



The Measurement of Capabilities: An Overview

Or How to Measure Wellbeing if You Must

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Paul Anand
Economics, The Open University and
RA Health Economics Research Centre, Oxford University
RA London School of Economics (CPNSS)



AIMS OF INTRODUCTION

- Provide Overview of Capabilities Measurement Project
- Illustrate some ways we've addressed the measurement and operationalisation issues
- Flag up some resources and welcome collaborations



Capabilities Measurement Project – Some Collaborators and Advisors

Philosophy and Social Science

Ian Carter

Keith Dowding

Francesco Guala

Martin van Hees

Graciela Tonon

Maria Sigala

AHRB

Economics and Health

Alastair Gray

Graham Hunter

Paula Lorgelly

Jaya Krishnakumar

Peter Moffat

Cristina Santos

Judit Simon

Ron Smith

Laurence Roope

Amartya Sen

James Heckman

Leverhulme Trust



Some publications

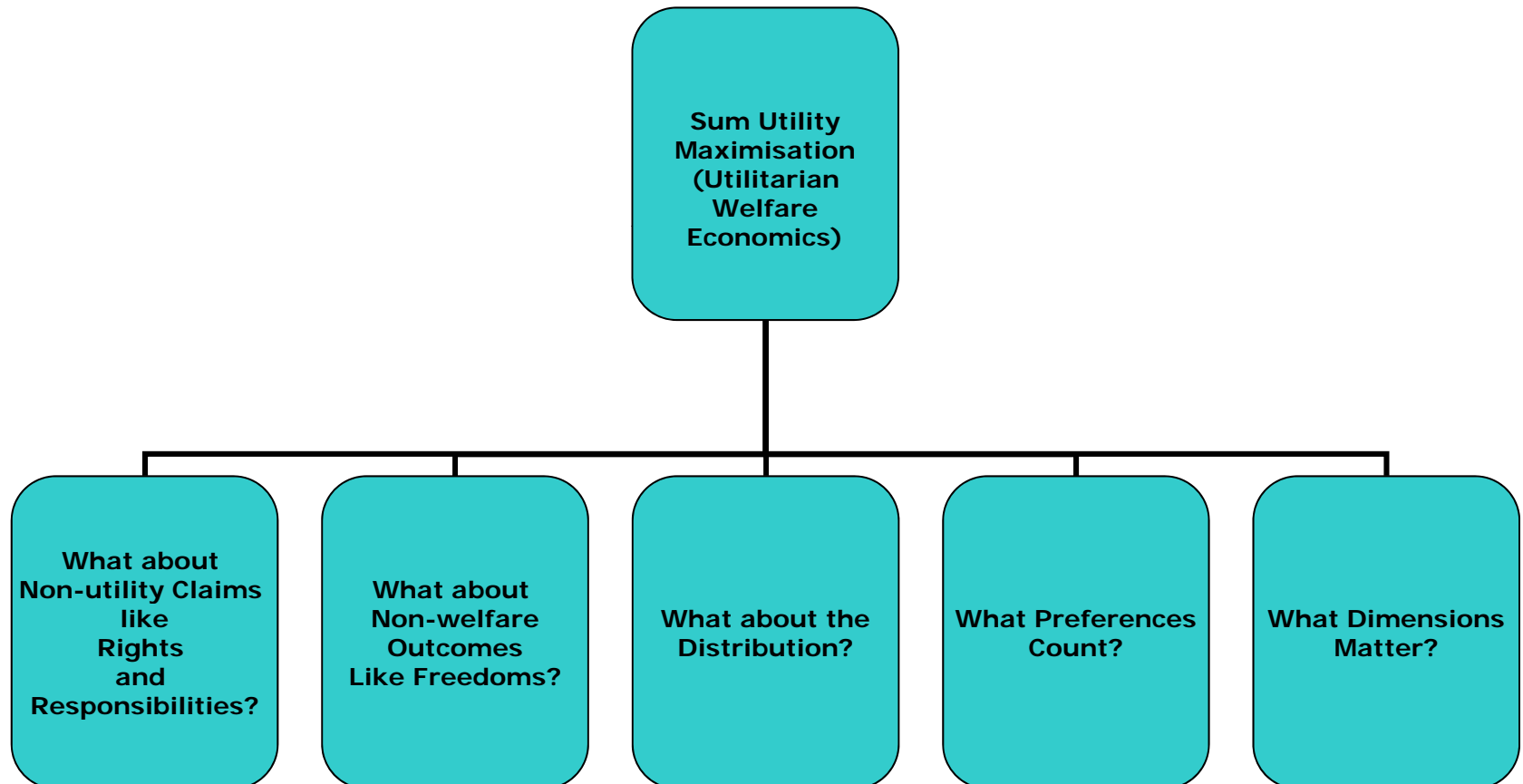
Journal of Human Development
(2009)

