

Cost of Living for Low Income Groups in Ireland, 1996-2003

Main Objectives of Research

- Measure the Consumer Price Index (CPI) for groups of households in Ireland, 1996-2003
- Compare these CPIs with national estimate of CPI.

Context

- Academic and political debate about whether the CPI can be considered as a Cost of Living Index (COLI). Majority view is that CPI, as generally estimated, **overestimates** changes in the COLI
 - Politically appealing
- Consumption patterns are not uniform across households so a State CPI can be quite inaccurate as an indicator of changes in COL for these groups
 - Disaggregation analysis can rectify this
 - Less interest in this direction of research among academics

What's new about this research?

- Use of individual household records (for 1996-2003)
- Looking at more household types
 - All income deciles, urban, rural, aged etc
 - Statistically test the significance of results over different categories of households
 - Statistical analysis of reasons for gaps between groups
- Used a variety of indices (Laspeyre, Paasche, Fisher, Tornqvist, and a 'democratic' Laspeyre's Index)
- Identification of some high and low inflation groups

What is the CPI?

- Tracks the cost of a basket of goods over time (weights attached to each good in the basket are assumed to be typical of the representative household consumption pattern)
- Economists say that this is a Cost of Goods Index (COG) not a COL index
- COL index is one that tracks the expenditure necessary to maintain a **Standard of Living** over time
- Laspeyre COG index > COL index

More about what COLI should measure

- Different basket of goods that would give a household an equal standard of living
 - Based on household preferences
- Concept of standard of living is subjective
- Only one basket is observable (actual basket consumed) others are hypothetical

Ideal COLI contd

- Economists assert that we can deduce indirectly what these hypothetical bundles would have been by looking at how consumption behaviour changes when the relative prices of goods change
- Their ideal COLIs assume that underlying tastes don't change and that preference ordering of goods will not change as income changes
- When prices change the rational consumer's basket will contain more of the relatively cheaper goods.

- The Laspeyre (L) index is the upper end of the COLI
- The Paasche (P) index is the lower end of the COLI
- The Fischer (F) and Tornqvist (T) indices are a reasonable approximation of a COLI
- If the assumption of economic theory regarding consumer behaviour were to hold, we would expect $L > P$ and **F** to be **intermediate to L and P**

Main Reasons why COG (Laspeyres) indices are seen to overestimate COL changes

Measurement of changes in cost of living is subject to charge of substitution bias

- *between similar products*
- *between outlets.*

COL estimates can also be overstated because of

- *improvements in product quality*
- *new products not included in the index.*

Research Hypothesis:

- Overstatement, we think, is more probable for higher income groups because of more choices among products and outlets.
- This is arguable, and our results here are inconclusive.

Data

- Expenditure weights in this research are based only on information contained in Household Budget Surveys (HBS) from 1994 and 1999. CPI weights change every 5 years (in Oct. 1996, 2001)
- Price changes for individual categories of goods are published in index form on a monthly basis
- All data is produced by the CSO. Some differences from CSO procedures but our figures closely track CSO figures.

1. CPI's for Different Groups

• Group Categories

- a) State Mean (Benchmark)
 - b) A Number of 'Core Groups' e.g. the Aged, Single Parents, Non-Home Owners
 - c) Plus Income Deciles (State, Urban, Rural)
 - d) Many Other Groups
- Laspeyres' Indices calculated for each of these groups.

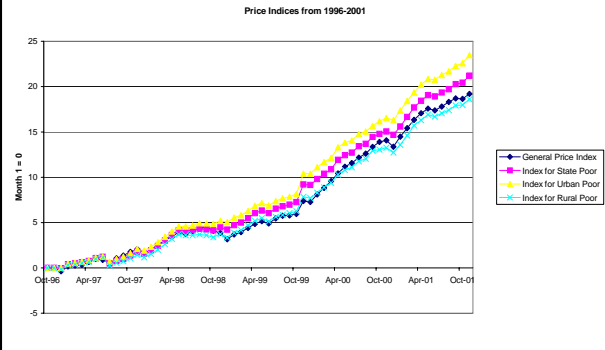
Results for One Group: Income Deciles in Urban Areas (disaggregated data), 1996-2001

