point to reduce poverty and hence continuing with the adult literacy program the government runs is crucial to sustain the poverty reduction in Ethiopia. Table 6.6 presents the estimates of poverty indices across various levels of education. It clearly shows that consumption poverty incidence, depth, and severity sharply decline as the level of education of the household head increases.

Table 6.6 Poverty and schooling of the household head in 2010/11

	P0	P1	P2
Un-educated	0.339	0.093	0.037
Grade 1-3	0.278	0.071	0.028
Grade 4-7	0.263	0.068	0.026
Grade 7-8	0.210	0.049	0.016
Grade 9-11	0.162	0.032	0.011
Grade 12	0.190	0.043	0.015
Certificate or university incomplete	0.111	0.019	0.005
TVET	0.030	0.006	0.002
First Degree and Above	0.029	0.009	0.004
Informal education	0.259	0.058	0.019

Notes: P₀ = headcount index, P₁ = normalized poverty gap, P₂ = squared poverty gap,

Source: HICE, 2010/11

6.4 Poverty and Occupation

We now consider the extent to which poverty is concentrated in different types of occupations. Given the primacy of smallholder agriculture in the livelihoods of most Ethiopians, distinguishing between farmers and non-farmers is a natural place to begin, but in 2010/11 there is no variable that identifies farmers and non-farmers. Hence we will analyze together with several non-farming occupations. Table 6.7 provides consumption poverty head count index disaggregated by occupation types including farm and non-farm occupations.

Poverty is the highest among private households with employed persons (wage workers) in rural areas (71%) and the farming occupations including agriculture, hunting and forestry (31%), fishery (50%) in rural areas. Relative to farming, headcount poverty is lower in households headed by individuals who engage in wholesale and retail trade, hotels and restaurants, finance, government, education, and health. Poverty rates for those working in rural manufacturing and construction are also slightly lower than those engaged in primary occupations (agriculture, hunting, forestry, and fishing). Further, the urban rates of headcount poverty for manufacturing and construction are only slightly below that for primary occupations in rural areas. The same pattern is observed during the previous survey period (Table 6.7).

Table 6.7 Headcount poverty, by type of employment and place of residence, 2004/05 and 2010/11

Employment	2010/11		
	Rural	Urban	Total
Agriculture, hunting and forestry	0.309	0.379	0.311
Fishing	0.497	----	0.410
Mining and quarrying	0.192	0.317	0.221
Manufacturing	0.275	0.300	0.291
Electricity, gas and water supply	0.232	0.139	0.162
Construction	0.239	0.294	0.279
Wholesale & maintenance of vehicles, motor	0.188	0.235	0.218
Hotel and restaurants	0.126	0.225	0.191
Transport, storage and communication	0.198	0.165	0.169
Financial intermediation	----	0.148	0.138
Real estate, renting and business activities	0.312	0.117	0.176
Public administration and defence	0.194	0.119	0.129
Education	0.034	0.122	0.093
Health and social work	0.023	0.165	0.128
Other community, social and personal se	0.319	0.325	0.323
Private hhs with employed persons	0.705	0.350	0.439
Extra - territorial organizations	0.060	0.101	0.096
2004/05			
Agriculture, hunting, forestry and fishing	0.399	0.482	0.400
Mining, rock and clay supply	0.182	0.423	0.300
Manufacturing	0.380	0.392	0.386
Electricity, gas, and water supply	-	0.344	0.344
Construction	0.423	0.341	0.358
Wholesale and retail sales, car repair	0.249	0.308	0.288
Hotels and restaurants	0.227	0.290	0.272
Transportation, warehouse service	0.600	0.267	0.286
Finance transfer	-	0.139	0.122
Fixed property renting and other trades	0.605	0.163	0.391
Government administration and defence, pension	0.396	0.233	0.277
Education, health, and social activities	0.180	0.183	0.182
Other social, cultural, recreational	0.444	0.483	0.471
Foreign organization	0.25	0.105	0.183

Source: HICE, 2010/11 and MoFED (2008)

Earlier in this chapter, we noted correlations between measures of education and poverty status. It is plausible to assume that higher levels of schooling are correlated with occupation and that, broadly speaking, occupational classifications reflect productivity differentials. Table 6.8 is consistent with this hypothesis. At the country level, the poverty headcount index is smallest for households whose main occupation is a professional job (4 percent), followed by technicians and associate professionals (8 percent) and clerks (13 percent). On the other hand, headcount poverty is highest among households whose occupation is elementary (32 percent), who work as skilled agricultural and fishery workers (31 percent), and craft and related trade workers (31 percent). Even though the magnitude of the headcount index is lower for urban areas, the pattern is identical to the national level. Professionals and clerks are the two occupation types that have the lowest poverty headcount index in rural areas (and also for urban areas), while elementary occupations as well as skilled agricultural and fishery workers have the highest headcount index

(as also in urban areas). The pattern of poverty across these occupations is similar to that reported in previous survey (Table 6.8).

Table 6.8 Poverty headcount index, by household head's main occupation in 2010/11

Household head's main occupation	Rural	Urban	Total
2010/11			
legislators, senior officials and managers	0.190	0.048	0.114
Professionals	0.000	0.050	0.041
technicians and associate professional	0.000	0.114	0.084
Clerks	0.129	0.126	0.127
service workers and shop & market sales	0.177	0.215	0.202
skilled agricultural and fishery worker	0.310	0.385	0.312
craft and related trade workers	0.301	0.322	0.313
plant and machine operators and assemblers	0.254	0.171	0.183
elementary occupations	0.277	0.351	0.316
member of defence forces	0.431	0.040	0.177
2004/05			
Professionals	0.000	0.051	0.048
Technicians and associate professionals	0.196	0.157	0.172
Clerks	0.005	0.238	0.207
Service workers and shop and market sale	0.239	0.287	0.271
Skilled agricultural and fishery workers	0.400	0.486	0.401
Craft and related trades workers	0.375	0.387	0.381
Plant and machine operators and assemblers	0.232	0.280	0.270
Elementary occupations	0.387	0.487	0.420
Total	0.394	0.336	0.387

Source: HICE, 2010/11 and MoFED (2008)

The HICES survey asked whether individual in the sample households were engaged in productive activities over the last 12 months. The analysis results (Table 6.9) shows that poverty incidence is higher among the economically inactive than those economically active in both rural and urban areas, but the difference is very small (3 percentage point only).

Table 6.9 Poverty by economically active population

	Rural			Urban			Total		
	P0	P1	P2	P0	P1	P2	P0	P1	P2
Not economically active	0.337	0.082	0.031	0.296	0.082	0.033	0.318	0.082	0.032
Economically active	0.302	0.080	0.032	0.248	0.066	0.026	0.294	0.078	0.031
Total	0.304	0.080	0.032	0.257	0.069	0.027	0.296	0.078	0.031

6.5 Poverty and ecological zone

The 2010/11 categorized the enumeration areas into three rural ecological zones and one urban zone. The three rural ecological zones are highland, moderate highland and lowland. Results are given in Table 6.10. Though there is no much difference in poverty among the three rural ecological zones, the highest poverty is found in lowland (35%) followed by highlands (31%), while the lowest poverty is observed in moderate highland zone (29%). The poverty incidence computed for urban zone is 26%, which is obviously lower than all the rural zones. The same pattern is observed for poverty gap and severity indices. However the patterns are different for rural and urban areas. The rural pattern is similar to that of national level pattern as the national level is dominated by rural pattern. In urban areas, poverty incidence is the highest in highlands (44%) followed by lowlands (38%). The headcount index for urban moderate highland is 29%, while those purely urban are 26%.

Table 6.10Poverty by ecological zone in 2010/11

Type of Ecology cq22	Rural			Urban			Total		
	P0	P1	P2	P0	P1	P2	P0	P1	P2
high land	0.305	0.076	0.028	0.440	0.129	0.045	0.306	0.076	0.029
moderate	0.285	0.073	0.028	0.290	0.039	0.010	0.285	0.073	0.028
low land	0.350	0.103	0.043	0.382	0.092	0.029	0.351	0.103	0.043
urban	0.289	0.072	0.025	0.256	0.069	0.027	0.257	0.069	0.027
Total	0.304	0.080	0.032	0.257	0.069	0.027	0.296	0.078	0.031

Source: HICE, 2010/11

6.6 Poverty and other household characteristics

We can look at poverty by other household characteristics such as age of the household head, divorce or separation of families, and region. When we look at the poverty by the age of the households (Table 6.11), we found poverty incidence is the highest among families headed by a 30-64 years old person, which is 33%. Those headed by old people (greater than 65 year) have the next highest poverty incidence (29%), while those headed by young people (16-29) have a poverty incidence of 16%. In Urban areas, the highest poverty incidence is found among those people above the age of 65, followed by those between the age of 30 -60 years. The young people whose age is between 16 -29 have the lowest level of poverty incidence, which is 11%. This is due to the fact that the urban youth have better opportunity to be hired in construction sites and government support for micro and small scale enterprises and coble stone production. Moreover, the young have better skill than the old and as a result the urban youth are the main beneficiaries of the growth process.

Table 6.11. Poverty by the age of HH head

Age range	Rural			Urban			Total		
	P0	P1	P2	P0	P1	P2	P0	P1	P2
less <=15	0.218	0.034	0.006	0.278	0.085	0.038	0.232	0.047	0.014
Age 16-29	0.164	0.037	0.013	0.111	0.025	0.009	0.152	0.034	0.012
Age 30-64	0.332	0.089	0.036	0.283	0.076	0.030	0.325	0.087	0.035
Age >=65	0.289	0.076	0.029	0.370	0.113	0.048	0.301	0.081	0.031
Total	0.304	0.080	0.032	0.257	0.069	0.027	0.296	0.078	0.031

Source: HICE, 2010/11 and WMS (2010)

One possible reason for individuals to be absolutely poor is divorce or separation of families. While we could not find that divorced families are not poorer than married in rural areas, we found modest differences between married and divorced families in urban areas because in rural areas when families are divorced, families will retain their land rights and may be given better access to productive safety net to protect them from falling into poverty. However, in urban areas individuals may suffer from poverty if families are divorced as all the income remained with the income earner (Table 6.12).

Table 6.12 Poverty by divorce or separation of families

Marital Status	Rural			Urban			Total		
	P0	P1	P2	P0	P1	P2	P0	P1	P2
Not married	0.178	0.056	0.024	0.122	0.033	0.013	0.150	0.044	0.019
Married	0.311	0.083	0.033	0.254	0.067	0.026	0.303	0.081	0.032
divorced/separation	0.273	0.065	0.024	0.316	0.089	0.036	0.285	0.072	0.027
Total	0.304	0.080	0.032	0.257	0.069	0.027	0.296	0.078	0.031

Source: HICE, 2010/11 and WMS (2010)

Though difficult to explain the reason, there is a difference in poverty indices among households with different religion (Table 6.13). In rural areas, the highest poverty is observed in the followers of *Waqie Fetta* (55%), other traditional religion (42) and catholic (42%). In urban areas, the results show that only traditional religion followers have the highest poverty head count index (61%) followed by Muslims. Urban poverty incidence for catholic, protestant and orthodox followers is similar, which is between 22 and 25 percent.

Table 6.13 Poverty and religion in Ethiopia in 2010/11

Religion Category	Rural			Urban			Total		
	P0	P1	P2	P0	P1	P2	P0	P1	P2
Orthodox	0.275	0.070	0.026	0.242	0.063	0.024	0.268	0.068	0.026
Catholic	0.422	0.140	0.057	0.218	0.065	0.030	0.398	0.131	0.054
Protestant	0.323	0.097	0.043	0.249	0.069	0.028	0.315	0.094	0.041
Muslim	0.311	0.076	0.028	0.305	0.086	0.036	0.311	0.077	0.029
Waqefetta	0.549	0.151	0.062	0.086	0.011	0.001	0.540	0.148	0.061
Traditional	0.418	0.128	0.050	0.609	0.103	0.031	0.418	0.128	0.050
Others	0.439	0.151	0.080	0.078	0.024	0.011	0.426	0.147	0.077
Total	0.304	0.080	0.032	0.257	0.069	0.027	0.296	0.078	0.031

Source: HICE, 2010/11 and WMS (2010)

CHAPTER 7

VULNERABILITY, SHOCKS, HOUSEHOLD COPING MECHANISMS AND FOOD SHORTAGES

It is now commonly understood that vulnerability, or insecurity, is a fundamental aspect of poverty. The poorest households are often the most likely to be hit by adverse shocks, and also are the least likely to have resources to cope when shocks hit (Fafchamps, 2003, Dercon, Hoddinott and Woldehanna, 2005). In fact, it is research using Ethiopian data that has led the academic and policy debate on the importance of understanding vulnerability and supporting households to cope with risk and shocks since the 1990s. The 2008 report “Dynamics of Growth and Poverty in Ethiopia” used 2004 Welfare Monitoring Survey (WMS) data and showed the importance of shocks that affect the wellbeing of Ethiopian households. In 2004, almost 40 per cent of households reported experiencing at least one adverse shock that impacted their livelihoods.

Since the 2004 WMS, there has been a significant expansion of government programmes to combat food insecurity. In 2005, Government of Ethiopia produced a Food Security Programme, a flagship of which was the Productive Safety Net Programme (PSNP). Over the past seven years the PSNP has expanded to cover 7 million Ethiopians. The PSNP is now the largest safety net programme in sub-Saharan Africa outside of South Africa.

