



Relative Deprivation Theory and Poverty Measurement in Europe & Globally

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Peter Townsend and the Paradigm Shift in Poverty Measurement



One of the many seminal contributions Peter Townsend made to science was a paradigm shift in poverty measurement methodology in the 1968/69 Poverty in the United Kingdom Survey.

The Most Famous Paragraph Written About Poverty by an Academic?

Peter Townsend's concept of relative deprivation

Townsend argues that poverty can only be measured:

*“objectively and applied consistently only in terms of the concept of relative deprivation..... The term is understood objectively rather than subjectively. Individuals, families and groups in the population can be said to be in poverty when they **lack the resources** to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged or approved, in the society to which they belong” (1979, p 31)*

Universal Needs and Relative Deprivation Measurement of Poverty

The key ideas

Poverty is a sociological phenomena which can only be meaningfully measured relative to the society to which a person/household belongs.

There are certain universal needs that people require/ think of as necessities in ALL societies e.g. food, clothing, shelter/housing, health care/medicine, children's education, leisure activities, social activities/ obligations/participation such as present giving, cooking food and marking major life events such as births, deaths, weddings, etc.

The exact way these universal needs are met varies from society to society but the needs remain universal

Townsend's Scientific Definitions of Poverty

Poverty can be defined as;

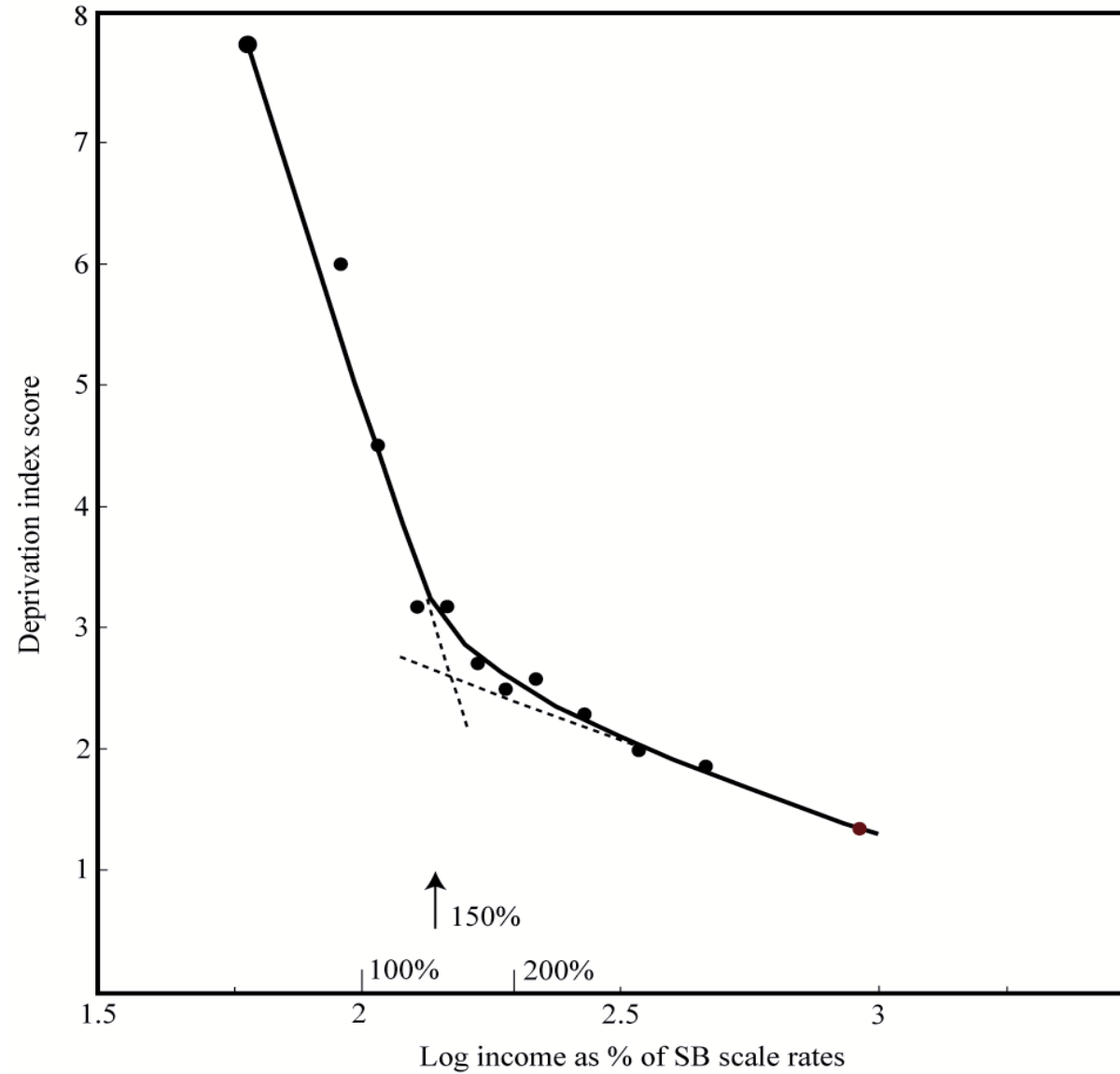
Command over insufficient resources over time

The result of poverty is *deprivation*

Townsend's Deprivation Indicators, 1968-9

Indicators	% of lacking
Has not had a cooked breakfast most days of the week	67
Did not have a party on the last birthday (under 15 only)	57
Has not had a week's holiday away from home in last 12 months	54
Had not had an afternoon/evening out for entertainment in last 2 weeks	47
Had not been out in the last 4 weeks to a relative or friend for a snack or meal (adults only)	45
Household does not have a refrigerator	45
Had not had a friend to play or a friend to tea in the last 4 weeks (under 15 only)	36
Has not had a relative or friend to the home for a meal or snack in the last 4 weeks (adults only)	33
Household does not usually give a Sunday roast (3 in 4 times)	26
Household does not have sole use of 4 amenities indoors (WC, sink, bath/shower, cooker)	21
Does not have fresh meat (including meals out) at least four days a week	19
Has gone through one or more days in the past fortnight without cooked meal	7

Modal Deprivation by Logarithm of Income as a Percentage of Supplementary Benefit Scale Rates (Townsend, 1979)

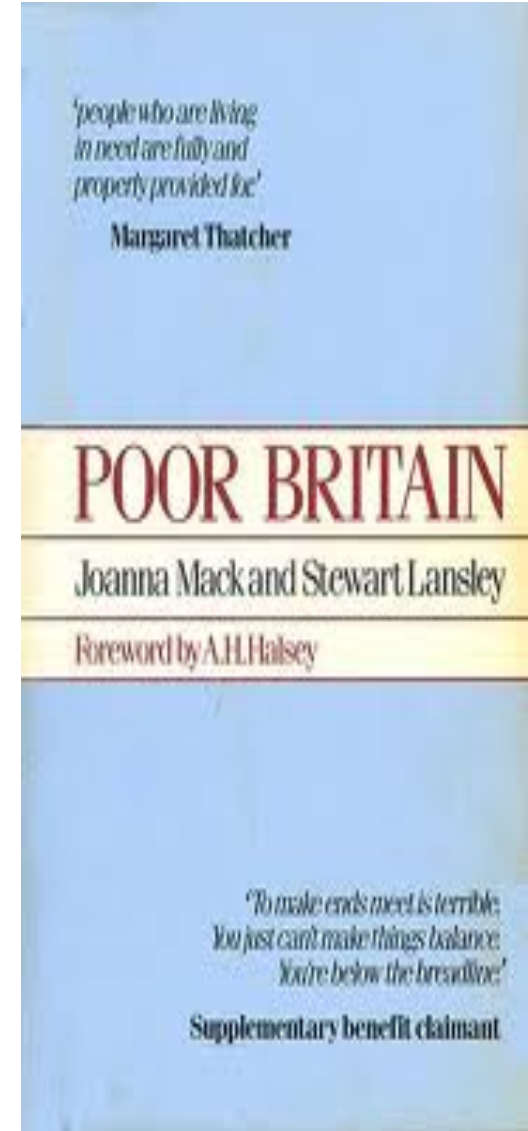


Consensual Approaches to Poverty

The ‘consensual’ approach to poverty measurement pioneered by Mack & Lansley aimed to:

“discover whether there is a public consensus on what is an unacceptable standard of living for Britain in 1983 and, if there is a consensus, who, if anyone, falls below that standard. The idea underlying this is that a person is in ‘poverty’ when their standard of living falls below the minimum deemed necessary by current public opinion.”