CPI Index for Urban Decile 1 minus CPI Index for the State
Mean =3.6

| | |
|-------------------|---------------------|
| Decile 1-2 = 1.6* | 0.57* (family adj.) |
| Decile 1-3 = 2.2 | 1.56 |
| Decile 1-4 = 2.7 | 2.01 |
| Decile 1-5 = 3.0 | 2.39 |
| Decile 1-6 = 3.3 | 2.89 |
| Decile 1-7 = 3.7 | 3.16 |
| Decile 1-8 = 4.1 | 3.10 |
| Decile 1-9 = 3.5 | 3.81 |
| Decile 1-10 = 3.3 | 3.94 |

(all differences statistically significant, except *)

Inflation for 4 groups, 1996-2001 (using aggregate data)



2. Contribution of Specific Goods to the Index Gap (e.g. between the Urban Poor and the State Mean, 1996-2001)

| WIDEN GAP | | NARROW GAP | |
|-----------|---------------------|------------|--------------------------|
| 1.85 | Rent + | -0.07 | Electricity - |
| 0.83 | Clothing - | -0.08 | Milk - |
| 0.42 | Motor Cars - | -0.08 | Other Entertainment + |
| 0.41 | Cigarettes + | -0.09 | Other Medical + |
| 0.23 | Motor Fuel + | -0.09 | Medical fees + |
| 0.21 | Coal etc. - | -0.12 | Other services + |
| 0.20 | Potatoes + | -0.15 | Meals Out + |
| 0.17 | Other exp - | -0.19 | Telephones - |
| 0.15 | Footwear - | -0.30 | Motor Insurance + |
| 0.10 | Mortgage Interest - | -0.36 | Education and Training + |

3. Indices for Groups Created on the Basis of Different Inflation Rates: Indices for 2001, with 1996=100

Group 1 (920; 129.8): Small Households, Exp.=211, Dublin/large towns, rented, single (parent), 56% Male headed

Group 2 (3013; 121.7): Exp.=255, Older/Mature, Rural/Dublin/Smaller Town, 76% Male headed, Mortgage

Group 3 (2978; 116): Larger Household again, Exp.=295, married w. kids, 76% Male headed, Mortgage

Group 4 (966; 108.8): Exp.=346, Otherwise similar to Cluster 3

4. 4 indices for 4 groups (2001)

| State | Laspeyre Index | 118.0 | Urban Poor | Laspeyre Index | 121.6 |
|--------------------------|-----------------|-------|------------|-----------------|-------|
| | Paasche Index | 118.1 | | Paasche Index | 120.1 |
| | Fisher Index | 118.0 | | Fisher Index | 120.9 |
| | Tornquist Index | 116.4 | | Tornquist Index | 119.4 |
| Privately rented Housing | Laspeyre Index | 125.7 | Rural Poor | Laspeyre Index | 116.9 |
| | Paasche Index | 124.4 | | Paasche Index | 118.4 |
| | Fisher Index | 125.0 | | Fisher Index | 117.6 |
| | Tornquist Index | 122.9 | | Tornquist Index | 116.4 |

5. Democratic CPI's (2001)

- These are fixed basket indices which weight each household equally. Thus, they measure the extra amount of money needed per house to buy a fixed basket of goods.

| Plutocratic Index | Democratic Index |
|-------------------------|------------------------|
| 117.98 | 118.79 |
| State | |
| Income Deciles (1=poor) | |
| 119.33 | State Decile 1 120.19 |
| 119.69 | State Decile 2 120.54 |
| 118.51 | State Decile 3 119.38 |
| 118.41 | State Decile 4 118.78 |
| 118.12 | State Decile 5 118.70 |
| 117.35 | State Decile 6 117.97 |
| 117.78 | State Decile 7 118.19 |
| 117.42 | State Decile 8 117.74 |
| 117.87 | State Decile 9 118.06 |
| 117.98 | State Decile 10 118.38 |

Welfare Implications

- The most important results for welfare are that, for 1996-2001, the COG indices for the two lowest urban income deciles and for those in private rented and local authority accommodation are a good deal higher than the published CPI.
- Even when we look at COL indices these gaps still exist, though they are narrower.

General Implications for Measuring the Cost of Living

- It is difficult to say how valid the COL indices here are, both because
- A) some of the results are 'strange' (e.g. those for bottom rural decile), casting doubt on the necessary assumptions of constant tastes and 'homothetic preferences' for the time period concerned
- B) there are deeper, more general, issues connected with the idea of trying to measure a COL index.

Policy relevance

- Separate indices needed from CSO for different household types
- Different kinds of indices needed (e.g. democratic index)
- More concern about which goods are increasing in price, and not just the general price level.
- Inequality measures could use data on expenditure as well as income.
- A more general focus on consumption and expenditure, as well as income, for the analysis of poverty.