Justice in health: how to measure inequality of what?

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A. Introduction: two issues

- *Equality of what?*

- The issue of *responsibility* has invaded social choice and political philosophy ("*luck egalitarianism*") in recent decades.

- Justice is a normative concept. Ethical reflection to be combined with economic analysis.

B. Some principles

Why care about health inequality? <u>A consequentialist hierarchy of principles</u>:

– what matters is inequality in individual well-being.

– health is important as a crucial component of well-being.

– health care is important if it contributes to a better health (or directly to well-being).

• "A state of affairs in which those who are otherwise worse off are healthier than those who are otherwise more fortunate is *more* just rather than less just than a state of affairs which is exactly the same except that health is equally distributed" (Hausman, 2007).

What about inequity in health care?

- <u>Beyond consequentialism</u>: respect for autonomy and dignity of all human beings ("relational egalitarianism" - e.g. Elisabeth Anderson).

- Equal treatment in situations of pain, suffering, confrontation with death can be seen as a basic condition of respect for human dignity.
  - Illustration: Jones et al., JHE 2011, "dignity", "clarity of communication", "confidentiality" etc.

C. Responsibility and (in)equality of opportunity

- Define an outcome function:

$$y_i = f(x_i) = f(c_i, r_i)$$

  - "mechanism" determining the outcome (health, health care, well-being).
  - distinction between "illegitimate" ("compensation", circumstances/types) and "legitimate" ("responsibility", effort) causes of inequalities.

- QUESTION: how to "measure" inequality if we want to "compensate" individuals for differences in *c* while holding them "responsible" for differences in *r*?

- *The formal framework is "general", in that it holds for all possible responsibility cuts (and outcome measures).*

- Existing conditional approaches (e.g. socio-economic health inequalities) are just simple versions of this general framework (with SES as the only compensation variable).

Compensation and responsibility

- EX POST COMPENSATION (how to treat individuals with the same values for the legitimate variables)

$$\forall i, j \text{ with } r_i = r_j, \ y_i = y_j$$

- RESPONSIBILITY (how to treat individuals with different values for the legitimate variables).
  - Thought experiment: what to do if everybody has the same circumstances (i.e. if compensation is not needed)?
  - Different proposals in the literature.

Norm-based inequality (fairness gaps)

- Fix a reference value for the circumstance variables and calculate a "norm" outcome for *i:*

$$y_i^{NORM} = f(\tilde{c}, r_i).$$

- Calculate the distance between the norm outcome and the actual outcome. This is called the "fairness gap":

$$fg_i = y_i - y_i^{NORM}.$$

- Calculate the inequality $I(fg_i)$.

- Two special cases.

- How to choose $\tilde{c}$? The best approach is to take the circumstances of the "best-off" type (rather than the average, which is common in the literature).

Indirect approach

- It has become popular in the literature to calculate "inequality of opportunity" as

$$I^{IEOP} = I(y_i) - I(y_i^{NORM}).$$

- Yet this is a very strange measure.
    - EXAMPLE: take $y^{NORM} = (20, 40)$.
    - Compare two outcome distributions: (21, 39) and (39, 21).
    - These will give the same value for I^{IEOP}.

- From reduced form to structural modelling.

- How to treat the residuals?

- A plethora of inconsistent results.

- The literature until now has been dominated by reduced form approaches, in which one estimates, e.g.

$$h = h(SES_i, d_i, P_i).$$

- This makes it nearly impossible to take a sufficiently worked out ethical position. Compare

$$h = h(hc(hn(SES_i, d_i, P_i^1), SES_i, d_i, P_i^2), hn(SES_i, d_i, P_i^1))$$

- Crucial variables work through different channels and there is no reason to think that the responsibility cut would be the same in all these channels.

- Only a well-specified structural model can identify these different channels. Good econometrics is badly needed! Normative consideration should not impose a straightjacket on the empirical work.
  - some examples of counterfactual analysis: Garcia-Gomez et al., HE 2015; Jones et al., SCWE 2014).

- Many normative papers rely on overly primitive econometrics. Many empirical papers draw implicit normative conclusions without a coherent normative framework. <u>Important to change this situation.</u>

How to treat the residuals?

$$y_i = f\left(c_i^{obs}, r_i^{obs}, res_i\right)$$

- Residuals will capture "luck", but also the effects of misspecification and omitted variables.

