Summer School on Multidimensional Poverty Analysis

Oxford Poverty and Human Development Initiative (OPHI)
Oxford Department of International Development, University of Oxford
Washington, DC. ~ 8 July – 19 July 2013
Welcome!

Welcome to the HDCA Summer School on Capability and Multidimensional Poverty. We are very pleased to be able to share with you our interest in these important topics. We hope that you find your experience at the Summer School an interesting and valuable one. We are sure that we will learn a lot from you at the same time that you are learning from us. Please do not hesitate to ask questions or request clarifications on any matter at any point during the course. We will present the course content through lectures but there will also be exercises and working group sessions that will help you to incorporate the new content from the lectures through learning-by-doing. It is important that you take the time to work on these exercises since they will help you to understand the subject matters better.

Bon Voyage!

The Instructors

The capability approach formulated by Amartya Sen, and further developed by the philosopher Martha Nussbaum and others, provides a conceptual framework that grounds many multidimensional approaches to poverty and social protection. This includes the MDGs, PRSPs, rights-based development, integrated social policy, and other specific initiatives.

In the past few years, interest in multidimensional quantitative techniques of analysis has surged. New quantitative methodologies have been developed for measurement, comparison, and analysis. Many more are still under development. It is a fast-moving area.

The purpose of this intensive summer school is to provide a thorough conceptual and technical introduction to some techniques of measuring multidimensional poverty with a strong emphasis on the Alkire-Foster method. Participants will revise axiomatic poverty measures and they will learn different multidimensional poverty techniques and problems they best solve. The empirical motivation for measuring multidimensional poverty will be presented as well as the conceptual motivation drawing on Sen’s Capability approach.
1. Instructors

Alkire, Sabina (SA)
Sabina Alkire directs the Oxford Poverty and Human Development Initiative (OPHI). In addition, she is a Research Associate at Harvard and Vice President of the Human Development & Capability Association (HDCA). Her research interests include multidimensional poverty measurement and analysis, welfare economics, the capability approach, the measurement of freedoms and human development. She holds a DPhil in Economics from Magdalen College, University of Oxford.

Apablaza, Mauricio
Mauricio Apablaza is a Researcher and Coordinator of the Outreach Initiative of the Oxford Poverty and Human Development Initiative (OPHI). He has Doctorate in Economics from the University of Nottingham, United Kingdom. He has been regional director for civil society organizations and consultant to international businesses and agencies (MEDSTAT-UNICEF). He has been a professor of undergraduate and graduate studies at the University del Desarrollo (Chile) and Nottingham (UK). He has led training programs for OPHI in Malaysia, Indonesia, Jordan, Egypt, Hungary, Holland and Thailand, among others. His areas of research include institutions, international commerce and multidimensional poverty.

Ballón, Paola (PB)
Paola Ballon is a Research Officer at OPHI. She holds a Ph.D in Econometrics from the University of Geneva, Switzerland. Her research interest includes structural equation modeling, applied micro-econometrics, quantitative development economics, and labour economics. She has been a researcher at the International Labour Office (ILO), at the United Nations University (UNU-WIDER), and at the United Nations Research Institute for Social Development (UNRISD). She is a Member of the Editorial Board of the “Review of Income and Wealth”.

Foster, James (JF)
James Foster is Professor of Economics and International Affairs at The Elliott School of International Affairs at The George Washington University. Professor Foster received his Ph.D. in economics from Cornell University where he received the Selma Fine Goldsmith Award for his dissertation. He held positions at the Krannert School of Management at Purdue University and Department of Economics at Vanderbilt before joining the Elliott School. He has been a visiting professor at the London School of Economics, Cornell, Essex, Oxford, Harvard, and the University of the Americas in Puebla, Mexico. He received the Unilever Fellowship (UK) and the Robert Wood Johnson Investigator Award in Health Policy, and holds a Doctorate Honoris Causa, from Universidad Autonoma del Estado de Hidalgo (Mexico).