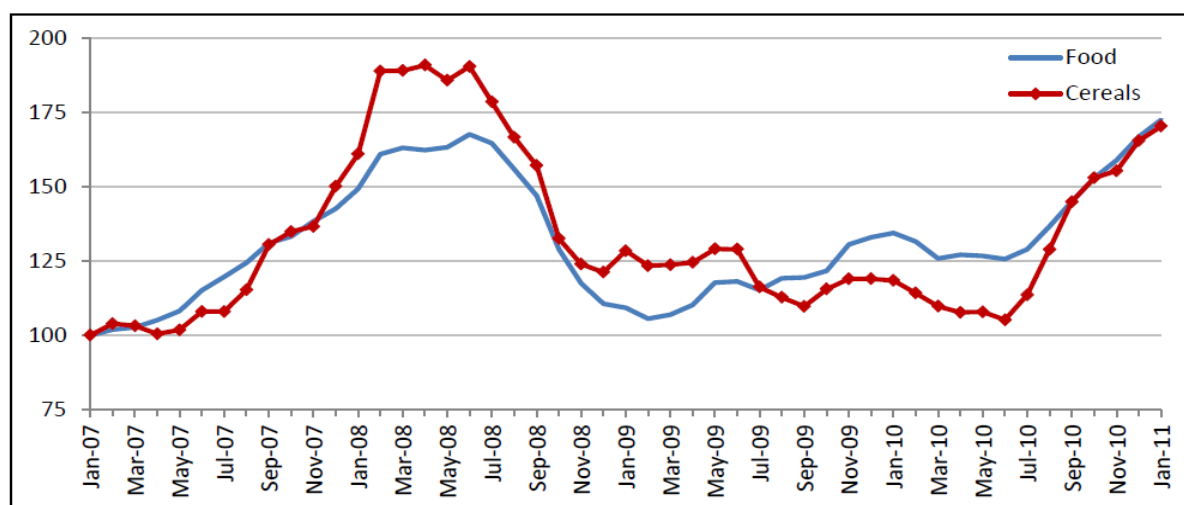


Figure 7.1 International Price Index, January 2007-January 2011

Source: UNICEF (2011)

This chapter documents the shocks faced by Ethiopian households and compares the results to 2004. It also assesses the mechanisms households can use to try to cope with such shocks, and then discusses food security. The overall findings of the chapter are that there have been significant reductions in the shocks that households experience – however, there are some regions and sectors of society that have not experienced such a decline. Whilst most shocks have fallen there is one significant exception – food price shocks. This is the only shock which more Ethiopians reported experiencing in 2011 compared to 2004. The reasons for this are discussed in more detail in the chapter, but the graph below shows the global trends in food prices, with cereal prices in particular almost doubling between January 2007 and January 2008.

7.1 What shocks do Ethiopian Households Experience?

The 2011 WMS contains an extensive series of questions on shocks experienced by Ethiopian household, and the responses of households to such shocks. These include death of household members, illness, drought, flood, price shocks, job loss, livestock shocks, theft, fire, loss of house or land, insecurity. Respondents were asked if they had experienced such shocks in the past 12 months, as well as how many times. They were also asked how many times they had experienced the shock in the past 5 years. For comparability with the 2004 poverty report, we first present results on those shocks which were analyzed in that report to investigate the trends over time. We then examine the full set of information available in 2011 WMS. Tables in this section from 7.2 are at the rear of the chapter, for ease of reading.

Table 7.1 Incidence of shocks in 2010/11

Household	Percent reporting experiencing at least one shock	
	2011	2005
All households	33.5	39.3
Rural households	35.1	41.2
Urban households	26.9	29.1

Table 7.1 shows that 33.5% of households reported experiencing at least one shock, in the past five years, which has fallen from 39.3% in 2004. This has been driven by a sharp drop in the number of rural households reporting shocks – from 41.2% in 2004 to 35.1 % in 2011. The proportion of urban households reporting shocks actually declined slightly from 29.1 % in 2004/05 to 26.9 in 2010/11 - as we discuss below, this is mainly due to households reporting being affected by the global food price increases over the past five years, which tend to hit urban residents harder as they are net food consumers.

Table 7.2 Incidence and prevalence of shocks by region

Region	Percent report experiencing more than one shock	Number of shocks reported				
		0	1	2	3	4*
Tigray	12.2%	87.8%	8.4%	2.8%	1.0%	0.1%
Afar	16.0%	84.0%	11.7%	3.0%	1.1%	0.2%
Amahara	23.9%	76.1%	15.2%	5.6%	2.0%	1.1%
Oromiya	35.9%	64.1%	21.2%	9.5%	3.3%	2.0%
Somali	46.2%	53.8%	18.6%	17.2%	6.6%	3.8%
Benshangul-Gumuz	19.3%	80.7%	12.7%	4.5%	1.6%	0.5%
SNNP	47.5%	52.5%	20.9%	11.5%	10.5%	4.6%
Gambella	31.2%	68.8%	18.6%	9.6%	2.4%	0.6%
Harari	12.6%	87.4%	8.2%	3.0%	0.8%	0.6%
Addis Ababa	29.2%	70.8%	22.9%	5.1%	0.9%	0.3%
Dire Dawa	33.9%	66.1%	20.2%	10.2%	2.9%	0.6%
Average	33.7%	66.3%	18.7%	8.4%	4.4%	2.2%

Notes: Population weighted estimates from WMS 2011. *4 or more shocks

The number of shocks has also fallen. Less than 7% of households report experiencing three or more shocks over the period. 18% experienced one shock, and 8% experienced two shocks. We provide a breakdown of the number of shocks, by region in table 7.2. Households in Somali region are most likely to report shocks (46%) and Harari and Tigrayan households are the least likely (12%). Compared to five years ago, the likelihood of reporting a shock has fallen across many regions, with the exception of Somali and SNNP regions.

Table 7.3 Incidence of shocks, by type

Type of Shock	All households	Rural	Urban
Illness	8.1%	8.6%	6.2%
Drought	4.6%	5.4%	1.1%
Livestock loss or death	4.3%	5.0%	1.0%
Crop damage	2.7%	3.1%	0.3%
Death	1.3%	1.3%	1.3%
Flood	2.5%	3.0%	0.3%
Price shock	19.0%	18.9%	19.8%
Job loss	0.3%	0.2%	1.2%
Food shortage	14.8%	16.5%	6.5%

Notes: Population weighted estimates from WMS 2011.

The type of shocks likely to be experienced is analyzed in table 7.3. Price shocks are the most common, followed by food shortage. Illness is reported by 8.1% of households. The other shocks are experienced by 5% of the population or fewer. Urban and rural comparison shows that rural households experienced food shortage more frequently (16.5% vs only 6.5% in urban areas) and also as expected, suffer more from drought, livestock and flood shocks which are associated with agricultural production. Comparing over time, the incidence of all shocks except for price shocks has fallen. Illness for example, was reported to have affected almost a quarter of all households in 2004. The global food price crisis which affected most countries, including Ethiopia has led to increases in inflation (see Figure 7.1). The inflation rate reached 64% in July 2008, the peak of the crisis and this has fallen to 20% in August 2012 (CSA figures). Energy prices have also experienced significant rises globally. Such global trends are the main drivers of the increase in reported price shocks. A follow up question asked households how they would try to cope with the food price increases, and the most common answer (37%) was to eat less preferred, lower quality foods.

The breakdown of shocks by type across all regions shows that price shocks have been most frequently reported in the urban areas, plus Oromiya, SNNP and Somali regions. SNNP also experienced the most reported illness, though this is a reduction from 25.9% reported in 2004. Job loss is reported more in the urban areas of Dire Dawa and Addis Ababa, slightly higher than 2004 in Dire Dawa (from 2.9%) though reduced in Addis Ababa (from 6.0%). See table 7.4 for more details.

Table 7.4 Incidence of shocks, by type and region

Region	Illness	Drought	Livestock shock	Crop Damage	Death	Flood	Price shock	Job loss	Food shortage
Tigray	3.0%	1.6%	0.8%	0.4%	0.8%	0.5%	3.2%	0.2%	6.7%
Afar	2.3%	0.3%	5.1%	0.4%	2.3%	2.9%	4.2%	0.1%	4.3%
Amahara	4.7%	2.4%	2.6%	2.3%	0.5%	3.4%	9.8%	0.2%	11.1%
Oromiya	8.2%	4.4%	4.5%	3.0%	1.2%	2.1%	22.5%	0.3%	12.3%
Somali	5.9%	13.0%	12.2%	1.2%	0.9%	.	32.6%	0.1%	23.3%
B.G	7.4%	.	6.3%	3.5%	1.0%	.	6.2%	0.0%	4.3%
SNNP	14.4%	9.0%	6.9%	3.8%	2.5%	3.8%	26.7%	0.3%	27.6%
Gambella	3.0%	2.5%	1.7%	0.5%	2.5%	1.3%	20.4%	0.1%	15.2%
Harari	4.4%	3.0%	0.5%	1.1%	0.6%	0.2%	2.7%	0.4%	6.0%
AA	4.9%	0.0%	0.2%	.	1.7%	0.1%	23.1%	2.6%	4.3%
Dire Dawa	9.5%	0.2%	1.6%	1.7%	1.4%	1.2%	22.2%	3.5%	10.4%

Notes: Population weighted estimates from WMS 2011.

Shocks by gender of the head of the household: In the 2011 WMS, 18% of households are female headed. In 2004 there was no difference in shock incidence by head of household's gender, both at 39%. By 2011, this has fallen to 36% of female headed households and 33% of male headed households. This gender disparity is driven by rural areas, where 40% of female headed households experienced at least one shock (down only one percentage point since 2004), compared to 34% of male headed households (falling seven percentage points from 2004 level, see table 7.5).

Table 7.5 Incidence of shocks, by sex of household head

	Percent of households reporting at least one shock	
	Male headed	Female headed
All households	33.1%	36.3%
Rural households	34.1%	40.3%
Urban households	27.1%	27.2%

Notes: Population weighted estimates from WMS 2011.

If we break down the type of shock experienced by gender of the household head, the most striking difference is that female headed households are more likely to report experiencing a shock (table 7.6).

Table 7.6 Incidence of shocks, by type of shock and sex of household head

Type of shock	Male headed	Female headed
Illness	8.1%	7.8%
Drought	4.4%	5.0%
Livestock loss or death	4.5%	3.1%
Crop damage	2.8%	1.8%
Death	0.9%	3.4%
Flood	2.8%	1.2%
Price shock	18.5%	21.2%
Job loss	0.3%	0.5%
Food shortage	13.7%	18.4%

Notes: Population weighted estimates from WMS 2011.

With regard to shocks reported by education of the household head, 40% of household heads in the survey had some formal education, though the difference between urban and rural is apparent: 70% of urban household heads have formal education, but only 33% of rural household heads. Those with no formal education do report more shocks, though the gap according to education status has narrowed since the 2004 poverty report (as can be seen from table 7.7 the gap is currently four percentage points, whereas in 2004 it was seven percentage points). Non-educated household heads report more shocks than educated household heads, with the exception of food price shocks.

Table 7.7 Incidence of shocks, by education of household head

	Percent of households reporting at least one shock	
	No formal education	Any formal education
All households	35.5%	31.0%
Rural households	36.1%	33.1%
Urban households	28.9%	26.4%

Notes: Population weighted estimates from WMS 2011.

As was discussed earlier, more urban households report food price shocks – and levels of education are higher in the urban areas (table 7.8).

Table 7.8 Incidence of shocks, by type of shock and education of household head

Type of shock	No formal education	Any formal education
Illness	8.5%	7.5%
Drought	4.8%	4.0%
Livestock loss or death	4.6%	3.6%
Crop damage	2.8%	2.5%
Death	1.6%	1.0%
Flood	2.9%	1.9%
Price shock	18.6%	19.5%
Job loss	0.2%	0.5%
Food shortage	16.9%	10.9%

We provide a breakdown of incidence of shocks by poverty status (table 7.9). The poorest households are the most likely to report experiencing a shock. The difference between poor and non-poor households' experiences of shocks is most apparent in the urban areas, with a five percentage point gap between poor and non-poor. This is again likely due to urban households experiencing the food price crisis more acutely, being net consumers of food.

Table 7.9 Incidence of shocks, by poverty status

	Percent of households reporting at least one shock	
	Non-Poor	Poor
All households	33.0%	35.6%
Rural households	34.6%	36.2%
Urban households	26.1%	31.1%

In table 7.10, each shock is reported by poverty status. Poor households are more likely to report having experienced all shocks except for illness, though reports of illness may suffer from self-reporting bias whereby poorer people tend to under report their illness (Thomas and Frankenberg).

Table 7.10 Incidence of shocks, by type of shock and poverty status

Type of shock	Non-Poor	Poor
Illness	8.2%	7.7%
Drought	4.5%	4.5%
Livestock loss or death	3.9%	5.2%
Crop damage	2.5%	2.9%
Death	1.3%	1.4%
Flood	2.4%	2.9%
Price shock	18.8%	19.4%
Job loss	0.3%	0.5%
Food shortage	13.1%	18.0%

Additional shocks were also asked by the WMS 2011 (Table 7.11). The two most prevalent shocks are reduced income and reduced water quality, though both of these affect less than five percent of the population. There are few significant differences between rural and urban, with the water quality problems slightly affecting rural areas more.

Table 7.11 Incidence of further shocks, by type

Shock	All	Rural	Urban
Fire	0.4%	0.4%	0.4%
Theft	1.0%	0.9%	1.3%
Reduced income	4.0%	4.1%	3.6%
Landslide	0.4%	0.4%	0.0%
Insecurity	0.1%	0.1%	0.2%
Heavy rain	0.8%	1.0%	0.1%
Reduced water quality	3.9%	4.0%	3.1%
Loss of home or land	0.2%	0.1%	0.3%
Other shock	0.8%	0.9%	0.6%

In summary, whilst a significant proportion of Ethiopians suffer from shocks (approximately one third of the population), this number has fallen since 2005. In particular, the percentage of rural households reporting shocks has dropped most significantly. The most common shocks to affect Ethiopians are related to food insecurity and food prices. Partly this reflects the international food price crisis in urban areas, and partly low agricultural productivity in rural areas, despite recent improvements. In the next section, how households respond to shocks is investigated, followed by a more detailed discussion of food security issues.

7.2 Coping with shocks.

In 2004 the WMS asked whether in case of crisis the household would be able to raise 100 Birr within a week for unforeseen problems. 62.7% of households said they would be able to, with the lowest proportion being in the urban areas of Addis Ababa and Dire Dawa. In 2012 the question was updated to reflect inflation, and households were asked about their ability to raise 200 Birr. The proportion who said they were able to raise the cash increased quite substantially – averaging just under 82%. Again the lowest proportion is in Addis Ababa where 68% of households believed they could raise the money (Table 7.12).