Joanna Mack and Stuart Lansley (1985) p50





Method used to operationalise 'consensual poverty'

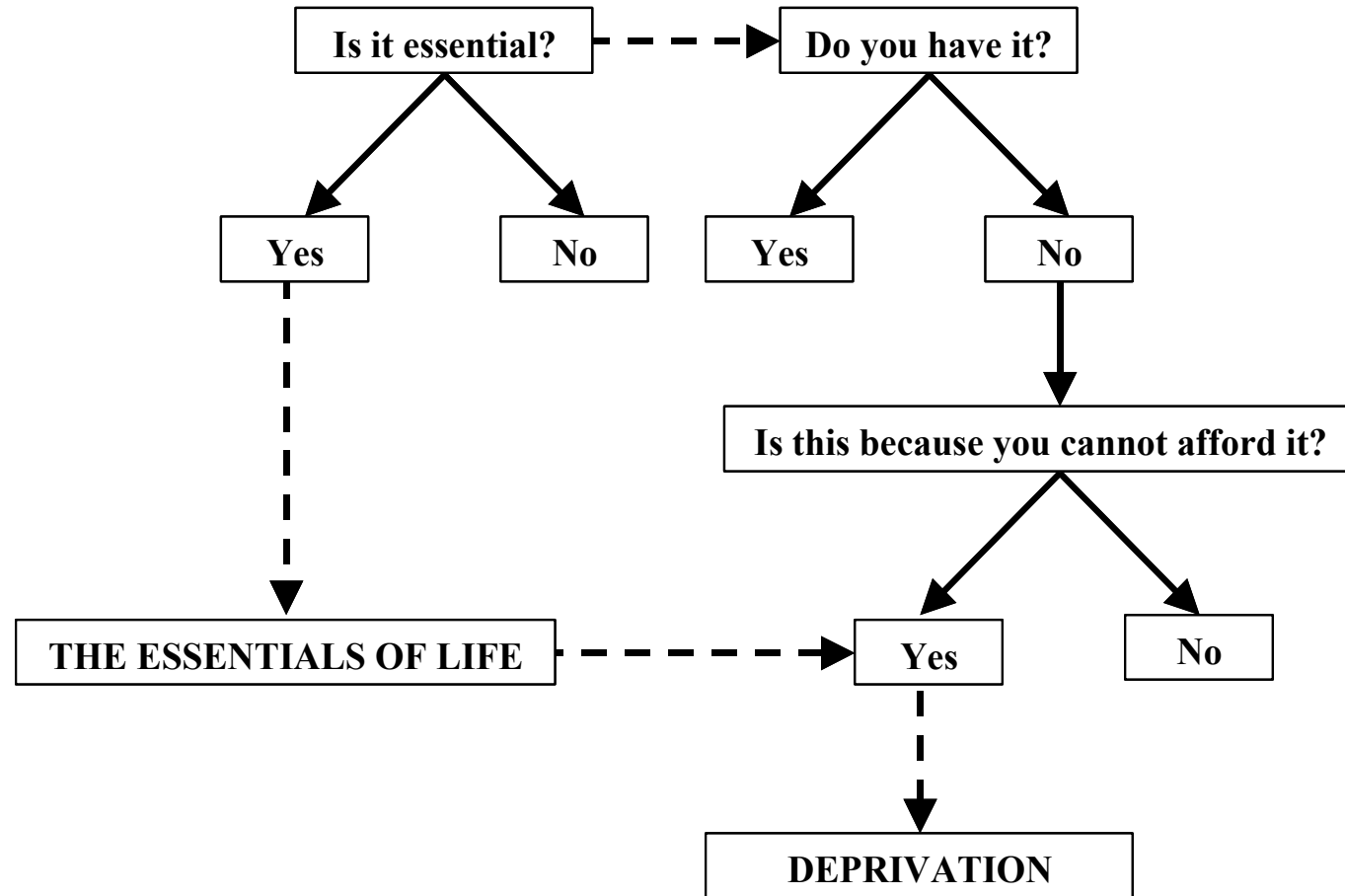
Three stages:

Step 1 – Defining necessities (majority vote)

Step 2 – Determine who experiences an enforced lack of socially perceived necessities

Step 3 – Determine the household income level at which people run the greatest risk of not being able to afford the socially perceived necessities

Identifying the Essentials of Life and Deprivation (Australian Method)



Pacific Child Consensual Deprivation Question

Module: Tonga DHS 2012

All children (age 1 - 15yrs)		Is it essential for children 1-15 years old in Tonga?		Do they have it ? <i>If No</i>		Is it because you cannot (CA) afford it? OR Is it because you don't want it (DW)	
		Circle the correct answer					
30618	New properly fitting, shoes	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30619	Three meals a day	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30620	Some new, not second-hand clothes	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30621	Celebrations on special occasions such as birthdays, Christmas or religious festival	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30622	One meal with meat, chicken, fish or vegetarian equivalent daily	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30623	All school uniform of correct size and equipment required (eg. Books, pen, etc)	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30624	To participate in school trips and school events that costs money	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30625	A suitable place to study or do homework	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30626	Tutorial lessons after school at least once a week <i>(high school students only or all or just exam classes ?)</i>	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW
30627	Enough beds and bedding for every child in the household.	1. Yes	2. No	1. Yes	2. No	1. CA	2. DW

Viliami Fifita (2017) *Child and Adult poverty in a Small Island Developing State: A Case Study of Tonga*. PhD Thesis

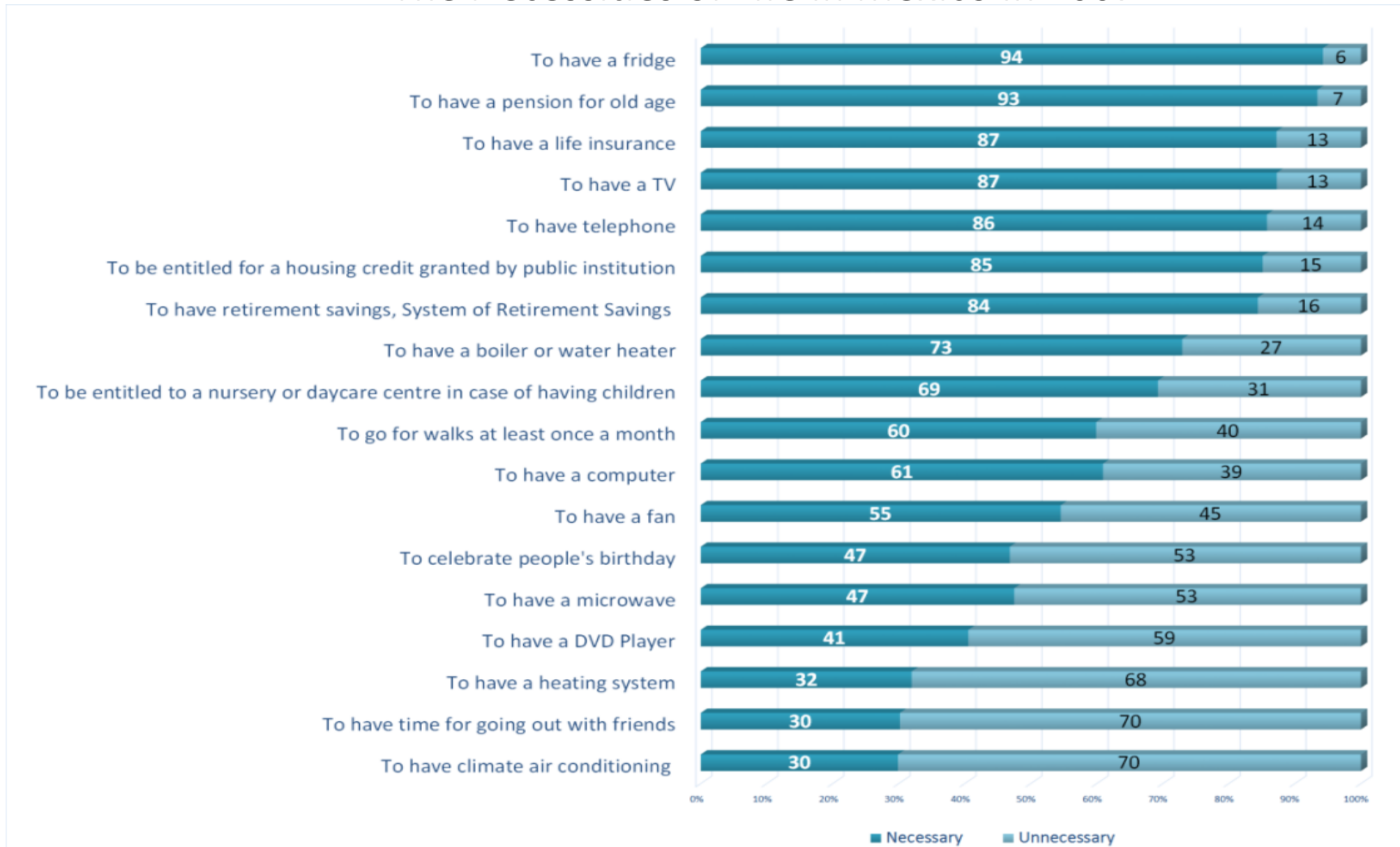
The interviewer asks the respondent:

On these cards are a number of different items which relate to our standard of living. I would like you to indicate the living standards you feel all adults should have in Britain today by placing the cards in the appropriate box.

