

Poverty, Inequality and Prices in Post-apartheid South Africa

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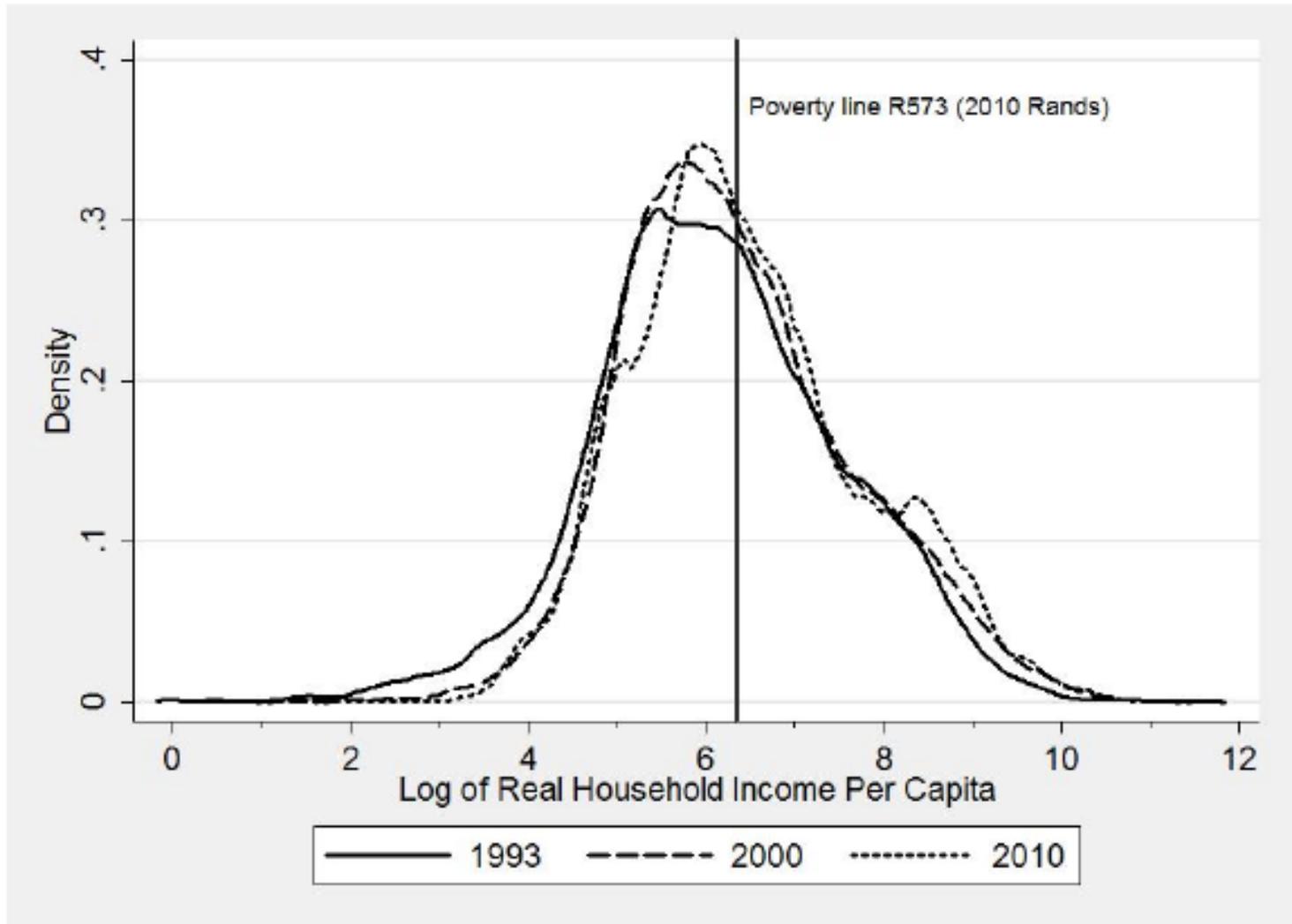
UNU-WIDER's Growth and Poverty Project (GAPP)



Introduction

- Post-apartheid growth rate of 3.2% on average (1.5% per capita)
- Decreasing poverty but persistently high inequality
- The first part of the paper makes sense of this story
- A gap in knowledge is the effect of differential price movements across the distribution
- Our main contribution is to consider the impact of prices at different percentiles on poverty and inequality

Trends in Money-Metric Well-being



Source: Finn, Leibbrandt and Ranchhod (2013, from own calculations using PSLSD 1993, IES 2000 and NIDS Wave 2 2010).