Table 7.12 Proportion of households who can raise 200 Birr within a week

	2011 (200 Birr)	2004 (100 Birr)
Tigray	86.0	59.9
Afar	92.2	60.0
Amahara	79.5	56.6
Oromiya	84.1	65.1
Somali	84.1	54.5
Benshangul-Gumuz	81.4	55.4
SNNP	81.2	71.2
Gambella	74.1	.
Harari	92.1	68.2
Addis ababa	68.7	45.9
Dire dawa	87.8	53.0
Average	81.9	62.7

How would households raise this money if the need arose? In 2004, 45% of rural households would have sold animals and 15% sold crops. In urban areas almost 33% would have used own cash, or a loan from relatives (22%). The analysis compares 2004 and 2011 for the whole sample, and we find that sales of animals has fallen slightly while sale of crops has increased, probably reflecting the increased crop prices as discussed above in the context of food inflation. There has also been a significant increase in those holding their own cash for an emergency, doubling from 9% to 18%. Other sources of ready cash remain unchanged over the 6 year period, though the use of Iddir to gain cash has dropped somewhat, from 5.2% to 3.8% (table 7.13).

Table 7.13 Main source of raising 200 (100) Birr, 2011 and 2004

	2011 (200 Birr)	2004 (100 Birr)
Sale of animal	32.1	39.8
Sale of crop	17.7	13.7
Sale of forest products	0.3	0.4
Own cash	18.6	9.0
Withdrawal from Bank	1.2	0.8
Equb	0.5	0.4
Iddir	3.8	5.2
Loan from bank/other	0.3	4.2
Loan from relatives	17.8	17.7
Gift from relatives	1.1	1.4
Loan from non-relatives	5.6	5.3
Gift from non-relatives	0.2	0.1
Sale of household assets	0.1	0.4
Sale of personal items	0.0	0.2
Others	0.7	1.7

According to a comparison of the coping strategies of urban and rural households, we find, predictably, that rural households rely more on the sale of agricultural assets, animals and crops (table 7.14). Almost half of urban households would rely on their own cash, compared to one third in the 2004 survey.

Table 7.14 How household would raise 200 Birr, rural and urban households

	Rural	Urban	All
Sale of animal	37.24	5.85	32.06
Sale of crop	20.47	3.73	17.71
Sale of forest products	0.28	0.14	0.26
Own cash	12.46	49.91	18.64
Withdrawal from Bank	0.36	5.61	1.23
Equb	0.42	0.9	0.5
Iddir	4.35	1.08	3.81
Loan from bank/other	0.19	0.8	0.29
Loan from relatives	17.53	18.97	17.77
Gift from relatives	0.58	3.53	1.07
Loan from non-relatives	5.34	6.88	5.59
Gift from non-relatives	0.17	0.45	0.22
Sale of household assets	0.039	0.43	0.1
Sale of personal items	0.023	0.17	0.047
Others	0.55	1.53	0.71

7.3 The food gap

Asked separately about food security in the WMS 2011, 21.5% of Ethiopian households reported experiencing a food shortage. This is slightly higher than the response to the question about food shortage in the shocks section of the questionnaire, possibly as households were asked specifically about food shortage in this section. According to the results of this section, shown in table 7.15, the most food insecure region was SNNP, with 35% of households affected. Nationally, the average food shortage reported represents significant drop compared with 2004 WMS results, when 32.5% of households reported experiencing a food shortage.

Table 7.15 Households with food shortage

Region	Proportion with food shortage		Average no. months food shortage
	2011	2004	
Tigray	13.0%	36.4%	2.9
Afar	7.4%	37.3%	5.7
Amahara	23.1%	29.8%	3.0
Oromiya	16.1%	36.7%	3.1
Somali	30.7%	42.8%	4.5
Benshangul-Gumuz	5.7%	30.2%	2.4
SNNP	35.0%	27.5%	3.4
Gambella	32.3%	-	2.6
Harari	8.2%	23.7%	3.3
Addis Ababa	7.8%	11.6%	3.9
Dire Dawa	12.6%	45.2%	2.1
Average	21.5%	32.5%	3.2

The fall occurred across most regions except for SNNP, where food insecurity increased somewhat, from 27.5%. Of those affected by food insecurity, the average number of months of food shortage experienced was just over three months of the year. Again this shows a fall compared to five years previous, though still represents a serious policy challenge and should remain a priority.

CHAPTER 8

CORRELATES OF CONSUMPTION AND POVERTY

The previous chapters have outlined several characteristics of poor households, and compared poor and non-poor people's access to services, assets, nutrition, literacy and other aspects of poverty. In this chapter, the analysis combines multiple variables. The results presented are of a regression analysis whereby examining correlates of consumption and poverty, whilst holding other things constant. The results are generated by merging the WMS and HICES datasets to include quite a comprehensive list of variables. These variables are described in Table 8.1. The dependent variables are the natural logarithm of consumption, per capita and per adult (equivalent), in the household. In the next section we also examine the correlates of poverty.

Table 8.2 shows the results of the regressions on the determinants of consumption per capita, firstly for all households, and then separately for rural and urban households. As discussed in chapter 8 on vulnerability, Ethiopian households suffer from several types of shocks that may impact negatively on their wellbeing. In that chapter it was also shown that poor households are more likely to report suffering a shock and be less likely to find a way to cope. Overall, reporting a shock has a negative correlation with per capita consumption which is as expected. However it is interesting to note that in the split sample, it is urban households that appear to be more negatively affected than rural households. This is surprising, given that there has been a lot of focus in the international community on rural livelihoods shocks. We explore this further in Table 8.5 below. Female headed households, especially in rural areas are likely to have lower consumption. Education has a clear and positive correlation with consumption, in both urban and rural areas. Even completing informal education shows significant increases in consumption, showing that investment in adult education may also pay returns in Ethiopia. Of the other assets measured in the survey, having acquired land increases consumption as well as owning plough animals or beehives.

Table 8.3 shows the probit results on a dummy variable equal to one if the household is poor. Therefore a positive coefficient means that this factor increases the probability of being poor. The results mirror those of the expenditure regressions. Shocks appear to affect the probability of being poor only in urban areas, female headed households are more likely to be poor, and any level of education reduces the probability of being poor in comparison with having no education at all. Having secondary education reduces the probability of being poor by 24% in urban areas, and by 13.5% in rural areas. More of the asset variables are significant in being correlated with escaping poverty, including ploughing animals but also cattle, chickens and beehives.

In Tables 8.4 and 8.5, we investigate in detail the impact of shocks, by including nine specific shocks that the household may have suffered. In Table 8.4 the dependent variable is the log of per adult consumption, as in Table 8.2. The other control variables remain the same. We see that food shortage is as predicted, negatively correlated with consumption (it is highly likely that the causality runs the other way in this case – lower consumption would cause households to report the food shortage). The pattern of shocks is quite different between urban and rural households. In

urban households, illness is correlated with a reduction in consumption, while in rural areas, the opposite is true. This may be due to households receiving gifts of food in rural areas when experiencing illness. Job losses are significant only for rural households. None of the agricultural shocks is significantly correlated with consumption in rural areas – perhaps due to the relatively favorable agricultural conditions in recent years. Urban areas show clear correlations between price shocks and expenditure – as discussed in previous chapters, Ethiopia has suffered from high inflation due to the global price rises of food and fuel. Especially in the case of food prices, urban residents tend to be net consumers of food, and would therefore suffer more than rural households which have their own production of food to consume. We repeat the analysis in Table 8.5 for a probit on the probability of being classified as poor. The results are again similar to the regression analysis. The main difference is that reporting the price shock does not increase the likelihood of households being classified as poor, suggesting that it is not households around the poverty line who are being most affected by this shock- this resonates with the results from chapter 5.4 on consumption across the distribution.

Table 8.1 Definition and descriptive statistics of main variables: All households

Variable	Mean	Standard Deviation (SD)
Dependent variables		
Logarithm of per capita consumption	8.242	0.557
Logarithm of adult equivalent consumption	8.452	0.548
Household below poverty line	0.295	0.456
Shocks experienced by household		
Household suffered death of member	0.012	0.108
Household suffered illness of member	0.083	0.275
Household suffered job loss of member	0.003	0.056
Household suffered food shortage	0.149	0.356
Household suffered from drought	0.048	0.214
Household suffered from flood	0.027	0.161
Household suffered from crop damage	0.028	0.165
Household suffered from livestock shock	0.045	0.208
Household suffered from price shock	0.191	0.393
Household reports experiencing any shock	0.339	0.474
Demographic variables		
Household head is female	0.157	0.364
Logarithm of household size	1.720	0.393
Proportion of females 16-64	0.251	0.146
Proportion of females under 15	0.245	0.193
Proportion of females over 65	0.011	0.054
Proportion of males under 15	0.263	0.190
Proportion of males over 65	0.017	0.064
Human Capital		
Highest grade completed by household head	0.553	0.777
Head completed primary education	0.321	0.467
Head completed secondary education	0.054	0.225
Head has no formal but has informal education and can read	0.042	0.200

Table 8.1 Definition and descriptive statistics...Continued

Variable	Mean	Standard Deviation (SD)
Highest grade of any household member	4.856	3.832
Highest grade of any male household member	4.082	3.889
Highest grade of any female household member	2.858	3.478
Number of males 16-64	1.352	0.897
Number of females 16-64	1.370	0.751
Other assets		
Household owns land	0.926	0.262
Household has acquired land in the past 5 years	0.051	0.220
Household owns animals used for ploughing	0.309	0.462
Household owns cattle	0.679	0.467
Household owns sheep or goats	0.528	0.499
Household owns chickens	0.564	0.496
Household owns beehive	0.010	0.099
Regions		
Tigray	0.058	0.235
Afar	0.005	0.072
Amhara	0.244	0.429
Oromia	0.401	0.490
Somali	0.020	0.140
Benishangul-Gumuz	0.010	0.101
SNNP	0.220	0.414
Gambella	0.004	0.060
Addis Ababa	0.031	0.172
Harar	0.003	0.052
Dire Dawa	0.004	0.066
Household resides in urban area	0.142	0.349

Table 8.1 Definition and descriptive statistics...continued

Dependent variables	Rural Households		Urban Households	
	Mean	SD	Mean	SD
Logarithm of per capita consumption	8.170	0.329	8.680	1.322
Logarithm of adult equivalent consumption	8.385	0.327	8.857	1.297
Household below poverty line	0.301	0.301	0.259	0.877
Shocks experienced by household				
Household suffered death of member	0.012	0.071	0.011	0.212
Household suffered illness of member	0.086	0.183	0.065	0.494
Household suffered job loss of member	0.002	0.026	0.013	0.227
Household suffered food shortage	0.163	0.242	0.065	0.495
Household suffered from drought	0.054	0.148	0.012	0.218
Household suffered from flood	0.031	0.113	0.002	0.094
Household suffered from crop damage	0.032	0.115	0.004	0.120
Household suffered from livestock shock	0.051	0.144	0.011	0.209

Table 8.1 Definition and descriptive statistics...continued

Dependent variables	Rural Households		Urban Households	
	Mean	SD	Mean	SD
Household suffered from price shock	0.189	0.257	0.205	0.808
Household reports experiencing any shock	0.350	0.313	0.278	0.897
Demographic variables				
Household head is female	0.135	0.224	0.286	0.905
Logarithm of household size	1.749	0.242	1.545	0.961
Proportion of females 16-64	0.238	0.087	0.332	0.372
Proportion of females under 15	0.255	0.125	0.185	0.385
Proportion of females over 65	0.010	0.034	0.014	0.131
Proportion of males under 15	0.274	0.122	0.198	0.398
Proportion of males over 65	0.018	0.042	0.014	0.125
Human Capital				
Highest grade completed by household head	0.472	0.483	1.044	1.654
Head completed primary education	0.307	0.302	0.407	0.984
Head completed secondary education	0.017	0.086	0.272	0.892
Head has no formal but has informal education and can read	0.043	0.134	0.030	0.344
Highest grade of any household member	4.138	2.113	9.194	8.667
Highest grade of any male household member	3.422	2.159	8.072	9.496
Highest grade of any female household member	2.212	1.790	6.761	9.476
Number of males 16-64	1.354	0.580	1.341	1.933
Number of females 16-64	1.344	0.468	1.528	1.857
Other assets				
Household owns land	0.984	0.081	0.571	0.991
Household has acquired land in the past 5 years	0.049	0.142	0.060	0.476
Household owns animals used for ploughing	0.349	0.312	0.066	0.498
Household owns cattle	0.757	0.281	0.210	0.816
Household owns sheep or goats	0.590	0.322	0.152	0.719
Household owns chickens	0.624	0.317	0.197	0.797
Household owns beehive	0.011	0.069	0.003	0.113
Regions				
Tigray	0.056	0.150	0.075	0.528
Afar	0.005	0.044	0.009	0.192
Amhara	0.257	0.286	0.164	0.742
Oromia	0.414	0.323	0.323	0.937
Somali	0.018	0.088	0.029	0.335
Benishangul-Gumuz	0.010	0.067	0.009	0.192
SNNP	0.234	0.277	0.140	0.694
Gambella	0.003	0.036	0.007	0.171
Addis Ababa	0.000	0.003	0.215	0.823
Harar	0.002	0.028	0.009	0.185
Dire Dawa	0.002	0.028	0.020	0.282

SD = Standard Deviation

Table 8.2 Determinants of Consumption

	(1) Log per capita consumption	(2)	(3)	(4)
	All households	All	Rural	Urban
Household experienced a shock	-0.0333*** (0.0115)	-0.0341*** (0.0114)	-0.0153 (0.0128)	-0.149*** (0.0161)
Household head is female	-0.0540*** (0.0154)	-0.0423*** (0.0154)	-0.0606*** (0.0197)	-0.00110 (0.0166)
Logarithm of household size	-0.476*** (0.0175)	-0.479*** (0.0176)	-0.497*** (0.0247)	-0.443*** (0.0164)
Proportion of females 16-64	0.0526 (0.0421)	-0.000322 (0.0396)	-0.0394 (0.0527)	0.0605 (0.0404)
Proportion of females under 15	-0.105*** (0.0320)	0.0249 (0.0299)	0.0538 (0.0358)	0.0123 (0.0378)
Proportion of females over 65	0.140 (0.0853)	0.129 (0.0811)	0.160 (0.102)	-0.0668 (0.0948)
Proportion of males under 15	-0.112*** (0.0314)	-0.00790 (0.0308)	0.00487 (0.0373)	-0.0203 (0.0389)
Proportion of males over 65	-0.0680 (0.0713)	-0.0586 (0.0705)	-0.0441 (0.0816)	-0.218** (0.100)
Head completed primary education	0.0737*** (0.0138)	0.0935*** (0.0138)	0.0580*** (0.0160)	0.216*** (0.0198)
Head completed secondary education	0.323*** (0.0228)	0.352*** (0.0225)	0.111** (0.0434)	0.471*** (0.0216)
Head has no formal but has informal education and can read	0.106*** (0.0262)	0.105*** (0.0260)	0.0916*** (0.0284)	0.270*** (0.0508)
Highest grade of any male household member	0.00755** (0.00333)	0.00566* (0.00333)	0.00785 (0.00481)	0.000695 (0.00316)
Highest grade of any female household member	0.0147*** (0.00267)	0.0134*** (0.00265)	0.0136*** (0.00376)	0.00326 (0.00313)
Household owns land	-0.103*** (0.0162)	-0.101*** (0.0160)	-0.0473 (0.0400)	-0.0466*** (0.0145)
Household has acquired land in the past 5 years	0.0992*** (0.0232)	0.133*** (0.0232)	0.139*** (0.0271)	0.104*** (0.0356)
Household owns animals used for ploughing	0.123*** (0.0136)	0.115*** (0.0136)	0.123*** (0.0142)	-
Household owns cattle	0.0163 (0.0133)	0.0101 (0.0134)	0.0408*** (0.0150)	-
Household owns sheep or goats	-0.00242 (0.0123)	-0.00643 (0.0123)	0.00943 (0.0131)	-
Household owns chickens	-0.00826	-0.0117	0.0134	-

