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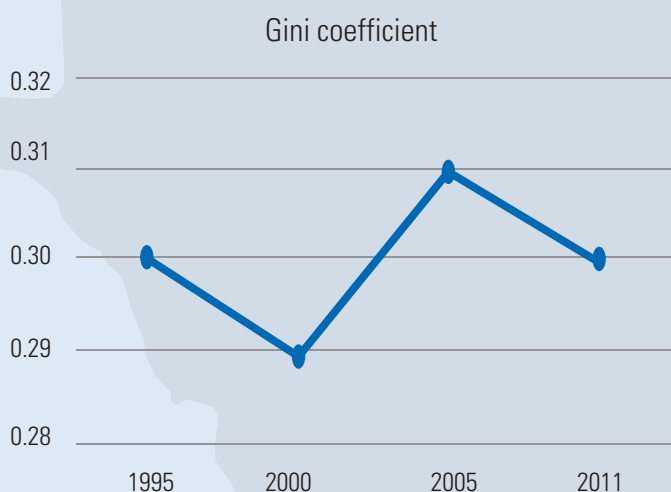
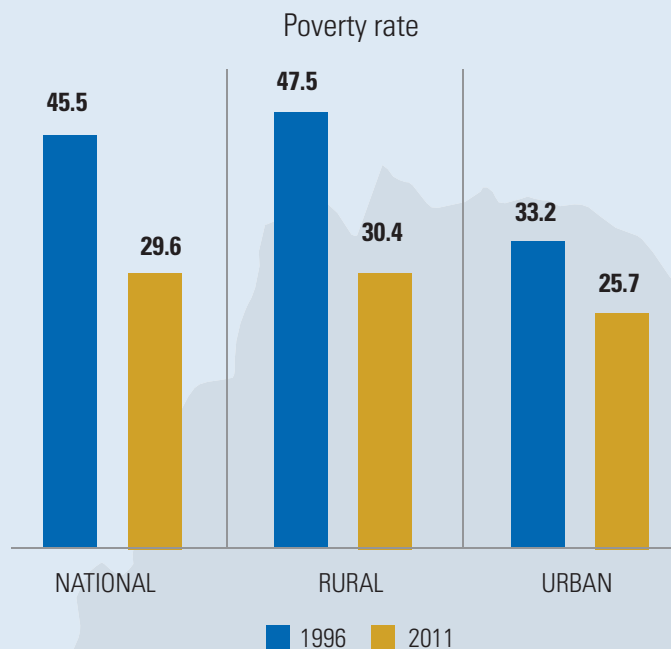
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## Ethiopia offers a good example of fast growth, rapid poverty reduction and stable inequality



### Rural inequality depends on differences in:

- 1 Access to land and irrigation, farm size and share of land** under extensive cultivation
- 2 The incidence of female-headed households, dependency rates and employment** in public sectors and rural manufacturing
- 3 Taxes, subsidies and public expenditure**

### Ethiopia offers useful policy lessons for other African countries facing low agricultural productivity, high population growth and weak distributive institutions:

- 1 Agricultural Development -Led Industrialisation – a strategy that modernized agriculture, opened up agricultural markets and invested in infrastructure** – made a significant contribution to the country's success.
- 2 The pattern of structural transformation focused on labour-intensive and less skill-intensive activities** had a moderate impact on inequality.
- 3 Policy research must focus on accelerating decline in fertility rate, reforming rental agricultural contracts and developing rural non-agricultural activities** including manufacturing.

# 13 Inequality and Growth in an Agricultural-led Development Model: The case of Ethiopia over 1995-2011<sup>1</sup>

GIOVANNI ANDREA CORNIA AND BRUNO MARTORANO

## 13.1 Background, motivation and objectives of the study

Ethiopia is a landlocked, multi-ethnic and ecologically diverse country of 1.1 million square kilometres, with a population of 99 million people growing at 2.5 per cent a year (UNDESA, 2015). The country occupies much of the Horn of Africa, a drought-prone area frequently affected by food crisis. Despite these structural handicaps, between 2000 and 2011, Ethiopia recorded GDP growth of 8.0 per cent, 6.0 per cent growth in agriculture, a rapid increase in cereal production, stable and low inequality, and declining poverty (table 13.1).

**TABLE 13.1** Changes in the poverty headcount ratio (PHR) and in its drivers over 1996-2011

	Poverty headcount ratio 1996 (%)	Poverty headcount ratio 2011 (%)	Total change in poverty headcount ratio (%)	Due to growth (%)	Due to changes in inequality (%)
All households	45.5	29.6	- 15.9	-16.0	0.0
Rural households	47.5	30.4	-17.1	-16.2	- 0.9
Urban households	33.2	25.7	- 7.5	-10.5	3.0

**Source:** Ministry of Finance and Economic Development of Ethiopia (2013).

One of the key ingredients for Ethiopia's success was the adoption in 1995 of Agricultural Development-Led Industrialisation (ADLI), which, as theorised by Ranis and Fei (1963), considers investments in agriculture and an increase in land yields to be preconditions for successful industrialisation, urbanisation and development. Indeed, investing in agriculture enhances food self-sufficiency; reduces food prices and, thus, lowers money wages in industry; raises rural incomes and the demand for manufactured goods; supplies raw materials to industry; and improves the balance of payments. In addition, in countries such as Ethiopia, characterised by egalitarian land distribution, it generates favourable distributive effects. At

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a later stage, ADLI was incorporated into the Sustainable Development and Poverty Reduction Programme (SDPRP), which also comprises long-term programmes in the health, education, road construction and other sectors.

The Ethiopian growth acceleration would not have taken place without a change in political orientation and development strategies. Indeed, the imperial regime that ruled the country until the coup by the Coordinating Committee of the Armed Forces, Police and Territorial Army (DERG) was characterised by high land concentration, stagnant growth and the exploitation of millions of impoverished tenants. In 1974, the DERG regime nationalised land, redistributed it to tillers and introduced policies inspired by the communist regimes of Eastern Europe. In 1991, the Ethiopian People's Revolutionary Democratic Front (EPRDF) ousted the DERG and adopted a new constitution, emphasising market liberalisation guided by a 'democratic developmental state' inspired by East Asia.

Many of the changes that have taken place in Ethiopia since 1995 are commendable. The Government promoted a market-led, State-assisted and regionally decentralised, agricultural-led model of development that modernised rural institutions, enhanced the diffusion of inputs and promoted crop diversification. It also adopted progressive tax and expenditure policies that improved rural infrastructure, social services and safety nets, and nearly completed the Renaissance Dam that, once in operation, will cover most of the country's energy needs. These results are impressive when considering that during prior decades, the country experienced severe political turmoil and, in 1984-1985, a famine that cost the lives of between half a million and a million people (Dercon and Porter, 2010). Despite these gains, during the last two decades, the production structure has evolved slowly while the people exiting agriculture found occupation mainly in non-tradeable, skill-intensive and high-inequality services or in the informal sector. Until 2011, employment in manufacturing increased slowly.

Given the above, this chapter documents and explains the evolution of consumption inequality over 1995-2011 to draw lessons for policymaking. Section 13.2 discusses rural and urban inequality trends. Given the importance of agriculture, Section 13.3 analyses the nature of rural institutions and agricultural policies, their impact on inequality and the limitation of the ADLI strategy. Section 13.4 discusses the impact of population growth and rural-urban migration on urban inequality and the redistributive effect of fiscal policy. Section 13.5 summarises the main findings and suggests areas for further research.