Roche, José Manuel (JMR)
José Manuel Roche is a Research Officer at OPHI. He is also a research fellow at CISOR, an Education Officer of the HDCA executive council, and the coordinator of the Quantitative Research Thematic Group at the HDCA. José Manuel holds a PhD in Sociology from the University of Sussex and has research and consultancy experience in poverty analysis, social inequality, survey analysis, social indicators and on the human development and the capability approach.
**Santos, Maria Emma (MES)**
Maria Emma is an Assistant Professor at the Department of Economics, Universidad Nacional del Sur, Argentina, a research fellow of the Consejo Nacional de Investigaciones Científicas y Tecnicas (CONICET), Argentina and a research associate to the Oxford Poverty and Human Development Initiative, University of Oxford. Her research interests include the measurement and analysis of chronic and multidimensional poverty, the quality of education, its determinants, and its role for poverty persistence. She is particularly interested in Latin American countries.

**Seth, Suman (SS)**
Suman Seth is a Research Officer at OPHI. He has also worked for the Regional Bureau of Latin America and the Caribbean, UNDP, and the Development Research Group at the World Bank. His primary interest lies in the area of Development Economics with special emphasis on measurement methodologies and policy-oriented applications of multidimensional welfare and poverty measures.

**Vaz, Ana (AV)**
Ana Vaz is a Research Officer at OPHI. She has also worked for PricewaterhouseCoopers and at the Catholic University of Portugal. Her primary research interests are Development Economics and Applied Microeconomics. Her work at OPHI has focused on the policy applications of the Alkire Foster method for multidimensional measurement.

**Zavaleta, Diego (DZ)**
Diego Zavaleta is a Research Officer at OPHI. He is involved in research pertaining aspects of shame, humiliation and isolation as missing dimensions of poverty data. His doctoral research focused on economic relations that prevent major ethnic conflict in Bolivia, as part of a global project within the Centre for Research on Inequality, Human Security and Ethnicity (CRISE) at the University of Oxford. He has D.Phil in Development Studies and a M.Sc. in Public Policy from the University of Oxford, an MBA from the University of Birmingham and a B.S. in Economics from Arizona State University. He has worked for a variety of International Organisations, including The World Bank and the United Nations Development Program, as well as for the Bolivian government. Before joining Oxford, he was the Secretary for the National Dialogue of the Ministry of the Presidency. He is a Bolivian national.
## Programme

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<tr>
<td>09:00-10:30</td>
<td>Introduction &amp; Overview of the Summer School (SA)</td>
<td>Introduction to the Capability Approach (SA)</td>
<td>Paper-based Exercises on AF Methodology (AV)</td>
<td>Exam (All)</td>
<td>Working Groups: Exploring the Dataset (MA/PB)</td>
<td>Measures of Associations (PB)</td>
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<td>13:30-15:00</td>
<td>Why Multidimensional (MD) Poverty Measures? (SA)</td>
<td>Alkire Foster Methodology (JF)</td>
<td>Case Study; the International MPI (JMR &amp; MES)</td>
<td>Survey Design, Bias Analysis, Missing Values, &amp; Sample Drop (JMR)</td>
<td>Working Groups' Preparing Presentations (All)</td>
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<td>15:30-17:00</td>
<td>Overview of MD Poverty Methods (SA &amp; PB &amp; MES)</td>
<td>Paper-based Exercises on AF Methodology (MES)</td>
<td>Case Studies: National MD Poverty Measures (SA)</td>
<td>STATA Lab &amp; Descriptive statistics (MA)</td>
<td>Working Groups' Results Presentations (MES)</td>
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<tr>
<th>Times</th>
<th>Day 7 (15/07)</th>
<th>Day 8 (16/07)</th>
<th>Day 9 (17/07)</th>
<th>Day 10 (18/07)</th>
<th>Day 1 (19/07)</th>
<th>Day 6 (20/07)</th>
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<td>09:00-10:30</td>
<td>Working in Groups: Creating the Deprivation Matrix (PB)</td>
<td>Working Groups: Subgroup Decomposition &amp; Maps (JMR)</td>
<td>Inequality Among The Poor (JF &amp; SS)</td>
<td>Clarifying Concepts and Communicating your Results (SA &amp; MES)</td>
<td>Review of the Course &amp; Closure (SA)</td>
<td>Non Compulsory Exam (MA)</td>
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<td>11:00-12:30</td>
<td>Aggregated Results (MA)</td>
<td>Working Groups: Dimensional Breakdown (SS)</td>
<td>Time Series &amp; Chronicity (JMR &amp; SA)</td>
<td>Working Groups' Results Presentations (MES)</td>
<td>Presentations of Working Group Results</td>
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<td>13:30-15:00</td>
<td>Decomposition by Subgroup &amp; Dimensional Breakdown (JMR &amp; SS)</td>
<td>Sensitivity, Robustness Analysis &amp; SE (SS-PB)</td>
<td>Regression Analysis (PB)</td>
<td>Flex session</td>
<td>Presentations of Working Group Results</td>
<td>Presentations of Working Group Results</td>
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3. **Syllabi**

