The Expansion of Consumption and the Dynamics of Welfare of the Brazilian Households: An Analysis of the Decomposition of Poverty and Inequality

By

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Motivation

- The complex and multidimensional nature of poverty and inequality assist in building appropriate indicator, which further captures the welfare of people and families.
- In this context, this study attempts to contribute the same by constructing an aggregate of family consumption based on the data of the Brazilian Family Expendtiure Survey (POF) for the time periods 2002-03 and 2008-09.
- Great deal of attention has been given to dynamic aspects of welfare, which show how the disnict growth rates of consumption/income of the poorer and the richer determine the values of inequlaity, poverty and the mean consumption/income over time.

Methodology

Based on the Oliveira et al (2016) methodology, consumption aggregates are divided into 5 broad groups of expense items namely: food; durable goods; housing; education, health & tarnsportation and other goods.

1. Food: Food expenditure is calculated for a short reference period of 7 days.
2. Durable Goods: Only the items of durable goods that are part of the 'Inventory of durable goods of the main residence' are included in the consumption aggregates. Instead of acquisition value, use cost of each durable good is calculated.
3. Housing: Expenses on rent, utility services, home refurbishment, furniture and household articles, electronics and electronics fixing and cleaning material are included.
4. Education, Health and Transportation and
5. Other Goods: Expenses related to clothing, culture and leisure, personal services, hygiene and personal care, smoking habits and other miscellaneous expenditures.

- The construction of consumption aggregates also involved use of spatial and time price deflators.
- Analytical and Counterfactual decompositions based on 'Shapley Value' are used for consumption and its components.
- For poverty analysis FGT(Foster-Greer-Thorbecke) methodology has been used.

- For measuring the effects of growth in consumption and inequality on welfare, Sen mean (assoiciated with Gini Index) and the geometric mean (associated with Atkinson) is used.

$$W_{SEN}(c) = \frac{\sum_i \sum_j \min(c_i, c_j)}{N^2} = \mu(c)[1 - I_{GINI}(c)]$$

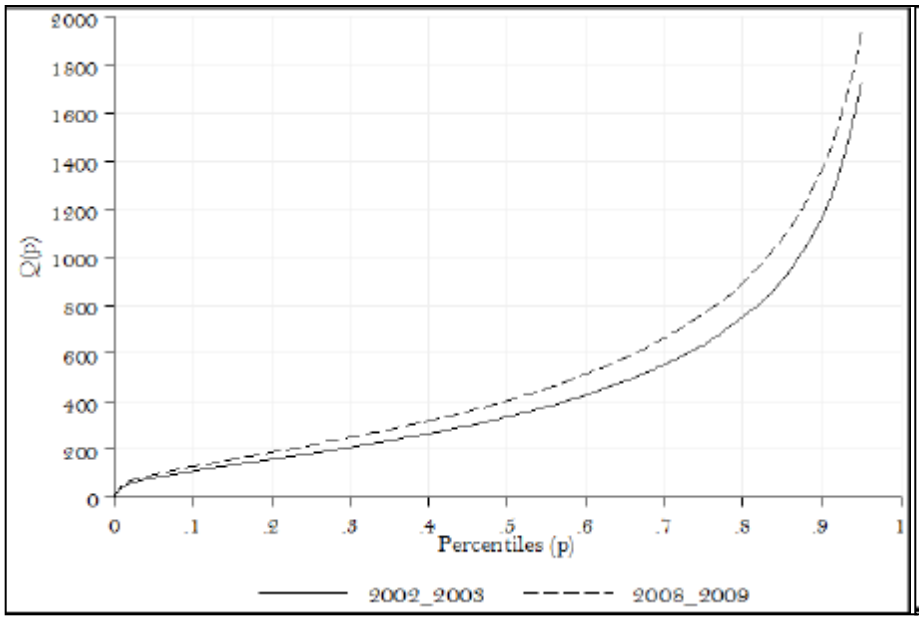
$$W_{GEO}(c) = \left(\prod_i c_i\right)^{1/N} = \mu(c)[1 - I_{ATK}(c)]$$

where: c_i = consumption of individual *i*; c_j= consumption of individual *j* , N= total population, $I_{Gini}(c)$= Gini index; $I_{Atk}(c)$= Atkinson´s inequality index; $\mu(c)$= mean *per capita* consumption.