BOX A is for items which you think are necessary – which all adults should be able to afford and which they should not have to do without.

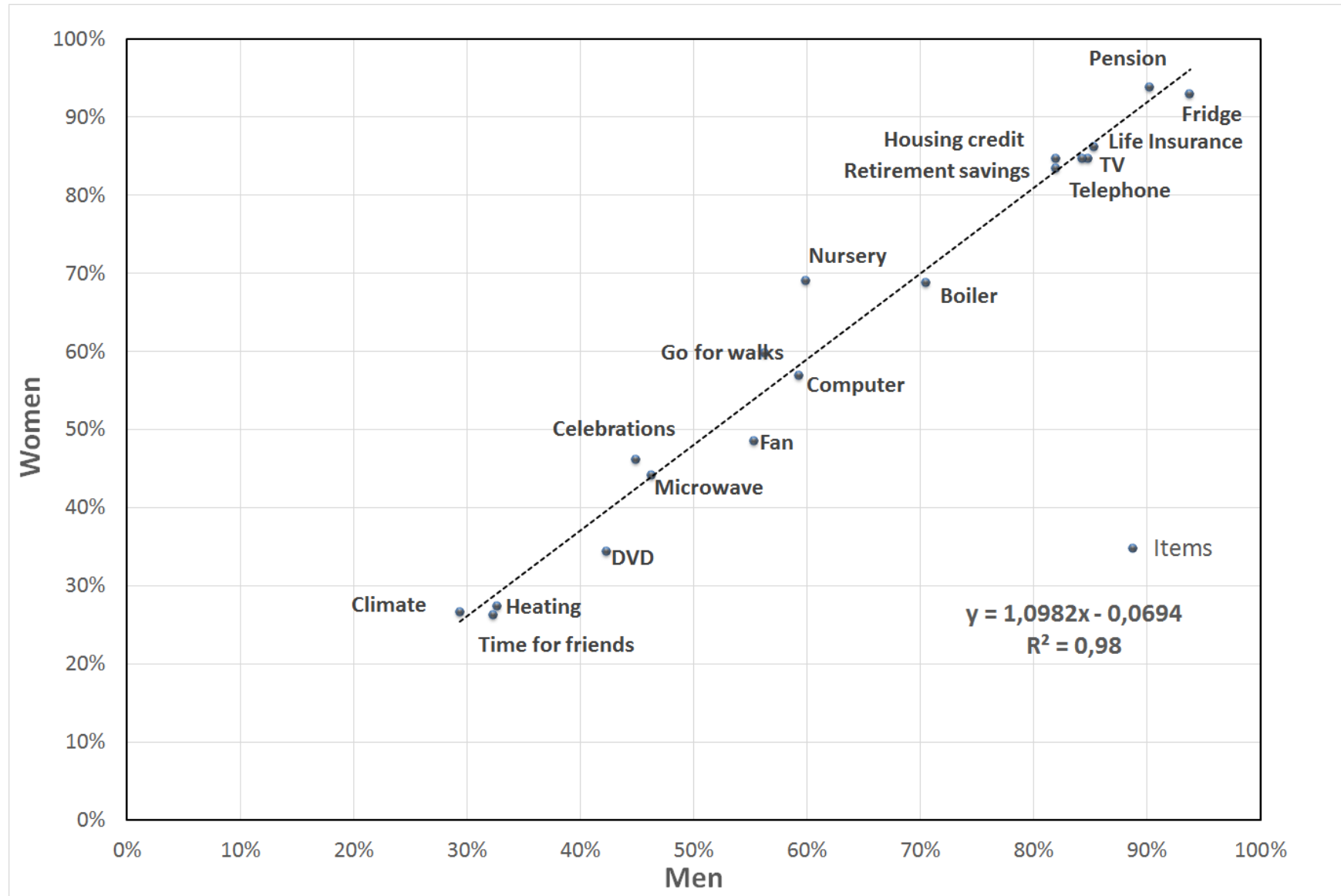
BOX B is for items which may be desirable but are not necessary.

The Necessities of Life in Mexico in 2007

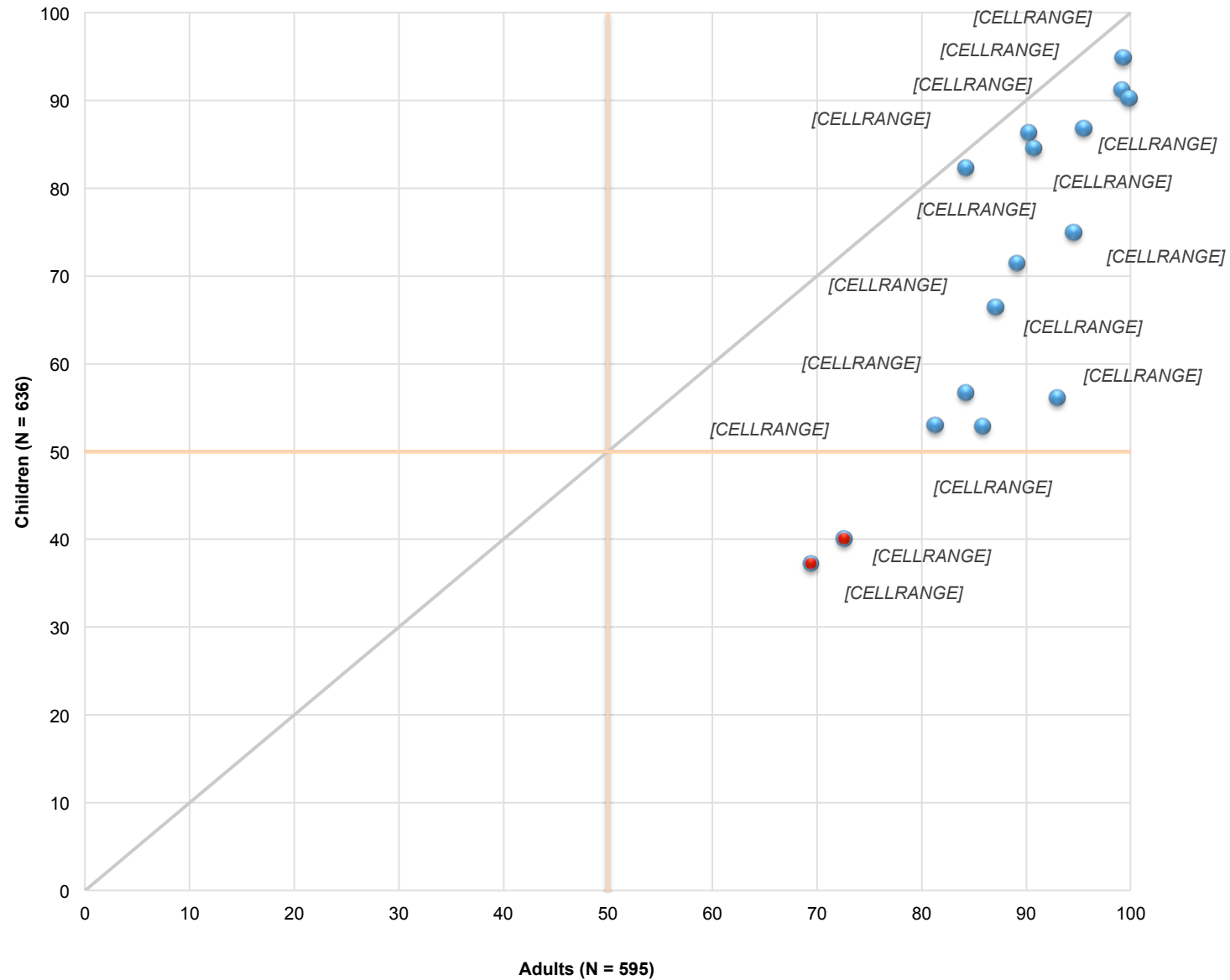


Source: Yedith Guillén-Fernández (2017) *Multidimensional poverty measurement from a relative deprivation approach*, PhD thesis, University of Bristol, analyses of the EDUMP 2007 survey.