Chapter in Festschrift for Amartya Sen
Arguments for a Better World,
Oxford University Press, Basu and
Kanbur, (2009)

Journal of Public Economics (2011)

**Social Indicators Research, Journal of Health Economics, Journal of Medical
Ethics, Health Economics etc**

Modern Social Choice and Welfare Theory



Theory (Sen 1985 pp11-4)

Sen's Three Equations

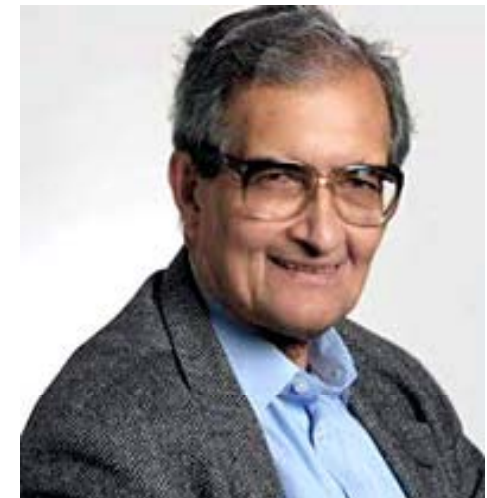
EQ 1. $f_i = f_i(x_i)$ - heterogeneity in conversion

EQ 2. $u_i = h_i(f_i)$ - happiness

EQ 3. $Q_i = \{f_1, f_2, \dots, f_m\}$ / endowment - advantage

x_i is vector of commodities possessed by i
 $f(.)$ converts resources into activities
(doings/beings aka functionings)

" Q_i represents the freedom a person has in terms of the choice of functionings, given his personal features F_i ...and his command over commodities x_i ."



Empirical Approach

$$f_i = f(r_i, c_i) \dots k \text{ dim}$$

$$h_i = u(f_{i,1}, \dots, f_{i,k})$$

$$Q_i \equiv \{ \mathbf{f}_{i,r} \} | e$$

$$\equiv \{ \max f_{i,1}, \dots, \max f_{i,k} \} = \hat{Q}_i$$



Beyond GDP

Measuring progress, true wealth, and the well-being of nations

International Initiative

Language: DE|EN|FR

About Beyond GDP

- EU Roadmap 2009
- Commission proposal
- Launch event (8 Sept)
- Press documents

Recent News
 FAQ
 Background Papers
 Newsletter

- Indicators
- Developments

OVERVIEW OF SELECTED INDICATORS "BEYOND GDP"

This page identifies **just a few** of the key approaches and indicators discussed at the Beyond GDP conference.

The conference also identified areas where policy making processes can include such measures and where more regular reporting can help improve public awareness of progress, true wealth and well-being.

General approaches

- [Adjusted GDP](#)
- [Environmental accounts](#)
- [Quality of life measures](#)

Featured indicators



Some Early Empirical Capabilities Research

- Human Development Index
- Schokkaert and van Ootegem (1990)
- Enrica Chiappero Martinetti (1994, 2000)
- Laderchi (1997)
- Kuklys (2005)

- Andrea Brandolini (1999)

"The purpose is to assess the operational content of the approach ie the empirical methods to measure functionings and capabilities...much of what one can do depends the available data...we discussed the practical difficulties of moving to capabilities and proposed to remain in the (refined) functionings space."