Trends in Non-money-metric Poverty

- Non-income/expenditure measures tell a more positive story
- Asset poverty has declined significantly as access to water, electricity, sanitation and housing has increased
- Multidimensional measures of poverty add access to education and health and also show strong declines in non-money poverty

Why has growth been so thinly inclusive?

- Too sluggish to begin with (a macro story)
- Texture of growth:
 - Labour market failures
 - Low return on increases and shifts in state expenditures
 - Returns to education/ quality of expenditures?
 - Social grants have helped but limited multipliers

Role of prices ?

Expenditure Data

- Seven datasets considered for potential inclusion: 1993 PSLSD, 1995 IES, 2000 IES, 2005/06 IES, 2008 NIDS, 2008 LCS, 2010 IES
- Considerable variation in format of expenditure modules across the 7 datasets
- Reconstructed expenditure aggregates from scratch in order to maintain as much integrity as possible for comparison purposes

Price Data

- Changing geographical coverage
 - Historical metropolitan areas up to 1997, then historical metropolitan and other urban areas, from 2008 primary and secondary urban areas
 - Provincial indices only available from 2002 onwards
- Methodological changes in 2008
 - Move to COICOP from SITC means that category indices are not always easy to link
- No rural price data
 - Official rural indices are urban prices x rural weights

Poverty and Prices

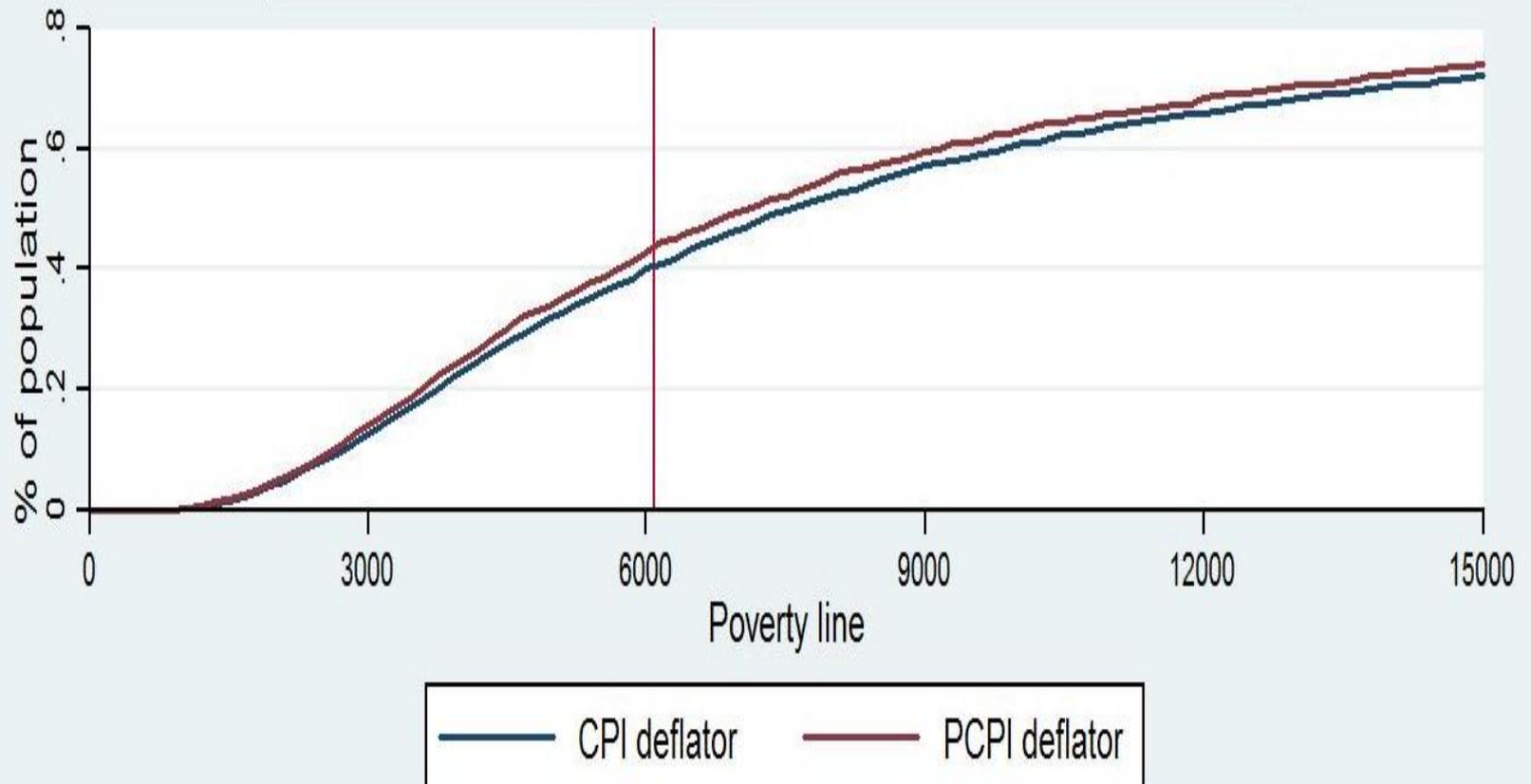
- Are restricted to 2005, 2008 and 2010 for consistent comparison
- Short time period, but only ones that allow for internal comparative validity
- Central question is: What was the impact of price changes on headcount poverty rates?

