Decomposing Poverty Change:

Deciphering Total Change in Population and Beyond

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5 February 2014

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Presentation Format

- Measuring Poverty
  - Income, Population
- Decompositions
  - Analysis with mean income
  - Bringing total income
  - Total population
  - Multiple ways of decomposing
  - Controlling for Inequality
- Within-group and Between-group
- Empirical Illustrations

The Poverty Line
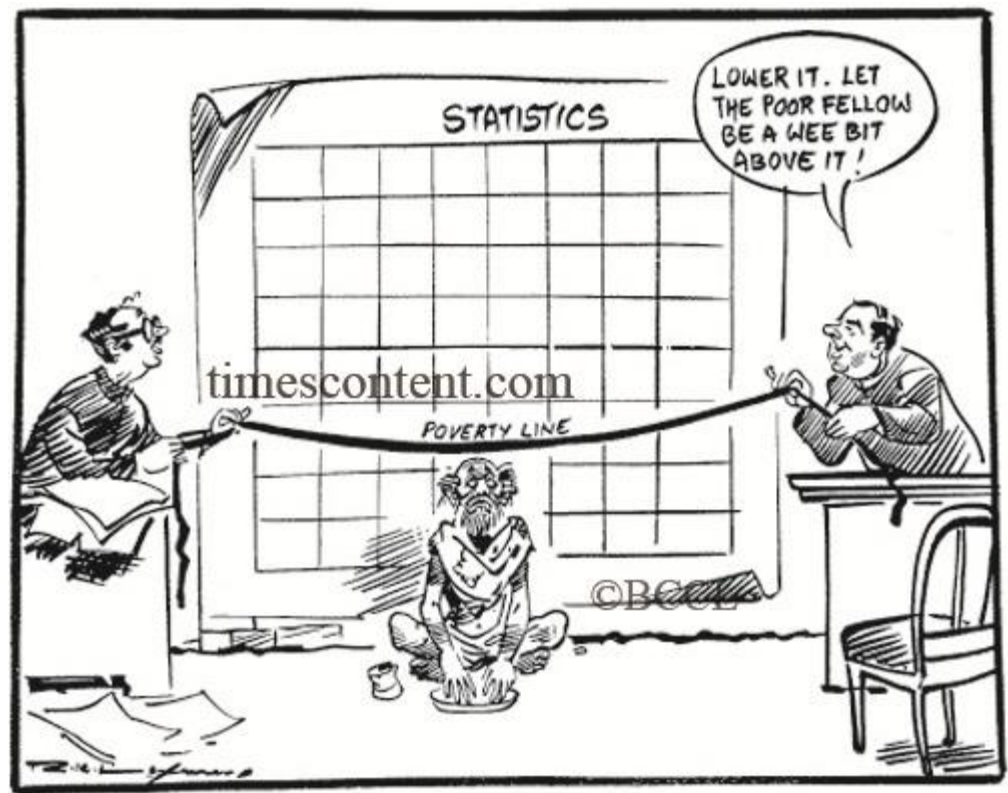
Measuring Poverty (Z=£35)

Name	Income	Poor
Suzi	10	1
Mae	20	1
Elina	30	1
Che	40	0

Poor %: 3/4*100=75%

Poverty post-growth (60%, Z=£35)

Name	Y	P	Y_g	P_g
Suzi	10	1	16	1
Mae	20	1	32	1
Elina	30	1	48	0
Che	40	0	64	0

Y=Income, P=Poor

Post-growth poor %: 2/4*100=50%

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Poverty post-distribution (Z=£35)

Name	Y_g	P_g	Y_d	P_d
Suzi	16	1	20	1
Mae	32	1	35	0
Elina	48	0	45	0
Che	64	0	60	0

Y=Income, P=Poor
Post-distn poor%: 1/4*100=25%

Poverty post-household correction, single-parent with a child (Z=£35)