## **13.2 Trends in per capita consumption inequality**

Trends in total, rural and urban Gini coefficients of the distribution of household consumption per capita were computed on nationally representative Household Income and Consumption Expenditure Surveys (HICESs) conducted by the Central Statistical Agency of Ethiopia for 1995/96, 1999/2000, 2004/2005 and 2010/2011. For simplicity, the chapter refers to these years as 1995, 2000, 2005 and 2011. Due to the lack of income data in the 2011 survey, for all years, one must rely on consumption expenditure data. Where needed, the authors also used the Welfare Monitoring Survey (WMS), which provides information on non-income dimensions of household well-being.

The trends of the Gini coefficients of consumption inequality (henceforth, inequality) reported in table 13.2 show that national Gini oscillated within a narrow range of 0.29–0.31, while intra-regional inequality declined. These results are similar to those obtained by Woldehanna, Hoddinott and Dercon (2008), the Ministry of Finance and Economic Development of Ethiopia (2013) and the World Bank (2015). Given the rapid growth recorded during the period analysed, the stability of inequality at a low level and the decline of regional inequality are a positive achievement. This contradicts the literature on the unavoidably unequalising changes recorded during the early phases of development (Hirschman, 1958).

**TABLE 13.2** Trend in Gini coefficient of consumption per capita

	1995			2000			2005			2011		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Tigray	0.26	0.29	0.25	0.27	0.35	0.26	0.37	0.49	0.30	0.35	0.38	0.30
Afara	0.34	0.21	0.31	0.41	0.35	0.40	0.34	0.38	0.29	0.31	0.35	0.26
Amahara	0.28	0.35	0.26	0.29	0.37	0.27	0.28	0.40	0.25	0.30	0.43	0.27
Oromiya	0.28	0.34	0.27	0.26	0.35	0.25	0.28	0.44	0.25	0.29	0.38	0.27
Somali	0.27	0.22	0.25	0.31	0.35	0.27	0.32	0.37	0.28	0.29	0.31	0.28
Benshangul	0.27	0.32	0.25	0.30	0.34	0.29	0.32	0.45	0.28	0.33	0.39	0.31
SNNP	0.29	0.33	0.29	0.27	0.36	0.26	0.29	0.41	0.27	0.31	0.37	0.29
Gambella	0.31	0.25	0.32	0.27	0.34	0.23				0.30	0.40	0.22
Harari	0.33	0.33	0.31	0.27	0.30	0.23	0.37	0.41	0.30	0.28	0.32	0.20
Addis Ababa	0.36	0.36	0.27	0.43	0.43	0.24	0.45	0.45	0.33	0.34	0.34	
Dire Dawa	0.30	0.30	0.23	0.31	0.34	0.23	0.41	0.45	0.24	0.30	0.35	0.1
<b>National</b>	<b>0.30</b>	<b>0.35</b>	<b>0.27</b>	<b>0.29</b>	<b>0.38</b>	<b>0.26</b>	<b>0.31</b>	<b>0.44</b>	<b>0.26</b>	<b>0.30</b>	<b>0.38</b>	<b>0.28</b>

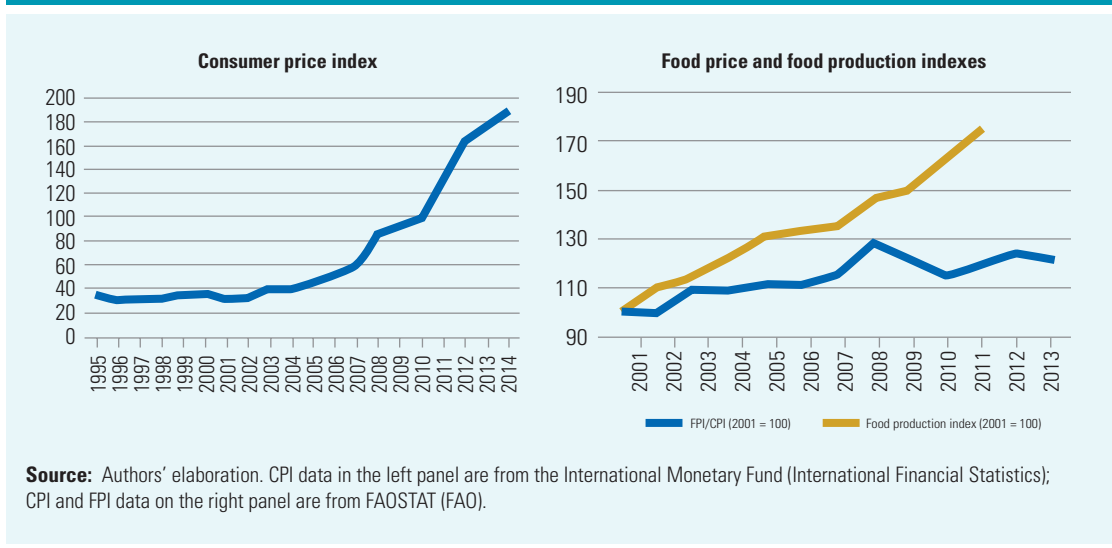
**Source:** Authors' calculation based on microdata from the HICES for the four relevant years.

However, the stability of nationwide inequality in table 13.2 conceals more than it reveals. First, regional inequality trends diverged to some extent. While most regions generally recorded stable Gini coefficients, inequality rose in Tigray and Benshangul, possibly because of their faster than average GDP growth. This divergence was due not only to differences in initial GDP per capita (GDP/c), factor endowments and infrastructure, but also to the cultural norms and lifestyles of specific groups (e.g. the pastoralists) that preclude them from accessing public services (UNDP Ethiopia, 2014). Second, the urban and rural Gini coefficients followed different paths. The rural Gini fluctuated around 0.26–0.28 for the entire period. In contrast, the urban Gini rose sharply between 1995 and 2005, and fell during the subsequent six years. Given this difference in urban and rural inequality, the chapter analyses the two sectors separately. Finally, the declining value of the regression parameter of the 'female-headed household' variable in table 13.7 seems to suggest that gender inequality may have diminished slightly. A gender bias reduction is an essential component of any future strategy aiming at lowering overall and group inequality.

The Gini data in table 13.2 were computed on the HICESs, which, like all surveys, are affected by measurement problems. They must, therefore, be interpreted with caution and adjusted for possible

biases. The first of these problems is the rapid increase in inflation (Alem and Söderbom, 2011) since 2006-2007 (figure 13.1, left panel) that likely affected the 2011 Gini values relative to those of low-inflation 2000 and 2005. Indeed, the higher the inflation, the higher the measurement error involved and the lower the precision of the comparison with prior surveys. Another error is due to the 2001-2008 rise of the ratio between the Food Price Index (FPI) and the Consumer Price Index (CPI) (figure 13.1, right panel). As discussed in Günther and Grimm (2007) and in Chapter 15, an increase of this ratio raises the ‘food price-adjusted Gini coefficient’, since the poor, who allocate 60.0-80.0 per cent of their spending to food, suffer a more than proportional decline in purchasing power. An estimate of the food price-adjusted Gini based on the HICES 2011 quintile distribution of consumption expenditure, assuming ‘food consumption shares’ of 0.7, 0.6, 0.5, 0.4 and 0.3 from the bottom to the top quintile, yields a Gini index 1.2 points higher than the uncorrected one.