- Often the residual is simply neglected. The interpretation of this practice will depend on the inequality measure used.

  – Example of fairness gap: $y_i^{NORM} = f(\tilde{c}, r_i, 0)$ - residual interpreted as illegitimate cause of differences.

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Two better alternatives

1. Calculate each time the results with the residuals either as *c* or as *r* variable. This gives upper and lower bounds.

2. Residual as a mixed variable:
   – Take γres_i as "compensation" and $(1 - \gamma)res_i$ as "responsibility" variables.
   – Again, estimation of a structural model may help in getting a better insight into the size of *γ.*

A fundamental question: "luck"

- Certainly in the health context, the treatment of random factors is of utmost importance.

- In the traditional approach "luck" must be seen either as a compensation variable or as a responsibility variable (cf. Dworkin: "brute luck" versus "option luck").

- Recent proposal by Lefranc and Trannoy (SCWE 2017): treat luck as a "third" category.
  - Distribution-wise compensation principle
    $$F_{Y|C,R}(y|c,r) = F_{Y|C,R}(y|c',r)$$

    INTERPRETATION: Luck must be distributed in an even-handed way.

A plethora of inconsistent results

- Good that more and more people now start calculating EOP. Yet:
    - different definitions of C and R, largely determined by ad hoc availability of data.
    - conditioning by different variables makes it very difficult to compare studies even for the same country and a fortiori between different countries.
    - basic problems (residuals, luck, ethical choices) very often neglected.
- Perhaps partial approaches (e.g. socioeconomic inequality, preferably based on childhood circumstances) are not so bad after all, if interpreted cautiously?

III. The philosophical discussion again

- *Richard ARNESON (1989), Gerald COHEN (1989), John ROEMER (1993)*
  - individuals should only be held responsible for characteristics and decisions that are within their own <u>control</u> (e.g. not for preferences that are "imposed" upon them by their education)

- Seems intuitively very attractive and dominates the empirical work.

- "Genuine control" requires that one also corrects for interindividual differences in (internal) choice-making abilities and in the (external) environment (in so far as it is not chosen by the individual).

Determinism and free will

- Is there any room left for "control" in a deterministic world, if we better and better can understand and explain behaviour?

