

# Summer School on Multidimensional Poverty Analysis

**Oxford Poverty and Human Development Initiative (OPHI)  
Oxford Department of International Development, University of Oxford**

**In collaboration with the Morocco High Commission for Planning (HCP)**

**Hosted at the Hotel Les Jardins de l'Agdal  
Marrakech, Morocco**

**03 – 15 July 2017**



**Welcome!**

Welcome to the OPHI Summer School on Multidimensional Poverty Analysis 2017. 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.

*Welcome to Marrakech!*  
*The Instructors*

**An Introduction to the 2017 Summer School**

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 (AF) method. Participants will revise axiomatic poverty measures, and will get an overview of different techniques of multidimensional poverty measurement and which problems they are best suited to solve. The empirical motivation for measuring multidimensional poverty will be presented as well as the conceptual motivation, drawing on Amartya Sen's capability approach.

## 1. Instructors



**Sabina Alkire (SA)** directs the Oxford Poverty and Human Development Initiative (OPHI), a research centre within the Department of International Development, University of Oxford. Her research interests and publications 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 the University of Oxford.



**Adriana Conconi (AC)** is Outreach Technical Director at OPHI. She holds a Master in Public Administration in International Development from Harvard University, as well as M.A. and B.A. degrees in Economics from the Universidad Nacional de La Plata (UNLP) – Argentina. Adriana has been working with OPHI since 2011, and led the MPI computations in 2013 and 2014. She has previously worked as a Researcher at the Centro de Estudios Distributivos, Laborales y Sociales (CEDLAS), at the UNLP and as a Professor in graduate and post-graduate courses at UNLP and Universidad de San Andres (Argentina).



**Boubou Housseini (BH)** is a research officer at OPHI. He holds a Ph.D. in Economics from Université Laval in Canada and a M.Sc. in Statistics from Institut National de Statistique et d'Économie Appliquée (INSEA) in Morocco. His research interests include welfare economics, demographic economics, economic growth and applied econometrics. Prior to joining OPHI, Boubou has taught Development Economics in undergraduate and graduate programmes at Université Laval in Canada. He has served as a consultant to the International Development Research Center (IDRC) in Canada, and for Capital Consulting in Morocco. His previous work experience includes collaborations with various UN agencies, in particular, the UNDP Human Development Report Office.



**Usha Kanagaratnam (UK)** holds a DPhil in Sociology from the University of Oxford. She has extensive experience in managing and analysing secondary data from large survey databases using STATA. Her work at OPHI, since 2012, has involved the computation and analyses of the Global MPI. Her previous field experience includes carrying out participatory poverty assessments in rural villages in Bangladesh, Indonesia and India. She holds an MSc in Sociology from the University of Oxford.

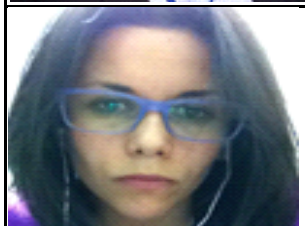
## Instructors (continue)



**Bilal Malaeb (BM)** is a research officer at OPHI. He holds a bachelor in Economics from the American University of Beirut, Lebanon, and MSc and PhD in Economics from the University of Manchester, UK. Prior to joining OPHI in June 2016, Bilal worked at the University of Manchester as a lecturer in Econometrics and research methods for post-graduate students at the Global Development Institute, and graduate teaching assistant for undergraduate modules in the Economics department. He also worked as an external consultant with the International Labour Organization and the International Fund for Agricultural Development. At OPHI, Bilal's role entails supporting governments in building their national MPIs and carrying out micro-econometric research on the determinants of multidimensional poverty.



**Christian Oldiges (CO)** is a research officer at OPHI. He has been involved with computing the global MPI and OPHI's outreach work since 2011. His doctoral thesis at Heidelberg University, Germany focuses on the impact evaluation of welfare programmes in India and the multidimensional measurement of nutrition. Previously, he has worked as a research assistant at the Delhi School of Economics, New Delhi, India and the G.B. Pant Social Science Institute, Allahabad, India.