Perceptions of necessities: comparing men with women, Mexico, 2007



Parents and their children's perception of necessities, Hong Kong 2016



The Russian Approach

Goskomstat Survey (2003)

- 3500 persons. As in the UK, a list of items
- but a different question :

“which are the deprivations that are a signal of poverty/extreme poverty ?”

Deprivation items which 'signal' poverty & extreme poverty

<i>Not enough money to</i>	Poverty	Extreme Poverty
Buy clothes the correct size as children grow up	94	54
Refrigerator	94	49
Pay rent, gas/electricity bill on time	94	44
Have a TV	91	47
Have fresh fruits in summer	90	52
Buy new clothes for winter every five years	88	39
Meal with meat, fish or chicken more than once per week	88	37
Unable to pay for extra tuition classes for school children	69	15
Vacuum Cleaner	61	19
Videotape recorder (VCR)	37	11

Source: adapted from Prokofyeva (2008) *Mesurer la pauvreté par des méthodes non monétaires : usage de la méthode des privations en Russie* (Measuring non-monetary poverty: deprivation methods used in Russia)

UK Combined Child and Adult Deprivation Index

The final index includes 22 adult and household deprivation items and 22 children's deprivation items. Adults score zero for all children's deprivation items and vice versa. Both adults and children can suffer from all household deprivation items (e.g. a damp home). The following age appropriate criteria were used for the children's deprivation items

- 1.10-17 for Bedrooms for every child of different sex 10 or over.
- 2.5-17 for Place to study, Computer & Internet for homework, Hobby or leisure activity, Going on a school trip, Savings and Pocket money.
- 3.2-17 for Suitable books for age and Children's clubs/activities.
- 4.Under 5 for Toddler/nursery or playgroup.
- 5.All other child deprivations are 0-17.

Thus, the theoretical maximum possible deprivation index score by age group was;

Age Group	Max Score
Adults (18+)	22
Children (10 to 17)	26
Children (5 to 10)	25
Children (2 to 4)	21
Children (0 to 1)	19

Direct comparisons of child poverty in low, middle & high income countries : Uganda, Tonga & UK

Items for children	Uganda	Tonga	UK
	Percentage who can't afford item		
Three meals a day	48%	8%	1%
One meal with meat, fish or vegetarian equivalent daily		8%	3%
Enough beds for every child in the household	74%	11%	-
A suitable place to study or do homework ²	45%	10%	5%
New properly fitting shoes ¹	71%	12%	4%
Some new not second-hand clothes	63%	15%	4%
All school uniform and equipment required ³	38%	6%	-
Participate in school trips and school events that costs money	34%	11%	8%
Celebration on special occasions	70%	17%	1%

¹ Uganda - Two pairs of shoes, ² Uganda - Desk and chair for homework, ³ Uganda - All fees and uniform

Uganda Child Deprivations 2016/17



3 in 4

do not have their own bed



2 in 3

do not have their own blanket.



7 in 10

do not have two pairs of shoes



6 in 10

have no new clothes - just handed-down or second-hand clothes.



1 in 2

do not get three meals a day – hunger and malnutrition are widespread and almost one-third of young children are stunted.



6 in 10

do not have any books at home that are suitable for their age.



1 in 2

of school-aged children do not have a chair to sit on or a desk or table to write on to do their homework.



1 in 3

cannot visit a health facility or get the medicine they need when they are sick.



3 in 10

do not have soap and toiletries they need to keep themselves clean.

Identificación de Necesidades Socialmente Percibidas: ¿Considera que para vivir dignamente en la Ciudad de Buenos Aires es necesario, para cualquier persona...

Se propusieron 33 indicadores/necesidades en 6 dimensiones

Vivienda: Material de pisos duradero (mosaico, baldosa, cemento, madera o cerámica), Material duradero techo, Reparar goteras, Agua corriente, Agua caliente, Combustible (gas de red, garrafa o electricidad) para cocinar, Electricidad e internet (Infancia: Ambientes suficientes, Cama menores y Lugar para hacer los deberes)

Bienes personales/durables: Heladera, Frazadas invierno, Ropa adecuada todo el año y Reemplazar ropa y calzado estropeado

Salud: Asistencia/cuidado adultos mayores/niños, Atención médica, Medicamentos, Tratamientos médicos, Tratamiento dental y Anticonceptivos (Infancia: Control médico menores)

Social: Gastos personales, Vacaciones, Invitar familiares/amigos y transporte

Educación (infancia): Asistencia jardín, Asistencia escolar adolescente, Útiles escolares y Dispositivo estudios

Alimentación (escala FAO): Saltar comidas, Poca variedad alimentos y Comió menos

Necesidades socialmente percibidas



Definition of poverty



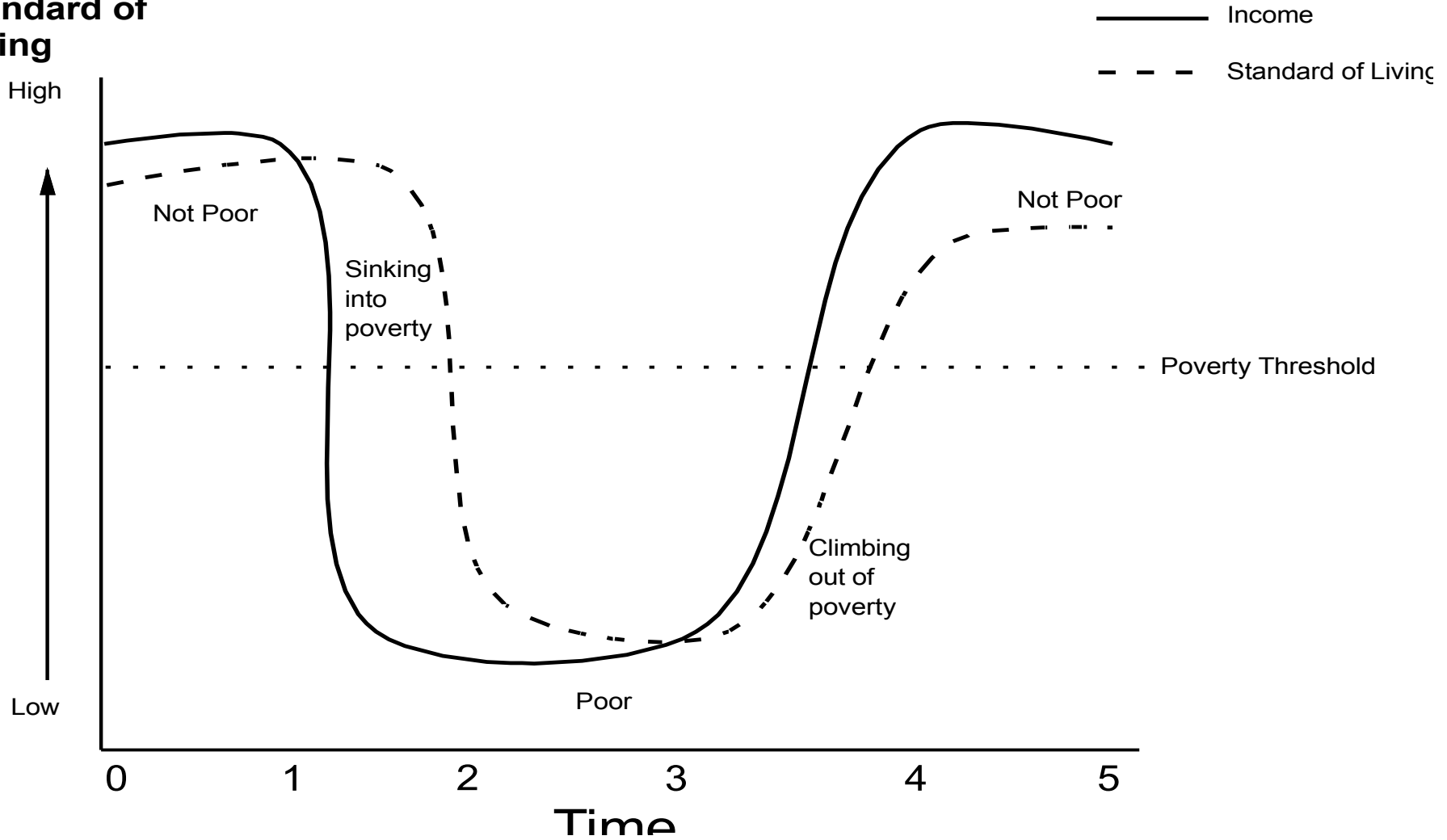
Peter Townsend's concept of dynamic poverty

“poverty is a dynamic, not a static concept...Our general theory, then, should be that individuals and families whose resources over time fall seriously short of the resources commanded by the average individual or family in the community in which they live . . . are in poverty.”