**FIGURE 13.1** Trend in CPI, 1995-2014 (left panel); and Trend in the FPI/CPI ratio and food production index per capita (2001=100), 2001-2013 (right panel)



Finally, as noted by Stifel and Woldehanna (2014), the data collection methods used in the various HICES differ to some degree and cause comparability problems. Further, the number of food items recorded differs from survey to survey, while the level of reported consumption rises with the degree of detail of the list of consumption items. Second, the surveys were conducted in different months, thereby introducing a seasonality bias that is likely to increase inequality if the surveys are taken during the lean season.

## 13.3 Rural institutions and policies and their impact on growth and inequality

### 13.3.1 Rural institutions and policies and rural inequality

Rural policies and institutions changed considerably over the last 50 years. Prior to the 1974 DERG coup, Ethiopia had an archaic land tenure system that benefitted the crown, the nobility and the

Coptic Church. After coming to power in 1975, the DERG junta nationalised all rural land, abolished tenancy, forbade the hiring of wage labour on private farms, placed commercial farms under state control and granted each peasant family ‘possessing rights’ to a plot of land not to exceed 10 hectares.

The DERG land reform changed landowning patterns in favour of small landowners. Yet, the socialist agriculture they put in place reduced land productivity due to shortages of inputs, while farmers withheld grain deliveries to state agencies, thus causing food shortages in urban areas. Finally, the recurrent land redistributions instituted by the DERG increased land fragmentation, raised tenancy insecurity and affected farmers’ incentives to invest in the land.

When the EPRDF came to power in 1991, most DERG agricultural policies were abandoned. While the land reform was not revoked, the Government introduced free market reforms during 1992–1995 that sought to boost cereal yields to the level of neighbouring countries’ (Rashid and Negassa, 2012). Public investments in agriculture, rural infrastructure, health and education were also central elements of the new strategy. For instance, in 2005, the Government introduced the rural Productive Safety Net Programme (PSNP) costing 1.2 per cent of GDP, which reduced rural poverty by two percentage points.

The overall policy drive focused on promoting the commercialisation of the output of small-scale farmers and a shift of labour from the agricultural to the non-agriculture sector to reduce pressure on farm size. This approach favoured the entry of the private sector into the input and output markets. In addition, the Constitution of 1995 transferred to regional governments the responsibility for drafting laws on land rights, transferability and taxation (Sciarra, 2013). For instance, Tigray ended land redistribution and Oromia restricted it to lands with irrigation potential (*ibid.*). In 2005, the central government encouraged land certification to reduce perceived land insecurity and promote access to credit. An impact evaluation of the Tigray land certification found significant effects on investment (Deininger et al., 2003). Moreover, within the context of the ADLI strategy, the Government undertook several initiatives to increase cereal production by increasing the use of fertilizers, improved seeds provided by a state-run extension system and increased access to credit. Other measures included building farm-to-market roads, developing rural credit and increasing irrigated area through multi-purpose dams (Sciarra, 2013). These policy changes raised the use of fertilizers and improved seeds, with maize leading the progress, although the percentage of irrigated land increased only marginally (table 13.3).

In turn, the stock of roads increased at an annual rate of over 9.0 per cent, *i.e.*, much faster than during the prior regimes (table 13.4). The improvement of road infrastructure was key for agricultural growth and poverty reduction because it reduced remoteness, integrated markets and cut marketing

**TABLE 13.3** Trends in the use of modern inputs and price incentives

	2002	2005	2010	2012
Fertilizer consumption (kilograms per hectare of arable land)	17.0	10.9	21.8	23.8
Agricultural irrigated land (% of total agricultural land)	0.3	0.4	0.4	0.5*

**Source:** Data extracted from WDI.

**Note:** \* refers to 2011.

costs (World Bank, 2015). Yet, this progress is still unsatisfactory because Ethiopia's 'rural access index' is still the lowest in East Africa and cross-regional road density varies considerably.

**TABLE 13.4** Trend in measures of road density and rural access

	Road density per 1 000 people	Road density per 1 000 km <sup>2</sup>	Total road length (km)
1997	0.46	24.14	26,550
2003	0.49	35.89	33,856
2009	0.57	42.60	46,812
2012/13	1.00	78.20	85,966

**Source:** Sciarra (2013) and the Ethiopian Road Authority for 2012/13.

### 13.3.2 Impact of policy changes on agricultural growth and rural inequality

While agricultural growth per capita declined during the monarchy and DERG regimes, it has risen since the mid-1990s (table 13.5), suggesting that the agricultural policies adopted since 1995 have had a positive impact. In particular, the increase in food production reduced the 'food gap', a rough measure of food dependence calculated by assuming an average requirement per capita of 220 kg of cereals per year. After an increase during the imperial and DERG era, the food gap decreased from the mid-1990s and, by 2010, the country reached aggregate food self-sufficiency, although it did not eliminate malnutrition due to distributive problems.

**TABLE 13.5** Trend in main economic and agricultural aggregates

	1995-1997	1998-1999	2000-2001	2002-2003	2004-2008	2009-2013
GDP per capita growth rate	3.9	-2.0	4.2	-3.2	8.9	7.5
Agriculture, value added growth rate	7.6	-3.1	6.4	-6.2	12.7	6.4
Food Production Index (2004-2006 = 100)	63.3	65.0	73.1	86.2	108.1	138.1
Crop Production Index (2004-2006 = 100)	69.3	68.1	77.5	80.2	104.3	144.7
Cereal imports as a % of production	5.6	8.3	14.3	15.0	7.5	9.6
Value of agricultural exports (growth rate)	16.3	-16.1	-22.8	54.4	24.7	18.5

**Source:** Authors' compilations on WDI and FAOSTAT.

Another important result of the ADLI strategy was a balanced pattern of regional growth. In view of the heterogeneity of the country's soil quality, precipitation and road infrastructure, it was plausible to expect an increase in regional inequality. However, the changes over time of the variance of regional consumption per capita – 0.007 in 1995 and 0.005 in 2011 – suggest a moderate decline in spatial inequality. While the richest regions (Addis Ababa and Harari) remained on top, the Spearman's index of rank correlation between 1995 and 2011 is very low ( $\rho = 0.0957$ ). Indeed, growth was often faster in regions where poverty was highest in 1995, as in Tigray and SNPP. Consequently, by



2011, the proportion of the population living below the national poverty line converged in nearly all regions to levels of around 30.0 per cent.

### ***13.3.3 Limitations of the Agricultural Development-Led Industrialisation (ADLI) approach to rural policy***

The country faces a crucial dilemma. In most regions, farm size is already too small to support a family and the new entrants in the labour force. Yet, the norms on land ownership (i.e., land is confiscated if people migrate, rent it or do not cultivate it) discourage migration, which at the same time has become unavoidable because of the decline in farm size and limited development of rural non-agricultural activities (RNAA). The latter represent the main source of income for only 11.0–14.0 per cent of the rural population, while another 11.0 per cent earn a quarter of their income in this sector. These values are small in comparison to other African countries, where RNAA account on average for 34.0 per cent of rural earnings (Haggbalde et al., 2010, cited in World Bank, 2015), with much higher values in countries characterised by acute land scarcity, such as Rwanda.

The ADLI model thus needs to promote a faster development of RNAA, together with greater capital accumulation in labour-intensive urban activities. Local surveys corroborate this statement. A recent survey in Damot Galie *woreda* (district) (Gebeyehu, 2014) showed that due to land scarcity, the majority of respondents had one or more family members engaged in RNAA, 84.0 per cent of whom in low-productivity petty trade or salaried employment. Except for government employees, all heads of households working in RNAA held, on average, 0.13–0.5 hectares of land, a value that will worsen due to population growth and the obstacles to urban migration in terms of loss of land, family disruptions and personal insecurity. Rural small- and medium-sized enterprises (SMEs) in manufacturing and services are rare, whereas they played a key role in the structural transformation of Viet Nam and China in the 1980s and 1990s. Greater availability of vocational centres providing training in new skills would encourage a shift to more complex activities (ibid.). There are also problems in accessing credit, since most microcredit institutions lend money to groups, rather than individuals. In remote areas, in particular, weak infrastructure remains a problem, together with lack of electricity and water for firms engaging in wood- and metal-working and in bakeries, i.e., products for which there is a local market (Gebeyehu, 2014).