Poverty and Prices

- Percentile CPI
 - Order the population into consumption expenditure percentiles
 - Calculate the share (weight) of each expenditure item in total consumption expenditure for each percentile
 - Use this share as the weight for price changes for each item
 - Sum across all items to get PCPI

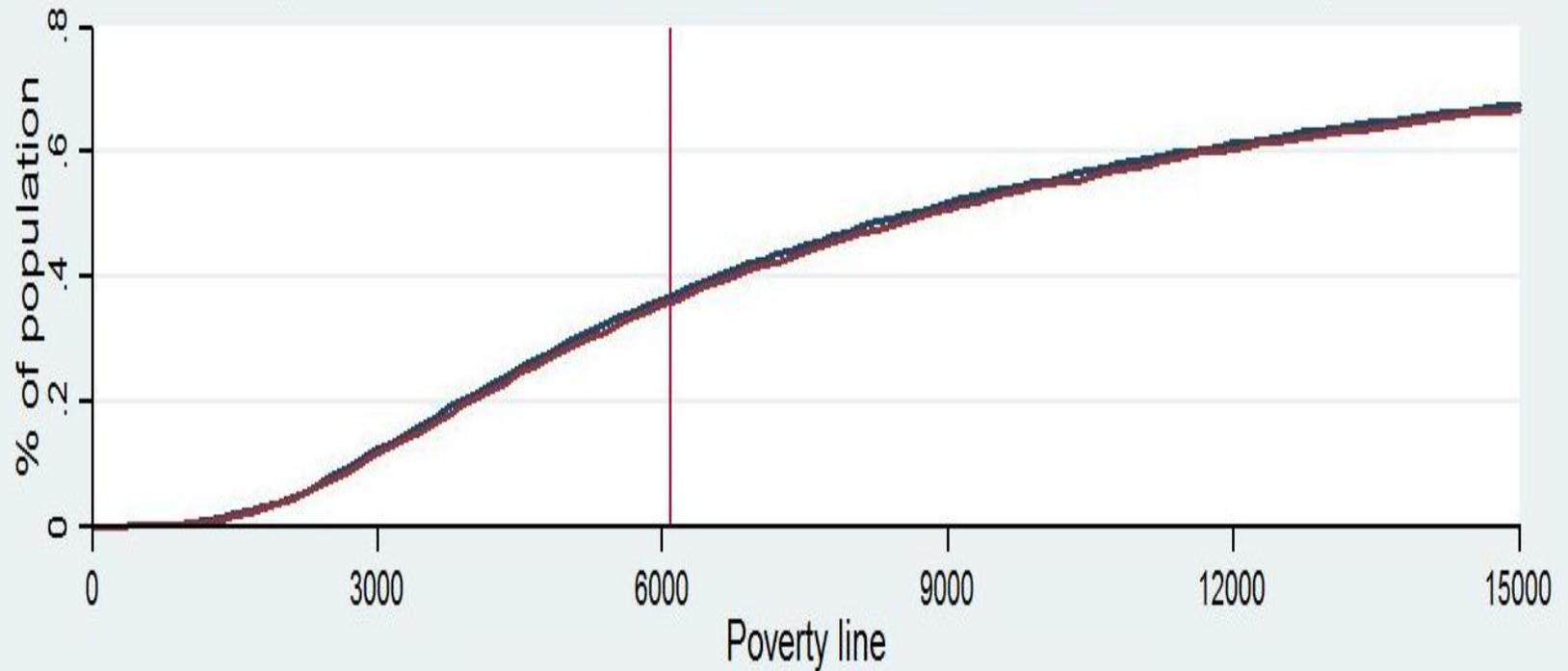