- In general, in a world where the belief in determinism seems great, "it is difficult to expand equality of opportunity in ways that satisfactorily address the constraining effects of social circumstance, gender socialisation, cultural convictions and so on, without undermining the idea of people as responsible agents" (Phillips, J. Pol. Philosophy, 2006).
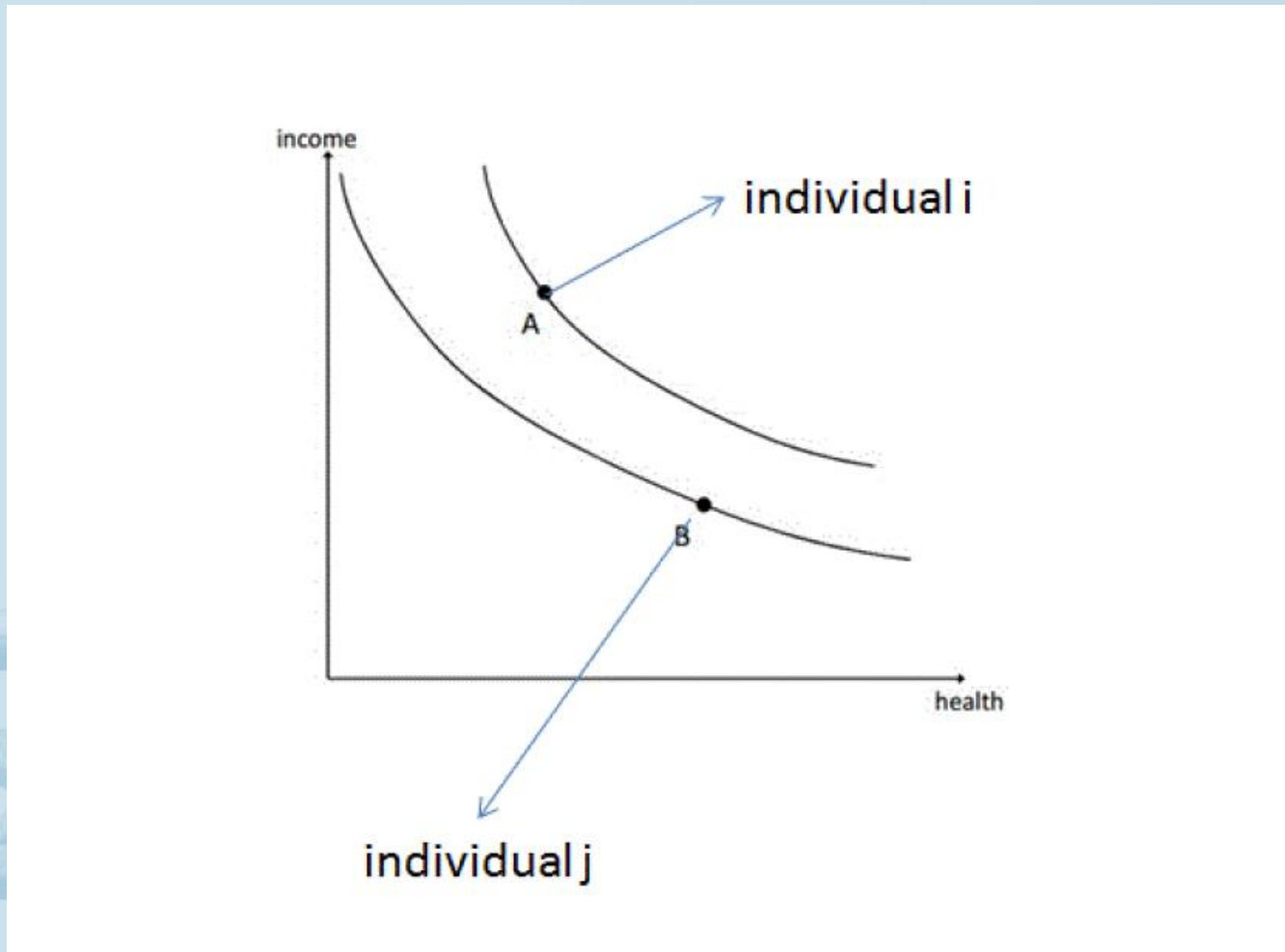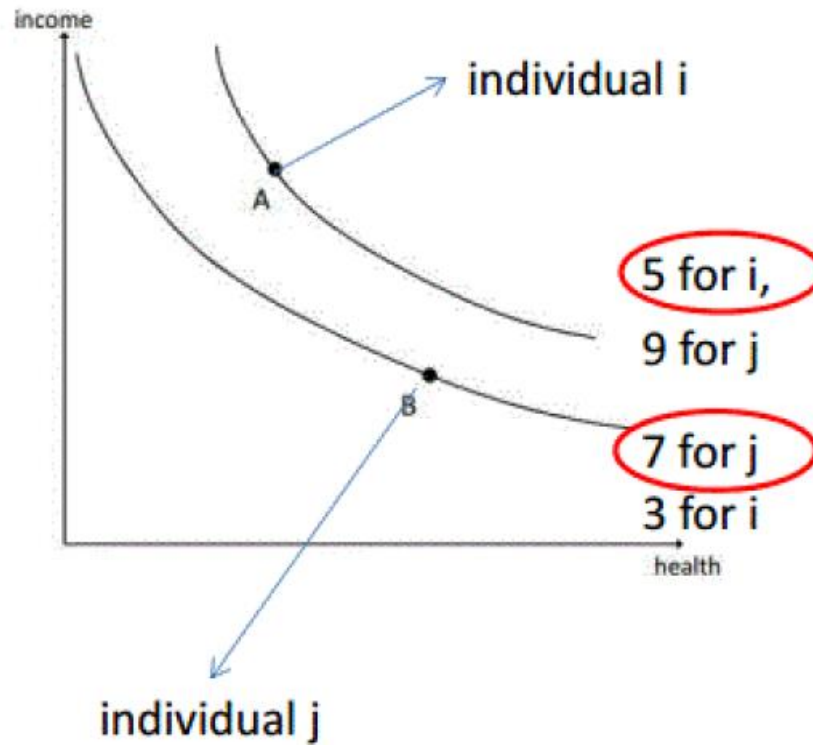
Responsibility for preferences

- Back to Rawls and Dworkin: individuals are held responsible for their preferences (their conceptions of a good life), even if these preferences are not chosen/are not under their control.