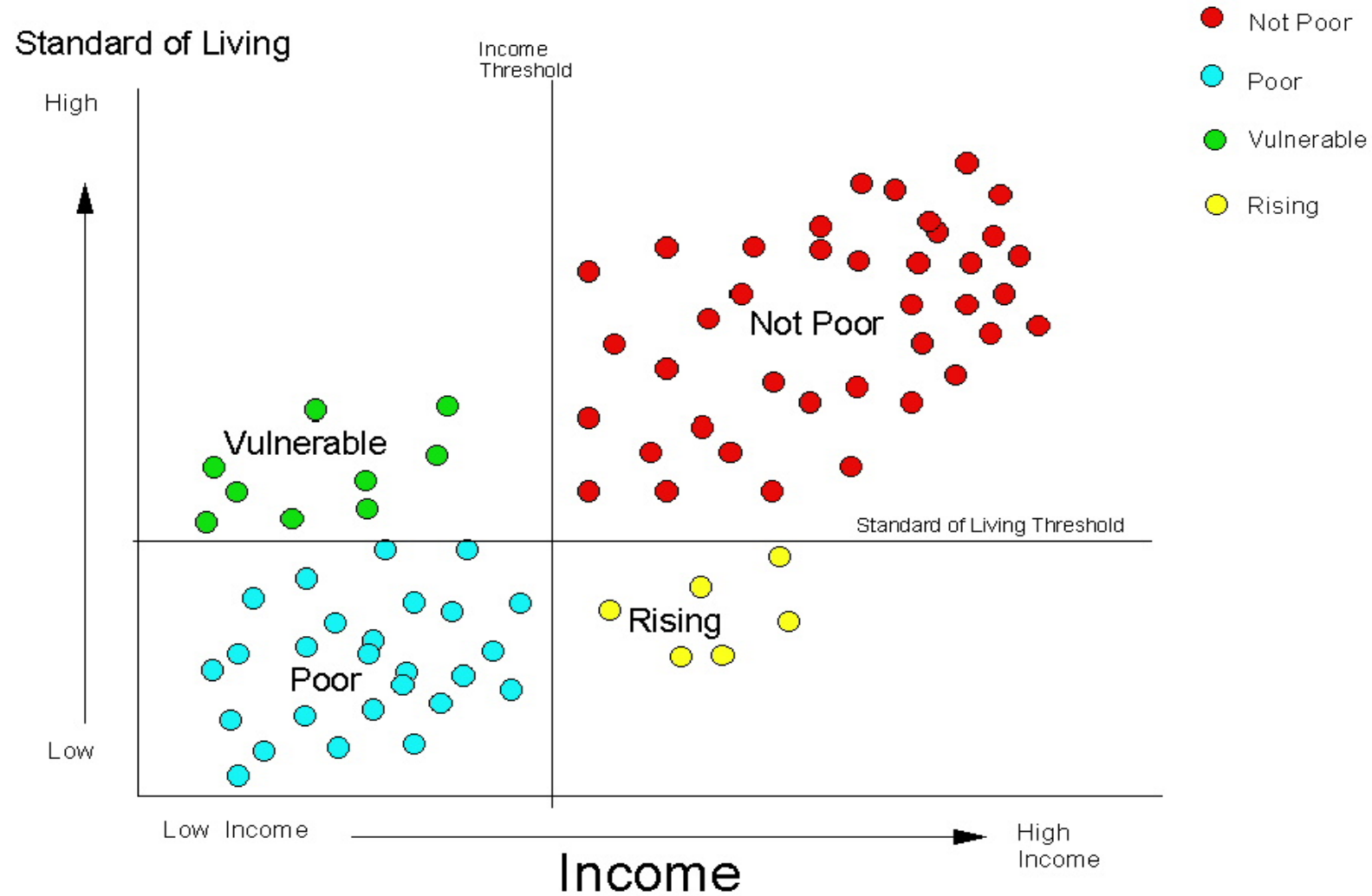
Townsend (1962, p 219)

Theoretical model of the dynamics of poverty in rich societies

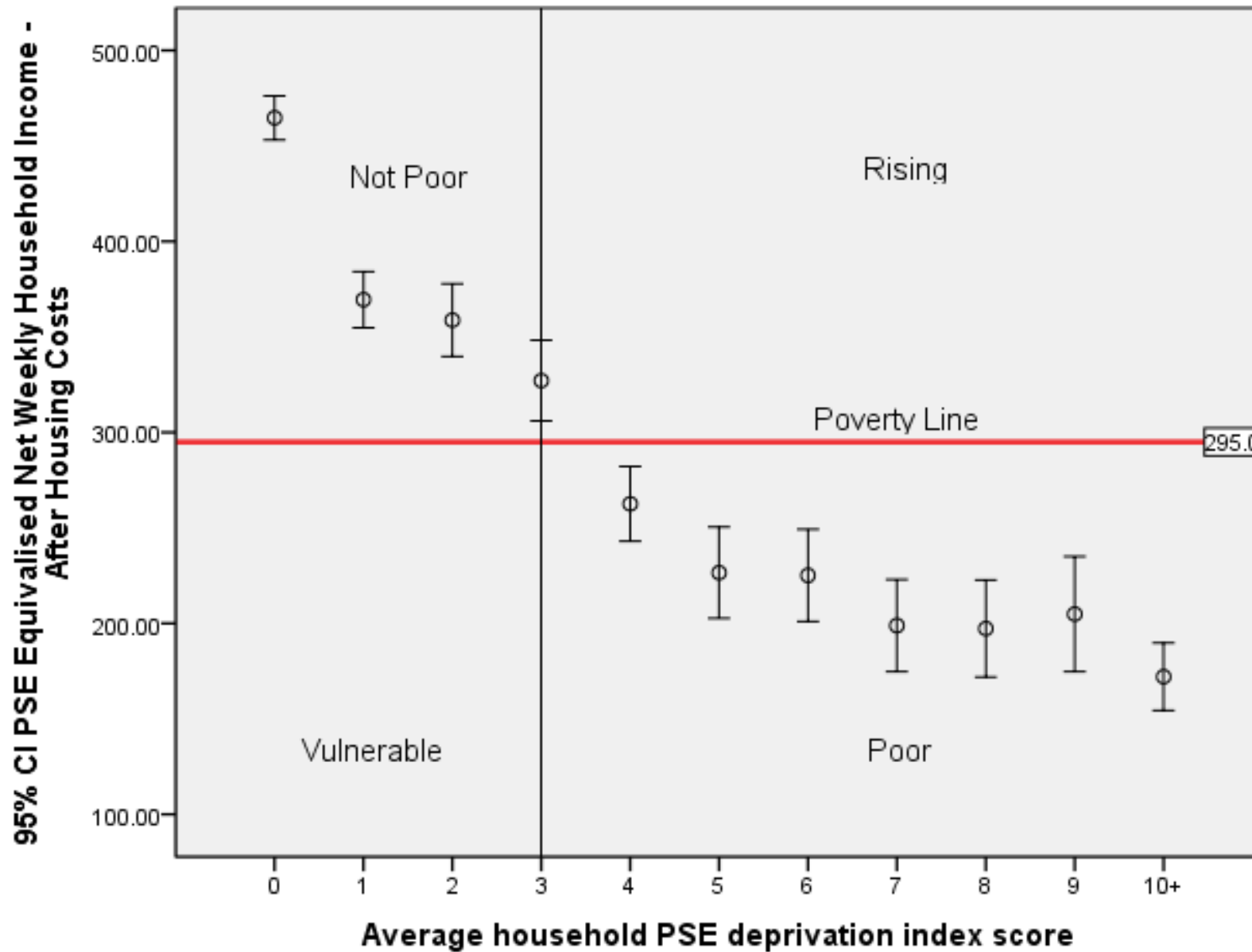
Income and
Standard of
Living



Poverty Groups



Error Bar Plot of Average Household Deprivation by PSE Equivalised Income (AHC)



Cases weighted by normalised UK household weight - use this weight for household data

Improving the Measurement of Poverty in the European Union

ISBN 1977-0375

eurostat
Methodologies and
Working papers

Measuring material deprivation in the EU

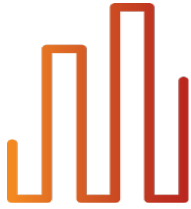
Indicators for the whole population and child-specific indicators

2012 edition

eurostat 
EUROPEAN COMMISSION

‘The work is considered technically as providing a "gold standard" for the list of MD variables and indicator's construction and has unanimous support’

Eurostat Task Force
on Material
Deprivation (2011)



METHODOLOGICAL STEPS

In Guio, Gordon & Marlier (2012):

- 13 items selected for the whole population index;
- 17 items selected for the child-specific index.