## **13.4 Determinants of inequality changes**

### ***13.4.1 Determinants of rural poverty and inequality***

The land reform of 1975 and its subsequent modifications drastically reduced land concentration and rural inequality. Rural poverty declined twice as fast as urban poverty (table 13.6), but is still high for the reasons illustrated above. Output fluctuations due to drought also remain a problem. While Ethiopian poverty is, largely, a ‘shared poverty’ affecting many households, the risk of poverty varies according to household characteristics. The main sources of rural differentiation are discussed below on the basis of the relevant literature and econometric analyses of the HICES 1995, 2000, 2005 and 2011.

Regassa et al. (2010) analysed the determinants of rural poverty using an ad hoc 2005/06 survey covering 1,024 households. While the study aims at measuring the impact of irrigation, it also provides an overall picture of the determinants of rural poverty and inequality. As expected, the incidence of

**TABLE 13.6** Trends in poverty headcount ratio

	1995	2000	2005	2011	Δ 1995-2011
Total (based on national poverty line)	45.5	44.2	38.7	29.6	15.9
Urban	33.2	36.9	35.1	25.7	7.9
Rural	47.6	45.4	39.3	30.4	17.2
Total (based on USD\$1.25 a day poverty line)	60.5	55.6	39.0	30.7	29.8

**Source:** World Bank (2015), based on HICES, various years.

poverty varied in relation to farm size, ownership of large livestock, human capital of household heads and cropping patterns. In relation to the latter, poverty was the lowest among farmers allocating 75.0-100.0 per cent of their land to high value added, labour-intensive and irrigation-dependent vegetables, and the highest among those allocating most of their land to extensive culture such as cereals, tubers and fruits (ibid.). Household size and dependency ratio also correlated positively with poverty incidence that rose with the age of the household head, reflecting differences in education across cohorts. Access to irrigation and proximity to markets were also relevant. The Ethiopia Poverty Assessment 2014 (World Bank, 2015) came to similar conclusions, but also showed that poor heads of household were less likely to work in construction, social services, trade and commerce, and frequently experienced a household death and serious illness.

Turning to the econometric analysis of the determinants of rural inequality and their changing impact over 1995–2011, two types of decompositions are carried out using the four HICES mentioned above. With the first approach, household consumption per capita is considered a function of several household characteristics, many of which were discussed above. In this regard, Morduch and Sicular (2002) and Fields (2003) propose to decompose total household consumption per capita on the basis of key household characteristics. In particular, total household consumption per capita ( $C$ ) is regressed on a set of socioeconomic characteristics ( $X_i$ ) the parameters of which are  $a_i$ . Formally:

$$C = \sum_{i=1}^I a_i X_i \quad (1)$$

while the contribution of the  $i$ -th socioeconomic characteristic to total consumption inequality is given by:

$$s_m = (\hat{a}_i \sum_{b=1}^H b_b(c) x_{b,i}) / I(C) \quad (2)$$

where  $\hat{a}_i$  is the estimated parameter of the  $i$ -th economic characteristic,  $\sum_{b=1}^H b_b(c)$  defines the weights,  $x_{b,i}$  are the characteristics attributable to the household  $b$ , and  $I(C)$  refers to total rural consumption inequality. This approach involves, first, regressing a number of household characteristics on the distribution of household consumption per capita for 1995, 2000, 2005 and 2011. It is then possible to compute the relative contribution of these characteristics to total consumption inequality. Finally, by comparing over time the size and sign of the estimated regression parameters and their relative contribution to total consumption inequality, it is possible to identify whether the determinants of rural consumption inequality increased or decreased in importance.

With the second approach, as in Rao (1969), the Gini of total rural consumption per capita  $G_t$  was decomposed into the concentration coefficients  $C_{it}$  of rural consumption per capita of households whose heads work in sector  $i$  (agriculture, manufacturing, services, etc.). The Gini of total rural

consumption per capita is equal to the sum of sectors  $i$  concentration coefficients of inequality of sectoral consumption per capita weighted by the share of sector  $i$  consumption  $s_{it}$  in the total, i.e.,:

$$Gt = \sum s_{it} C_{it} \quad \text{with } \sum s_{it} = 1 \quad (3)$$

The contribution of sector  $i$  to total consumption inequality at time  $t$  is  $s_{it} C_{it}$ .

The results derived from equation (3) are presented from the regression-based decomposition of rural consumption inequality based on the 11 household characteristics listed in table 13.7. The interpretation of these results must take into account the stability, broadly speaking, of rural inequality during the period analysed. Changes in the parameters of the household characteristics and their relative contributions thus reflect moderate and mutually offsetting shifts in their importance over time. As in 1995, there were no data on rural assets, so the analysis focuses only on 2000–2011.

Table 13.7 first shows that the unexplained residual has risen over time. This indicates that the household characteristics used in regression are significant, but explain a declining share of rural inequality. As regards the part of variance explained, the most important determinants of rural inequality are the employment of the household's head in public administration, commerce and, to some degree, rural manufacturing. The contribution of the dependency rate is high and stable. In turn, characteristics that had an important effect in 2000 (e.g. the ownership of land and large livestock, and primary and secondary education) explain a smaller share of rural inequality in 2011, possibly due to declining farm size, recurrent land redistribution and a substantial increase in elementary and secondary education during the 2000s. In turn, employment in agriculture has a visible equalising effect, due to the egalitarian land distribution and expansion of government extension systems. As

**TABLE 13.7** Regression-based decomposition of changes in rural consumption inequality, 1995–2011

Rural areas	1995	2000	2005	2011	1995	2000	2005	2011
	Regression parameters				Relative contribution to inequality			
Female head of household	449.2	81.6	113.4	38.3	0.068	0.027	0.039	0.017
Dependency rate	3.5 ^	-45.9	-57.6	-0.4	0.003	0.119	0.124	0.109
Ownership of land (yes or no)	....	386.6	309.7	47.8	....	0.046	0.054	0.024
Ownership of large livestock	....	8.2	0.1^	0.8^	....	0.059	0.000	0.001
Primary education of household head	241.6	76.6	76.1	38.7	0.089	0.058	0.046	0.017
Secondary education of household head	489.9	186.9	199.3	52.6	0.023	0.019	0.016	0.005
Tertiary education of household head	625.0*	524.9	641.4	43.9	0.001	0.011	0.018	0.002
Household head works in agriculture	874.0	64.8	296.4	435.7	0.145	0.01	0.031	-0.102
Household head works in manufacturing	647.8	137.2	391.1	490.9	-0.003	0.004	0.015	0.023
Household head works in pub. admin.	991.5	252.5	401.5	573.4	0.137	0.012	0.024	0.104
Household head works in commerce	691.7	40.6	506.0	581.7	0.015	-0.001	0.043	0.099
Unexplained residual			N/A		0.523	0.635	0.589	0.702

**Source:** Authors' elaboration on HICES and WMS.

**Note:** All parameters are significant at the 1% level unless otherwise indicated; \* significant at the 10% level; ^ not significant.

expected, given the low-tech jobs available in rural areas, secondary education (in 2011) and tertiary education explain a small part of rural inequality. In contrast, the variables that increasingly explain it are the dependency rate and employment of the household head in public administration and commerce, i.e., sectors with higher earnings. Employment in rural manufacturing is marginally unequalising.