Source: Plenary paper given to the International Economics Association Congress, Buenos Aires



AHRB Project to Measure Capabilities

Research Question

Can we measure capabilities across a wide spectrum of human domains within the conventions applicable to national household and social surveys?



Framework for Questions

The OCAP 2005 instrument

Nussbaum's List

Comprehensive

Robust (similar to others)

Don't require universal claims

Has normative grounding



Question Categories

- Life
- Bodily Health
- Bodily Integrity
- Senses Imagination and Thought
- Emotions
- Practical Reason
- Affiliation
- Nature
- Leisure
- Control over one's Environment



Bodily Health

- Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter

- 2 Bodily Health
- *Being able to have good health,*
- BHEALTH (Q57)
- Does your health in any way limit your daily activities compared to most people of your age?
- Yes, No. **BHPS**
- *including reproductive health;*
- BREPRODUCT (Q61)

- **Are you able to have children?**
- Yes, No, Don't know, Prefer not to answer
- If No
- **Please indicate the reason(s) you are not able to have children.**
- I cannot have children because of: Q62_1 My age; Q62_2 I have had a vasectomy / hysterectomy; Q62-3 Another medical condition; Q62_4 My partner being unable / unwilling; Q62_5 Another reason; Q62_6 Prefer not to answer.
- *to be adequately nourished*
- BNOURISH (Q59)
- **Do you eat fresh meat, chicken or fish at least twice a week?**
- Yes/No **BHPS**
- **If No**
- Q60
- **For which of the following reasons, if any, do you NOT eat fresh meat, chicken or fish at least twice a week? [Please tick all that apply]**
- I am vegetarian/vegan, I cannot afford to, I do not like eating fresh meat, chicken or fish that often, I do not have time to prepare fresh food., Some other reason
- *to have adequate shelter.*
- BSHELTER (Q85)
- **Is your current accommodation adequate or inadequate for your current needs?**
- More than adequate, Adequate, Inadequate, Very inadequate
- BCANMOVE (Q86)
- **Are you prevented from moving home for any reason?**
- Yes, No
- **If yes**
- Q87
- **What prevents you from moving home?**
- Lack of money/finances; The Council would be unlikely to re-house me; Family responsibilities and/or schooling; I could not move out of my current accommodation because of some other reason



HEALTH STATUS

Does your health in any way *limit your daily activities* compared to most people of your age?

Yes, No. **BHPS**



REPRODUCTION

Are you able to have children? NEW

Yes, No, Don't know, Prefer not to answer

If no please indicate the reason(s) you are not able to have children

I cannot have children because of:

Q62_1 My age

Q62_2 I have had a vasectomy / hysterectomy

Q62_3 Another medical condition

Q62_4 My partner being unable / unwilling

Q62_5 Another reason

Q62_6 Prefer not to answer



NOURISHMENT

Do you eat fresh meat, chicken or fish at least twice a week?

Yes/No **BHPS with additions**

If No

(Q60)

For which of the following reasons, if any, do you NOT eat fresh meat, chicken or fish at least twice a week? [Please tick all that apply]

I am vegetarian/vegan

I cannot afford to

I do not like eating fresh meat, chicken or fish that often

I do not have time to prepare fresh food

Some other reason



ADEQUATE SHELTER

BSHELTER (Q85)

Is your current accommodation adequate or inadequate for your current needs?

More than adequate, Adequate, Inadequate, Very inadequate

BCANMOVE (Q86)

Are you prevented from moving home for any reason?

Yes, No

If yes (Q87)

What prevents you from moving home?