**Topic:** Introduction & Overview of the Summer School

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<th><strong>Session:</strong></th>
<th>Monday 8 July, 09:00-10:30</th>
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<td><strong>Instructor:</strong></td>
<td>Sabina Alkire</td>
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**Contents:**
- Presentation of the OPHI Team
- Presentation of the Participants
- Presentation of the Summer School, aims and goals.
- Presentation of the programme of the Summer School
- Logistic Information

**Pre-Summer School Reading List:**
### Contents:
- Steps in poverty measurement: identification and aggregation.
- Properties of unidimensional poverty measures.
- Unidimensional poverty measures.
- Poverty Orderings (Unidimensional stochastic dominance conditions and the links to poverty measures)

### Reading List:

#### Basic

#### Advanced

#### Further readings:


Topic: Why Multidimensional (MD) Poverty Measures?

Session: Monday 8 July, 13:30-15:30
Instructor: Sabina Alkire

Contents:
- Conceptual and Philosophical arguments for multidimensional poverty measures
- Empirical evidence of Uni vs. Multi-Dimensional Poverty
- Examples of interest in multidimensional poverty measures in government agencies of different countries.

Reading List:
**Topic:** Overview of MD Poverty Methods

**Session:** Monday 8 July, 15:30-17:30  
**Instructors:** Sabina Alkire, Paola Ballon, Maria Emma Santos

**Contents**
- Brief introduction to different approaches used to measure poverty in a multidimensional way.
- The counting approach as a method for identifying the poor.
- Salient implementations of the counting approach to measure poverty over time. Their use in policy.

**Reading List**
Topic: Introduction to the Capability Approach

Session: Tuesday 9 July, 09:00-10:30
Instructor: Sabina Alkire

Contents:
- History and Motivation
- Capabilities
- Functionings
- Agency
- Implications for economics
- Issues for measurement

Reading List:

Further Readings:
5. NARAYAN, D, CHAMBERS, R., SHAH, M.K. and P. PETESCH (2000), Voices of the poor: Crying out for change. New York: Oxford University Press for the World Bank. – (This influential study tries to synthesise participatory poverty assessments in order to identify the dimensions of “ill-being” and of “well-being” that emerge across contexts).
6. ROBEYNS, I. (2003), “Sen’s capability approach and gender Inequality: Selecting Relevant Capabilities.” Feminist Economics. 9:61-92. (This more philosophical article argues that, to select capabilities (or dimensions), we need to observe four procedural criteria.)
(This paper compares monetary poverty, capability, social exclusion, and participatory measures of poverty).