Table 8.2 Determinants of Consumption...Continued

	(1) Log per capita consumption	(2)	(3)	(4)
	All households	All	Rural	Urban
Household owns beehive	(0.0128) 0.111**	(0.0128) 0.123**	(0.0141) 0.137**	0.0639
Tigray	(0.0542) -0.00253	(0.0570) 0.000843	(0.0598) -0.0603***	(0.149) -
Afar	(0.0158) -0.00416	(0.0159) -0.0300	(0.0182) -0.0667***	-
Amhara	(0.0212) -0.0935***	(0.0207) -0.103***	(0.0238) -0.135***	-
Somali	(0.0132) 0.145***	(0.0132) 0.141***	(0.0143) 0.0917***	-
Benishangul-Gumuz	(0.0203) -0.0167	(0.0204) -0.0135	(0.0241) -0.0209	-
SNNP	(0.0202) -0.112***	(0.0201) -0.113***	(0.0225) -0.127***	-
Gambella	(0.0136) 0.00238	(0.0136) 0.000886	(0.0148) 0.0310	-
Harar	(0.0184) 0.325***	(0.0183) 0.342***	(0.0215) -	0.212***
Dire Dawa	(0.0219) 0.0927***	(0.0215) 0.0966***	-	(0.0348) 0.0187
Addis Ababa	(0.0240) 0.148***	(0.0242) 0.150***	-	(0.0327) -
Constant	(0.0175) 9.050***	(0.0174) 9.250***	9.191***	9.268***
Observations	(0.0340) 21,542	(0.0329) 21,542	(0.0549) 9,375	(0.0374) 12,643
R-squared	0.254	0.233	0.154	0.241

Table 8.3 Determinants of poverty status

	(1) All	(2) Rural	(3) Urban
Household experienced a shock	0.000116 (0.0116)	-0.00290 (0.0132)	0.0289** (0.0145)
Household head is female	0.0398** (0.0157)	0.0408** (0.0203)	0.0305** (0.0145)
Logarithm of household size	0.352*** (0.0193)	0.372*** (0.0268)	0.277*** (0.0162)
Proportion of females 16-64	-0.0950** (0.0434)	-0.108* (0.0583)	-0.0720* (0.0370)
Proportion of females under 15	-0.0307 (0.0316)	-0.0241 (0.0381)	-0.0891*** (0.0336)
Proportion of females over 65	-0.00262 (0.0892)	-0.0439 (0.117)	0.0659 (0.0790)
Proportion of males under 15	-0.0241 (0.0325)	-0.0162 (0.0393)	-0.113*** (0.0340)
Proportion of males over 65	-0.0440 (0.0847)	-0.0888 (0.105)	0.278*** (0.0809)
Head completed primary education	-0.0723*** (0.0129)	-0.0691*** (0.0154)	-0.0983*** (0.0143)
Head completed secondary education	-0.188*** (0.0147)	-0.135*** (0.0446)	-0.238*** (0.0122)
Head has no formal but has informal education and can read	-0.0872*** (0.0240)	-0.0836*** (0.0275)	-0.125*** (0.0233)
Highest grade of any male household member	-0.00113 (0.00180)	-0.00248 (0.00240)	-0.00161 (0.00157)
Highest grade of any female household member	-0.00654*** (0.00195)	-0.00935*** (0.00278)	-0.00200 (0.00158)
Household owns land	-0.0175 (0.0175)	0.00777 (0.0479)	-0.0149 (0.0125)
Household has acquired land in the past 5 years	-0.0894*** (0.0231)	-0.0926*** (0.0282)	-0.0764*** (0.0250)
Household owns animals used for ploughing	-0.0947*** (0.0125)	-0.0977*** (0.0136)	
Household owns cattle	-0.0468*** (0.0136)	-0.0447*** (0.0156)	
Household owns sheep or goats	0.00998 (0.0123)	0.00855 (0.0134)	
Household owns chickens	-0.0388*** (0.0125)	-0.0432*** (0.0141)	
Household owns beehive	-0.0901* (0.0502)	-0.0893* (0.0536)	-0.163** (0.0773)
Tigray	0.0737*** (0.0183)	0.128*** (0.0218)	
Afar	0.0507** (0.0228)	0.0731*** (0.0276)	
Amhara	0.0462*** (0.0149)	0.0529*** (0.0168)	
Somali	-0.0369* (0.0197)	-0.0112 (0.0246)	
Benishangul-Gumuz	0.0211 (0.0220)	0.0363 (0.0252)	

Table 8.3 Determinants of poverty status...Continued

	(1) All	(2) Rural	(3) Urban
SNNP	-0.0205 (0.0134)	-0.0156 (0.0150)	
Gambella	0.00869 (0.0217)	0.0182 (0.0284)	
Harar	-0.194*** (0.0146)		-0.170*** (0.0185)
Dire Dawa	-0.0102 (0.0262)		0.0263 (0.0321)
Addis Ababa	0.0813*** (0.0202)		

Notes: Probit estimates. Marginal effects. Dependent variable is a dummy equal to one if the household is poor (as defined in earlier chapters). Population weights.

Table 8.4 Detailed impact of shocks on consumption

VARIABLES	(1) All	(2) Rural	(3) Urban
Household suffered death of member	-0.0686 (0.0559)	-0.0633 (0.0629)	-0.0908 (0.0563)
Household suffered illness of member	0.0396* (0.0218)	0.0514** (0.0242)	-0.0854** (0.0338)
Household suffered job loss of member	-0.133 (0.102)	-0.342* (0.178)	0.0507 (0.0698)
Household suffered food shortage	-0.100*** (0.0178)	-0.0783*** (0.0191)	-0.250*** (0.0313)
Household suffered from drought	-0.0238 (0.0253)	-0.0245 (0.0262)	
Household suffered from flood	-0.0555 (0.0378)	-0.0528 (0.0381)	
Household suffered from crop damage	-0.0493 (0.0402)	-0.0453 (0.0407)	
Household suffered from livestock shock	-0.0343 (0.0294)	-0.0375 (0.0301)	
Household suffered from price shock	0.0144 (0.0154)	0.0211 (0.0179)	-0.0562*** (0.0178)
R-squared	0.238	0.159	0.245

NB: Notes as in Table 8.2. Control variables included as in Table 8.2, but not reported here for space reasons.

Table 8.5 Detailed impact of shocks on poverty status, probit regressions

VARIABLES	(1) All	(2) Rural	(3) Urban
Household suffered death of member	0.0516 (0.0488)	0.0467 (0.0566)	0.0648 (0.0545)
Household suffered illness of member	-0.0451** (0.0200)	-0.0495** (0.0228)	-0.0248 (0.0253)
Household suffered job loss of member	0.0922 (0.0739)	0.172 (0.150)	0.0374 (0.0535)
Household suffered food shortage	0.0725*** (0.0184)	0.0682*** (0.0201)	0.147*** (0.0316)
Household suffered from drought	-0.0349 (0.0255)	-0.0345 (0.0272)	
Household suffered from flood	-0.00206 (0.0352)	0.00347 (0.0365)	
Household suffered from crop damage	-0.0214 (0.0337)	-0.0184 (0.0353)	
Household suffered from livestock shock	0.0259 (0.0287)	0.0290 (0.0303)	
Household suffered from price shock	-0.00757 (0.0148)	-0.00785 (0.0175)	-0.00836 (0.0167)

NB: Notes as in Table 8.3. Control variables included as in Table 8.3, but not reported here for space reasons.

CHAPTER 9

CONCLUSIONS AND RECOMMENDATIONS

This report has documented the impressive growth in consumption as well as the subsequent fall in poverty that has happened over the past fifteen years. The proportion of people living in poverty has almost halved in this period. In terms of non-monetary indicators of poverty, Ethiopia has achieved improvements

In real terms, per capita consumption has increased by 20 percent between 2004/5 and 2010/11. This change has happened both in rural and urban areas, though with urban areas seeing stronger growth, as is typical for an economy experiencing growth and urban development. Over this same period, the incidence of poverty fell quite substantially. Using a consumption-based measure of poverty, 29.6 percent of Ethiopians were poor in 2010/11 compared to 38.7 percent in 2004/05. Even incorporating population growth, this implies that there were fewer people living in poverty in total than there were in 2004/05. Registering substantial poverty reduction in times of such domestic and global crisis show the appropriate policies put in place and the capability of the Ethiopian Government to protect its vulnerable people from the economic crises.

However, despite the fact that the number of people living in poverty has fallen, there is still a worrying concern that the indicator of severe poverty did not fall since 2004/5, rather it increased. This means that the poorest of the poor are not significantly seeing the benefits of growth and government policies to reduce poverty. So the ongoing efforts must be consolidated in order to incorporate them into these.

It is also important to note that while the coverage of the surveys used in this report is widespread, it is not exhaustive. Specifically, the non-sedentary population of Afar and Somale – pastoralists – were not surveyed, neither were three zones in Afar, six zones in Somale region. To the extent that poverty of these groups is unknown, the results reported here may slightly over or understate the level of poverty in Ethiopia.

Results in this report confirm that the policy recommendations from the previous poverty report still hold: economic growth; human capital formation; increasing assets; increasing returns to assets; and reducing the malign effect of shocks are key to reducing poverty. Ethiopia benefits from a good ability to translate economic growth into poverty reduction, as shown by the high elasticity of poverty to growth rates, indicating that broad-based growth is still the key to continuing the mass reduction in poverty. In addition, however, there should be additional and much concerted efforts to identify those households that are suffering in both chronic and severe poverty. The report shows that such households are clearly not adequately benefiting from the increasing prosperity and poverty reduction that is happening in Ethiopia. This would mean careful analysis of what are the barriers to such households' participation both in economic growth and in the various schemes of poverty reduction and social protection.

In the previous report, it was identified that economic growth benefits the poor. In this report, we find that the extent to which this happens has increased over time. A one percent increase in

consumption can now translate into almost a two percent reduction in headcount poverty. Therefore policies and interventions that increased growth in the previous period have contributed to reducing poverty, and mainly in the rural areas.

In 2004/5 it was also reported that a rise in urban inequality had occurred. Because of the effective execution of the urban development policy after 2005, the rising trend of urban inequality has been reverted. The decline in income inequality in urban areas has resulted into a huge decline in poverty. Such positive developments in urban areas are because of the urban focused development activities carried out in the country including urban infrastructural development (road, private and condominium housing construction), promotion of labor intensive activities (use of cobblestone to construct urban roads), promotion of micro and small scale enterprises via the provision of training, credit and business development support, and the distribution of subsidized basic food items to urban poor in times of crisis over the past five years. However, again we note that the poorest households in urban areas are not experiencing a proportionate rise in income, and further, that shocks experienced by the urban poor are negatively impacting consumption. These two observations suggest that a careful vulnerability analysis of the urban poor is urgently needed, in order to understand the different issues facing both extreme chronic poor and vulnerable households in urban areas.

The poverty results indicate that absolute poverty in 2010/11 (compared to 2004/05) has declined over the past five years in all regions except Dire Dawa urban (where absolute poverty incidence increased by 6%). The poverty gap in 2010/11 also declined in all regions except in rural Afar, rural SNNP, Addis Ababa and urban Dire Dawa. Poverty severity also declined in 2010/11 in many of the regions including Tigray, Amhara, Benshangul-Gumuz, Harai, urban Afar, urban somale, and rural Dire Dawa, but poverty severity increased in rural Afar, Oromia, rural Somale, SNNP, Addis Ababa, and urban Dire Dawa.

\ This report underlines the importance of human capital that has been also emphasized in previous poverty reports. Encouragingly, across the whole country, the continued rise in the net enrolment rate in primary school between 1995/96 and 2004/05 has continued into 2011, and now over 60 percent of school age children are in primary school. The difference in primary enrolment rates that existed between boys and girls in 1995/96 had all but disappeared by 2004/05, and the balance is now if anything, slightly in favour of girls. The greatest disparities are between urban and rural areas, and continued investment in primary education in the rural areas should remain a priority.

However, despite the encouraging results in primary schooling, net enrolment rates in secondary education continue to be very low, especially in rural areas, and policies that encourage students to continue beyond primary school are key to increasing the stock of future human capital in Ethiopia. There has also been an increase in the literacy rate across both urban and rural areas, however rural women still continue to be the least advantaged in terms of this ability.

Preschool nutrition and its importance for subsequent schooling attainments was emphasized five years ago, and there have been impressive increases in nutrition of the under 5 population in Ethiopia. The prevalence of stunting in children aged 0-5 years declined from 51 percent in 2005 to 44 percent in 2011, using new improved international standards for nutritional achievement.

However, malnutrition remains relatively high by international standards, and progress must continue in order to give children, especially from poorer backgrounds, a better chance in life.

Complementary to nutrition is investments in water and sanitation facilities. Water and sanitation are key to improved health, especially for children, and allow children to consolidate their nutritional gains that lead to improved outcomes in later life. In this respect, there has been encouraging progress, especially in the rural areas. In rural areas 15 years ago, 90 percent of residents were drinking from unsafe sources. This proportion has fallen to 50 percent in fifteen years. This is still very high, and again, the realized gains must continue to improve this aspect of life in rural villages.