For 2011 only, Cornia and Martorano (2016) applied the same regression-based decomposition of rural inequality of consumption per capita only to rural households engaged in agriculture, using WMS data, which provides additional data on household characteristics. They found that female heads of households and dependency rates raise inequality moderately and that farm size and livestock ownership seem to be fairly equally distributed as they account for only a small part of inequality. In contrast, the cultivation of cereals is associated with higher levels of inequality, while cultivation of vegetables and fertilizers use contribute slightly to the increase in inequality. In addition, in this test, the level of education of the household head contributes slightly to higher inequality for the reasons given above.

With the second decomposition, the impact of changes in the distribution of sectoral consumption per capita by employment sector in rural areas is explored using the Rao (1969) approach. It disaggregates total consumption inequality into sectoral consumption shares and concentration coefficients of the nine sectors into which the economy has been disaggregated. By comparing 1995 with 2011 relative contributions to total inequality (table 13.8), it appears that the latter increased due to the surge of the share of consumption and/or of its concentration coefficient of commerce and public administration (and marginally in manufacturing, transport and construction).

**TABLE 13.8** Decomposition of rural consumption inequality by sector of employment of the household's head

Rural areas	1995				2005				2011			
	CS	CI	AC	RC	CS	CI	AC	RC	CS	CI	AC	RC
Agriculture	0.900	0.255	0.229	0.860	0.925	0.236	0.218	0.865	0.905	0.259	0.234	0.837
Mining	0.001	0.340	0.000	0.002	0.001	0.455	0.001	0.002	0.003	0.539	0.002	0.005
Manufacturing	0.010	0.153	0.001	0.006	0.020	0.367	0.007	0.029	0.012	0.371	0.004	0.015
Utilities	0.001	0.773	0.001	0.003	0.000	-0.527	0.000	-0.000	0.001	0.426	0.000	0.001
Construction	0.001	0.386	0.001	0.002	0.002	0.243	0.000	0.002	0.007	0.356	0.002	0.009
Commerce	0.015	0.359	0.006	0.021	0.025	0.499	0.013	0.050	0.030	0.526	0.016	0.057
Transport	0.001	0.721	0.000	0.002	0.001	0.618	0.000	0.001	0.009	0.457	0.004	0.014
FIRE	0.000	0.000	0.000	0.000	0.002	0.489	0.001	0.004	0.001	0.396	0.001	0.002
Public admin.	0.070	0.399	0.028	0.105	0.024	0.489	0.012	0.047	0.032	0.509	0.017	0.059
<b>Total</b>	1.000		0.267	1.000	1.000		0.252	1.000	1.000		0.280	1.000

**Source:** Authors' elaboration based on HICES 1995, 2005 and 2011.

**Notes:** The commerce sector includes also restaurants and hotels; the transport sector includes also storage and communication; FIRE = finance, insurance and real estate; Public administration also includes other services (e.g. community services). Also, CS = Consumption share; CI = Concentration index; AC = Absolute contribution; and RC = Relative contribution.

### 13.4.2 Population growth, rural-urban migration and urban inequality

Between 1975 and 1995, the population growth rate of Ethiopia broadly followed the SSA average, while it exceeded the average over 1995-2005 (table 13.9). Despite the drop in TFR over the last 20 years and the related decline in population growth and dependency ratio, a slowly declining population growth rate remains a problem that calls for implementing additional measures to control fertility. Over the period 2000-2015, population increased annually by 2.1 million. This means that over 2015-2020, close to two million new entrants will enter the labour force every year, at least 400,000 of whom in urban areas. This increase may be difficult to absorb productively.

This problem may be solved by an acceleration of the 2.8-point TFR decline recorded between 1990 and 2015, which is a faster decline than the 1.4 points recorded by SSA on average. This decline was due to the efforts of the EPRDF. Since coming to power, it has considered Ethiopia's population problem as a cause of underdevelopment and poverty, and it set an objective of a TFR of 4 by 2015. To achieve this, the Government raised the marriage age from 15 to 18 years and made the registration of vital events compulsory. Other measures focused on keeping girls in school, ensuring their employment in the modern sector and SMEs, removing restrictions on women's participation in economic activities and promoting responsible motherhood. Measures also included expanding the distribution of female and male contraceptives, encouraging all government agencies and non-governmental organisations (NGOs) to tackle the population issue and establishing a National Population Council. The implementation of this programme faced challenges, but the decline of TFR is almost on track with the planned rate.

**TABLE 13.9** Population growth, TFR, migration and young age-dependency rate, 1975-2015

	1975	1980	1985	1990	1995	2000	2005	2010	2015
Population, mn.	32.6	35.2	40.8	48.1	57.2	66.4	76.6	87.5	99.4
Pop. growth rate*									
Ethiopia	2.7	1.6	2.9	3.3	3.5	3.0	2.8	2.7	2.5
SSA	2.4	....	2.8	....	2.7	....	2.6	....	2.6
TFR									
Ethiopia	7.1	7.2	7.4	7.4	7.1	6.8	6.1	5.3	4.6
SSA	6.7	6.8	6.7	6.5	6.2	5.9	5.7	5.4	5.1
Dependency ratio (0-14)/(15-64)	85.7	87.2	90.7	91.6	92.7	92.2	91.0	85.0	75.2
% urban population									
Ethiopia	9.4	10.4	11.5	12.7	13.8	14.6	15.5	17.2	19.4
SSA	20.3	22.4	24.7	27.1	29.1	30.8	33.0	35.4	37.9

**Source:** Authors' compilation on the basis of the UN DESA, Population Division.

**Notes:** \* refers to the five years ending in the column heading (e.g. the 1975 value refers to the period 1970-1975); and "mn." means million.

At the current rate, migration to cities will not alleviate the land shortage problem despite the modernisation of agriculture and the introduction of rural safety nets. Ethiopia's slow rate of urbanisation is the outcome of explicit policies aimed at preventing large-scale urban migrations given the lack of adequate urban capital accumulation and supply of social services to meet the needs of an increasingly rising urban population (Gebeyehu, 2014).

Although the State provides land use rights to smallholders for an indefinite time, regional laws restrict their transfer and, as noted in the case of permanent migration, foresee their confiscation. It is thus unlikely that the Government will soon introduce private land ownership and permit its sale. Instead, removing restrictions on land rental markets could alleviate the pressure on land and promote RNNAs that could absorb the excess labour supply. Without these changes, youth can only access land through inheritance, subdivision or allocations from local authorities. Yet, this policy can prevent migration only if sufficient land is available to accommodate growing demand. Given population pressure and the resulting decline in farm size, distress migration to the cities will ultimately become inevitable.

### 13.4.3 Urbanisation, structural transformation and urban inequality

Over the period 1995-2011, the economy experienced only moderate structural transformation (table 13.10); over 1995-2005, the urban sector recorded a 10-point rise in urban Gini and a subsequent 6-point fall (table 13.2). These two changes are discussed in sequence. According to table 13.10, the transformation of the economy over 1995-2011 entailed a 14.0 percentage point decline in agricultural employment, accompanied by a 4.3 employment rise in manufacturing (mostly urban), 2.0 in construction and 6.7 points in commerce and restaurants. No sizeable changes were recorded in the other sectors. Although small in absolute terms, the rise of finance, insurance and real estate (FIRE) was sizeable in relative terms.