**Topic:** Properties of Multidimensional (MD) Poverty

**Session:** Tuesday 9 July, 11:00-12:30

**Instructor:** Suman Seth

**Contents:**
- Properties of multidimensional poverty measures that are natural extensions of the unidimensional framework.
- Properties specific to multidimensional measures.
- Multidimensional Poverty Measures

**Reading List:**

**Further readings:**
Topic: Alkire Foster (AF) Methodology and MD Poverty Measure

Session: Tuesday 9 July 13:30-15:30 (theory) 15:30-17:30 (Paper Exercise) 10 July 09:00-10:30 (Paper Exercise)
Instructor: James Foster, Sabina Alkire, Maria Emma Santos, Ana Vaz

Contents:
- Key literature on multidimensional poverty measures
- The steps of identification and aggregation in Alkire Foster method
- The importance of a joint distribution vs. a marginal distribution

Reading List:
**Topic:** Normative Issues in Multidimensional Poverty Measurement

**Session:** Wednesday 10 July, 11:00-12:30  
**Instructor:** Sabina Alkire

**Contents:**
- Choice of the unit of analysis
- Order of aggregation
- Choice of dimensions
- Choice of variables/indicators for dimensions
- Choice of poverty lines
- Choice of weights
- Choice of identification criterion & aggregate measures

**Reading List:**
2. ALKIRE, S. (2002), “Dimensions of Human Development” World Development 30: 181-205. (This article surveys the ‘lists’ of dimensions of human development that have been proposed – on the basis of participatory planning or research, philosophy, synthesis of existing literature, cross-cultural psychology, psychology of human development, and so on).

**Further readings:**

*On the choice of dimensions:*


7. SEN, A. K. (1992), Inequality Reexamined. Chapter 7: “Poverty and Affluence”. (This Chapter lays out the case for considering multiple dimensions of well-being or poverty – in Sen’s cases, through measures of capability – rather than focusing on income or utility).


On the choice of weights:


On discussions of these issues all-together:


## Topic: Case Studies

**Session:** Wednesday 10 July, 13:30-15:00 (International MPI) 15:30-17:30 (Colombia)  
**Instructors:** Sabina Alkire, José Manuel Roche, Maria Emma Santos

### Contents:
- An introduction to the choices and limitations behind the international comparable MPI and the many types of possible analyses.
- An overview of two national A&F measures in Mexico and Colombia.

### Reading List:
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<td>● Alkire Foster (AF) Methodology and MD Poverty Measure</td>
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<td>● Normative Issues in MD Poverty Measurement</td>
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</table>
**Topic:** Survey Design, Bias Analysis, Missing Values and Sample Drop

**Session:** Thursday 11 July, 13:30-15:00  
**Instructor:** Jose Manuel Roche

**Contents:**  
- An overview of common data issues related to the use of Household Surveys for multidimensional poverty measurement

**Reading List:**  

**Further readings:**  
4. LEPKOWSKI, J. “Non-observation error in household surveys in developing countries”, in Household Sample Surveys in Developing and Transition Countries, New York: United Nation Publication.  
# Stata Lab & Descriptive Statistics

**Session:** Thursday 11 July, 15:30-17:00  
**Instructor:** Mauricio Apablaza

## Contents:
- Review of STATA  
- Descriptive Statistics (aggregate and continuous variables)  
- Generating variables using loops  
- The structure of the AF - do file

## Reading List:
2. STATA Press. Getting Started with Stata for Windows.

## Useful resource:
1. General help can be found at [http://www.stata.com/links/resources-for-learning-stata](http://www.stata.com/links/resources-for-learning-stata).  
2. UCLA Academic Technology Services available at www.ats.ucla.edu/stat/stata  
3. Prof. Cameron’s webpage at the University of Davis, available at cameron.econ.ucdavis.edu/stata/stata.html
## Topic: Measures of Association

**Session:** Saturday 13 July, 09:00-10:30  
**Instructor:** Paola Ballon

### Contents:
- Measuring association in contingency tables: local, and global odds ratios
- Non-model based analysis of ordinal association: concordance and discordance measures of association, gamma, Kendall-tau.
  - Introduction to redundancy: Principles of EFA

### Reading List:
Topic: Sub Index Scales Validation (Principal Components & Factor Analyses)

Session: Saturday 13 July, 11:00-12:30
Instructor: Jose Manuel Roche

Contents:
- Data reduction with Principal Component Analysis
- Exploratory Factor Analysis, measurement error and scale construction
- Hypothesis testing with Confirmatory Factor Analysis
- Introduction to other related techniques: Multiple Correspondence Analysis, Cluster Analysis and Structure Equation Modelling
- Reviewing the strengths and weaknesses