Poverty and Prices

CDF of consumption expenditure per capita in 2005



Poverty and Prices

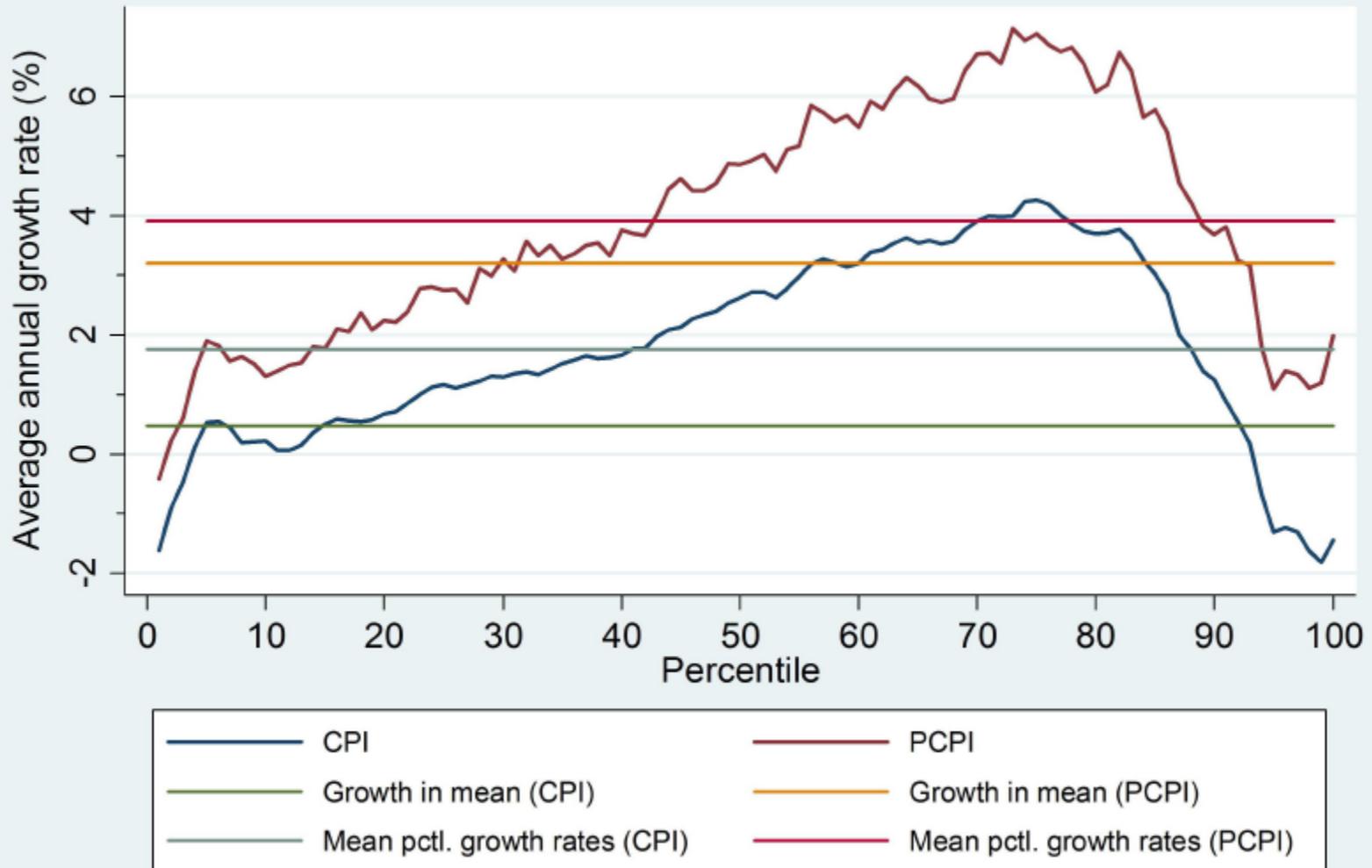
CDF of consumption expenditure per capita in 2010



— CPI deflator — PCPI deflator

Poverty and Prices

Growth Incidence Curves 2005 to 2010



Source: Own calculations, IES 2005/06, IES 2010/11 and published price indices.