**TABLE 13.10** Evolution of the sectoral employment structure, 1995-2011

	Agriculture	Mining	Manufacturing	Utilities	Construction	Commerce (trade and restaurants)	Transport	FIRE	Government services	Community services
1995	87.3	0.2	2.3	0.1	0.3	4.1	0.4	0.1	2.4	2.7
2000	84.9	0.2	3.1	0.1	0.5	4.7	0.4	0.1	3.2	2.6
2005	83.2	0.3	4.1	0.1	1.1	5.8	0.5	0.3	2.2	2.4
2008	78.4	0.3	5.3	0.1	1.6	8.6	0.5	0.3	2.3	2.4
2011	73.4	0.7	6.9	0.1	2.3	10.8	0.5	0.5	2.4	2.2

**Source:** Authors' elaboration on Timmer, de Vries and de Vries (2014). FIRE = Finance, Insurance, Real Estate.

**Note:** FIRE = Finance, Insurance, Real Estate.

In turn, table 13.11 illustrates the sectoral shares of value added, employment and their ratio for 2005. The latter is a measure of the relative productivity of various sectors. While manufacturing and community services are twice as productive as agriculture, the productivity of capital- and skills-intensive FIRE is 72 times higher than that of agriculture. Productivity in the other sectors is 8-11 times higher, on average, than that of agriculture.

**TABLE 13.11** Shares of value added and employment and their ratio in 2005

	Agriculture	Mining	Manufacturing	Utilities	Construction	Commerce	Transport	FIRE	Government services	Community services
Value added	42.1	1.4	4.4	1.1	6.1	24.4	4.5	10.8	8.1	2.8
Employment	83.2	0.3	4.1	0.1	1.1	5.8	0.5	0.3	2.2	2.4
Ratio	0.51	4.7	1.1	11.0	5.5	4.2	9.0	36.0	3.7	1.2

**Source:** The employment data are from Timmer, de Vries and de Vries (2014) and the value added data are MOFED (2014b).

**Notes:** The World Bank data estimate the 2004 share of agriculture at 52 per cent (World Bank, 2015). FIRE = Finance, Insurance, Real Estate.

Thus, from a distributive perspective, a transition towards manufacturing and community services would increase urban inequality only moderately. Yet, domestic investments in manufacturing remain low, while FDI inflows over 2005–2011 were only 1.6 per cent of GDP, although they rose in labour-intensive textile, garment and leather sectors over 2012–2014 (Dinh et al., 2014). In contrast, the inequality impact of the transition to services (including the public administration) was far greater, because few low-skilled people work in these sectors, which employ a sizeable proportion of people with secondary and tertiary education. Thus, over 1996–2005, rising demand for skilled jobs raised consumption per capita among the top quartiles. In contrast, consumption rose more markedly among the middle quartiles over 2005–2011 (table 13.12) for the reasons explained below.

**TABLE 13.12** Changes in urban per adult expenditure by percentiles, 1996–2011

Year	Percentile								
	1 <sup>st</sup>	5 <sup>th</sup>	10 <sup>th</sup>	25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	90 <sup>th</sup>	95 <sup>th</sup>	99 <sup>th</sup>
1996	1 062	1 683	2 023	2 924	4 391	6 736	9 800	12 459	17 225
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									
1996 – 2005	39.5	18.5	13.9	1.6	10.1	9.6	20.5	32.6	84.5
2005 – 2011	13.4	29.9	41.4	58.2	42.9	46.3	39.5	29.8	17.2
1996 – 2011	58.2	54.0	61.1	60.8	57.4	60.3	68.2	72.0	116.3

**Source:** Authors' elaboration based on data from the Ministry of Finance and Economic Development of Ethiopia (2013).

What explains the increase in urban inequality over 1996–2005? To answer this question, Leite, Sanchez and Ruggeri Laderchi (2009) decomposed the changes in inequality using HICES for these two years. Their main finding was that “the new profile of urban households, and in particular the greater likelihood of being households with younger heads, well educated, living alone or in couples

with no children also contributed to increased inequality” (ibid.:1). These findings suggest that the demand for urban skilled workers outpaced supply or that returns to education rose in sectors that did not experience an increase in employment but, rather, a growing demand for workers with sophisticated skills. Cornia and Martorano (2016, table 13) confirm the findings of Leite, Sanchez and Ruggeri Laderchi on the unequalising impact of differences in dependency rates between the top and lower quintiles.

In turn, the Gini drop over 2005-2011 was due to faster consumption growth in the two middle quartiles (table 13.12), driven by endogenous factors and public policies. The latter promoted urban infrastructural works, the growth of the construction sector and micro- and small-enterprises by providing credit, training, and a friendly environment for private investments (Ministry of Finance, 2013). The provision of subsidized foods to the urban poor during the years of high inflation also contributed (Section 5). Another key driver of the decline of urban inequality was an increase in public expenditure on education (Section 4.4), which allowed education coverage to expand, including for the children of low-middle income groups (Cornia and Martorano 2016, table 14). After a lag, the supply of skilled workers increased, returns to education fell and so did the Gini index of the distribution of years of human capital.

To identify the factors explaining the changes in urban inequality, a regression-based decomposition of its rise and subsequent fall and an inequality decomposition by sector of employment of household heads were performed (respectively, table 13.13 and table 13.14). With the first approach, it can be observed that over 1995-2005, the share of total inequality explained by household heads with tertiary education rose in relation to 1995. This confirms a rise in returns to tertiary education and the higher employment of skilled workers. Secondary education explained a considerable share of

**TABLE 13.13** Regression-based inequality decomposition of the urban Gini of consumption inequality

Urban areas	1995	2000	2005	2011	1995	2000	2005	2011
	Regression parameters				Relative contribution to inequality			
Female head of household	790.9	375.9	337.4	251.4	0.158	0.020	0.034	0.079
Dependency ratio	71.0	-28.7	-36.1*	-0.2	0.012	0.007	0.006	0.004
Primary education of household head	754.7	445.1	514.7	285.6	0.076	0.086	0.055	0.090
Secondary education of household head	1 297.1	725.7	825.7	278.5	0.259	0.272	0.226	0.034
Tertiary education of household head	1 693.6	1 187.9	1 226.7	301.6	0.123	0.410	0.280	0.051
Household head works in agriculture	748.3	402.6	404.6	432.0	-0.018	-0.005	-0.004	-0.025
Household head works in manufacturing	886.2	347.0	279.6	390.3	0.052	0.017	-0.006	-0.002
Household head works in public administration	555.4	133.3	249.4	542.3	0.037	0.046	0.041	0.346
Household head works in commerce and others	762.5	263.5	513.5	488.1	0.142	0.009	0.096	0.105
Unexplained residual			N/A		0.137	0.271	0.317	0.159

**Source:** Authors’ elaboration on HICESs and WMS.

**Note:** All coefficients are significant at the 1% probability unless otherwise indicated. \* significant at 10%, ^ not significant.



urban inequality but its weight did not increase over time, while primary education was relevant but declining over time. A major contribution to rising urban inequality was the employment of household heads in commerce and 'other services'. Its importance rose in relation to 1995, while employment in urban agriculture and manufacturing became moderately equalising. Finally, and surprisingly, the dependency ratio explains altogether a small and stable share of urban inequality, a result at variance with the findings of Leite, Sanchez and Ruggeri Laderchi (2009).