Name	Y_d	P_d	Y_h	P_h
Suzi	20	1	16	1.2
Mae	35	0	28	1.2
Elina	45	0	36	0
Che	60	0	48	0

Post-population correction poor%:
2.4/4.8*100=50%

Poverty change: sequence, base P_1

Name	Y_1	P_1	$Y_{1|Y2}$	$P_{1|Y2}$
Suzi	10	1	15	1
Mae	20	1	30	1
Elina	30	1	45	0
Che	40	0	60	0
Total	100	3/4	150	2/4

Poverty change: sequence, base P_2

| Name	$Y_{2|Y1}$	$P_{2|Y1}$	Y_2	P_2
Suzi	14	1	21	1
Mae	16	1	24	1
Elina	20	1	30	1
Che	24	1	36	0
Bhu	26	1	39	0
Total	100	5/5	150	3/5

Multiple Ways of Decomposing

It depends on the base period and the sequence.
For a given base the sequences are

Growth-Inequality-Population
Growth-Population-Inequality
Inequality-Growth-Population
Inequality-Population-Growth
Population-Growth-Inequality
Population-Inequality-Growth

Within-group and Between-group

- Within-group
  - Growth (Total Income)
  - Total Population (Absolute change)
  - Inequality
- Between-group
  - Change in Population shares

The Story of Changing Poverty

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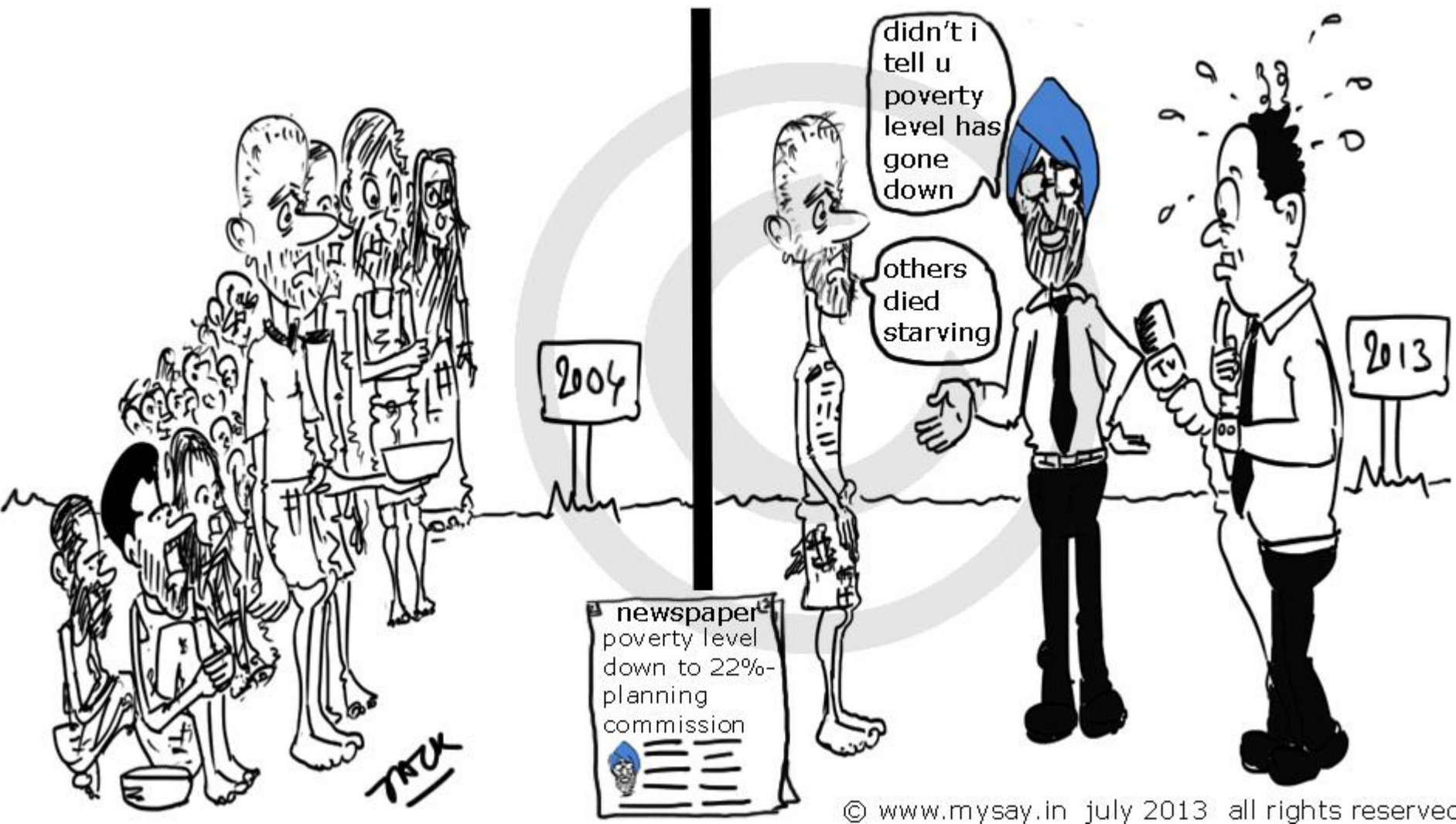
Basic Data

