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Measuring Economic Well-Being in a Multidimensional Perspective

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Aims of the paper

- Contribute within the research project INEQ covering many aspects of inequality: mechanisms, effects and policies

- Identify structural differences among European countries
  - concerning inequality of living conditions and opportunities
  - quantified by well-being indicators, so to
    - compare living standards across countries and
    - find out whether a trend may be singled out

Map of the paper

- **Concepts**
  - Welfare and well-being
  - Well-being and poverty
  - Poverty and social exclusion

- **Measures**
  - Macro- and micro-dates
  - Uni- and multi-dimensional indexes
  - Subjective and objective point of view/approach

- **Methods**
  - Assiomatic → dominance criteria for ranking multivariate distributions
  - Inequality indexes → →

- **Application and results**
  - Four EU countries assessed **(F,I,DK,)**
  - over four attributes
    - Univariate distributions
    - Multivariate distributions

Welfare & well-being

- **Welfare economics**:
- a social welfare function is defined
- income is implicitly seen as a proxy of welfare
- utilitarian approach
- a number of problems:
  - Interpersonal comparisons of utility
  - Value judgements

- **Well-being**
- a social evaluation function is defined to rank distributions
- it is intrinsically multi-dimensional
- non utilitarian
- it seeks a measure for "a good life"

Well-being & poverty

- A poverty line defines the set of the poor as distinct from the set of the non-poor

- Useful when the two homogeneous "types" fully correspond to the two dichotomous sets

- It implies a bimodal distribution

- A continuous variable showing an unimodal distribution does not allow a clear and non-arbitrary separation in two sets

- well-being & poverty represent opposite sides of the same gradual dimension

Poverty & social exclusion

- Poverty is deprivation of some essential items e.g. income
- In multidimesional environment how deprivation over different dimensions should be combined?
  - Substitution?
  - Complements?

- Social exclusion is concerned with individuals having
  - impaired access to opportunities,
  - inability to develop full potential,
  - impossibility to take part into society,
  - and therefore deprived

Measures

- **Unidimensional**
  ➔ one monetary variable:
    - Income ➔ disposable income & taxes
    - Expenditure ➔ savings & investment
- Everything may be bought and sold ➔ prevalence of the market domain

- **Multidimensional**
  ➔ many interwoven factors:
    - Monetary ➔ command over resources
    - Health ➔ nutrition, safety, longevity
    - Education ➔ literacy, attainment, schooling
    - Housing ➔ shelter
- Functionings & capabilities

Measures based on

- **macrodata**
  - Unidimensional ➔ e.g. GDPpc
  - Multidimensional ➔ HDI on 3 dimensions:
    - 1/3 Life expectancy at birth
    - 1/3 Education ➔ 2/3 adult literacy + 1/3 gross enrolment
    - 1/3 GDPpc PPP US$

- **microdata**
  - Unidimensional ➔ e.g. Gini
  - Multidimensional ➔
    - Personal
      - Education
      - Health
    - Household
      - Income
      - Housing
    - …

subjective & objective measures

- Subjective measures: everyone is the best judge of her/himself:
  - Satisfaction evaluation
  - Self assessment of personal conditions on various issues
  - How do you feel? Well-being&happiness

Own value judgements paternalism excluded

- Objective measures:
  - Nutritional requirements based on expert advice
  - Basic needs defined on a basket of goods
  - Measurable dimensions:
    - disposable income
    - educational attainment
    - access to "relevant" goods and services

Normative in choosing relevant issues, items, dimensions

Methods

- **Assiomatic**
  - Dominance criteria provide partial orderings based on social preference
  - Mainly, homogeneous populations as to the characteristics which are not relevant from well-being point of view (age, sex, …)

- **Inequality indexes**
  - order all distributions
  - homogeneous populations not needed
  - Problems as to:
    - Dimensions identification ➔ what is relavant
    - Choice of attributes ➔ how measurable it is
    - Aggregation rules ➔ cardinality, weights, categorial variables …

Inequality indexes

- Fuzzy sets
  - Zadeh, 1965
  - Dubois & Prade, 1980
  - Cerioli & Zani, 1990
  - Cheli & Lemmi, 1995
  - Chiappero Martinetti, 2000, 2006

- Assiomatically built
  - Kolm, 1977
  - Atkinson & Bourguignon, 1982
  - Maasoumi, 1986, 1999
  - Tsui, 1995, 1999
  - Mueller & Trannoy, 2003
  - Weymark, 2006

They all share difficulties over
concept definitions and aggregation rules

difficulties

- Ranking individuals over heterogeneous dimensions such as:
  - Income ➔ ranks command over resources
  - Education ➔ *per se* + ability of enjoyment
  - Health ➔ *per se* + ability of self support
- Value judgements on inequality due to:
  - Effort ➔ legitimate inequality
  - Circumstances ➔ social background
  - Luck ➔ beyond individual control