- Dworkin: respect for individuals implies respect for their preferences with which they identify (when people endorse their preferences, it is bizarre to consider these as a piece of bad luck).

- Fleurbaey: autonomous individuals must have the freedom to practice the activity of choice as much as desired and possible.

D. From health to well-being

- Remember: what ultimately matters is inequality in well-being.

- How to measure well-being? This is again a normative question!
  - "Objective" measures – multidimensional inequality.
  - "Happiness" (subjective utility).
  - Preferentialist approaches: individuals have different conceptions about what is important in life and these different conceptions should be respected in evaluating their own situation.

- "Objective" measures: a deep conflict between multidimensional Pigou-Dalton principle and Pareto principle.

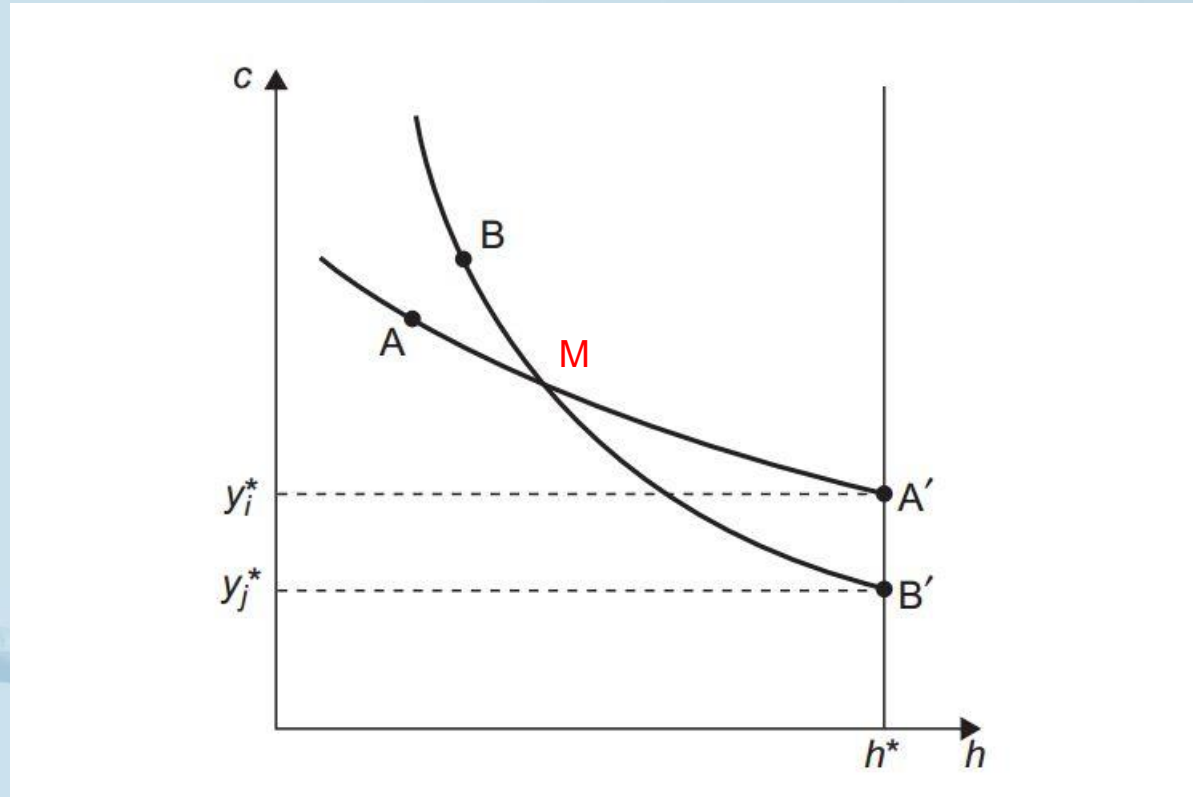# Happiness measures do no respect preferences