**Monica Pinilla-Roncancio (MP)** holds a PhD in Social Policy from the University of Birmingham, UK, as well as an M.Sc. in Health Economics, Policy and Law from Erasmus University Rotterdam (Netherlands) and an M.A. in Economics from the Universidad del Rosario (Colombia). Monica has been working with OPHI since 2014, contributing to outreach activities as well as the calculations of the Global MPI.



**Nicolai Suppa (NS)** is a research associate of OPHI and holds a PhD in economics from TU Dortmund in Germany, where he also studied economics and sociology. After his PhD he worked in the research project "Multidimensional Poverty Measurement in Germany and the European Union" funded by the German Research Foundation (DFG). His research interests include, besides multidimensional poverty measurement and analysis, also applied welfare economics, the capability approach, labour economics, and applied econometrics.

## 1. Programme

### Week 1

Day 1: Monday 03 July	Day 2: Tuesday 04 July	Day 3: Wednesday 05 July	Day 4: Thursday 06 July	Day 5: Friday 07 July	Day 6: Saturday 08 July
<b>0900-1030</b> Opening session, Introduction & Overview of the Summer School Chaired by SA	<b>0900-1030</b> MD Poverty Methods & Counting Approaches SA Chapter 3 & 4	<b>0900-1030</b> Paper-based Exercises on AF Methodology BM	<b>0900-1030</b> Working Groups: Normative Issues NS & all	<b>0900-1015</b> Exam (All) UK & all	<b>0900-1030</b> Working Groups' Preparing Presentations All
<b>1115-1230</b> Special lecture HCP's experience with multidimensional poverty Mr. Khalid Soudi, Director, Observatory of Population Living Conditions, HCP	<b>1100-1230</b> Alkire Foster (AF) Methodology SA Chapter 5	<b>1100-1230</b> Introduction to the Capability Approach SA Chapter 6	<b>1100-1230</b> STATA Lab: Descriptive Statistics MP	<b>1100-1230</b> STATA Working Groups: Creating Deprivation Matrix AC & all	<b>1100-1230</b> Working Groups' Presentations All
<b>1400-1545</b> Multidimensional (MD) Poverty Measures: Motivations & Properties SA Chapter 1 & 2	<b>1400-1530</b> Case Study: the Global MPI CO Results MPI 2017	<b>1400-1530</b> Normative Issues in MD Poverty Measurement Design NS Chapter 6	<b>1400-1530</b> Data & Indicators UK Chapter 7	<b>1400-1530</b> Measures of Association & Redundancy SA Chapter 7	
<b>1615-1745</b> Unidimensional Poverty Measures NS Chapter 2	<b>1600-1730</b> Paper-based Exercises on AF Methodology BM	<b>1600-1730</b> Case Study: the National MPIs MP & AC OPHI/MPPN Website	<b>1600-1730</b> STATA Working Groups: Exploring the Dataset AC & all	<b>1600-1730</b> STATA Working Groups All	

## Programme (Continued)

### Week 2

Day 7: Monday 10 July	Day 8: Tuesday 11 July	Day 9: Wednesday 12 July	Day 10: Thursday 13 July	Day 11: Friday 14 July	Day 12: Saturday 15 July
<b>0900-1030</b> Aggregation of MPI  AC	<b>0900-1030</b> Sensitivity, Robustness Analysis & Standard Errors BH Chapter 8	<b>0900-1030</b> Regression Analysis  BH Chapter 10	<b>0900-1030</b> Working Groups  All	<b>0900-1015</b> Presentations of Working Group Results  All	<b>0900-1030</b> Non Compulsory Exam
<b>1100-1230</b> STATA Working Groups: Aggregation of MPI  AC & all	<b>1100-1230</b> STATA Working Groups: Sensitivity, Robustness & SE  BH & all	<b>1100-1230</b> Impact Evaluation  BM	<b>1100-1230</b> Working Groups  All	<b>1100-1300</b> Presentations of Working Group Results  All	
<b>1400-1530</b> Decomposition, Maps & Dimensional Breakdown  CO Chapter 5	<b>1400-1530</b> Changes over Time  NS Chapter 9	<b>1400-1530</b> Interpreting & Communicating MPI Results  AC	<b>1400-1530</b> Working Groups  All	<b>1400-1530</b>  All	
<b>1600-1730</b> STATA Working Groups: Decomposition, Maps & Dimensional Breakdown CO & all	<b>1600-1730</b> Working Groups  AC	<b>1600-1730</b> Working Groups  All	<b>1600-1730</b> Working Groups  AC	<b>1600-1730</b>  All	