The returns to education continue to be higher in towns and cities than they are in rural areas. Thus, while asset formation and accumulation are important, so too will be continuing the policies and interventions already put in place that increase returns to those assets.

Finally, policies and interventions to offset the malign effects of shocks appear to be working. Shocks are still quite pervasive in Ethiopia, though have fallen substantially in the past six years. More than 40 percent of rural households and 29 percent of urban households reported experiencing at least one shock in 2004/5, and this has fallen to 35 and 26 percent respectively. As noted above, urban households appear to suffer more when a shock hits, especially the sharp food price increases in 2008 (and subsequently in 2011 after the results of this survey).

Since the 2004 WMS, there has been a significant expansion of government programmes to combat food insecurity. In 2005, Government of Ethiopia produced a Food Security Programme, a flagship of which was the Productive Safety Net Programme (PSNP). Over the past seven years the PSNP has expanded to cover 7 million Ethiopians. The PSNP is now the largest safety net programme in sub-Saharan Africa outside of South Africa. A careful examination of the regional effectiveness of this programme could be undertaken in order to understand why food poverty has increased in some regions of Ethiopia that should be benefitting from the PSNP coverage.

In summary, there have been significant reductions in the incidence of poverty since the beginning of monitoring in 1996. The trend in poverty reduction has accelerated over time. However, significant challenges remain. At 29.6 percent, poverty still remains unacceptably high and hence the broad-based economic growth strategy has to be sustained. Moreover, special attention must be paid as to how to more significantly engage the poorest of the poor into economic life, or into welfare programmes, as appropriate. The reductions in monetary poverty have been mirrored by improvements in non-monetary dimensions of wellbeing, especially in the rural areas. However, large disparities still remain between urban and rural areas, and efforts must continue for economic growth and development that can truly benefit the poor, including those at the very bottom of the distribution.

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APPENDIX

Appendix for chapter 2

Table A2.1. Spatial price index by reporting levels (national average=100)

Reporting level	Food	Non-food
Tigray Rural	1.03	0.98
Mekele	1.10	1.55
Other TigrayUrb	1.08	0.97
Afar Rural	1.01	0.90
Asayta Town	1.22	1.35
Other Afar Urban	1.16	0.98
Amhara Rural	0.98	0.77
Bahir Dar	1.05	1.41
Gonder	1.09	1.38
Dessie	1.07	1.47
Other AmharaUrb	1.06	1.56
Oromia Rural	0.98	0.90
DebreZeite	1.05	1.56
Jimma	1.02	1.38
Adama	1.10	1.44
Other OromiaUrb	1.18	1.14
Somali Rural	1.22	0.84
Jijjga	1.26	1.74
Other Somali Urb	1.28	1.19
BenshangulGumuz	0.92	0.95
Assosa	1.11	1.16
Other Benshangul	1.01	1.10
SNNP Rural	0.89	0.85
Awassa	1.09	1.68
Other SNNP Urban	1.02	1.21
Gambella Rural	1.04	0.99
Gambella	1.09	1.26
Other Gambella U	1.10	1.18
Harari Rural	1.16	1.14
Harari Urban	1.16	1.44
Arada	1.19	1.70
Addis Ketema	1.10	2.40
Lideta	1.24	1.86
Kirkos	1.22	1.86
Yeka	1.13	1.93
Bole	1.19	1.60
AkakiKaliti	1.11	1.81
Nefas Silk Lafto	1.18	1.82
KolfeKeranyo	1.12	1.86
Gulele	1.15	1.98
Dire Dawa Rural	1.08	0.95
Dire Dawa Urban	1.15	1.54

Source: HICES 2010/11

Table A2.2. Regional level spatial price index in 2010/11 (national average==100)

Region	Food	Non-food	Total
Tigray	1.047	1.021	1.034
Afar	1.069	0.947	1.021
Amhara	0.996	0.900	0.949
Oromia	1.010	0.951	0.981
Somali	1.231	0.962	1.132
B.G	0.941	0.976	0.958
SNNP	0.908	0.904	0.906
Gambella	1.059	1.072	1.065
Harari	1.160	1.308	1.227
A.A	1.158	1.869	1.554
Dire Dawa	1.132	1.388	1.245

Table A3: Price index for 2000 at 1996 constant price(example from previous work)

	June 1999	July 1999	January 2000	February 2000	Average price index
Country level					
General		116.2	108.9	110.1	111.7
Food		123.7	106.8	109.8	113.4
Addis Ababa					
General		108.7	102.8	105.0	105.5
Food		112.6	100.7	103.5	105.6
Nonfood ^a		104.8	105.3	106.7	105.6
Rural areas					
General		115.5	107.3	108.6	110.5
Food		123.2	105.6	108.7	112.5
Nonfood ^a		104.6	109.7	108.5	107.6
Other urban					
General		119.0	115.5	115.7	116.7
Food		125.8	111.8	114.1	117.2
Nonfood ^a		110.5	120.1	117.7	116.1

^a Aggregated using weights given by the CSA (Price Department).

Table A2.4: Consumer's price index for 2004/05 with year 2000 = 100

	General	Food	Nonfood
Country	125.7	135.1	106.1
Tigray	122.1	126.7	111.5
Somale	117.5	117.0	117.8
SNNP	116.1	120.4	108.5
Oromiya	132.3	143.5	113.6
Harari	120.8	120.2	119.6
Dire Dawa	112.9	114.0	110.2
Benishangul-			
Gumuz	139.9	163.0	110.1
Amhara	129.4	141.6	107.1
Afar	117.8	113.6	123.1

Addis Ababa	112.0	114.3	109.4
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Table A2.5: Nutritional (calorie) based equivalence scales

Years of age	Men	Female
0-1	0.33	0.33
1-2	0.46	0.46
2-3	0.54	0.54
3-5	0.62	0.62
5-7	0.74	0.70
7-10	0.84	0.72
10-12	0.88	0.78
12-14	0.96	0.84
14-16	1.06	0.86
16-18	1.14	0.86
18-30	1.04	0.80
30-60	1.00	0.82
60 plus	0.84	0.74

Source: Calculated from Dercon and Krishnan (1985).

Table A2.6. consumption basket used to compute food poverty line in 1995/96

	Kcal needed to get 2200 kcal	Gram per day per adult	Value in Birr/Gram	Value of poverty line per year	Expenditure share (%)
	KCAL_LEV	GRM_PD	(Birr/Gram)*365	VAL_POV	EXP_SHP
Cereals un-milled	302.8	87.17	0.65	56.38	8.46
Cereals milled	1153.58	338.2	0.84	282.75	40.84
Pulses un-milled	80.32	22.93	0.97	22.19	3.37
Pulses milled or split	82.75	23.96	1.90	45.51	7.15
Oil seeds	6.98	1.42	1.58	2.24	0.36
Cereals preparations	0.73	0.2	2.00	0.4	0.06
Bread and other prepared food	31.66	15.89	0.92	14.69	2.07
Meat	7.2	3.65	3.90	14.25	2.14
Fish	0.24	0.22	1.36	0.3	0.05
Milk, cheese and egg	15.5	18.06	0.90	16.25	2.03
Oils and fats	13.63	1.68	6.08	10.21	1.63
Vegetables	36.62	99.75	0.37	36.66	4.5
Fruits	1.27	2.45	1.08	2.64	0.24
Spices	23.38	7.88	5.02	39.57	5.83
Potatoes and other tubers	392.07	244.58	0.34	82.08	12.51
Coffee, tea and buck thorn leaves	22.36	18.76	2.34	43.81	6.62
Salt, sugar and others	28.93	16.21	1.01	16.32	2.12
Total	2200			686.26	100

Source: MoFED (2002);

Table A2.7. Consumption basket used to compute food poverty line in in 2010/11

	Kcal needed to get 2200 kcal	Gram per day per adult	KG per year per adult	Price in Birr per standard unit in 2010/11	Total value in Birr at 2010/11 average prices
Cereals un-milled	302.8	87.17	31.817	4.59	146.20
Cereals milled	1153.58	338.2	123.443	4.70	580.19
Pulses un-milled	80.32	22.93	8.369	7.43	62.21
Pulses milled or split	82.75	23.96	8.745	12.81	112.06
Oil seeds	6.98	1.42	0.518	11.58	6.00
Cereals preparations	0.73	0.2	0.073	14.73	1.08
Bread and other prepared food	31.66	15.89	5.800	3.06	17.75
Meat	7.2	3.65	1.332	40.79	54.34
Fish	0.24	0.22	0.080	12.80	1.03
Milk, cheese and egg	15.5	18.06	6.592	6.78	44.72
Oils and fats	13.63	1.68	0.613	38.12	23.37
Vegetables	36.62	99.75	36.409	10.35	376.93
Fruits	1.27	2.45	0.894	5.57	4.98
Spices	23.38	7.88	2.876	37.19	106.96
Potatoes and other tubers	392.07	244.58	89.272	2.26	201.38
Coffee, tea and buck thorn leaves	22.36	18.76	6.847	29.52	202.11
Salt, sugar and others	28.93	16.21	5.917	7.39	43.72
Total food poverty line	2200				1985

Dividing the food poverty line of 1985 by the food share of the lowest 25% of population (0.525) is given by 3781 Birr per adult per year

Table A2.8. Distribution of HICE sampling by region, place of residence and survey years

Region	1995/1996			1999/2000			2004/2005			2010/2011		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Tigray	426	360	786	564	688	1252	851	892	1743	1144	1146	2290
Afar	180	30	210	392	400	792	419	552	971	574	765	1339
Amhara	1878	1105	2983	1740	1600	3340	2029	1994	4023	2004	3058	5062
Oromiya	2436	1379	3815	1824	1904	3728	2325	2347	4672	2300	3449	5749
Somale	179	45	224	372	480	852	484	705	1189	575	1144	1719
B.G	180	30	210	516	400	916	537	559	1096	563	765	1328
SNNP	1690	210	1900	1872	768	2640	2000	1104	3104	2011	1912	3923
Gambella	180	30	210	360	384	744				575	767	1342
Harari	132	225	357	360	368	728	288	366	654	287	382	669
Addis Ababa	120	1125	1245	300	1200	1500	276	3187	3463	0	3741	3741
Dire Dawa	102	300	402	360	480	840	285	395	680	287	381	668
Total	7503	4839	12342	8660	8672	17332	9494	12101	21595	10320	17510	27830

Appendix to chapter 3

Table A3.1: Real per adult and per capita consumption expenditure in 2010/11 at 2010/11 constant prices

Reporting level	Real per capita food cons. Expend.	Real per capita non-food cons. Expend.	Real per capita total cons. Expend.	Real per adult food cons. Expend.	Real per adult non-food cons. Expend.	Real per adult total cons. Expend.	Food share
Tigray Rural	1937	2275	4213	2384	2801	5185	0.524
Mekele	3642	5880	9522	4298	6952	11250	0.377
Other TigrayUrb	2461	4437	6898	3018	5428	8446	0.449
Afar Rural	2388	1464	3852	2884	1765	4650	0.643
Asayta Town	3569	3393	6963	4131	3911	8042	0.529
Other Afar Urban	2831	3016	5847	3389	3609	6998	0.564
Amhara Rural	1905	2526	4431	2329	3086	5414	0.528
Bahir Dar	3184	4774	7958	3649	5428	9077	0.425
Gonder	2920	3216	6137	3487	3845	7332	0.482
Dessie	2981	3552	6532	3505	4166	7671	0.450
Other AmharaUrb	2755	3453	6208	3236	3994	7230	0.467
Oromia Rural	2076	2263	4339	2582	2805	5387	0.526
DebreZeite	3291	3615	6906	3888	4249	8136	0.470
Jimma	2911	3900	6811	3383	4537	7920	0.449
Adama	2864	4210	7073	3376	4957	8333	0.404
Other OromiaUrb	2456	3505	5961	2910	4130	7040	0.481
Somali Rural	2245	1808	4053	2806	2256	5062	0.650
Jijiga	3643	2237	5880	4442	2739	7181	0.546
Other Somali Urb	2745	1984	4729	3460	2499	5958	0.609
BenshangulGumuz	2082	2403	4485	2591	2978	5569	0.525
Assosa	2982	4051	7033	3467	4671	8138	0.491
Other Benshangul	2454	3993	6447	2958	4843	7801	0.463
SNNP Rural	2075	2216	4291	2585	2751	5336	0.531
Awassa	3061	3512	6574	3476	4003	7479	0.412
Other SNNP Urban	2709	3101	5810	3177	3630	6807	0.486
Gambella Rural	2244	1596	3839	2750	1942	4691	0.617
Gambella	3255	2819	6074	3849	3272	7121	0.545
Other Gambella U	2401	2356	4757	2889	2811	5700	0.540
Harari Rural	2671	1867	4538	3374	2357	5731	0.612
Harari Urban	3322	3282	6604	3931	3907	7838	0.512
Arada	3257	2567	5824	3787	2975	6762	0.535
Addis Ketema	3045	1317	4362	3518	1521	5039	0.549
Lideta	2245	1987	4232	2562	2273	4835	0.491
Kirkos	3240	2355	5596	3743	2721	6464	0.526
Yeka	2900	2455	5354	3406	2882	6289	0.435
Bole	2959	3636	6594	3452	4278	7730	0.417
AkakiKaliti	2696	2504	5200	3137	2906	6043	0.434
Nefas Silk Lafto	2787	3212	5999	3246	3743	6988	0.387
KolfeKeranyo	3324	3179	6503	3878	3679	7557	0.428
Gulele	2720	2279	4999	3194	2680	5874	0.454
Dire Dawa Rural	2312	1983	4295	2880	2463	5344	0.592
Dire Dawa Urban	2916	2016	4931	3457	2381	5838	0.560
Total	2151	2475	4626	2637	3022	5659	0.521

Source: HICE survey 2010/11; Number of observation=27830

Table A3.2. Per capita and per adult total calorie availability in 2010/11 by region and rural urban

