Investigating growing inequality in Mozambique

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Poverty and Inequality in Mozambique: What is at stake?
Pobreza e Desigualdade em Moçambique: O que está em causa?
Maputo, November 27, 2017

Inclusive growth in Mozambique – scaling-up research and capacity

Motivation

- **Rapid economic growth** in Mozambique after post-independence war.
  - Substantial reduction in monetary and non-monetary **poverty** (MPD/DNEAP, 2010; MEF/DEEF, 2016).
  - Yet, poverty is still high; reduction would have been larger with **a more pro-poor growth pattern** (Arndt et al., 2012).
- SDGs

Inequality in Sub-Saharan Africa

- World´s **most unequal region**

- Trends: scarce evidence, **no clear pattern** in the last decades
  - Little change on average (e.g. Alvaredo and Gasparini, 2015)
  - Large heterogeneity and "bifurcation" (Odusola et al., 2017).

i) Highly **dualistic economy structure**: large subsistence economy vs. small elite working in the formal economy (i.e. public, international and resource sectors).
ii) High **concentration of** land and physical and human **capital** in certain groups and regions.
iii) Limited **distributive capacity of the state**, leading to the 'natural resource curse', the urban bias of public policy, and ethnic and gender inequalities.

Inequality in Mozambique

- **High initial level** as per world standards, not that high in Africa, except in urban areas (Fox, Bardassi, and van den Broeck, 2005).

- **Increasing trend** (MPD/DNEAP, 2010; MEF/DEEF, 2016).