Lack of money/finances;

The Council would be unlikely to re-house me;

Family responsibilities and/or schooling;

I could not move out of my current accommodation because of some other reason



5 Types of Capability Indicators

Type 1. Opportunities

Type 2. Abilities

Type 3. Constraints

Type 4. Functionings + Reasons

Type 5. Functionings + Universality

Dependent Variable

SWB2

Capability Variables	Coeff.	S.Error	t-Stat	Prob.
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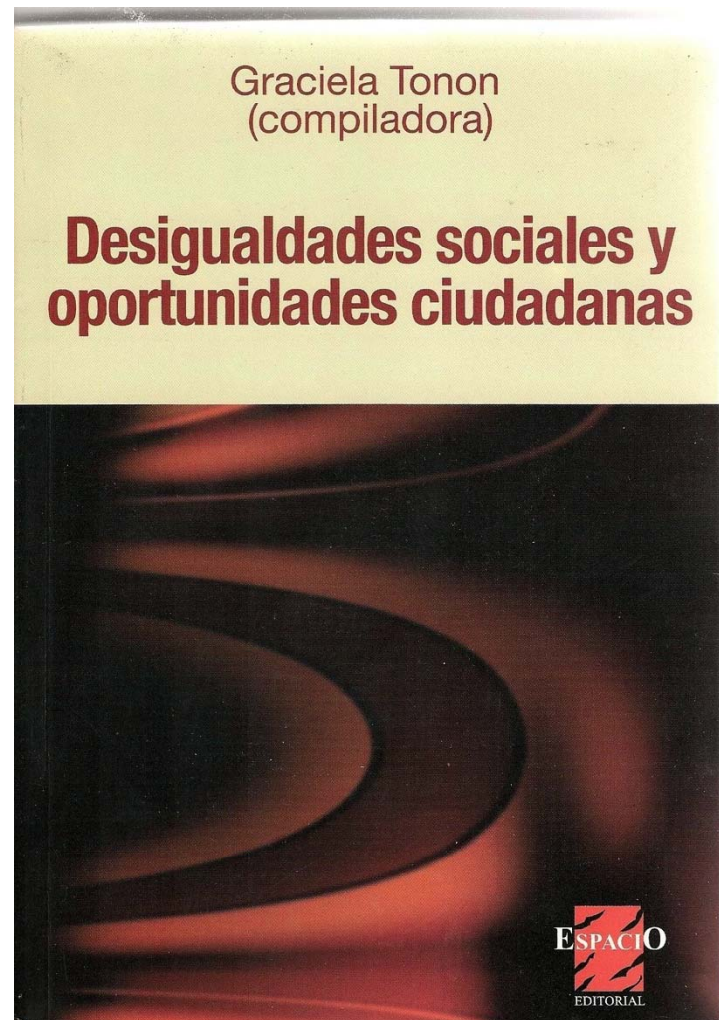
BSHELTER	0.27	0.09	2.93	0.00
CDASALTP	-0.17	0.08	-2.01	0.04
CSEXSAT	0.25	0.07	3.33	0.00
ELOVE	0.08	0.03	3.03	0.00
EFEELING	0.11	0.03	4.14	0.00
ESTRAIN	-0.13	0.04	-3.24	0.00
FGOOD	0.09	0.03	3.17	0.00
FPLAN	0.12	0.02	5.10	0.00
FEVALUATE	-0.06	0.03	-2.15	0.03
FROLE	0.36	0.05	6.89	0.00
GCONCERN	0.09	0.03	2.69	0.01
GHOLIDAY	0.27	0.08	3.28	0.00
GWORTH	0.35	0.04	7.86	0.00
JRACEWP	-0.54	0.17	-3.18	0.00
JRACEWF	0.08	0.03	2.26	0.02
JSEARCH	-0.05	0.02	-2.20	0.03
JSKILLSW	0.08	0.03	2.61	0.01

(linear
approximations)

Adjusted R-squared	0.53
Akaike info criterion	2.62
Schwarz criterion	2.73
Durbin-Watson stat	1.83

ARGENTINA

- 2007 Survey
- 1000 Adults





3 AIMS

- Further develop and refine the survey instrument as proposed by Anand et al
- Validate the instrument for use in public health evaluations
- Propose how future evaluations might employ the capability approach

4. METHODOLOGY

This project was conducted in three phases:


– Phase One reviewed the literature on capability, questionnaire design and outcome measurement; this informed the initial design and layout of the questionnaire (see Appendix One – version 1). Members of the public were recruited for five focus groups, during which they discussed the range of questions, style of elicitation, their understanding and the overall questionnaire design. The results of these focus groups, together with secondary analysis (factor analysis) of Anand's original YouGov data (N=1048), then informed the first revision of the questionnaire (version 2).TPF

1

FPT This revised version was piloted in a postal survey and via interviews with members of the general public.