Key Findings

Growth of Consumption, Inequality and their effects on Welfare

Fig: Pen's Parede and Growth Incidence Curve



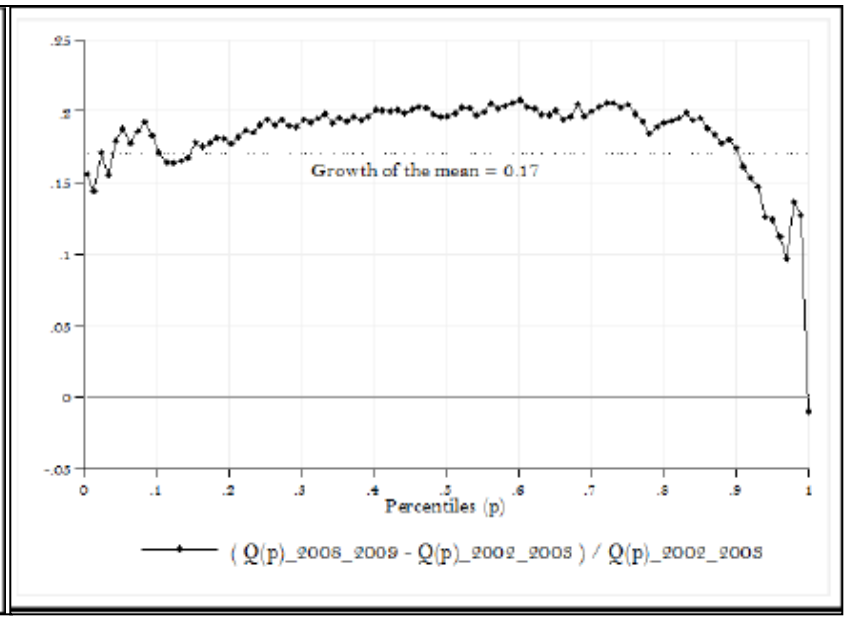
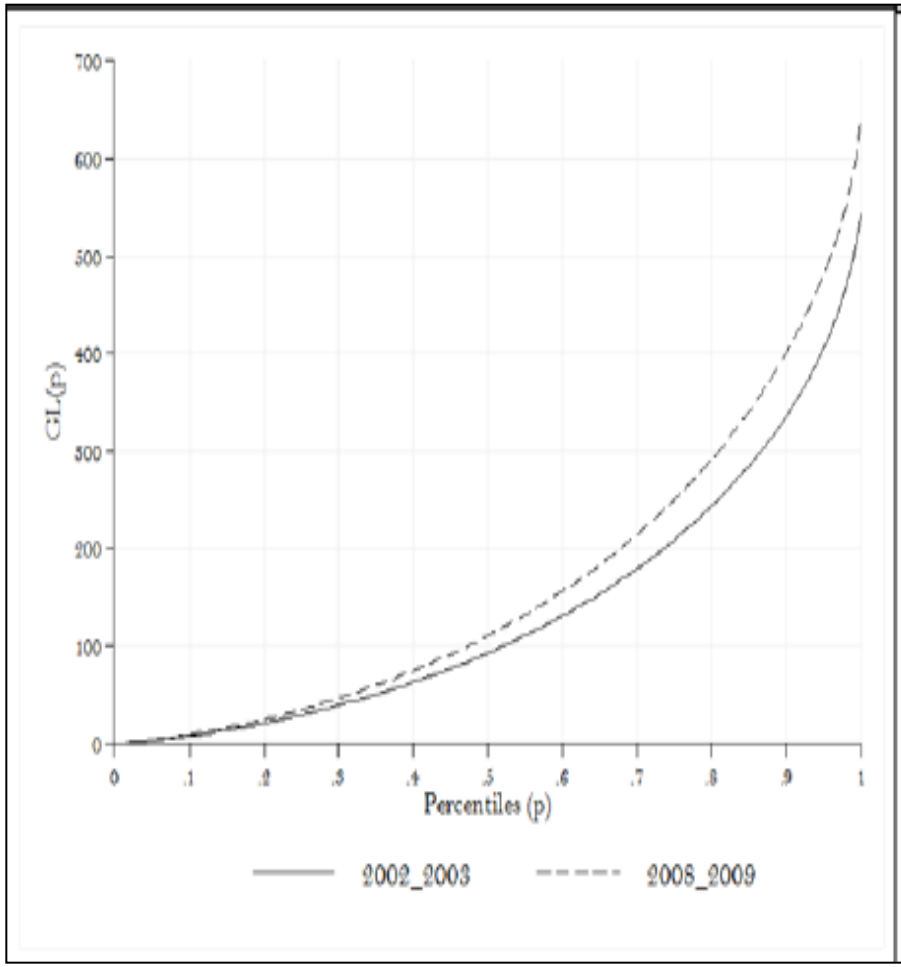
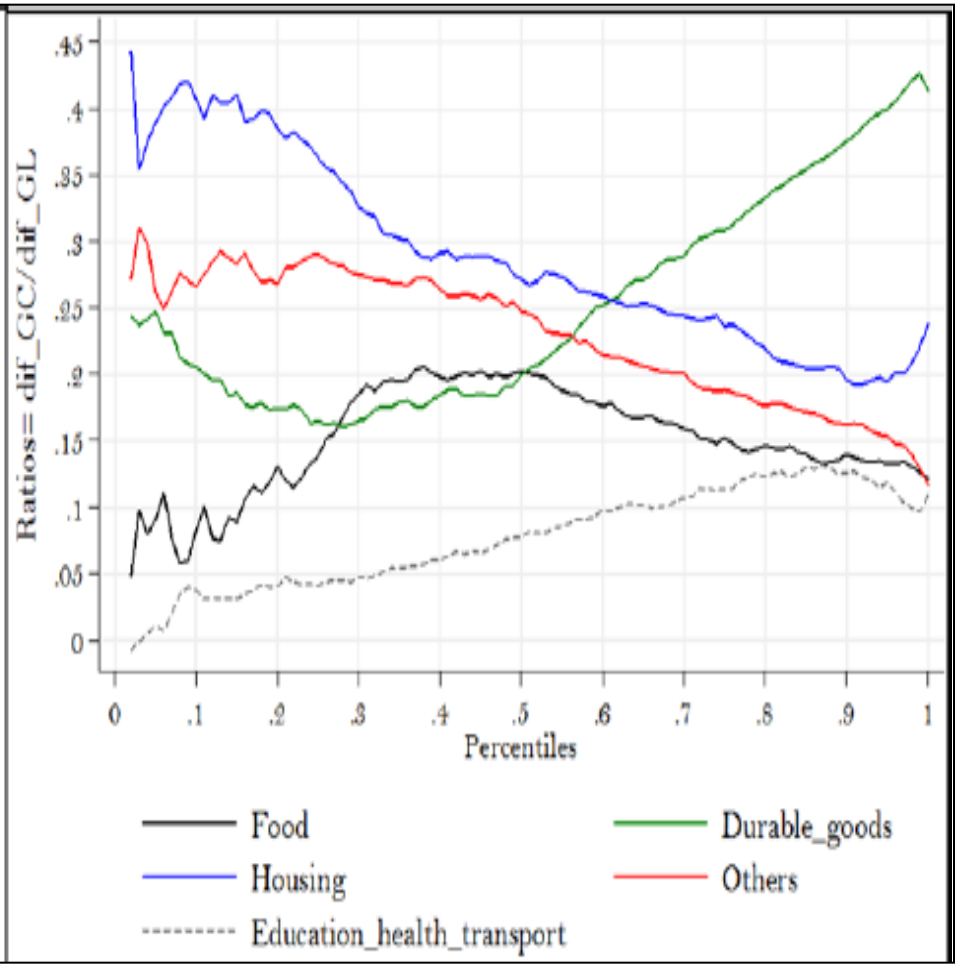