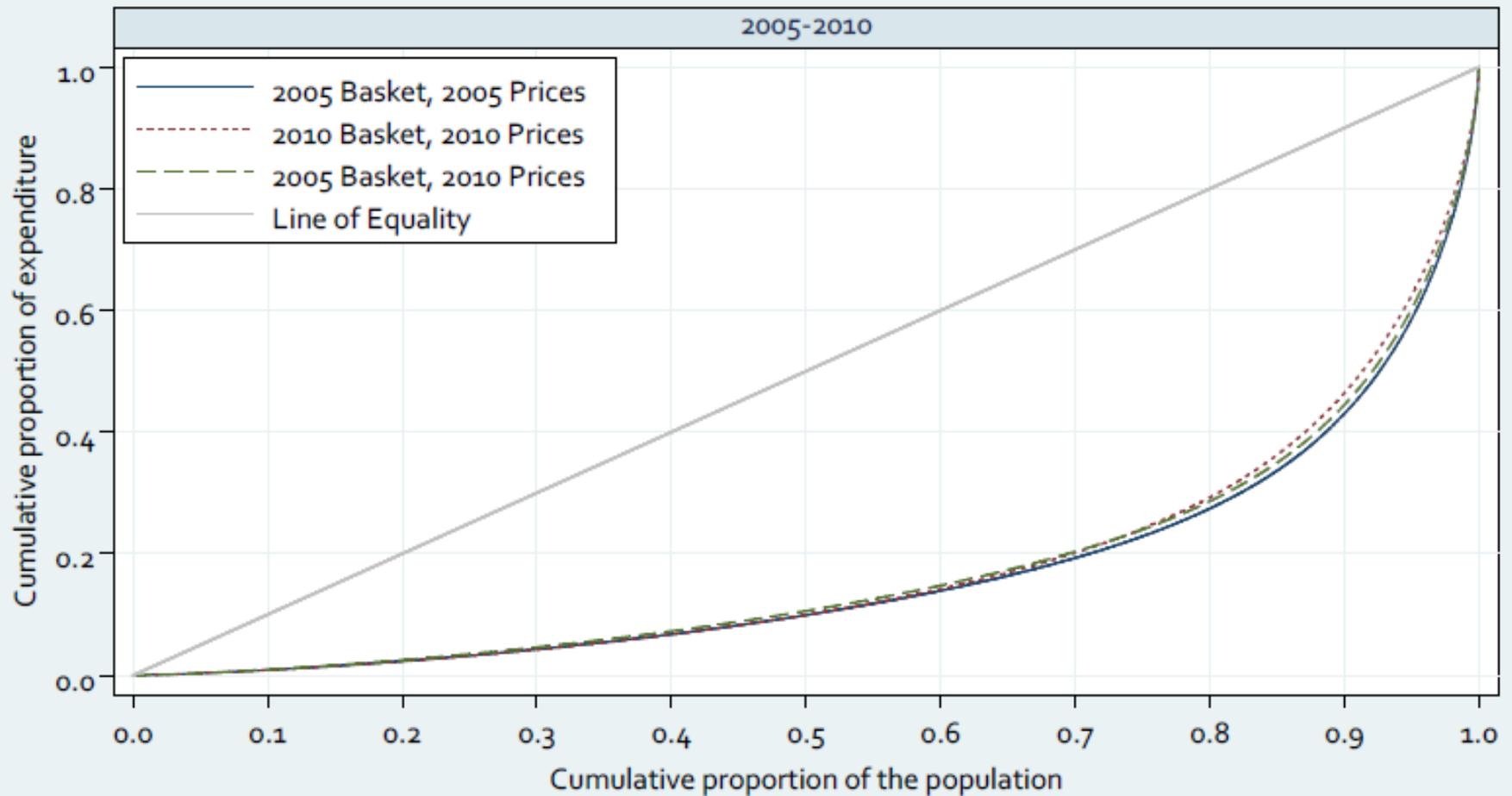
Poverty and Prices

- Follow Datt and Ravallion (1992) and Gunther and Grimm (2007) in decomposing:
- The overall reduction in poverty between 2005 and 2010 into
 - **A growth component** which lowered poverty,
 - **A redistribution component** which lowered poverty (more)
 - **A poverty line component** which was positive, indicating that inflation around the poverty line was anti-poor

Inequality and Prices

- Follow Goni et al. (2006) in decomposing the change in inequality indices of nominal consumption
- The percentage change in inequality is made up of an inflation inequality component ($P\Delta$) and a real inequality component ($Q \Delta$)

Inequality and Prices



Source: Own calculations, IES 2005/06, IES 2010/11 and published price indices.