Sector	Specific Attribution	2004-05	2009-10
Rural	Poverty incidence (%)	41.93	33.77
	Total MPCE (billion INR, constant 2004-05 urban)	569.81	655.82
	Total population (million)	777.95	823.99
Urban	Poverty incidence (%)	25.49	20.80
	Total MPCE (billion INR, constant 2004-05 urban)	350.24	449.57
	Total population (million)	319.91	367.02
Comb-ined	Poverty incidence (%)	37.14	29.77
	Total MPCE (billion INR, constant 2004-05 urban)	920.05	1105.39
	Total population (million)	1097.86	1191.01

Multiple Possibilities

Effect	Specific attributions	Rural	Urban	Combined
Growth	Growth alone	-4.38	-4.43	-4.39
(Total	Growth given inequality	-2.23	-2.25	-2.45
MPCE)	Growth given population	-2.29	-2.56	-2.33
	Growth given inequality and population	-4.59	-5.17	-3.56
	Total growth effect	-13.49	-14.41	-12.73
Ineq-	Inequality alone	-0.18	0.61	0.47
uality	Inequality given population	-0.08	0.30	-0.57
	Inequality given growth	-0.13	0.27	-0.01
	Inequality given population and growth	-0.18	0.56	-0.03
	Total inequality effect	-0.57	1.76	-0.14
Popu-	Population alone	2.04	3.00	2.24
lation	Population given growth	0.91	1.15	0.98
(Total)	Population given inequality	1.02	1.50	0.31
	Population given growth and inequality	1.92	2.32	1.96
	Total population effect	5.89	7.96	5.50
Total	Total effect	-8.17	-4.69	-7.37

Within-group & Between-group Decomposition

Effect	Specific Attribution	Rural	Urban	Com-bined
Within group	Growth (total MPCE)	-9.45	-4.32	-13.77
	Inequality	-0.40	0.53	0.13
	Population Change (total)	4.13	2.39	6.52
	Total within group	-5.72	-1.41	-7.13
Between group	Population Change (Share)	-0.63	0.39	-0.24
Total	Total effect	-6.35	-1.02	-7.37

Lessons Learnt

Source: http://www.tutor2u.net/blog/index.php/economics/comments/cartoon-on-inequality-perfect-for-explaining-analysis-and-evaluation