Data collection in 2014 → updated analysis

Same framework as in 2012 study but with additional tests (EU-SILC 2014 new data collection plus consistency & evolution 2009-2014)

Agreement of the new EU whole population indicator in March 2017 (13-item indicator of material and social deprivation [MSD])

Agreement on first ever EU child deprivation measure in April 2018 (17 item indicator)



Selecting the Deprivation Indicators

To identify an optimal deprivation index;

Each index needs to be;

Suitable – A majority of the population (50% or more) saying that each item is a necessity which everybody should be able to afford

i.e. a 'customary' possession or activity in the society

Validity – Logistic Regression of each deprivation indicator by *a priori* predictors of poverty e.g. Subjective Poverty, Debt, Occupational Class

Reliability – Classical Test Theory & Latent Trait Models (Cronbach's alpha, beta, lambda, omega, Item Response Theory)

Additivity – checking that someone with a deprivation index score of 2 is in reality suffering from more severe deprivation than someone with a score of 1, i.e. that the deprivation index components add up. [ANOVA model, second order interactions of deprivation items by equivalised disposable household income.]

A common analytical framework was agreed based on an updating of the 1999 & 2012 Poverty & Social Exclusion Survey deprivation index construction methodology (Pantazis *et al*, 2006).

EU-SILC: 50 potential indicators of Deprivation

Child Deprivations

Some new clothes (M)
Two pairs of shoes (M)
Fresh fruits & vegetables daily (M)
Three meals a day (M)
Meat, chicken, fish daily (M)
Suitable books (M)
Outdoor leisure equipment (M)
Indoor games (M)
Place to do homework (M)
Dentist when needed (M - optional)
GP when needed (M - optional)
Leisure activities (M)
Celebrations (M)
To invite friends (M)
School trips (M)
Outdoor space to play (M)
Holiday (M - optional)

Housing Deprivations

No hot running water (M)
Shortage of space
Darkness
Leaky roof, damp, etc.
No toilet
No bath
Overcrowding
High housing costs



Local Environment Deprivations

Litter lying around (M)
Vandalism (M)
Diff access to public transport (M)
Diff access to post, banks (M)
Noise
Pollution
Crime

Adult Deprivations (enforced lack)

Some new Clothes (M)
Two pairs of shoes (M)
Some money for oneself (M)
Mobile phone (M)
Drink/meal monthly (M)
Leisure activities (M)

Household Deprivations

Incapacity to keep home warm
Arrears
Incapacity to face unexp. expenses
Lack of meat, chicken, fish
Lack of Holiday

Enforced lack of :

Telephone
Colour TV
Washing machine
Car
Internet (M) & Computer
Worn-out furniture (M)

Final list: **13** items have successfully passed all four tests

Child Deprivations

~~Some new clothes (M)~~
~~Two pairs of shoes (M)~~
~~Fresh fruits & vegetables daily (M)~~
~~Three meals a day (M)~~
~~Meat, chicken, fish daily (M)~~
~~Suitable books (M)~~
~~Outdoor leisure equipment (M)~~
~~Indoor games (M)~~
~~Place to do homework (M)~~
~~Dentist when needed (M - optional)~~
~~GP when needed (M - optional)~~
~~Leisure activities (M)~~
~~Celebrations (M)~~
~~To invite friends (M)~~
~~School trips (M)~~
~~Outdoor space to play (M)~~
~~Holiday (M - optional)~~

Housing Deprivations

~~No hot running water (M)~~
~~Shortage of space~~
~~Darkness~~
~~Leaky roof, damp, etc.~~
~~No toilet~~
~~No bath~~
~~Overcrowding~~
~~High housing costs~~



Local Environment Deprivations

~~Litter lying around (M)~~
~~Vandalism (M)~~
~~Diff access to public transport (M)~~
~~Diff access to post, banks (M)~~
Noise
Pollution
Crime

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Some new Clothes (M)
Two pairs of shoes (M)
Some money for oneself (M)
~~Mobile phone (M)~~
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Lack of Holiday

Enforced lack of :

Telephone
Colour TV
Washing machine
Car
Internet (M) & Computer
Worn-out furniture (M)

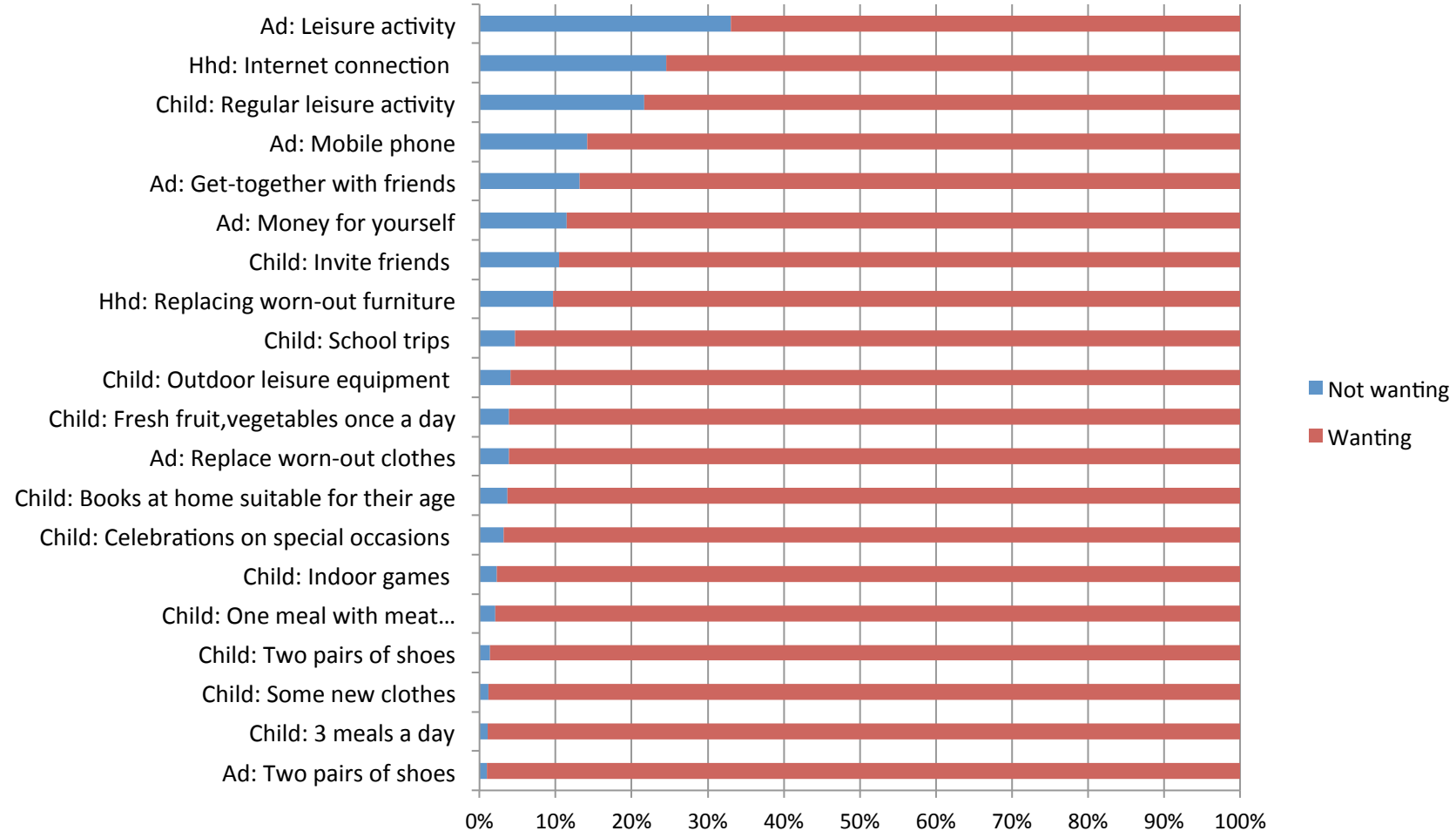
Establishing Consensus

SUITABILITY: WANTING – NOT WANTING

Goals:

1. Assess the degree of "importance" of each item at EU and country level;
2. test the homogeneity of preferences between countries (national preferences), within the EU;
3. Test the homogeneity of preferences between groups, within each country.