Inequality and Prices

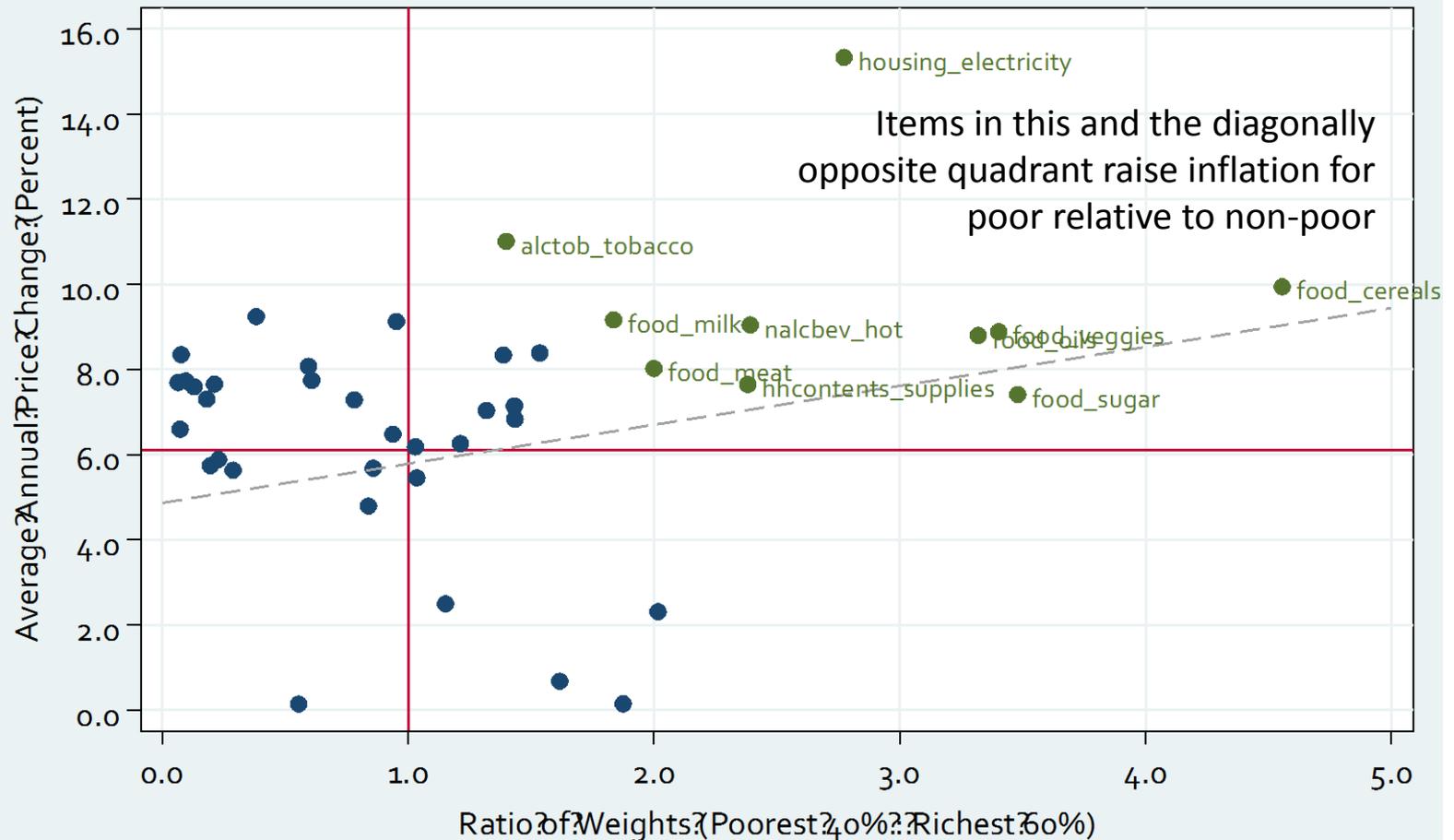
- The effect of real inequality changes outweighs that of differential inflation
- Changes in real inequality and in differential inflation worked in the same direction for all periods
- As was the case with poverty, price changes between 2005 and 2010 were anti-poor

So what is driving these results?

- Differing levels of exposure of households to high and low inflation items
- Of the 14 items with the highest price increases (>8% p.a.), poorest 40% of individuals have relatively greater exposure to 10
 - Typically these are food items, necessities that represent 47.2% of total expenditure for poor, 25.0% for non-poor
 - Electricity is one of them

Thank You

So what is driving these results?