- **Data issues** in measuring inequality:
  - **Overestimation:**
    - Underreporting in **food consumption**.
  - **Underestimation:**
    - **Underreporting** in the relatively better-off (Arndt and Mahrt, 2017).
    - the **expenditure structure** differs for well-off versus poorest households (Arndt, Jones and Salvucci, 2014).
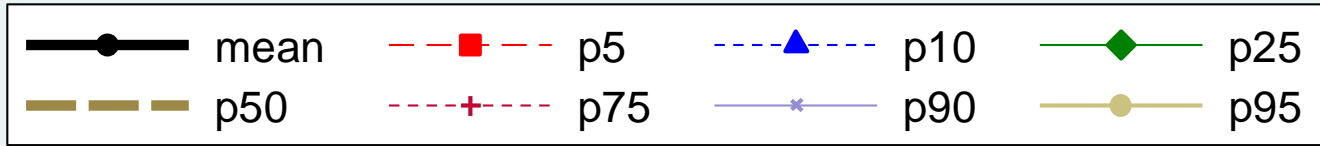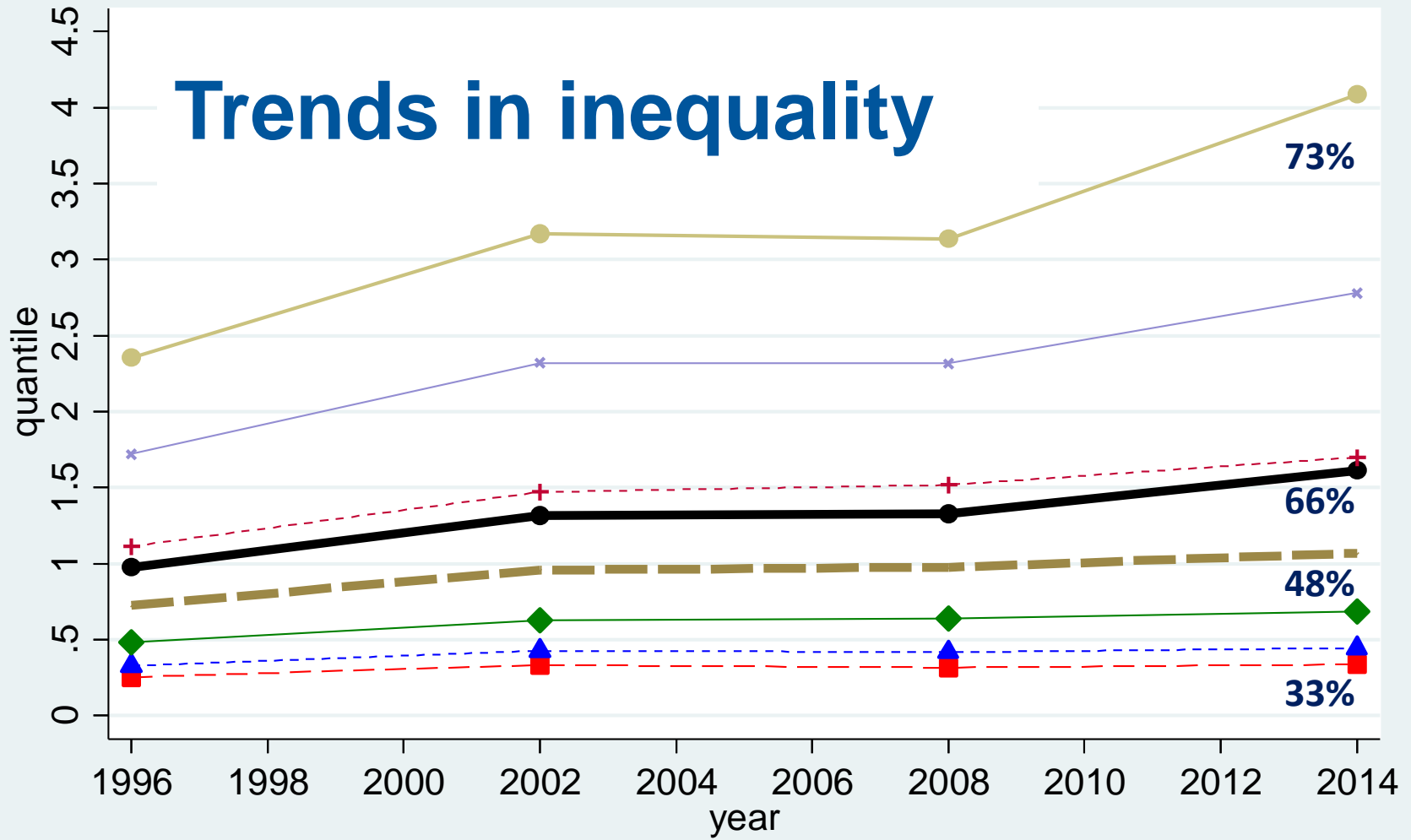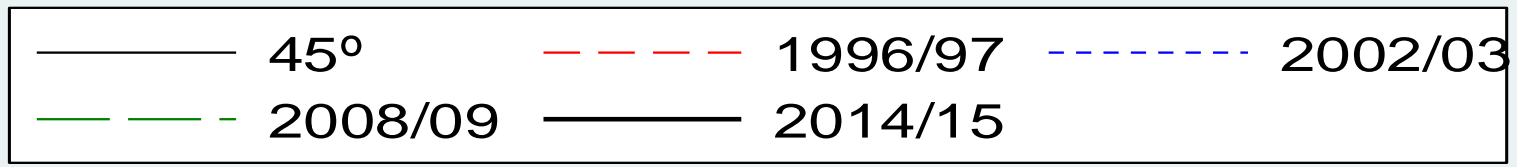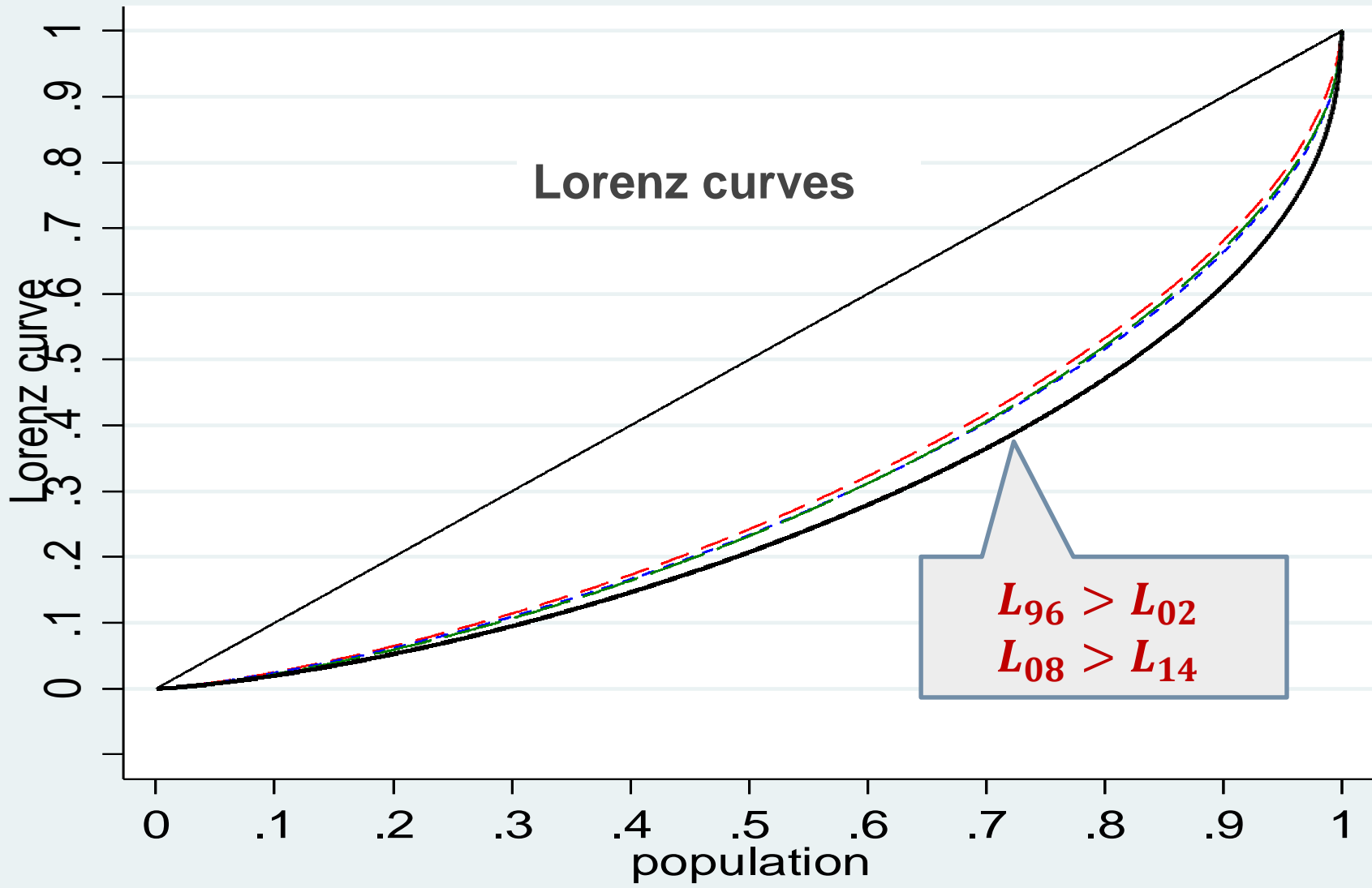
Aim