% OF PERSONS LIVING IN HOUSEHOLDS (NOT) WANTING THE ITEM, EU27



HOMOGENEITY OF PREFERENCES : (NOT) WANTING BY SUB-GROUPS

Characteristics tested:

- Age
- Sex
- Household type
- Density of population
- Country of birth
- Education
- Income poverty

For each item

BY country

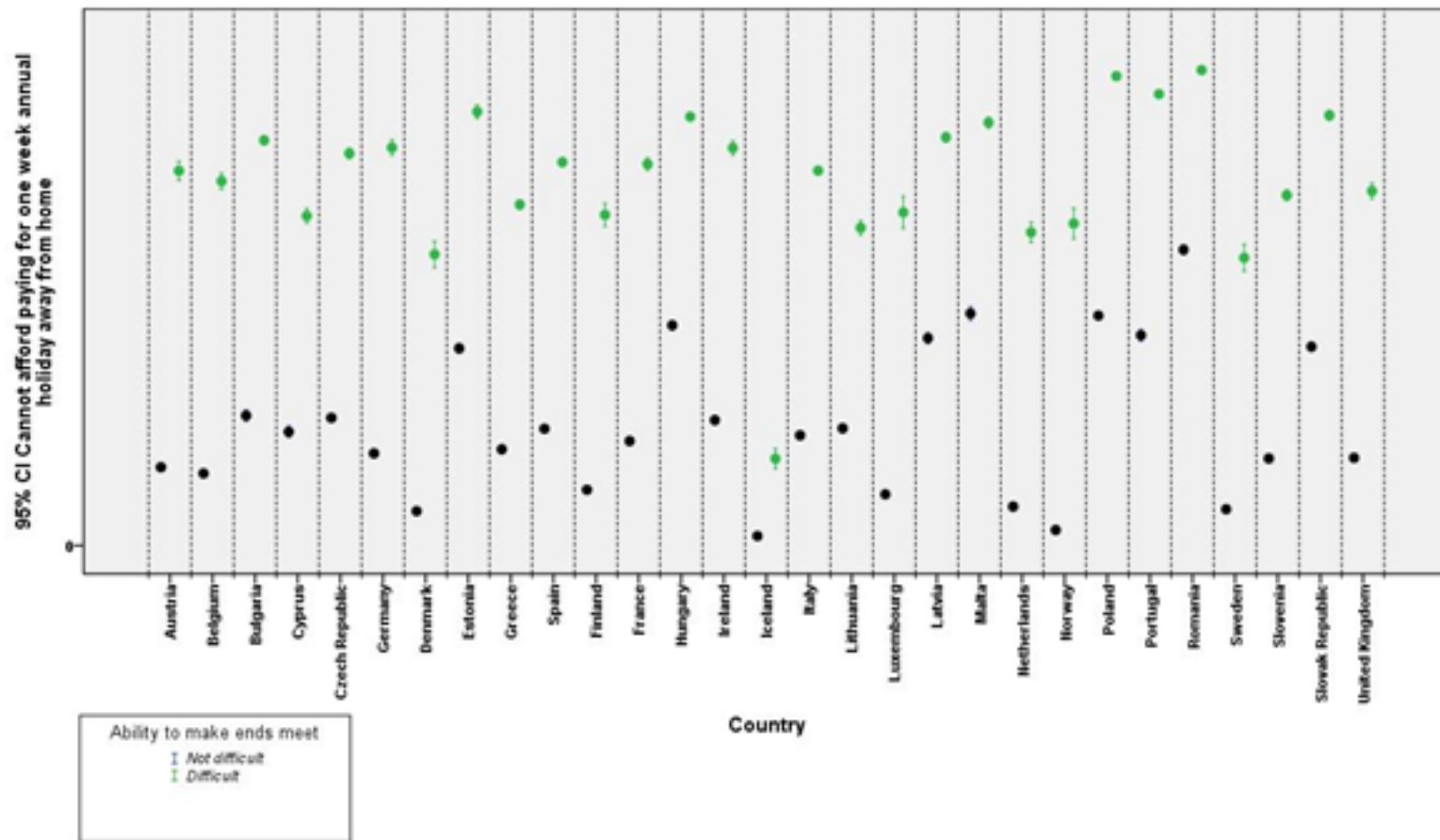
		Three meals a day	Enough beds for every child	All school uniform and equipment	Suitable place to study or do homework	One meal with meat, chicken, fish or vegetarian daily	Celebration on special occasions	Some new, not second-hand clothes	New properly fitting shoes	Participate in school trip and events	Outdoor leisure equipment
Sex of household member	Male	99	99	98	97	95	93	93	92	89	80
	Female	99	99	98	97	96	93	93	92	89	79
Educational attainment the groups	Without education	99	98	98	95	96	93	93	91	88	80
	Primary	99	99	99	97	95	93	94	92	89	80
	Secondary	99	99	98	97	95	93	93	93	89	78
	Tertiary +	100	100	98	98	97	92	91	96	92	79
	Other do not know	99	100	95	94	93	92	93	93	87	76
Age groups	Child (<18)	99	99	99	97	96	94	94	92	90	80
	Adult	99	99	98	97	95	93	93	93	89	79
	Old people (60 +)	99	99	96	96	93	92	92	89	85	77
Gender of the Household Head	Male	99	99	98	97	95	93	93	92	88	79
	Female	99	99	99	98	96	95	93	94	91	83
Educational attainment household head	Without education	99	98	98	96	95	94	93	91	88	82
	Primary	99	99	98	97	95	94	94	91	88	80
	Secondary	100	99	98	96	96	92	93	93	89	77
	Tertiary	100	99	98	99	97	92	92	96	93	79
	Other	100	100	98	96	97	94	90	95	88	78
Family Structure - Vertical and Horizontal	1 Generation	99	97	94	94	91	92	91	92	85	73
	2 Generations	99	99	99	97	95	93	94	92	89	81
	3+ Generations	100	98	98	96	95	93	93	89	89	78
	1 Generation & Extended	97	100	97	95	95	86	86	92	87	76
	2 Generations & Extended	100	99	98	97	96	95	94	95	90	77
	3+ Generations & Extended	99	98	98	99	96	92	93	92	90	82