As regards the inequality decline over 2005–2011, table 13.14 shows that holding a secondary or tertiary educational diploma in 2011 contributed less to urban inequality than in 2005, while the weight of primary education remained negligible. This seems to suggest that public investments in education gradually raised the supply of qualified workers belonging to the middle quintiles (table 13.13), thereby causing a decline in returns to education. In contrast, the employment of household heads in commerce and, in particular, to an even greater degree, public administration, contributed more than previously to total inequality. In turn, by 2011, female-headed households contributed again to rising inequality relative to 2005, while the dependency ratio (important in explaining rural inequality, see table 13.7) had a negligible effect on urban inequality. This was due likely to a decline in fertility rates, also among low-income urban residents (table 13.13).

**TABLE 13.14** Decomposition of rural consumption inequality by sector of employment of the household's head

	1995				2005				2011				$\Delta$ Relative contribution 2005-2011
	CS	CI	AC	RC	CS	CI	AC	RC	CS	CI	AC	RC	
Agriculture	0.082	0.097	0.008	0.024	0.159	0.285	0.045	0.111	0.149	0.221	0.033	0.092	-0.019
Mining	0.006	0.196	0.001	0.004	0.007	0.415	0.003	0.007	0.004	0.438	0.002	0.005	-0.002
Manufacturing	0.119	0.296	0.035	0.108	0.101	0.234	0.024	0.058	0.088	0.263	0.023	0.064	+0.006
Utilities	0.010	0.403	0.004	0.013	0.013	0.494	0.006	0.016	0.009	0.349	0.003	0.009	-0.007
Construction	0.049	0.280	0.014	0.042	0.055	0.359	0.020	0.048	0.064	0.227	0.015	0.041	-0.007
Commerce	0.410	0.362	0.149	0.459	0.287	0.460	0.132	0.323	0.217	0.371	0.081	0.225	-0.098
Transport	0.042	0.490	0.021	0.064	0.049	0.478	0.023	0.057	0.104	0.403	0.042	0.117	+0.060
Finance, insurance and real estate (FIRE)	0.009	0.542	0.005	0.015	0.036	0.675	0.024	0.059	0.028	0.460	0.013	0.036	-0.023
Public admin. and others	0.273	0.322	0.088	0.271	0.294	0.448	0.132	0.322	0.336	0.438	0.147	0.411	+0.089
<b>Total</b>	1.000		<b>0.324</b>	1.000	1.000		<b>0.409</b>	1.000	1.000		<b>0.358</b>	1.000	

**Source:** Authors' elaboration on HICES data.

**Notes:** CS = Consumption share; CI = Concentration index; AC = Absolute contribution; and RC = Relative contribution.

A Rao (1969) decomposition of total inequality, carried out in nine production sectors of the economy, was disaggregated. Accordingly, it was necessary to analyse the changes in consumption share of household heads working in each of the nine sectors of table 13.14, sectoral concentration coefficients and their relative contribution to inequality. The analysis shows that its increase over 1995–2005 (from

0.32 to 0.41) was due to a general and, at times, sizeable increase in the concentration coefficients that occurred in almost all sectors. This was likely due more to a growing imbalance between the demand and supply of skilled workers and less to a shift of consumption shares towards high inequality sectors. The decline of the relative contribution of commerce likely reflects a reorganisation and modernisation of the sector.

Over 2005–2011, the sectoral consumption shares varied modestly except for transport and ‘commerce and others’, while there was an almost symmetric reversal of past increases in the concentration coefficient of the transport and ‘public administration and other’ sectors. In any case, the marginal increase in the concentration coefficients of the mining and manufacturing sectors is an exception that accounts for a small share of the change in total inequality. This decline in concentration coefficients likely originates from the fall in returns to secondary and tertiary education mentioned above, as well as from the employment support and subsidies introduced by the Government. Despite the recent decline of concentration coefficients, it is important to underscore that the inequality of modern urban skill-intensive sectors (commerce, utilities, transport, FIRE and public administration) remains higher (around 0.35–0.46) than that of urban agriculture, manufacturing and construction (0.20–0.26). An urbanisation approach intended to keep inequality within a tolerable range may thus promote a faster development of labour-intensive sectors.

#### *13.4.4 Fiscal policy, redistribution and inequality*

The EPRDF government adopted a policy of fiscal decentralisation and grant-sharing that sought to equalise the fiscal resources of the different regions broadly (UNDP Ethiopia, 2014). In addition, during the last decade, it pursued a prudent macroeconomic and fiscal policy to maintain the deficit at a sustainable level (table 13.15). In contrast, the upsurge of inflation of the late 2000s was only reduced to a tolerable level in 2013.

Despite this improvement and an increase in tax revenue, Ethiopia remains behind its peers in terms of revenue mobilisation, since over 1999–2010, its tax/GDP ratio ranged between 10.0 and 13.0 per cent, compared to an SSA average of 16.0–17.0. During the last few years, the Government raised additional revenue by improving tax administration and trade facilitation (AfDB, OECD and UNDP, 2014). As a result of these efforts, tax revenue was projected to reach 13.3 per cent of GDP in 2014/15 (IMF, 2014).

As in other countries with a large smallholder and informal sector, the tax system relies mainly on indirect and trade taxes, which in 2011/12 accounted for 8.3 per cent of GDP, whereas direct taxes amounted to 4.3 per cent. Foreign grants account for around 2.0 per cent of GDP and are substantially smaller than the regional average (Ferede and Kebede, 2015).

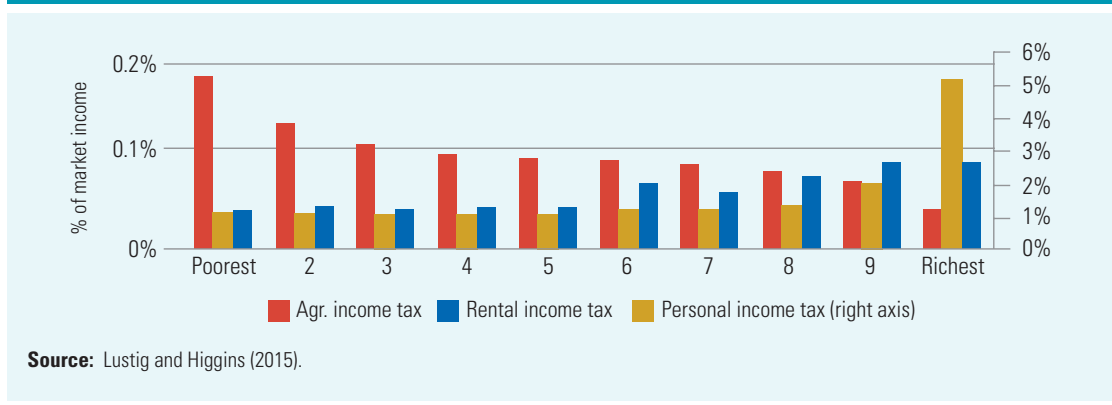
Despite the dominance of indirect taxes, Lustig and Higgins (2015) suggest that Ethiopia’s taxation is progressive. This is mainly due to the progressive incidence of direct taxes on corporations, high-income households and rental-income earners. Yet, personal income tax is levied as of a very low level. As Lustig and Higgins note (2015: 71):

Currently, any personal income above ... 1,800 Birr per year is taxed. This is much less than the poverty line of 3,781 Birr per adult equivalent and increasing this minimum cut-off would reduce the direct tax burden on the bottom deciles.