- To contribute to the growing literature on inequality in Mozambique and, by extension, in sub-Saharan Africa.

  - Analyzing the **long-term trend in inequality**, characterize its distributional pattern.

  - Identifying some of the **underlying drivers**

Data

- Nationally representative **households budget surveys** (INE):
  - *Inquéritos aos Agregados Familiares* (IAF) 1996/97 and 2002/03,
    - 42,667 and 44,083 individual obs.
  - *Inquéritos ao Orçamento Familiar* (IOF) 2008/09 and 2014/15.
    - 51,177 and 56,000 /quarter ($\rightarrow$ pool) individual obs.
- Daily **real per capita consumption**
  - IV National Poverty Assessment, PLEASe methodology (Arndt et al., 2017a).
  - Nominal consumption adjusted to correct for seasonal and spatial **variation in prices**.
  - Deflated using the contemporary **poverty line**.

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Trends in inequality

Lorenz curves

$L_{96} > L_{02}$
$L_{08} > L_{14}$

45° 1996/97 2002/03 2008/09 2014/15
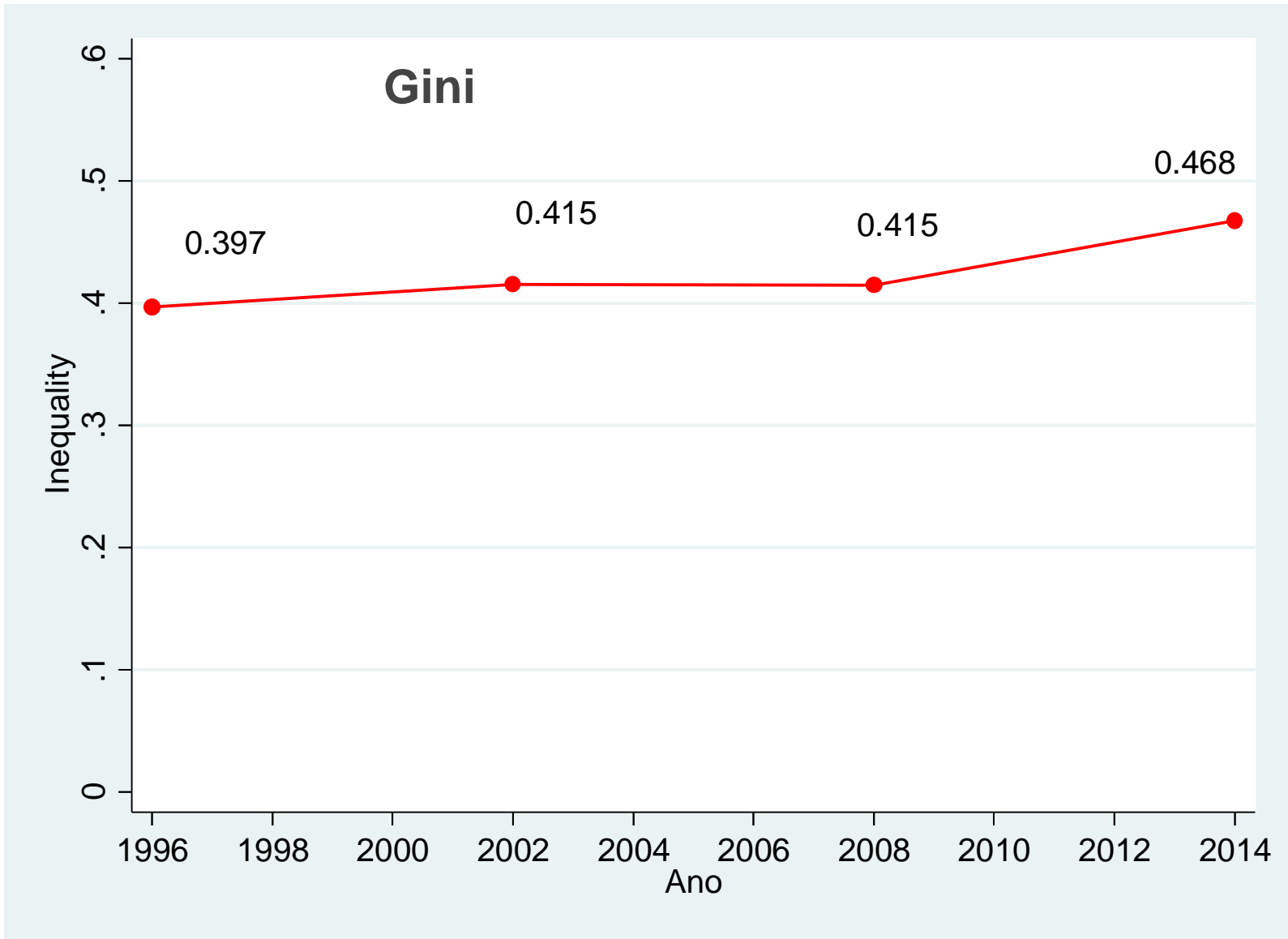
Decomposition methodology

- Based on the Recentered Influence Function of the Gini index (based on Fortin et al., 2007, 2009):

$$I(y) = \sum_{i=1}^{N} RIF(y_i; I) = \overline{X}'\beta$$

  – **counterfactual distribution** combining average characteristics of the initial year with the impact on inequality in the final year: $\overline{X}^{0'}\beta^1$

- Decomposition of the change in inequality over time into:

$$I^1(y) - I^0(y) = \left(\overline{X}^{1'} - \overline{X}^{0'}\right)\beta^1 + \overline{X}^{0'}(\beta^1 - \beta^0)$$

Characteristics effect (explained)   **Coefficients effect (unexplained)**

RIF Regressions

	1996	2014
Urban	0.055*	0.053**
Maputo City	0.005	0.413***
N. adults	0.002	-0.027***
N. children	-0.004	-0.008**
25-34	-0.029	-0.02
35-44	0.000	0.035
45-54	-0.004	0.065**
55 or older	0.009	0.071**
Female	0.012	-0.015
Single	0.082*	0.097*
Divorced	0.002	-0.021
Some/lower primary	0.014	-0.030***
Upper primary	0.126***	-0.001
Lower secondary	0.454***	0.114***
Upper secondary	0.478*	0.455***
Technical	0.506***	0.558***
Higher	2.071***	1.690***
Literate	-0.013	-0.019**
Public sector (head)	-0.049	-0.409***
Self-employed (head)	0.017	0.017
Subsistence sector (head)	-0.006	-0.066*
Another occupation (head)	0.037	-0.059*
Missing sector (head)	0.061	0.010
Employment rate (household)	-0.027	0.050
Intercept	0.404***	0.572***