– Phase Two involved a thematic analysis of the interview data and a quantitative analysis of all completed questionnaires (factors analysis and correlation patterns) with the aim of identifying areas in which the questionnaire could be further reduced. The questionnaire was then redesigned using the reduced set of questions (version 3) prior to further interviews and a postal survey. The results from the second phase were used to validate and test the reliability of the instrument.

– Phase Three involved an analysis of the data from version 3 of the questionnaire, including further reflection on the debate between 'functioning' and 'capability' (by means of eliciting the public's preferences regarding each), and also an attempt to generate an index of capability.



Violent Crime, Gender Inequalities and Life Satisfaction (Anand and Santos 2007)

Data

- Past Experience/Future vulnerability to domestic, sexual and other forms of assault
- Current experience of Safety in local area during day and night

Emerging Themes

1. Violence in general has a negative impact on life satisfaction whether you use self report or local area reports
2. Self-reported vulnerability to future assault drives out past experience of violence in happiness equations
3. Some evidence that higher relative earning females are more at risk of domestic violence



Health and Capability Poverty

Data

- Does health limit your daily activities for your age
- All capabilities, life satisfaction and socio-economic covariates

Analysis (latent class)

- Can we identify a 'super-poor' group
- What are capability classes related to?

POVERTY CLASSES AND THEIR SOCIO-DEMOGRAPHIC PROFILES

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
cluster size	23.7%	20.79%	19.05%	18.30%	10.13%	8.02%
Health Status	78.49%	82.96%	85.74%	61.45%	67.95%	47.01%
Household Inc	3.19	3.31	3.33	2.93	2.86	2.32
Pagreeable	4.73	4.88	5.50	4.93	5.23	4.41
Pconscientious	5.12	5.53	5.87	4.9	5.42	4.7
Popen	4.86	4.58	5.36	4.60	5.55	5.22
Pstable	4.47	4.87	5.32	3.61	4.70	3.41
Pextravert	4.09	4.07	4.84	3.53	4.14	3.51
Age	42.19	46.17	50.63	39.65	47.14	38.14
Mmale	59.73%	54.22%	45.55%	40.73%	10.64%	38.41%
mrmidwls	25.05%	29.76%	20.58%	18.30%	18.99%	13.47%
mrnorth	25.15%	28.93%	28.50%	24.78%	32.82%	38.71%
mrscot	10.25%	8.05%	10.64%	12.77%	7.02%	3.45%
mrsouth	16.61%	21.57%	27.10%	24.48%	13.09%	29.58%