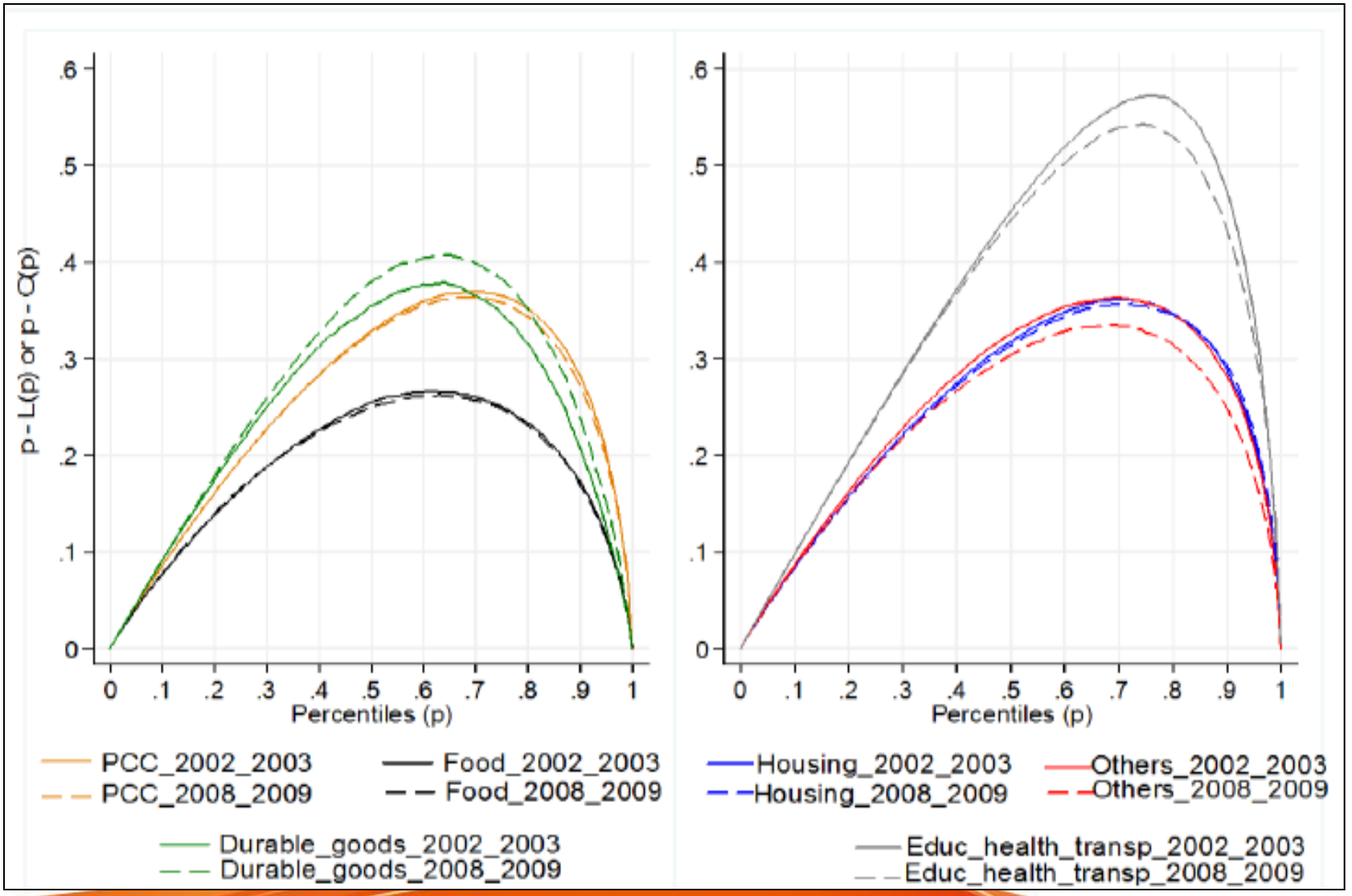
Fig: Generalised Lorenz Curve Partial means Growth Decomposition by consumption components