Validity

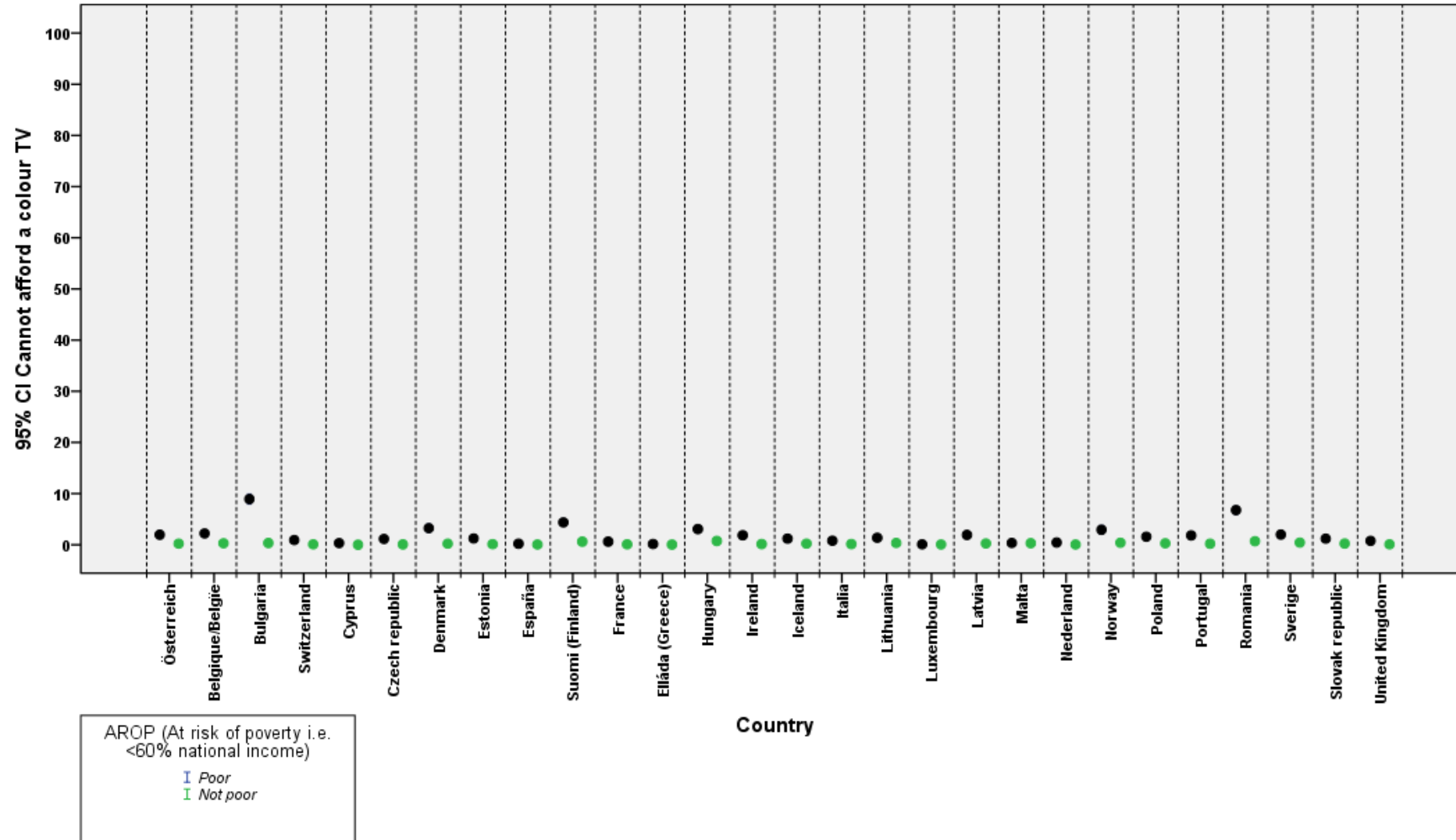
VALIDITY

- Validity tests aim at checking whether or not an individual deprivation item exhibits statistically significant relative risk ratios with a set of independent variables known to be correlated with deprivation:
 - at-risk-of-poverty;
 - subjective poverty; and
 - health status (controlling for age and gender).
- Logistic regressions.
- Successful if validity problems observed for no more than two countries (EU has 28 member countries).
- Illustration...

VALIDITY – HOLIDAYS / DIFFICULTIES IN MAKING ENDS MEET



Error Bar Plots: % Cannot Afford a Colour TV by AROP



Validity – Problematic items

- Basic amenities,
 - Shortage of space, Overcrowding
 - Local environment, Darkness
 - High housing costs
 - Washing machine, TV, telephone (enforced lack)
 - Accessibility (Public transport, Postal/banking services)
- + some children items (but in less than 5 MS).

Reliability: Classical Test Theory

14 items failed the reliability test:

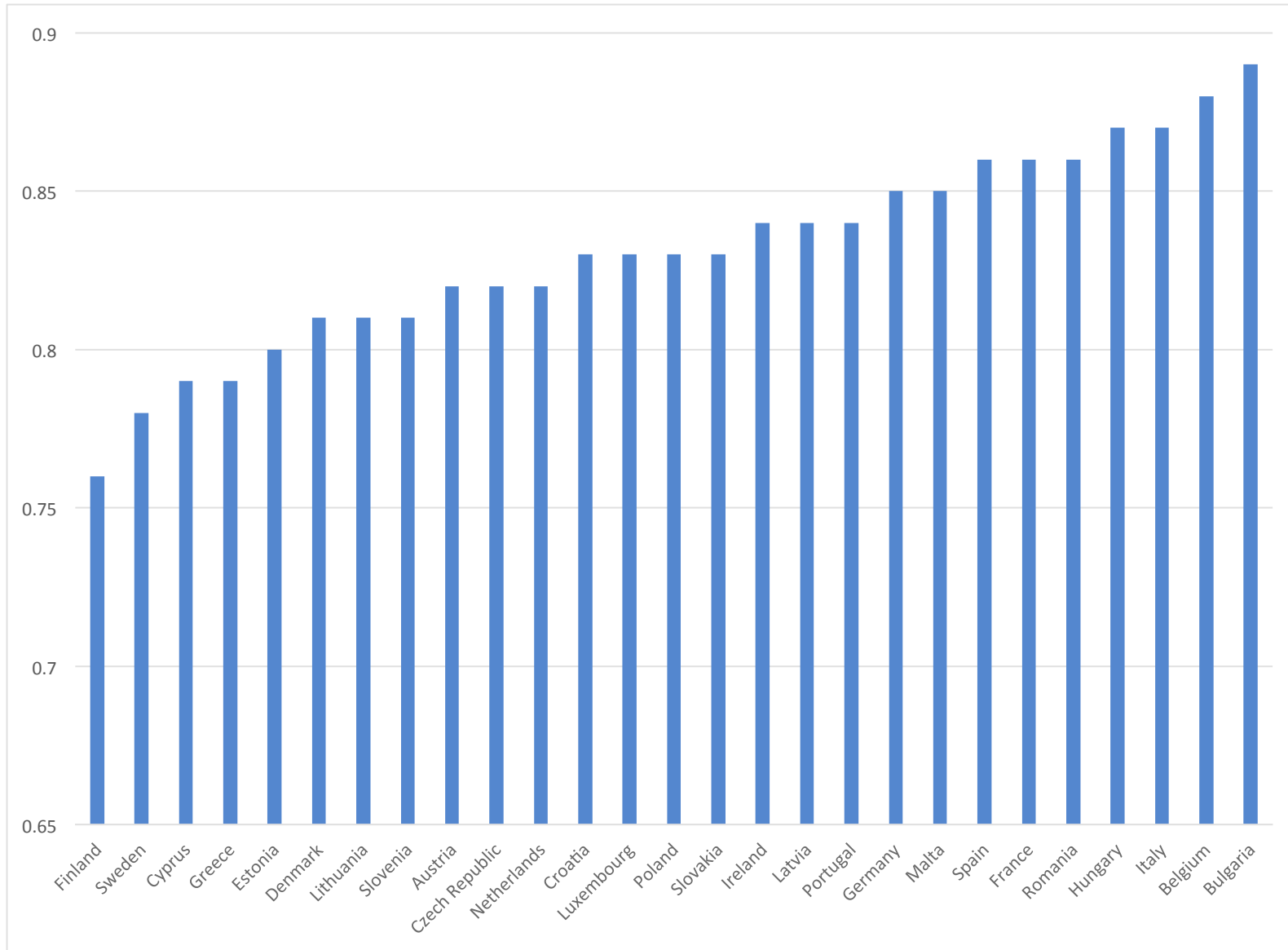
- Some basic durables (TV, telephone, washing machine) and basic commodities (toilet, hot running water, bath);
- the two items related to problems of accessibility, i.e. access to postal/banking services and to public transport;
- items which measure local environment problems (crime, noise, pollution, litter lying around, vandalism);
- three important items related to housing: overcrowding, dark dwelling and high housing costs.

This pattern is very consistent across countries. The number of reliable items per country does not vary much (between 21 (PL) and 27 (BE, CY, FI); 22 at EU level) and the reliability problems tend to occur repeatedly with the same items.

Reliable for all age groups:

- 1-15 → 0.86
- 16-64 → 0.85
- 65+ → 0.83

Reliability: Chronbach's Alpha EU28 in 2014



Methodology Conclusions: Consensual Poverty

The **best** method currently available to measure multidimensional poverty as;

- 1)Based on a clear scientific theory and definition of poverty
- 2)30 year history of continuous methodological development
- 3)Proven track record in over 50 countries
- 4)Incorporates the views of the public in the measurement of poverty
- 5)Method applicable to all countries and societies and it is the only method that can produce meaningful and comparable results in low, middle and high income countries
- 6)Easy to implement in diverse survey situations – with generally high response rates and respondent satisfaction
- 7)Results have been shown to be valid, reliable and repeatable
- 8)Results are not easy to obscure or distort
- 9)Socially realistic method that is easily understood & supported by both the public and policy makers
- 10) Results are easy to understand and policy relevant