Reporting level	Per capita total net calorie consumed	Per adult total net calorie consumed
Tigray Rural	2294	2821
Mekele	2534	2996
Other TigrayUrb	2247	2767
Afar Rural	2303	2775
Asayta Town	2725	3163
Other Afar Urban	2299	2769
Amhara Rural	2124	2599
Bahir Dar	2374	2721
Gonder	2220	2652
Dessie	2145	2520
Other AmharaUrb	2304	2724
Oromia Rural	2430	3022
DebreZeite	2327	2746
Jimma	2086	2443
Adama	2126	2513
Other OromiaUrb	2268	2704
Somali Rural	2311	2882
Jijjga	2409	2947
Other Somali Urb	2109	2654
Benshangul Gumuz	2483	3091
Assosa	2443	2844
Other Benshangul	2516	3053
SNNP Rural	2676	3332
Awassa	2401	2739
Other SNNP Urban	2477	2930
Gambella Rural	2663	3264
Gambella	2545	3055
Other Gambella U	1965	2401
Harari Rural	2714	3450
Harari Urban	2222	2645
Arada	2325	2694
Addis Ketema	2069	2391
Lideta	1834	2096
Kirkos	2260	2602
Yeka	2165	2546
Bole	2333	2721
AkakiKaliti	2143	2497
Nefas Silk Lafto	2137	2497
KolfeKeranyo	2301	2690
Gulele	2206	2581
Dire Dawa Rural	2612	3249
Dire Dawa Urban	2185	2608
Total	2381	2928

Source: HICE survey 2010/11; Number of observation=27830

Table A3.3: Trends in per adult food and non food consumption expenditure at 2010/11 constant prices

Region	Food				Non-food				Total (food+non food)			
	1996	2000	2005	2011	1996	2000	2005	2011	1996	2000	2005	2011
Rural												
Tigray	1755	2248	2099	2649	1415	863	1871	2760	3170	3111	3969	5409
Afar	2302	2100	2721	3015	1530	1604	1683	1597	3832	3704	4403	4613
Amhara	2206	3021	2231	2462	1252	1234	1789	2320	3457	4255	4020	4782
Oromiya	2880	3042	2740	2703	1768	1300	1882	2534	4648	4342	4622	5238
Somale	3229	2949	3289	3388	1608	1666	1387	1922	4837	4615	4675	5310
B.G	2397	2479	2317	2728	1407	1240	1877	2762	3804	3718	4194	5490
SNNP	2198	2051	2262	2292	1335	1601	2303	2256	3534	3652	4565	4548
Gambella	3253	2505	.	3093	1416	1164	.	1983	4669	3669	.	5076
Harari	4615	3737	3923	4115	2201	2060	2755	2688	6817	5796	6677	6803
AA	2261	2336	2572	.	1333	1596	2710	.	3594	3932	5283	.
DD	2633	2769	2498	3214	951	1124	1444	2320	3584	3893	3942	5534
Total	2462	2740	2455	2564	1494	1329	1946	2412	3956	4069	4402	4976
Urban												
Region	1996	2000	2005	2011	1996	2000	2005	2011	1996	2000	2005	2011
Tigray	2298	2014	2906	4052	1712	1769	5360	7117	4011	3783	8266	11169
Afar	5660	3206	3152	4183	3301	2683	3152	3725	8961	5890	6304	7908
Amhara	3518	3295	2530	3784	1629	2616	3551	6210	5147	5911	6081	9994
Oromiya	4023	2837	2979	3559	2213	2682	3792	4867	6236	5519	6771	8426
Somale	7328	3764	4125	4828	2308	2389	2192	3776	9635	6153	6317	8604
B.G	3950	3118	2959	3708	2204	2845	4106	5137	6154	5963	7066	8845
SNNP	2443	2282	2551	3512	2106	3061	4261	4660	4548	5343	6812	8172
Gambella	4260	3326	.	3674	1553	1781	.	3652	5813	5106	.	7327
Harari	3631	2860	3891	4672	2179	2480	3620	5535	5810	5341	7511	10208
AA	2861	2282	2525	4107	2060	2744	3852	5701	4920	5025	6377	9808
DD	2764	3059	3194	4122	2219	1917	3190	3599	4983	4977	6383	7720
Total	3348	2695	2765	3808	1995	2631	3895	5368	5343	5326	6661	9176
Total												
Region	1996	2000	2005	2011	1996	2000	2005	2011	1996	2000	2005	2011
Tigray	1837	2214	2241	2936	1460	998	2486	3650	3297	3211	4727	6586
Afar	3512	2422	2900	3353	2168	1918	2294	2213	5680	4340	5194	5566
Amhara	2367	3046	2259	2626	1298	1363	1956	2804	3665	4409	4215	5430
Oromiya	2996	3021	2764	2815	1813	1444	2077	2839	4809	4464	4841	5655
Somale	3686	3230	3561	3663	1686	1915	1649	2276	5372	5146	5210	5939
B.G	2490	2522	2391	2865	1454	1349	2135	3095	3944	3871	4526	5961
SNNP	2215	2067	2287	2420	1389	1702	2470	2507	3605	3769	4756	4926
Gambella	3688	2710	.	3279	1475	1318	.	2518	5164	4028	.	5797
Harari	4077	3264	3906	4379	2189	2287	3220	4035	6266	5550	7126	8414
AA	2849	2283	2525	4107	2046	2720	3838	5701	4895	5002	6364	9808
DD	2712	2974	2965	3829	1709	1685	2617	3187	4421	4659	5582	7016
Total	2586	2734	2499	2770	1564	1505	2223	2902	4150	4239	4722	5672

Source: HICE survey 1995/95, 1999/00 , 2004/05 and 2010/11

Appendix for chapter 5

Table A5.1: Trends of national and rural/urban poverty

	national			Rural			Urban		
	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂
1995/1996	0.455	0.129	0.051	0.475	0.134	0.053	0.332	0.099	0.041
1999/2000	0.442	0.119	0.045	0.454	0.122	0.046	0.369	0.101	0.039
2004/2005	0.387	0.083	0.027	0.393	0.085	0.027	0.351	0.077	0.026
2010/11	0.296	0.078	0.031	0.304	0.080	0.032	0.257	0.069	0.027
Percent Change									
1995/96-1999/00	-2.7	-7.7*	-12.2**	-4.3*	-8.9**	-12.9**	11.1	2	-7.1
1999/00-2004/05	-12.4***	-30.0***	-39.8***	-13.4***	-30.8***	-40.6***	-4.7	-23.6***	-33.5***
1995/96-2004/05	-14.8***	-35.4***	-47.1***	-17.1***	-37.0***	-48.3***	5.9	-22.1***	-38.2***
1995/96-2010/11	-35.0***	-39.2***	-39.4***	-36.1***	-40.1***	-40.4***	-22.7***	-30.1***	-33.4***
1999/00-2010/11	-33.0***	-34.1***	-31.4***	-33.1***	-34.2***	-31.3***	-30.5***	-31.5***	-30.0***
2004/05-2010/11	-23.5***	-5.5*	14.4***	-22.7***	-5.5 ^{ns}	17.0 ^{ns}	-26.9***	-10.1***	5.1 ^{ns}

*** Significant at 1 %; ** significant at 5 % * significant at 10 %, ns=Not significant

Table A5.2: Trends of national and rural/urban food poverty

	national			Rural			Urban		
	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂
1995/1996	0.495	0.146	0.06	0.516	0.152	0.062	0.365	0.107	0.044
1999/2000	0.419	0.107	0.039	0.411	0.103	0.038	0.467	0.127	0.047
2004/2005	0.38	0.12	0.049	0.385	0.121	0.049	0.353	0.117	0.048
2010/11	0.336	0.105	0.046	0.347	0.111	0.050	0.279	0.073	0.029
% Change									
1995/96-1999/20	-15.5***	-26.8***	-34.5***	-20.4***	-31.9***	-39.2***	28.0***	18.4**	6.8 ^{NS}
1999/00-2004/05	-9.2***	12.8***	24.5***	-6.5*	16.8***	29.0***	-24.5***	-8.0*	1.5 ^{NS}
1995/96-2004/05	-23.3***	-17.5***	-18.4***	-25.5***	-20.5***	-21.5***	-3.3	9 ^{NS}	8.4 ^{NS}
1995/96-2010/11	-32.2***	-28.1***	-22.5***	-32.8***	-26.8***	-19.3***	-23.6***	-31.4***	-34.9***
1999/00-2010/11	-19.9***	-1.8 ^{NS}	19.2***	-15.6***	8.1 ^{NS}	31.7***	-40.3***	-42.2***	-39.1***
2004/05-2010/11	-11.6***	-12.5***	-6.1 ^{NS}	-9.9***	-8.3 ^{NS}	2.0 ^{NS}	-21.0***	-37.6***	-39.6***

*** Significant at 1 %; ** significant at 5 % * significant at 10 %, NS=Not significant

Table A5.3: Trends of regional consumption poverty headcount indices

Region	1995/96			1999/2000			2004/05			2010/11		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Tigray	0.579	0.457	0.561	0.616	0.607	0.614	0.510	0.367	0.485	0.365	0.137	0.318
Afar	0.518	-	0.331	0.680	0.268	0.56	0.429	0.279	0.366	0.411	0.237	0.361
Amhara	0.567	0.373	0.543	0.429	0.311	0.418	0.404	0.378	0.401	0.307	0.292	0.305
Oromia	0.347	0.276	0.340	0.404	0.359	0.399	0.372	0.346	0.370	0.293	0.248	0.287
Somale	0.346	-	0.309	0.441	0.261	0.379	0.452	0.353	0.419	0.351	0.231	0.328
B.B.G	0.476	0.345	0.468	0.558	0.289	0.54	0.458	0.345	0.445	0.301	0.213	0.289
SNNP	0.565	0.459	0.558	0.517	0.402	0.509	0.382	0.383	0.382	0.300	0.258	0.296
Gamb.	0.418	0.244	0.343	0.546	0.384	0.505	Na	na	na	0.325	0.307	0.320
Harari	0.133	0.291	0.22	0.149	0.35	0.258	0.206	0.326	0.270	0.105	0.117	0.111
AA	0.404	0.300	0.302	0.271	0.362	0.361	0.299	0.326	0.325	...	0.281	0.281
DD	0.366	0.246	0.295	0.332	0.331	0.331	0.398	0.329	0.352	0.142	0.349	0.283
Total	0.475	0.332	0.455	0.454	0.369	0.442	0.393	0.351	0.387	0.304	0.257	0.296

Source: HICE survey of 1995/96, 1999/00, 2004/05 and 2010/11

Table A5.4: Trends of regional food consumption poverty headcount indices

Region	1995/96			1999/2000			2004/05			2010/11		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Tigray	0.675	0.501	0.649	0.517	0.647	0.537	0.48	0.412	0.468	0.402	0.249	0.371
Afar	0.521	0	0.333	0.635	0.289	0.534	0.436	0.331	0.392	0.339	0.281	0.322
Amhara	0.607	0.343	0.574	0.323	0.354	0.325	0.391	0.361	0.388	0.446	0.280	0.425
Oromiya	0.427	0.345	0.419	0.367	0.491	0.38	0.371	0.352	0.369	0.333	0.317	0.331
Somale	0.432	0	0.384	0.469	0.342	0.425	0.439	0.346	0.409	0.289	0.171	0.267
B.G	0.612	0.271	0.592	0.562	0.409	0.552	0.459	0.334	0.444	0.365	0.261	0.351
SNNP	0.521	0.463	0.517	0.548	0.541	0.547	0.369	0.379	0.37	0.258	0.271	0.259
Gambela	0.329	0.192	0.283	0.618	0.433	0.572	na	na	na	0.240	0.302	0.260
Harari	0.163	0.28	0.227	0.155	0.477	0.328	0.184	0.308	0.251	0.043	0.049	0.046
AA	0.387	0.365	0.366	0.359	0.478	0.475	0.316	0.324	0.324	--	0.261	0.261
DD	0.308	0.38	0.351	0.253	0.285	0.276	0.384	0.326	0.345	0.137	0.254	0.217
Total	0.516	0.365	0.495	0.411	0.467	0.419	0.385	0.353	0.38	0.347	0.279	0.336

Source: HICE survey of 1995/96, 1999/00, 2004/05 and 2010/11; na=not available

Table A5.5. Poverty indices by reporting level in 2010/11

Reporting Level	Consumption poverty			Food cons poverty			Calorie intake poverty		
	P0	P1	P2	P0	P1	P2	P0	P1	P2
Tigray Rural	0.365	0.089	0.031	0.402	0.120	0.049	0.450	0.054	0.013
Mekele	0.101	0.029	0.011	0.182	0.046	0.018	0.224	0.056	0.020
Other Tigray Urban	0.152	0.035	0.012	0.276	0.067	0.023	0.306	0.052	0.015
Afar Rural	0.411	0.116	0.044	0.339	0.095	0.039	0.337	0.109	0.047
Asayta Town	0.126	0.019	0.006	0.131	0.023	0.006	0.111	0.021	0.007
Other Afar Urban	0.254	0.057	0.018	0.304	0.070	0.023	0.279	0.075	0.028
Amhara Rural	0.307	0.073	0.025	0.446	0.130	0.053	0.484	0.079	0.023
Bahir Dar	0.145	0.038	0.017	0.245	0.055	0.020	0.274	0.073	0.027
Gonder	0.267	0.069	0.028	0.252	0.069	0.027	0.297	0.093	0.037
Dessie	0.202	0.049	0.016	0.252	0.055	0.019	0.266	0.094	0.040
Other Amhara Urban	0.313	0.087	0.035	0.289	0.075	0.028	0.314	0.072	0.025
Oromia Rural	0.293	0.076	0.029	0.333	0.107	0.048	0.385	0.052	0.016
DebreZeite	0.220	0.050	0.017	0.205	0.050	0.018	0.223	0.075	0.031
Jimma	0.260	0.063	0.023	0.259	0.069	0.024	0.369	0.119	0.050
Adama	0.194	0.039	0.012	0.297	0.056	0.015	0.293	0.098	0.041
Other Oromia Urban	0.253	0.073	0.030	0.325	0.096	0.042	0.313	0.073	0.026
Somali Rural	0.351	0.099	0.038	0.289	0.086	0.035	0.317	0.063	0.019
Jijga	0.155	0.029	0.008	0.091	0.012	0.003	0.154	0.043	0.017
Other Somali Urban	0.291	0.073	0.026	0.234	0.055	0.018	0.313	0.082	0.030
BenshangulGumuz Rural	0.301	0.085	0.032	0.365	0.111	0.046	0.375	0.038	0.008
Assosa	0.185	0.052	0.022	0.227	0.061	0.025	0.241	0.056	0.018
Other Benshangul Urban	0.222	0.062	0.025	0.272	0.092	0.045	0.272	0.051	0.017
SNNP Rural	0.300	0.093	0.043	0.258	0.101	0.054	0.205	0.041	0.013
Awassa	0.254	0.069	0.028	0.320	0.081	0.029	0.291	0.087	0.034
Other SNNP Urban	0.258	0.071	0.029	0.264	0.075	0.031	0.224	0.055	0.019
Gambella Rural	0.325	0.072	0.024	0.240	0.062	0.021	0.319	0.036	0.009
Gambella	0.169	0.051	0.022	0.153	0.042	0.017	0.305	0.063	0.025
Other Gambella Urban	0.423	0.191	0.102	0.427	0.174	0.089	0.459	0.130	0.048
Harari Rural	0.105	0.016	0.005	0.043	0.010	0.004	0.178	0.013	0.002
Harari Urban	0.117	0.020	0.005	0.049	0.009	0.002	0.290	0.059	0.017
Arada	0.282	0.094	0.039	0.233	0.058	0.020	0.216	0.087	0.040
Addis Ketema	0.468	0.147	0.062	0.306	0.072	0.023	0.341	0.139	0.063
Lideta	0.538	0.182	0.083	0.541	0.157	0.063	0.463	0.213	0.107
Kirkos	0.338	0.093	0.036	0.276	0.064	0.021	0.246	0.102	0.046
Yeka	0.278	0.060	0.017	0.260	0.059	0.020	0.265	0.106	0.048
Bole	0.144	0.032	0.009	0.209	0.036	0.009	0.185	0.066	0.028
AkakiKaliti	0.306	0.080	0.028	0.250	0.054	0.017	0.256	0.095	0.039
Nefas Silk Lafto	0.219	0.040	0.011	0.291	0.073	0.024	0.271	0.113	0.051
KolfeKeranyo	0.189	0.035	0.009	0.187	0.031	0.008	0.281	0.065	0.021
Gulele	0.266	0.065	0.023	0.203	0.044	0.013	0.223	0.074	0.029
Dire Dawa Rural	0.142	0.023	0.006	0.137	0.022	0.005	0.162	0.022	0.006
Dire Dawa Urban	0.349	0.089	0.033	0.254	0.057	0.021	0.261	0.088	0.037