Inequality Decomposition

Fig.: Deficit share: Lorenz Curve and Concentration Curves (food & durable goods and other components



Poverty Decomposition

Table: Share and Shapley-FGT decompositions-absolute and relative contribution by consumption components

Share and Decompositions: Absolute and Relative Contribution				Food	Durable goods	Housing	Education, health, transport	Others goods	Total
POF 2002-2003			**Component Share**	**24%**	**9%**	**34%**	**16%**	**18%**	**100%**
	Poverty Line = R$ 207	FGT(α=0)	Absolute Contribution	-0.197	-0.060	-0.242	-0.080	-0.127	-0.706
			Relative Contribution	28%	9%	34%	11%	18%	100%
		FGT(α=1)	Absolute Contribution	-0.261	-0.086	-0.290	-0.085	-0.170	-0.891
			Relative Contribution	29%	10%	32%	10%	19%	100%
		FGT(α=2)	Absolute Contribution	-0.275	-0.099	-0.296	-0.089	-0.187	-0.946
			Relative Contribution	29%	10%	31%	9%	20%	100%
	Poverty Line = R$ 104	FGT(α=0)	Absolute Contribution	-0.275	-0.084	-0.310	-0.079	-0.161	-0.910
			Relative Contribution	30%	9%	34%	9%	18%	100%
		FGT(α=1)	Absolute Contribution	-0.286	-0.103	-0.302	-0.089	-0.195	-0.975
			Relative Contribution	29%	11%	31%	9%	20%	100%
		FGT(α=2)	Absolute Contribution	-0.280	-0.114	-0.291	-0.096	-0.207	-0.989
			Relative Contribution	28%	12%	29%	10%	21%	100%
POF 2008-2009			**Component Share**	**22%**	**13%**	**32%**	**15%**	**17%**	**100%**
	Poverty Line = R$ 207	FGT(α=0)	Absolute Contribution	-0.201	-0.106	-0.246	-0.079	-0.134	-0.766
			Relative Contribution	26%	14%	32%	10%	18%	100%
		FGT(α=1)	Absolute Contribution	-0.251	-0.120	-0.283	-0.089	-0.176	-0.919
			Relative Contribution	27%	13%	31%	10%	19%	100%
		FGT(α=2)	Absolute Contribution	-0.261	-0.126	-0.287	-0.095	-0.192	-0.961
			Relative Contribution	27%	13%	30%	10%	20%	100%
	Poverty Line = R$ 104	FGT(α=0)	Absolute Contribution	-0.265	-0.119	-0.301	-0.083	-0.170	-0.939
			Relative Contribution	28%	13%	32%	9%	18%	100%
		FGT(α=1)	Absolute Contribution	-0.268	-0.126	-0.292	-0.097	-0.200	-0.983
			Relative Contribution	27%	13%	30%	10%	20%	100%
		FGT(α=2)	Absolute Contribution	-0.262	-0.136	-0.281	-0.104	-0.210	-0.993
			Relative Contribution	26%	14%	28%	10%	21%	100%

Summary

- The per capita consumption has registered an increase of 17 per cent between 2002-03 and 2008-09, among the consumption comoponents Durable goods recorded around 40 per cent of this growth, followed by Housing (25 per cent).
- Education, health and transportation and other goods contributed for the reduction in inequality, while the concentration of durable goods has increased the inequlaities.
- Based on the Shapley-Gini(new) and Gini (Hoffmann-Soares) dynamic decompositions, if the inequality generated by the Durable goods is eliminated, the inequality reduction would be of 86 and 77 per cent respectively, greater than that is observed.
- The decomposition analysis of poverty per consumption component based on Shapley-FGT methodology showed that housing and food were the main contributers for reduction in poverty in two periods.

Comments

- Very interesting paper
- Elaborative methodolgy
- Welfare has increased due to increase in expenditure on durable goods. Expenditure on education?
- Determinants of poverty and inequality?
- Measurement of poverty & inequality on the basis of occupation, education etc.
- Pen's Parade for PCC truncated at 95 %
- Policy suggestions?