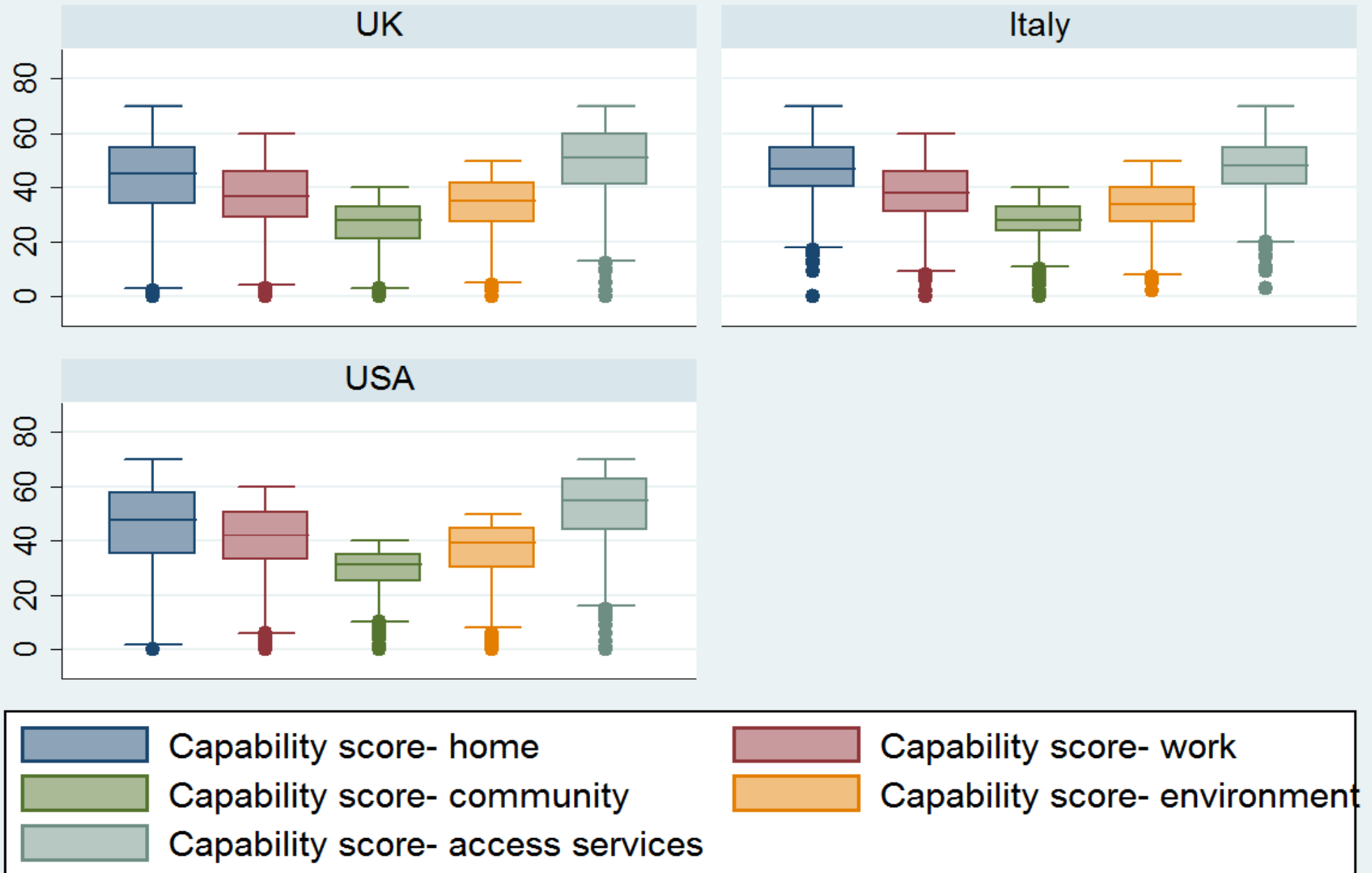
Table 6b Wald Statistics for Health Status and Other Predictors of Class Membership in a Six Latent Class Model

Covariate	Model Diagnostic Statistics					
Health Status	51.97, 5.50e-10		31.5533, 7.30e-06	42.5177, 4.60e-08	25.6563, 0.0001	30.7661, 1.00e-05
Household Income		31.0012, 9.30e-06	21.9757, 0.00053	26.8417, 6.10e-05	12.0814, 0.034	20.9303, 0.00083
Controls for Age	No			Yes		
Personality:					29.036, 2.3e-05	29.3056, 2.00e-05
pagree					24.1576, 0.0002	
pconsc					55.0846, .3e-10	21.8305, 0.00056
popen					49.8809, 1.50e-09	60.14, 1.10e-11
pstable					19.8605, 0.0013	50.2556, 1.20e-09
pxtravt						24.708, 0.00016
Controls for Regions	No					Yes

Notes

Cell entries indicate the value of the Wald statistic and its associated p value respectively.

Controls for age comprise age and its square. Coefficients for all models in Table 3 are available on request.



Graphs by country



Some Conclusions - for Health

Capabilities can be measured

Health, along with money and age, is related to capability

Datasets (and survey instruments) now exist on capabilities in:

UK 2005

UK, US, Italy 2012

UK mobility impaired subsample

UK 2012-3 panel for 1000 adults

Some cognitive testing has been done in question refinement but of course specific groups may require more