### 3. Syllabus

#### Monday 03 July

<b>Day 1 - Session 1</b> (Monday 03 July, 09:00-10:45)
<p><b>Topic:</b></p> <ol style="list-style-type: none"> <li>(1) Opening session (Chief guest: Mr Ahmed Lahlimi Alami, Minister of Morocco High Commission for Planning (HCP))</li> <li>(2) Introduction &amp; Overview of the Summer School</li> </ol> <p><b>Chairperson:</b> Sabina Alkire</p>
<p><b>Contents of Introduction and overview of SS17:</b></p> <ul style="list-style-type: none"> <li>● Presentation of the OPHI Team</li> <li>● Presentation of the participants</li> <li>● Presentation of the Summer School, aims and goals</li> <li>● Presentation of the programme of the Summer School</li> <li>● Logistic information</li> </ul>
<p><b>Pre-Summer School Reading List:</b></p> <ol style="list-style-type: none"> <li>1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, <i>Multidimensional Poverty Measurement and Analysis</i>, Oxford University Press.</li> <li>2. Alkire, S. (2008), "The Capability Approach to the Quality of Life". Background paper to the Commission on the Measurement of Economic Performance and Social Progress. <a href="http://www.ophi.org.uk/wp-content/uploads/OPHI-RP-2a.pdf">http://www.ophi.org.uk/wp-content/uploads/OPHI-RP-2a.pdf</a></li> <li>3. Alkire, S. and J. Foster (2009), "Counting and Multidimensional Poverty" in von Braun, Joachim, Vargas Hill, Ruth and Rajul Pandya-Lorcheds, <i>The Poorest and Hungry: Assessment, Analysis and Actions</i>, p 77-90. Washington DC: International Food Policy Research Institute.</li> </ol>
<b>Day 1 - Session 2</b> (Monday 03 July, 11:15-12:30)
<p><b>Topic:</b> HCP's experience with multidimensional poverty</p> <p><b>Instructor:</b> Mr. Khalid Souidi, Director, Observatory of Population Living Conditions, Morocco High Commission for Planning (HCP)</p>
<b>Day 1 – Session 3</b> (Monday 03 July, 14:00-15:30)
<p><b>Topic:</b> Multidimensional (MD) Poverty Measures: Motivation and Properties</p> <p><b>Instructor:</b> Sabina Alkire</p>
<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>● Conceptual and philosophical arguments for multidimensional poverty measures</li> <li>● Empirical evidence of unidimensional versus multidimensional poverty</li> <li>● Examples of interest in multidimensional poverty measures among national governments</li> </ul>
<p><b>Reading:</b></p> <ol style="list-style-type: none"> <li>1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), <i>Multidimensional Poverty Measurement and Analysis</i>, Oxford University Press (Chap. 1 &amp; 2).</li> </ol>

**Further reading:**

1. Alkire, S. and M. E. Santos (2009), "Poverty and Inequality Measurement", in Deneulin, S. and Shahani, L. An Introduction to the Human Development and Capability Approach, Chapter 6. London, Earthscan.
2. Alkire, S. and M. E. Santos (2010), "Acute Multidimensional Poverty: A new Index for Developing Countries", OPHI WP 38. <http://www.ophi.org.uk/wp-content/uploads/ophi-wp38.pdf>
3. Alkire, S. and S. Seth (2008), "Multidimensional Poverty Measurement and BPL Methods in India: A Comparison of Methods". OPHI Working Paper No 15.
4. Duclos, J.Y. and Araar, A. 2006. 'Poverty and Equity Measurement, Policy, and Estimation with DAD', Springer and IDRC, Berlin and Ottawa.
5. OPHI (2010), Bhutan's Gross National Happiness Index <http://www.ophi.org.uk/policy/national-policy/gross-national-happiness-index/>
6. OPHI (2011), Colombia's National Poverty Measure. <http://www.ophi.org.uk/policy/national-policy/colombia-mpi/>
7. Ruggeri-Laderchi, C., Saith, R. and F. Stewart (2003), "Does it Matter that We Do Not Agree on the Definition of Poverty? A Comparison of Four Approaches." Oxford Journal of Development Studies. 31:3 243-274.
8. Santos, M.E. and K. Ura (2008), "Multidimensional Poverty in Bhutan: Estimates and Policy Implications". OPHI Working Paper No 13.
9. Sen, A. (1999), Development as Freedom, Oxford University Press. Chapter 4.
10. Sen, A. K. (2009), The Idea of Justice, Chapter 12, London, Allen Lane.
11. United Nations (2003). Indicators for Monitoring the Millennium Development Goals, New York: United Nations.
12. United Nations (2008). The Millennium Development Goals Report 2008. New York: United Nations.