Inequality is increasing with %:

- In urban areas
- Heads with attained upper secondary or higher education.
- Heads in non-subsistence and private sectors

Distribution of characteristics

	1996/97	2014/15
Urban (1996-2002)	0.210	-------
Urban (2002-2014)	-------	0.317
N. adults	3.150	2.994
N. children	3.050	3.224
Less than 24	0.068	0.060
25-34	0.234	0.224
35-44	0.264	0.289
45-54	0.216	0.211
55 or older	0.218	0.217
Female	0.174	0.242
Married, union	0.850	0.808
Single	0.028	0.032
Divorced, separated, widow(er)	0.122	0.160
None/unknown	0.690	0.315
Some/lower primary	0.242	0.439
Upper primary	0.051	0.139
Lower secondary	0.009	0.041
Upper secondary	0.002	0.033
Technical	0.005	0.007
Higher	0.001	0.025
Literate (head)	0.522	0.568
Public sector (head)	0.112	0.058
Self-employed (head)	0.719	0.685
Subsistence sector (head)	0.700	0.617
Other sector (head)	0.219	0.283
Missing sector (head)	0.008	0.000

General increase in attained education of household heads,

reduction of heads self-employed, in public sector, and in subsistence sector.

	1996/97-2014/15	
Change in Gini	0.071***	
	Char. E	**Coef. E**
Total Effect	**0.070*****	0.001
Area	0.006**	-0.001
Province	-0.012***	-0.032
Household size		
N adults	**0.004****	**-0.092*****
N children	-0.001*	-0.010
Age (head)	0.001	0.040
Sex (head)	-0.001	-0.005
Marital status (head)		
Single	0.000	0.000
Divorced	-0.001	-0.003
Education (head)	**0.052*****	**-0.024****
Employment		
Public s. (head)	**0.022*****	**-0.040*****
Self-employed (head)	-0.001	-0.001
Subsistence S. (head)	**0.005***	-0.042
Other sector (head)	-0.004	-0.021*
Employment rate	-0.001	0.062*
Intercept		0.168**

Decomposition of the increase in Gini inequality

Increasing higher education and change in the composition of employment fully explain the increase in inequality

Increase in inequality mitigated by these characteristics being associated with less inequality in 2014/15

13

	1996/97-2002/03		2002/03-08/09		2008/09-14/15	
Change in Gini	0.018		0.000		0.053***	
	Char. E	Coef. E	Char. E	Coef. E	Char. E	Coef. E
Total Effect	0.037***	-0.019*	0.015*	-0.015	0.031***	0.021**
Area	0.000	-0.016	-0.001	-0.007	0.001	0.006
Province	-0.001	0.047	-0.002	0.068*	-0.002	-0.160***
Household size						
N adults	0.000	-0.008	0.000	-0.001	-0.004***	-0.075**
N children	0.000	-0.015	0.000	-0.002	-0.001	0.005
Age (head)	0.000	0.057	0.000	0.013	0.003**	-0.032
Sex (head)	0.000	0.000	0.001	0.002	0.000	-0.008
Marital status (head)						
Single	-0.002*	0.002	0.000	0.001	0.002*	-0.002
Divorced	0.001	0.004	0.000	-0.004	0.000	-0.004
Education (head)	**0.027***	0.022*	0.011	-0.040**	**0.034***	-0.021
Employment						
Public s. (head)	0.005	-0.010	0.002	-0.001	0.002	-0.016**
Self-employed (head)	0.001	-0.007	0.000	-0.009	-0.002	0.009
Subsistence S. (head)	0.001	-0.036	-0.002	0.003	**0.006***	-0.002
Other sector (head)	0.002	0.002	0.000	-0.001	-0.002	-0.020
Employment rate	0.003*	0.117**	0.005	-0.032	-0.005	-0.046
Intercept		-0.174**		-0.002		0.387***

Decomposition of the increase in Gini inequality (cont.)

Concluding remarks

- The reduction in poverty over time went along a **substantial increase in inequality**, especially in most recent years:
  - Unbalanced **growth** disproportionally benefited the better-off.
  - Accentuation of a **dualistic economy** in a context of limited redistributive capacity of the state (Odusola et al., 2017).
    - Enhancement of **high-skilled population** working in the **non-subsistence private sector**.
    - Though, a **weaker association** with inequality in consumption, helped to curb the final increase in inequality.
  - *No one left behind* → education and subsistence economy