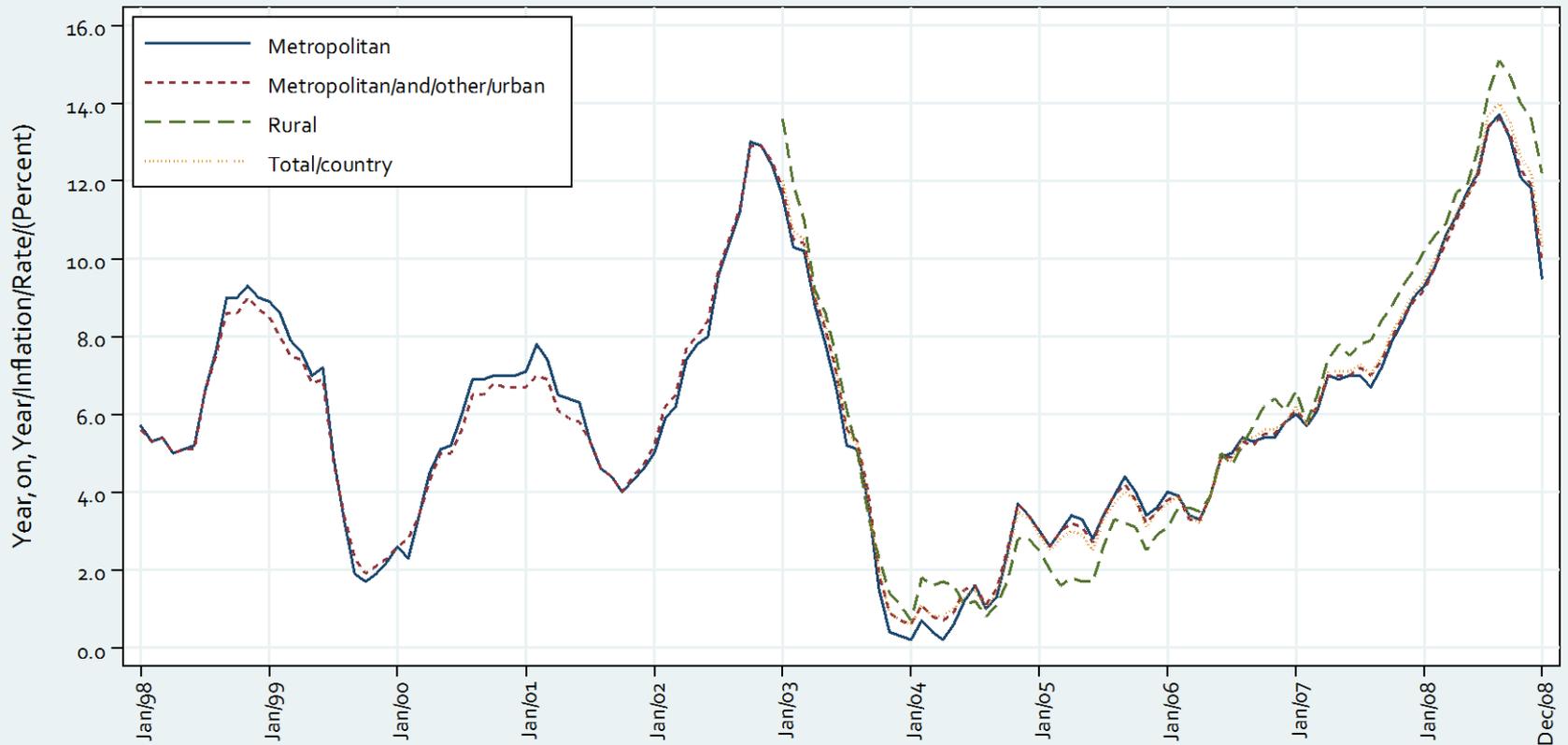


Four items with negative overall price changes were omitted from the scatter plot.

Composition of Expenditure

	1993	1995	2000	2005/06	2008 a	2008 b	2010
Food	39.2	25.8	25.7	15.8	21.3	25.0	16.5
Non-alc beverages	1.6	0.9	1.0	0.7	0.7	1.6	0.7
Alcoholic bev.	2.0	1.2	1.1	0.6	1.1	0.8	0.7
Tobacco products	1.9	1.3	1.4	0.8	1.2	0.7	0.7
Clothing & shoes	5.5	7.2	5.5	5.8	6.0	6.8	5.7
Housing	5.0	7.8	6.9	7.1	3.3	5.6	6.6
HH fuel & power	4.0	4.4	4.8	3.8	3.6	3.7	4.9
Furn. & equipm.	5.5	5.8	3.3	4.7	4.2	4.1	3.0
HH operation	7.6	4.7	5.2	3.4	6.9	3.3	3.5
Medical expenses	2.4	6.0	5.6	7.8	9.3	7.9	12.3
Transport	10.2	15.4	14.0	24.5	15.0	23.3	21.8
Communication	2.6	3.3	2.8	3.6	4.2	4.8	3.3
Recreation	1.6	2.4	2.6	4.5	4.9	3.0	3.3
Reading matter	0.7	0.7	1.0	0.6	0.5	0.9	0.5
Education	4.5	2.3	5.0	4.1	8.0	5.6	4.5
Personal care	2.5	3.5	4.6	1.5	1.7	1.7	1.6
Other	3.2	7.3	9.4	10.6	8.2	1.3	10.4