Reading List:

Further readings Factor Analysis:
4. COSTELLO, A. and J. OSBORNE (2005) “Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis”. Pracitcal Assessment, Research & Evaluation, 10 (7)
Multivariate data analysis in STATA: http://www.stata.com/capabilities/mv.html
Annotated STATA Output FA: http://www.ats.ucla.edu/stat/stata/output/fa_output.htm
Annotated SPSS Output FA: http://www.ats.ucla.edu/stat/spss/output/factor1.htm

Useful Reference in Scale Validation and Survey Design


Topic: Aggregated Results, Decomposition by Subgroup, Dimensional Breakdown

Session: Monday 15 July, 11:00-12:30 (Aggregated Results) 13:30-15:00 (Decomposition by Subgroup and Dimensional Breakdown)
Instructors: Mauricio Apablaza, Jose Manuel Roche, Suman Seth

Contents:
- Decompositions by population subgroups
- Breaks-down by dimension
- Analysis of trends in AF Measure

Reading List:

Further readings:
Topic: Sensitivity, Robustness Analysis and Standard Error

Session: Tuesday 16 July, 13:30-15:00
Instructor: Suman Seth, Paola Ballón

Contents:
- Unidimensional versus multidimensional dominance.
- Application of Stochastic Dominance in Alkire-Foster context
- Computation of standard errors of point estimates.
- Rank robustness; Spearman, and Good & Kruskal’s correlation coefficients and Rank concordance.
- Robustness of point estimates with respect to the selection of weights, poverty cut-off and deprivation cut-offs

Reading List:

Further readings:
### Topic: Missing Dimensions of Household Surveys on Poverty

**Session:** Tuesday 16 July, 15:30-17:00  
**Instructor:** Diego Zavaleta, Sabina Alkire

**Contents:**
- Informational Analysis of moral principles
- Review – the choice of dimensions
- The problem of ‘missing data’
- Four survey instruments producing most MDG-type data
- Various search engines and initiatives to improve data
- Characteristics of internationally comparable data
- OPHI’s Missing Dimensions: Employment, Empowerment, Safety from Violence, Ability to go about without Shame, Psychological and Subjective well-being

**Reading List:**

**Further readings:**
Topic: Inequality in Poverty

**Session:** Wednesday 17 July, 09:00-10:30  
**Instructor:** James Foster, Suman Seth

**Contents:**
- An inequality sensitive poverty index or a separate inequality measure?  
- Which Inequality measure?  
- Capturing inequality across the Poor  
- Capturing disparity in poverty across population subgroups

**Reading List:**

**Further readings:**
## Topic: Time Series & Chronicity

**Session:** Wednesday 17 July, 11:00-12:30  
**Instructor:** Jose Manuel Roche, Sabina Alkire

### Contents:
- Time decompositions for panel datasets introducing transitional probabilities.  
- Empirical examples in both cross section and panel data.  
- Remarks on time comparability in cross section data

### Reading List:

### Further readings:
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<td><strong>Instructor:</strong> Paola Ballon</td>
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<tr>
<td><strong>Contents:</strong></td>
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<tr>
<td>● Introduction to generalised linear models.</td>
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<td>● Regression models for indicators of deprivation: Poisson models for count data.</td>
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<td>● Regression models for MPI by district: linear regression</td>
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<tr>
<td>● Introduction to Structural Equation Modelling: MIMIC models for female empowerment</td>
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Topic: Clarifying Concepts and Communicating your Results

Session: Thursday 18 July, 09:00-10:30
Instructor: Sabina Alkire, Maria Emma Santos

Contents:

Reading List:

Further readings:
**Topic: Institutions and Policy**

**Session:** Thursday 18 July, 13:30-15:00  
**Instructor:** Sabina Alkire

**Contents:**
- Practical and policy considerations in implementing multidimensional poverty measures
- Political purposes – users and incentives created
- Process of developing a measure – how it will be used? Who will have interest in using it?  
  - How measures will be updated? What institutions will be involved?

**Reading List:**

**Further readings:**