A striking example: locked-in syndrome

Figure 3 Distribution of Anamnestic Comparative Self-Assessment ratings in locked-in syndrome.
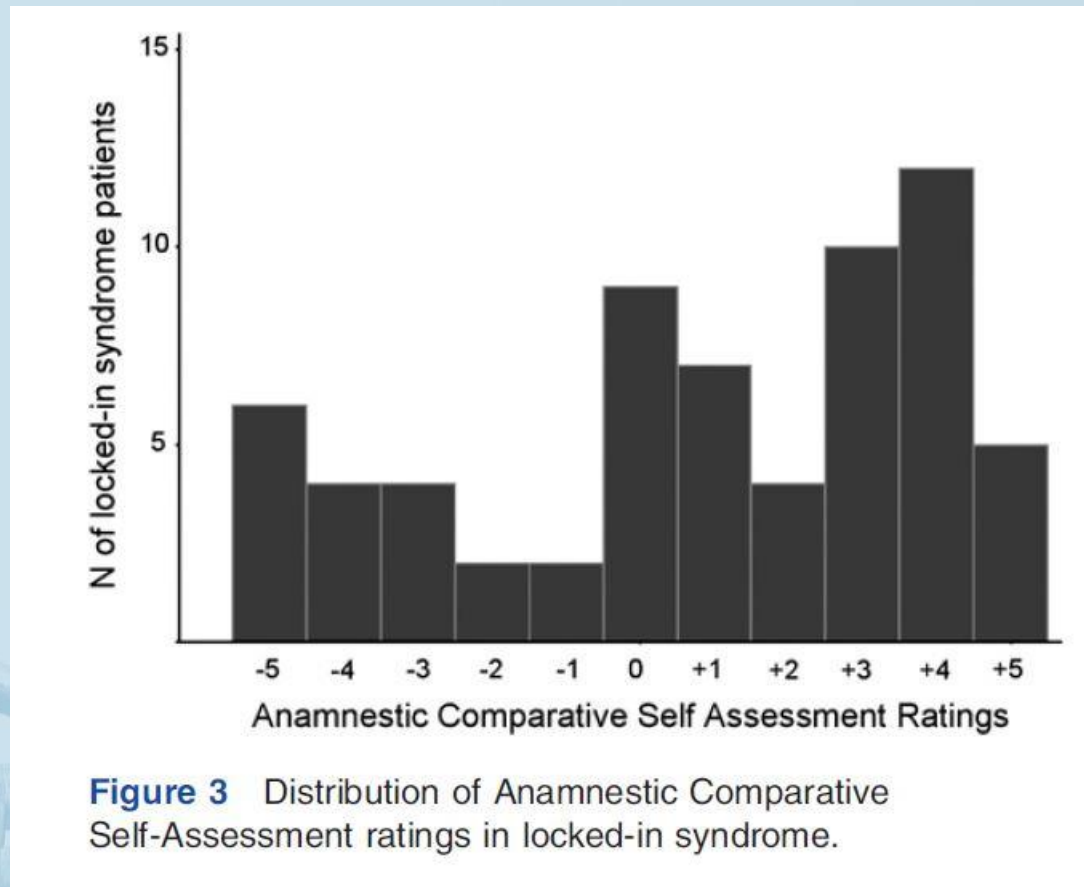
Source: Bruno et al., BMJ, 2011

Equivalent income = actual income – WTP to be in perfect health

The empirical challenge: identifying preferences

- "Stated" preferences, based on contingent valuation or deriving ordinal information from happiness equations.

- "Revealed" preferences: again, a structural model is needed to <u>identify preferences.</u> We need good econometrics before we can do good normative analysis.

- <u>IMPORTANT: what has to be respected are the authentic ideas of individuals about what they consider to be important in life. These are not necessarily revealed in behaviour.</u>

A note on "behavioural imperfections"

- The real challenge: how to identify "authentic" preferences if real-life decisions are based on poor information and if people follow (irrational?) decision heuristics.

- Most fascinating normative questions now on the borderline between behavioural and health economics.