Note: P0=poverty head count index; P1= poverty gap index; P2= squared poverty gap index

Table A5.6a: Poverty headcount, poverty gap, and poverty severity indices, by reporting level in 2004/05

	Reporting levels	P0	P1	P2
1	Tigray rural	0.51	0.104	0.032
2	Mekelle	0.344	0.06	0.015
3	Other Tigray urban	0.374	0.085	0.026
4	Afar rural	0.429	0.078	0.021
5	Asayta Town	0.177	0.038	0.016
6	Other Afar urban	0.295	0.064	0.025
7	Amhara rural	0.404	0.104	0.036
8	Bahir Dar	0.296	0.071	0.025
9	Gonder	0.353	0.095	0.035
10	Dessie	0.327	0.08	0.028
11	Other Amhara urban	0.393	0.1	0.038
12	Oromiya rural	0.372	0.075	0.024
13	DebreZeite	0.316	0.074	0.026
14	Jimma	0.316	0.084	0.031
15	Adama	0.3	0.074	0.026
16	Other Oromiya urban	0.351	0.08	0.027
17	Somale rural	0.452	0.099	0.03
18	Jigjga	0.316	0.062	0.02
19	Other Somale urban	0.383	0.092	0.032
20	Benishangul-Gumuz rural	0.458	0.106	0.035
21	Assosa	0.348	0.079	0.027
22	Other Benishangul-Gumuz urban	0.344	0.078	0.027
23	SNNP rural	0.382	0.071	0.022
24	Awassa	0.318	0.065	0.021
25	Other SNNP urban	0.392	0.081	0.025
26	Harari rural	0.206	0.033	0.007
27	Harari urban	0.326	0.071	0.02
28	Addis Ababa rural	0.299	0.052	0.012
29	Arada	0.377	0.075	0.022
30	Addis Ketema	0.359	0.075	0.026
31	Lideta	0.354	0.062	0.016
32	Kirkos	0.396	0.072	0.02
33	Yeka	0.312	0.063	0.02
34	Bole	0.153	0.021	0.005
35	AkakiKaliti	0.316	0.066	0.021
36	Nefas Silk Lafto	0.354	0.074	0.024
37	KolfeKeranyo	0.292	0.053	0.016
38	Gulele	0.34	0.07	0.022
39	Dire Dawa rural	0.398	0.063	0.015
40	Dire Dawa urban	0.329	0.065	0.018
	Ethiopia	0.387	0.083	0.027

Note: P0=poverty head count index; P1= poverty gap index; P2= squared poverty gap index

Table A5.6b: Poverty headcount, poverty gap, and severity indices, in percent

Name of zone	2004/2005			1999/2000			1995/1996		
	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂
WESTERN TIGRAY	39.4	8.1	2.5	63.7	21.3	9.2	76.3	30.7	15.4
CENTRAL TIGRAY	64.6	14.8	5.0	63.2	18.6	7.0	56.2	14.9	5.4
EASTERN TIGRAY	51.3	11.2	3.6	53.5	15.1	5.8	48.6	16.2	7.5
SOUTHERN TIGRAY	41.3	6.8	1.7	65.7	19.9	7.7	51.8	12.2	4.0
MEKELLE ZONE	34.4	6.0	1.5	42.8	12.4	4.8	46.5	13.7	5.4
AFAR_ZONE ONE	24.9	3.3	0.8	21.0	5.0	1.7	0.6	0.0	0.0
AFAR_ZONE THREE	44.3	9.7	3.4	66.7	17.0	5.7	66.9	21.3	8.8
AFAR_ZONE FIVE	0.0	0.0	0.0	91.8	39.5	20.5	25.3	5.0	1.7
NORTH GONDAR	34.4	8.9	3.2	29.9	6.6	2.3	47.7	11.3	3.9
SOUTH GONDAR	40.6	10.7	4.1	41.5	10.4	3.8	48.2	15.7	6.7
NORTH WELLO	52.8	12.4	4.1	44.4	10.4	3.5	58.3	18.4	7.8
SOUTH WELLO	26.0	5.1	1.4	41.0	9.5	3.1	64.5	20.2	8.4
NORTH SHOA	30.4	6.4	1.9	49.0	13.7	5.4	52.6	13.2	4.6
EAST GOJAM	38.9	10.6	3.6	35.9	10.0	3.8	53.0	15.9	6.5
WEST GOJAM	32.8	7.8	2.4	41.1	10.7	3.8	63.9	19.4	8.0
WAGHIMRA	54.8	15.5	5.6	34.8	7.6	2.4	58.1	17.2	6.6
AGEWAWI	57.3	16.4	5.9	57.5	15.2	5.3	81.9	31.1	14.8
OROMIYA ZONE	23.9	6.0	1.9	78.6	27.4	11.7	22.3	3.6	0.8
WEST WELLEGA	46.4	8.1	2.3	29.6	5.5	1.3	28.0	5.9	2.1
EAST WELLEGA	42.0	8.6	2.4	41.4	11.2	3.9	49.2	12.4	4.4
ILLUBABOR	49.5	10.1	3.0	39.7	11.3	4.9	37.7	10.2	3.5
JIMMA	25.7	4.4	1.3	45.2	12.2	4.8	44.5	11.2	4.4
WEST SHOA	38.7	6.9	2.0	28.5	6.7	2.3	35.5	8.3	2.7
NORTH SHOA	24.5	4.9	1.6	41.8	9.0	2.6	37.6	10.5	4.1
EAST SHOA	36.9	7.5	2.4	40.1	11.2	4.3	31.0	7.3	2.3
ARSSI	38.1	7.4	2.3	54.8	15.0	5.6	19.3	2.7	0.7
WEST HARARGHE	20.3	4.1	1.1	22.8	5.1	1.7	30.3	7.3	2.6
EAST HARARGHIE	28.8	5.5	1.7	37.6	7.7	2.1	13.0	2.7	0.9
BALE	39.6	8.6	2.7	46.5	13.5	5.5	42.8	10.8	4.0
BORENA	44.5	12.3	4.9	50.8	14.8	5.8	43.3	11.0	3.7
SHINILE	36.0	6.7	1.8	23.0	3.9	1.0	26.3	5.3	1.5
JIJIGA	39.8	7.7	2.2	42.7	9.1	3.0	33.8	7.8	2.7
LIBEN	56.5	16.2	6.2	28.9	7.2	2.7	12.2	1.2	0.2
METEKEL	46.5	10.3	3.4	58.6	20.9	9.8	49.2	15.7	6.6
ASOSSA	54.2	11.7	3.6	52.3	13.0	4.2	41.9	9.5	3.3
KEMASHI	34.1	8.3	2.9	49.9	12.9	4.6	78.0	28.8	13.8
GURAGHIE	31.6	5.3	1.4	53.8	15.8	6.3	56.2	18.1	7.7
HADIYA	37.3	4.4	1.3	46.8	13.1	4.7	55.1	15.3	5.7
KAMBATA ALABA TE	41.9	7.0	1.9	56.6	17.1	7.2	44.3	8.1	2.5
SIDAMA	27.9	4.3	1.4	39.5	8.1	2.4	42.4	10.9	3.6
GHEDIO	23.9	3.6	0.9	30.0	7.6	3.0	22.4	5.7	2.0
NORTH OMO	40.6	7.6	2.3	61.2	18.5	7.5	80.3	30.0	13.8
SOUTH OMO	58.4	13.8	5.0	72.7	29.7	14.5	60.6	20.3	8.7
KEFA-SHEKA	22.1	3.8	1.0	40.7	10.1	3.5	38.1	9.6	3.4
BENCH MAJI	39.5	7.6	2.3	43.7	11.6	4.0	62.2	19.9	8.5
YEM SPECIAL	43.0	6.0	1.6	51.4	11.0	3.3	41.7	9.5	2.4
AMARO SPECIAL	53.6	9.6	2.8	52.0	11.7	3.6	74.1	19.6	7.0
BURJI SPECIAL	50.2	8.5	2.1	82.2	31.1	14.2	74.3	19.4	6.3
KONSO SPECIAL	72.3	25.0	10.7	77.2	37.0	20.5	89.8	43.3	22.9
DERASHE SPECIAL	51.0	10.0	2.8	88.7	37.9	19.1	78.3	22.5	7.4
HARARI	31.2	6.4	1.7	25.8	5.0	1.5	22.0	5.0	1.6
AA_WOREDA 3_4_	35.3	7.4	2.2	45.1	10.4	3.5	44.9	12.9	5.1
AA_WOREDA 20_21	29.6	6.1	1.9	30.9	8.5	3.2	34.3	10.3	4.5
AA_WOREDA 17_18	28.0	4.9	1.5	30.2	7.7	2.7	25.7	7.3	2.9
AA_WOREDA 01_09	40.5	8.6	2.7	39.5	11.1	4.5	25.5	7.3	3.0
AA_WOREDA 2_7_	33.3	6.6	2.2	36.6	10.4	3.9	30.0	8.8	3.5
AA_WOREDA 26 AND	42.2	10.6	3.7	41.8	10.8	3.7	10.9	2.0	0.4
DIRE DAWA	34.8	6.2	1.6	33.1	7.7	2.5	29.5	6.8	2.4

Table A5.7 Percentile distribution of Consumption (2011 prices), by region and year

		Percentile								
		1st	5th	10th	25th	50th	75th	90th	95th	99th
Tigray	1995	873	1,196	1,659	2,154	2,891	4,012	5,386	6,632	9,111
	2000	1,119	1,417	1,643	2,066	2,767	3,754	5,021	6,075	10,402
	2005	1,452	1,870	2,126	2,583	3,322	5,107	7,869	11,619	21,972
	2011	1,667	2,222	2,655	3,574	4,991	7,013	10,895	15,296	29,690
Afar	1995	1,106	1,593	1,862	2,638	5,062	7,574	10,471	12,135	18,051
	2000	905	1,498	1,703	2,260	2,988	4,731	6,901	9,593	26,874
	2005	1,262	2,043	2,422	2,914	4,053	6,008	9,129	11,557	19,583
	2011	1,565	1,941	2,401	3,247	4,692	6,584	9,317	12,153	20,667
Amhara	1995	1,150	1,477	1,809	2,381	3,250	4,435	5,840	7,002	11,759
	2000	1,481	1,842	2,180	2,840	3,801	5,152	6,886	8,925	15,232
	2005	1,494	1,870	2,122	2,689	3,952	4,834	6,318	7,927	13,883
	2011	1,402	1,906	2,310	3,226	4,428	6,161	8,878	11,669	20,400
Oromiya	1995	1,569	2,056	2,402	3,136	4,191	5,644	7,615	8,975	14,962
	2000	1,390	1,970	2,358	2,983	3,991	5,294	6,903	8,448	12,477
	2005	1,596	2,154	2,494	3,161	4,292	5,615	7,351	8,887	15,612
	2011	1,351	2,001	2,506	3,516	4,923	6,660	9,171	11,723	19,739
Somali	1995	1,618	2,134	2,686	3,344	4,631	6,179	9,676	11,199	16,534
	2000	1,634	2,002	2,601	3,246	4,159	5,482	8,750	10,881	22,398
	2005	1,685	2,208	2,485	3,201	4,310	6,046	8,628	10,479	18,782
	2011	1,626	2,154	2,484	3,608	5,006	7,381	10,119	12,110	19,362
Bengahishul	1995	1,171	1,586	1,885	2,637	3,576	4,815	6,321	8,044	11,083
	2000	1,170	1,629	1,873	2,315	3,291	4,658	6,342	7,998	11,336
	2005	1,398	1,906	2,168	2,699	4,024	5,066	7,148	9,313	17,396
	2011	1,250	1,974	2,362	3,545	4,880	6,903	10,046	12,923	24,544
SNNP	1995	1,096	1,467	1,697	2,298	3,076	4,411	6,094	7,265	10,366
	2000	1,062	1,486	1,790	2,370	3,266	4,557	6,202	7,585	12,175
	2005	1,541	2,041	2,409	2,989	4,090	5,639	7,443	9,243	17,141
	2011	908	1,510	1,938	3,197	4,185	5,704	8,180	10,229	18,860
Harar	1995	1,905	2,418	2,805	3,664	5,250	7,715	11,798	14,025	17,808
	2000	1,951	2,446	2,767	3,513	4,837	6,787	9,045	10,929	14,823
	2005	2,112	2,534	2,859	3,416	5,992	8,488	12,323	16,660	26,488
	2011	3,116	3,971	4,334	5,462	6,945	9,321	13,531	17,258	33,119
A. Ababa	1995	1,019	1,527	1,863	2,603	3,994	6,212	9,087	11,198	16,596
	2000	1,241	1,553	1,855	2,412	3,466	5,790	9,476	13,410	24,262
	2005	1,391	1,854	2,086	2,751	4,512	6,955	10,756	14,976	32,166
	2011	2,239	3,062	3,707	5,357	7,944	12,087	17,653	22,008	37,474
Dire Dawa	1995	1,324	1,808	2,234	2,917	3,750	5,359	7,434	9,252	12,712
	2000	1,546	1,975	2,132	2,900	3,843	5,342	7,828	10,498	16,652
	2005	1,605	2,200	2,468	2,841	4,121	6,111	9,014	11,908	27,007
	2011	2,018	2,840	3,251	4,242	5,756	8,237	11,294	14,404	27,914

Notes: 2011 prices, expenditure per adult equivalent.