But geography does not seem to make a big difference to All Items CPIs



Composition of expenditure

- Key points to note:
 - Food: by far the largest, but massive variation and unrealistic values in 1993, 2005/06 and 2010
 - Significant variation for sub-categories of food, but as a share of food this is less marked
 - Transport: second largest, reasonable variation but very high value in 2005/06, 2008 (LCS) and 2010
 - Few categories exhibit clear, consistent trends

Available Price Indices

- All Items
 - Urban
 - Rural/total country from 2002
 - Province from 2002
 - By household expenditure quintile
- Major expenditure category and sub-category
 - Urban
 - Rural/total country from 2002

Poverty and Prices

- Three poverty lines are used
 - Food poverty line of R259 per capita per month (R3 108 per year)
 - Lower poverty line of R360 per capita per month (R4 320 per year)
 - Upper poverty line of R507 per capita per month (R 6 084 per year)

Poverty and Prices

- Follow Datt and Ravallion (1992) and Gunther and Grimm (2007) in decomposing changes in poverty
- Panel 1 decomposes into a growth effect, a redistribution effect and a residual
- Panel 2 adds in a “poverty line inflation” effect, where the poverty line is deflated by its own implicit rate, rather than by headline CPI

Poverty and Prices

Decomposition of changes in national poverty headcount measures

Measure	2005 to 2008	2008 to 2010	2005 to 2010
$\Delta P_{t+1,t}$	1.12	-4.48	-3.37
Growth (CPI)	7.08	-7.40	-1.09
Redistribution	-5.27	2.53	-2.50
Poverty line (CPI)	0.00	0.00	0.00
Residual	-0.69	0.38	0.22
$\Delta P_{t+1,t}$	0.46	-4.32	-3.86
Growth (CPI)	6.70	-7.08	-1.11
Redistribution	-5.82	2.42	-3.00
Poverty line (PLPI)	4.50	3.85	4.50
Residual	-4.92	-3.50	-4.25

Source: Own calculations, IES 2005/06, LCS2008/09, IES 2010/11 and published price indices.

Notes: 1. Headcount poverty measures are calculated on the basis of per capita household expenditure (i.e. these are individual-level measures).

Inequality and Prices

Distributional effects of inflation inequality, 2005-2010

Measure	Initial Inequality	Final Inequality	%Δ	Base in Initial Period		Base in Final Period	
				PΔ	QΔ	PΔ	QΔ
<i>2005 vs. 2010</i>							
Gini Coefficient	0.676	0.652	-3.49	-1.18	-2.30	-0.80	-2.69
Theil Index	0.971	0.868	-10.59	-3.03	-7.56	-2.77	-7.81
Mean log deviation	0.863	0.805	-6.68	-3.23	-3.45	-2.08	-4.60
<i>2005 vs. 2008</i>							
Gini Coefficient	0.676	0.635	-6.05	-1.27	-4.78	-1.76	-4.29
Theil Index	0.971	0.803	-17.26	-3.05	-14.21	-4.01	-13.25
Mean log deviation	0.863	0.749	-13.24	-3.51	-9.72	-4.44	-8.80
<i>2008 vs. 2010</i>							
Gini Coefficient	0.635	0.652	2.73	0.42	2.31	0.42	2.32
Theil Index	0.803	0.868	8.07	0.66	7.40	0.52	7.54
Mean log deviation	0.749	0.805	7.56	1.23	6.32	1.25	6.30

Source: Own calculations.

Notes: 1. Estimates of nominal inequality use prices from March 2006 for the 2005/06 IES expenditures, from March 2009 for the 2008/09 LCS expenditures and from March 2011 for the 2010/11 IES expenditures. These months are the same as those used by Statistics South Africa as the base month for IES and LCS data. 2. Inequality measures are calculated on the basis of per capita household expenditure (i.e. these are individual-level measures).