- A first start: accept that the preference relation is (or can be) incomplete.
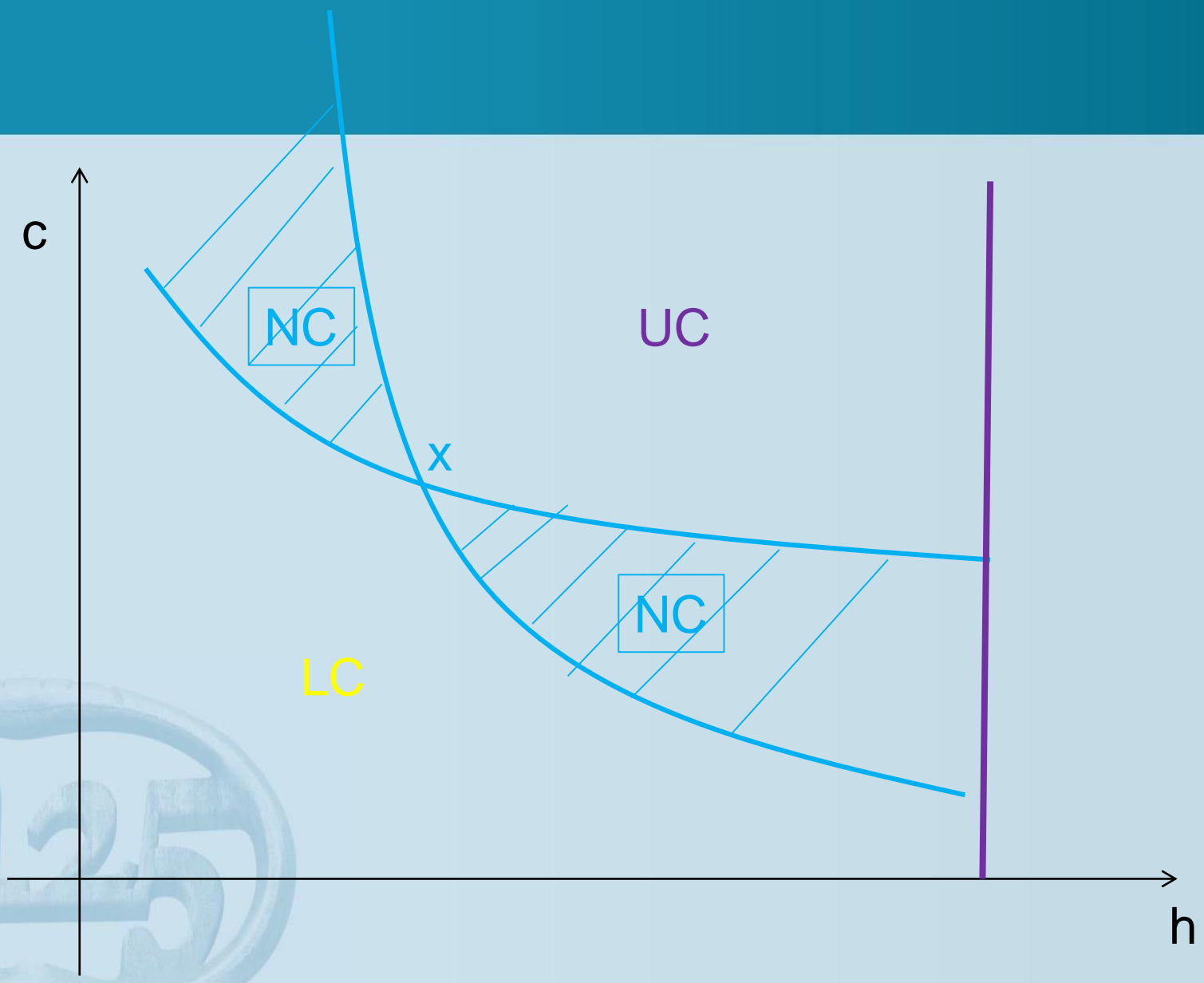
Source: Fleurbaey and Schokkaert, AEJ Micro, 2013

Two remarks

1. (Joanna) What about "capabilities"? How to aggregate different dimensions of life in one "well-being" measure? Sen's idea of "deliberation" about identification and weighting of the life dimensions is an attractive idea to explore.

2. (Werner) Once one has an ethically attractive measure of well-being, it can also be introduced in a social welfare function capturing inequality aversion. This social welfare function can then be used in priority setting (making it possible to take into account explicitly the trade-off between consumption and health, i.e. the optimal size of the health budget).
   – e.g. Samson et al., Health Economics 2018.

Conclusion

- Normative evaluation should start from an explicit choice of value judgments. Ethical opinions differ. <u>Sensitivity analysis</u> creates room for social debate.

- Ultimately, the goal should be to derive policy conclusions. Necessary to go beyond associations and try to identify the <u>causal relations</u> that explain the inequality results. *Do not put the empirical analysis in the straitjacket of a simplified normative theory.*

- The main empirical challenge: <u>how to identify "authentic" preferences</u>?