Table A5.8: Percent change on previous survey, by region

		Percentile								
		1st	5th	10th	25th	50th	75th	90th	95th	99th
Tigray										
	2000	0.28	0.19	-0.01	-0.04	-0.04	-0.06	-0.07	-0.08	0.14
	2005	0.30	0.32	0.29	0.25	0.20	0.36	0.57	0.91	1.11
	2011	0.15	0.19	0.25	0.38	0.50	0.37	0.38	0.32	0.35
Afar										
	2000	-0.18	-0.06	-0.09	-0.14	-0.41	-0.38	-0.34	-0.21	0.49
	2005	0.39	0.36	0.42	0.29	0.36	0.27	0.32	0.20	-0.27
	2011	0.24	-0.05	-0.01	0.11	0.16	0.10	0.02	0.05	0.06
Amhara										
	2000	0.29	0.25	0.21	0.19	0.17	0.16	0.18	0.27	0.30
	2005	0.01	0.02	-0.03	-0.05	0.04	-0.06	-0.08	-0.11	-0.09
	2011	-0.06	0.02	0.09	0.20	0.12	0.27	0.41	0.47	0.47
Oromiya										
	2000	-0.11	-0.04	-0.02	-0.05	-0.05	-0.06	-0.09	-0.06	-0.17
	2005	0.15	0.09	0.06	0.06	0.08	0.06	0.06	0.05	0.25
	2011	-0.15	-0.07	0.00	0.11	0.15	0.19	0.25	0.32	0.26
Somali										
	2000	0.01	-0.06	-0.03	-0.03	-0.10	-0.11	-0.10	-0.03	0.35
	2005	0.03	0.10	-0.04	-0.01	0.04	0.10	-0.01	-0.04	-0.16
	2011	-0.03	-0.02	0.00	0.13	0.16	0.22	0.17	0.16	0.03
Bengahishul										
	2000	0.00	0.03	-0.01	-0.12	-0.08	-0.03	0.00	-0.01	0.02
	2005	0.20	0.17	0.16	0.17	0.22	0.09	0.13	0.16	0.53
	2011	-0.11	0.04	0.09	0.31	0.21	0.36	0.41	0.39	0.41
SNNP										
	2000	-0.03	0.01	0.05	0.03	0.06	0.03	0.02	0.04	0.17
	2005	0.45	0.37	0.35	0.26	0.25	0.24	0.20	0.22	0.41
	2011	-0.41	-0.26	-0.20	0.07	0.02	0.01	0.10	0.11	0.10
Harar										
	2000	0.02	0.01	-0.01	-0.04	-0.08	-0.12	-0.23	-0.22	-0.17
	2005	0.08	0.04	0.03	-0.03	0.24	0.25	0.36	0.52	0.79
	2011	0.48	0.57	0.52	0.60	0.16	0.10	0.10	0.04	0.25
Addis Ababa										
	2000	0.22	0.02	0.00	-0.07	-0.13	-0.07	0.04	0.20	0.46
	2005	0.12	0.19	0.12	0.14	0.30	0.20	0.14	0.12	0.33
	2011	0.61	0.65	0.78	0.95	0.76	0.74	0.64	0.47	0.17
Dire Dawa										
	2000	0.17	0.09	-0.05	-0.01	0.03	0.00	0.05	0.13	0.31
	2005	0.04	0.11	0.16	-0.02	0.07	0.14	0.15	0.13	0.62
	2011	0.26	0.29	0.32	0.49	0.40	0.35	0.25	0.21	0.03

Appendix for chapter 6

Table A6.1: Poverty in male and female-headed households, by survey year and place of residence

			National		Rural		Urban	
Year	Type of poverty measure	Sex of head	Index	SE	Index	SE	Index	SE
1995/96	P0	Male-headed	0.461	0.012	0.477	0.013	0.329	0.026
		Female-headed	0.425	0.016	0.46	0.019	0.337	0.03
	P1	Male-headed	0.131	0.005	0.135	0.005	0.096	0.009
		Female-headed	0.123	0.006	0.129	0.007	0.106	0.013
	P2	Male-headed	0.051	0.002	0.053	0.003	0.039	0.004
		Female-headed	0.049	0.003	0.051	0.004	0.046	0.008
1999/2000	P0	Male-headed	0.444	0.013	0.455	0.014	0.339	0.02
		Female-headed	0.434	0.015	0.447	0.019	0.492	0.014
	P1	Male-headed	0.12	0.005	0.123	0.005	0.086	0.006
		Female-headed	0.115	0.006	0.118	0.007	0.134	0.006
	P2	Male-headed	0.045	0.002	0.046	0.003	0.03	0.003
		Female-headed	0.043	0.003	0.044	0.004	0.051	0.003
2004/2005	P0	Male-headed	0.399	0.01	0.406	0.011	0.341	0.01
		Female-headed	0.339	0.012	0.327	0.015	0.372	0.012
	P1	Male-headed	0.086	0.003	0.088	0.004	0.074	0.003
		Female-headed	0.072	0.004	0.068	0.005	0.084	0.004
	P2	Male-headed	0.028	0.001	0.028	0.002	0.024	0.001
		Female-headed	0.023	0.002	0.021	0.002	0.028	0.002
2010/11	P0	Male-headed	0.300	0.010	0.309	0.012	0.245	0.008
		Female-headed	0.277	0.012	0.275	0.017	0.282	0.010
	P1	Male-headed	0.080	0.004	0.082	0.004	0.066	0.003
		Female-headed	0.074	0.004	0.072	0.006	0.077	0.004
	P2	Male-headed	0.031	0.002	0.032	0.002	0.026	0.002
		Female-headed	0.029	0.002	0.029	0.003	0.031	0.002
Note: SE stands for standard error								

Table A6.2: Mean household size, by survey year, region, and place of residence

Region	1995/96				1999/2000				2004/05				2010/11		
	Rural	Urban	Total		Rural	Urban	Total		Rural	Urban	Total		Rural	Urban	Total
Tigray	5.0	4.5	4.9		4.8	4.2	4.7		4.8	3.9	4.6		4.9	3.6	4.6
Afar	4.2	4.3	4.3		4.9	3.7	4.5		5	3.8	4.4		5.0	3.6	4.5
Amhara	4.7	3.8	4.6		4.6	4.0	4.5		4.6	3.7	4.5		4.7	3.2	4.4
Oromiya	5.3	4.9	5.3		5.1	4.6	5.1		5.3	4.2	5.2		5.2	3.6	4.9
Somale	6.1	5.2	6		4.9	5.4	5.1		4.8	4.8	4.8		5.4	5.1	5.3
Benishangul-Gumuz	4.9	3.4	4.7		4.7	4.2	4.6		4.8	4	4.7		4.6	3.9	4.5
SNNP	5.1	5.3	5.1		5.1	4.8	5.1		4.8	4.6	4.8		5.3	4.0	5.1
Gambela	4.2	6.4	5		4.3	4.9	4.4						5.1	4.3	4.8
Harari	5.4	4.8	5.1		4.9	4.1	4.4		5.0	3.8	4.3		5.4	3.7	4.4
Addis Ababa	6.0	5.6	5.6		5.8	5.0	5.0		5.3	4.9	4.9		.	3.9	3.9
Dire Dawa	6.5	4.8	5.4		5.2	4.4	4.6		4.9	4.1	4.4		5.2	3.8	4.2
Total	5.1	4.7	5		4.9	4.6	4.9		4.9	4.3	4.8		5.1	3.7	4.8

Table A6.3: Mean adult equivalents, by survey year, region, and place of residence

Region	1995/96			1999/2000			2004/05			2010/11		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Tigray	4.1	3.7	4.1	3.7	3.4	3.7	3.9	3.2	3.8	4.0	2.9	3.7
Afar	3.6	3.7	3.7	3.9	3.1	3.6	4.1	3.2	3.7	4.2	3.0	3.8
Amhara	3.9	3.2	3.8	3.7	3.2	3.6	3.7	3.1	3.7	3.9	2.7	3.7
Oromiya	4.4	4.1	4.4	4	3.7	4	4.3	3.5	4.2	4.2	3.0	4.0
Somale	5	4.2	4.9	4	4.4	4.1	3.9	3.9	3.9	4.4	4.1	4.3
Benishangul-Gumuz	4.1	2.9	4	3.7	3.4	3.7	4	3.3	3.9	3.7	3.2	3.7
SNNP	4.2	4.4	4.3	4	3.9	4	3.9	3.8	3.9	4.3	3.4	4.2
Gambella										4.2	3.6	4.0
Harari	4.5	4	4.2	3.8	3.4	3.6	4	3.3	3.5	4.3	3.1	3.6
Addis Ababa	4.9	4.7	4.7	4.8	4.3	4.3	4.5	4.3	4.3	.	3.4	3.4
Dire Dawa	5.3	4.0	4.5	4.1	3.6	3.8	4	3.5	3.6	4.2	3.2	3.5
Total	4.2	3.9	4.2	3.9	3.8	3.9	4	3.6	3.9	4.1	3.1	3.9

Table A6.4: Poverty, by household size and survey year

Household size	1995/1996			1999/2000			2004/2005			2010/2011		
	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂
One	0.167	0.038	0.014	0.126	0.027	0.01	0.026	0.01	0.007	0.012	0.003	0.001
Two	0.209	0.056	0.022	0.198	0.043	0.014	0.058	0.01	0.003	0.068	0.012	0.004
Three	0.323	0.079	0.028	0.269	0.063	0.021	0.141	0.024	0.006	0.118	0.025	0.008
Four	0.368	0.106	0.042	0.338	0.084	0.03	0.219	0.039	0.011	0.182	0.036	0.011
Five	0.439	0.12	0.048	0.411	0.101	0.035	0.333	0.063	0.018	0.246	0.059	0.021
Six	0.454	0.129	0.051	0.491	0.126	0.047	0.436	0.092	0.028	0.329	0.082	0.030
Seven	0.509	0.153	0.064	0.549	0.152	0.057	0.515	0.109	0.034	0.368	0.099	0.040
Eight to 11	0.574	0.165	0.064	0.549	0.166	0.067	0.585	0.138	0.048	0.452	0.137	0.058
≥ 12	0.526	0.181	0.080	0.599	0.200	0.086	0.635	0.204	0.087	0.566	0.197	0.097

P₀ = headcount index, P₁ = normalized poverty gap, P₂ = squared poverty gap.

Source: HICE, 2010/11

Table A6.5: Poverty, by literacy, sex of head, place of residence, and survey year(1995/96-2010/11

Year	Index type		Rural		Urban		National	
		Education	Index	SE	Index	SE	Index	SE
1995/96	P0	Literate	0.384	0.018	0.235	0.019	0.344	0.015
		Illiterate	0.505	0.013	0.457	0.036	0.501	0.012
	P1	Literate	0.098	0.006	0.062	0.006	0.088	0.005
		Illiterate	0.146	0.005	0.148	0.015	0.146	0.005
	P2	Literate	0.036	0.003	0.024	0.003	0.033	0.002
		Illiterate	0.058	0.003	0.065	0.009	0.059	0.003
1999/2000	P0	Literate	0.338	0.019	0.279	0.013	0.322	0.014
		Illiterate	0.492	0.014	0.514	0.018	0.493	0.012
	P1	Literate	0.086	0.006	0.07	0.004	0.081	0.004
		Illiterate	0.134	0.005	0.151	0.008	0.135	0.005
	P2	Literate	0.03	0.002	0.025	0.001	0.028	0.002
		Illiterate	0.051	0.003	0.06	0.004	0.051	0.002
2004/2005	P0	Literate	0.369	0.014	0.287	0.009	0.348	0.011
		Illiterate	0.405	0.012	0.479	0.013	0.411	0.011
	P1	Literate	0.073	0.004	0.056	0.002	0.069	0.003
		Illiterate	0.09	0.004	0.118	0.005	0.092	0.004
	P2	Literate	0.022	0.002	0.017	0.001	0.021	0.001
		Illiterate	0.03	0.002	0.042	0.002	0.031	0.002
2010/11	P0	Literate	0.254	0.014	0.197	0.007	0.238	0.010
		Illiterate	0.333	0.012	0.406	0.013	0.339	0.011
	P1	Literate	0.063	0.005	0.048	0.002	0.059	0.003
		Illiterate	0.090	0.005	0.122	0.006	0.093	0.004
	P2	Literate	0.024	0.002	0.018	0.001	0.022	0.002
		Illiterate	0.036	0.002	0.051	0.003	0.037	0.002
% change	P0	Literate	-31.2		-31.4		-31.6	
		Illiterate	-17.8		-15.3		-17.6	
	P1	Literate	-13.5		-13.8		-14.4	
		Illiterate	0.3		3.0		1.0	
	P2	Literate	8.4		3.9		5.4	
		Illiterate	20.4		22.6		20.6	

Notes: P₀ = headcount index, P₁ = normalized poverty gap, P₂ = squared poverty gap, SE is standard error corrected for stratification and primary sampling units. The test statistics for the difference in poverty between literate and illiterate people is calculated as 12.20, which is greater than the absolute value of the Z-score (2.58) at 1 percent level of significance.