**TABLE 13.15** Fiscal indicators in percentage of GDP

	1999/2000	2004/2005	2010/2011
<b>Total revenue and grants</b>	<b>17.6</b>	<b>20.7</b>	<b>15.7</b>
Revenue	14.9	16.0	13.9
Tax revenue	10.2	12.7	11.6
Non-tax revenue	4.7	3.3	2.3
Grants	2.7	4.7	1.7
<b>Total expenditure and net lending</b>	<b>26.9</b>	<b>25.4</b>	<b>16.9</b>
Current expenditure	21.5	13.5	7.0
Capital expenditure	5.4	11.9	9.9
<b>Overall fiscal balance</b>			
Including grants	-9.3	-6	-1.2
Excluding grants	-12	-10.7	-2.9

**Source:** Authors' compilation based on IMF (2006, 2014).

**FIGURE 13.2** Incidence of direct taxes as per cent of market income, 2011

**Source:** Lustig and Higgins (2015).

Another problem is that the incidence of the agricultural income tax is mainly regressive (figure 13.2).

With regard to indirect taxes, Muñoz and Cho (2003) and Mekonnen, Deribe and Gebremedhin (2013) show that the VAT on food is regressive, while the VAT on non-food items is progressive and fuel taxes are progressive only in rural areas. In turn, Geda and Shimeles (2005) show that taxes on tobacco, alcohol and butane are progressive. In view of these contrasting findings, it is difficult to come to a conclusion about the progressivity of indirect taxation.

In contrast, most social spending is well-targeted and contributes to reducing inequality, while its GDP share is higher than the regional average. During the last two decades, the Government implemented three social assistance programmes: the SDPRP of 2002/2003 - 2004/2005 (an ad hoc response to the famine of 2002); the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) over the period 2005/2006 - 2009/2010; and, since 2010/11, the Growth and Transformation Plan (GTP). Yet, these programmes did not add up to a coherent social protection

system. In contrast, significant progress was made in the mid-2000s, when new programmes were launched to reduce poverty, food insecurity and malnutrition. As a result, near 70.0 per cent of public spending is now allocated to pro-poor sectors (table 13.16).

**TABLE 13.16** Pro-poor public expenditure as a share of GDP

	2010/11	2011/12	2012/13
<b>Pro-poor sector expenditure</b>	<b>12.3</b>	<b>11.9</b>	<b>12.7</b>
Education	4.6	4.0	4.1
Health	1.2	1.0	1.3
Agriculture	1.6	1.5	1.7
Water	1.1	1.4	1.5
Roads	3.7	3.9	4.1

**Source:** Authors' elaboration based on Ministry of Finance and Economic Development (2014a).

The most important initiative was the introduction of the Productive Safety Net Programme (PSNP) in 2004 (World Bank, 2004). Its objective is to protect food-insecure people, prevent asset depletion at the household level and create the conditions for exiting poverty. PSNP combines a public work component and direct cash or food support to labour-constrained households. The programme expanded rapidly and between 2004/05 and 2011/12, the number of districts covered grew from 192 to 320 out of 550. Over the same period, the number of beneficiaries rose from 4.83 to 7.64 million, i.e., almost 10.0 per cent of the country's population (World Bank, 2011). The programme absorbed 1.2 per cent of Ethiopia's GDP in 2009 and is funded mainly by international donors. It is better targeted than similar programmes and affects poverty and inequality indirectly because it increases input use among its beneficiaries.

Other subsidies were introduced in support of low-income households. However, the incidence of kerosene and electricity subsidies is regressive (Kebede, 2006). Finally, the World Bank (2015) argues that safety nets should be strengthened for those who are unable to participate in the urban labour market, such as the elderly, the disabled and female-headed households, who are more vulnerable to shocks than similar groups in rural areas.

Health spending is also progressive. Indeed, free services are provided to vulnerable groups through the Health Extension and National Nutrition Programmes. Woldehanna and Jones (2015) show that over 1996–2000, primary education spending was pro-poor and pro-rural. By contrast, secondary education was regressive and its enrolment declined due to a low entry of children from the bottom deciles. Analysing the incidence of spending on education in 2011, Lustig and Higgins (2015) confirm that primary education is progressive (e.g. the Government opened a primary school in almost every village) and secondary education has become progressive in relative terms. Tertiary education is still regressive.

Finally, as noted above, the Government carried out public works to pave streets and build urban housing to increase employment in urban areas, thus creating more than 1.1 million jobs. Support to micro- and small-enterprises (MSE) generated another 1.5 million new jobs (AfDB, OECD and UNDP, 2014).

To conclude, the overall impact of fiscal policy contributed towards moderating inequality, first in rural areas and, more recently, in urban areas. Most social spending is well targeted, while participation in tax payment is progressive, although perfectible. Overall, direct taxes and transfers reduced the Gini index by about two percentage points (Lustig and Higgins, 2015). Some improvements are needed, however. For instance, the World Bank (2015) argues that when taking into account the direct and indirect taxes paid and the benefits received, one in ten households is impoverished. A possible solution to this problem is to raise the income threshold on which personal income tax and agricultural tax are applied.

### **13.5 Summing up, policy conclusions and suggestions for further research**

The Ethiopian development experience over 1995–2011 is an example of how fast growth, low and stable inequality, and rapidly declining poverty can take place together. More research is necessary to ascertain the impact of inflation, seasonality and other factors on the actual level and trend of inequality. The data on the distribution of years of education of household heads and the analysis of the impact of educational policies also need to be improved. Yet, it is unlikely that more accurate data and analyses would radically alter the above conclusions. As such, the Ethiopian experience offers useful policy lessons for other African countries confronted with low agricultural productivity, high population growth and weak redistributive institutions.

The above results were achieved by implementing the ADLI strategy and other sectoral plans. ADLI promoted agricultural modernisation via state and private extension services, the opening of agricultural markets to the private sector and investments in infrastructure. Yet, the econometric evidence presented in this chapter shows that rural inequality still depends on differences in access to land and irrigation, farm size and share of land under extensive cultivation. It also depends on intra-household differences in the incidence of female-headed households, dependency rates and employment in the public sector, commerce and rural manufacturing. In contrast, differences in educational level do not significantly influence rural inequality, although they likely will do so when high-yielding varieties and improved farming techniques become more common. Finally, tax, subsidies and public expenditure contributed perceptibly to reducing rural inequality. These results raise crucial policy issues, however. The first concerns population policy. Indeed, the gradual decline of TFR initiated in 1995 will only partially ease population pressure on land, capital stock and public services. With continued growth of the rural labour force and a decline of an already small farm size, distress rural-urban migration will become inevitable, with the effect of raising urban inequality. Policy research will have to focus on measures to accelerate the decline in TFR, the reform of rental contracts in agriculture and the development of RNAA and manufacturing activities.

This analysis shows that urban inequality depends, to an important extent, on the pattern of structural transformation followed over the last 20 years, in particular on the faster growth of employment in non-tradable and high-inequality commerce, FIRE, transport and public administration as compared to low-inequality and tradable urban agriculture, manufacturing and construction. The latter are more labour- and less skill-intensive, and their expansion modestly affects inequality. As a result of policy efforts in expanding education, in 2011, household differences in educational achievements became less important than in prior years, although they remain significant. Inequality still relates to the incidence of female-headed households. In contrast, given their faster decline than in rural areas, urban differences in dependency rates now affect urban inequality less. In turn, taxation and redistributive

policies contributed to lowering inequality over 2005–2011, though less markedly than in rural areas. Key policy challenges for the urban sector concern the optimal speed of urbanisation and measures to promote the development of low-inequality tradable activities, upgrade a vast informal sector, broaden urban safety nets, support female-headed households and fine-tune income tax on the poor.

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