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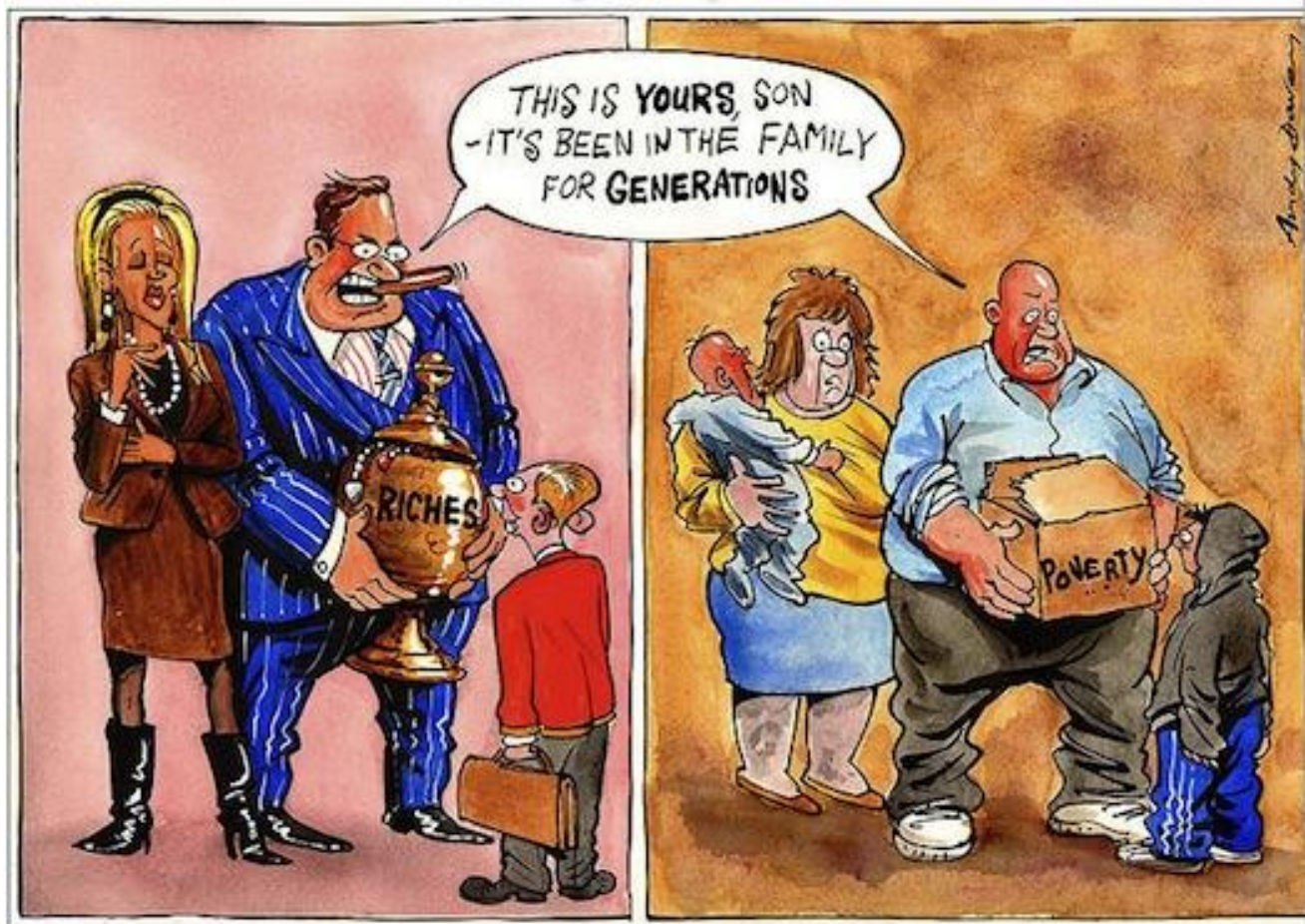
Concluding Remarks

- Extending the scope of poverty decomposition to bring in total population effect and one that is separate from the growth of total income by doing away with the existing approach of analysis of growth effect through mean income.

- Incorporated our formulation to the decomposition of within-group and between-group effect with total income, total population and inequality being part of the former while change in population shares being a part of the latter.

Communication Details

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