**Day 1 - Session 4** (Monday 03 July, 16:00-17:30)**Topic:** Unidimensional Poverty Measures**Instructor:** Sabina Alkire / Nicolai Suppa**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:**

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), Multidimensional Poverty Measurement and Analysis, Oxford University Press, forthcoming, (Chap. 2.1).
2. Foster, J. E., S. Seth, M. Lokshin, and Z. Sajaia (2013), A Unified Approach to Measuring Poverty and Inequality: Theory and Practice, The World Bank, Free Download: <https://openknowledge.worldbank.org/handle/10986/13731>.
3. Foster J. E. and A. K. Sen (1997), Annexe of "On Economic Inequality", Oxford University Press.
4. Foster (2006): "Poverty Indices" in A. de Janvry and R. Kanbur (eds), Poverty, Inequality and Development: Essays in Honor to Erik Thorbecke. New York: Springer Science.



**Further readings:**

1. Atkinson, A. B. (1987): "On the Measurement of Poverty", *Econometrica*. 55: 749-764.
2. Fields, G. (2001): *Distribution and Development*. New York: Russell Sage Foundation and Cambridge, MA: MIT. Chapter 4.
3. Foster, J. E. and A. Shorrocks. (1988): "Poverty Orderings and Welfare Dominance", *Social Choice and Welfare*. 5: 179-198.
4. Ray, D. (1998): *Development Economics*. New Jersey: Princeton. Chapter 8.

**Tuesday 04 July****Day 2 - Session 1** (Tuesday 04 July, 09:00-10:30)**Topic:** Multidimensional Poverty Methods and Counting Approaches**Instructor:** Sabina Alkire**Contents**

- The counting approach as a method for identifying the poor
- Salient implementations of the counting approach to measure of poverty over time and their use as policy tool

**Reading:**

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), *Multidimensional Poverty Measurement and Analysis*, Oxford University Press (Chapter 3 & 4).

**Further reading:**

1. Atkinson, A. B. (2003). *Multidimensional Deprivation: Contrasting Social Welfare and Counting Approaches*. *Journal of Economic Inequality* 1, 51-65.

**Day 2 - Session 2** (Tuesday 04 July, 11:00-12:30)**Topic:** Alkire-Foster (AF) Methodology**Instructor:** Sabina Alkire**Contents:**

- Key literature on multidimensional poverty measures
- The identification and aggregation steps
- The importance of joint distribution versus marginal distribution

**Reading:**

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), *Multidimensional Poverty Measurement and Analysis*, Oxford University Press (Chapter 5).

**Further reading:**

1. Alkire, S. (2008) "Choosing dimensions: The Capability Approach and Multidimensional Poverty." In *The Many Dimensions of Poverty*, eds., N. Kakwani and J. Silber. Basingstoke: Palgrave Macmillan.

2. Alkire, S. and S. Deneulin (2009). "The Human Development and Capability Approach." In An Introduction to the Human Development and Capability Approach: Freedom and Agency, eds., S. Deneulin and L. Shahani. London: Earthscan.
3. Alkire, S., and J.E. Foster (2011). "Counting and Multidimensional Poverty Measurement." Journal of Public Economics. 95(7-8): 476-487.
4. Alkire, S., and J.E. Foster(2011). "Understandings and Misunderstandings of Multidimensional Poverty Measurement." Journal of Economic Inequality. 9(2):289-314.
5. Alkire, S., and M.E. Santos. 2010. "Acute Multidimensional Poverty: A New Index for Developing Countries." Background paper for the 2010 Human Development Report. UNDP (United Nations Development Programme).
6. Alkire, S., M.E Santos, S. Seth and G. Yalonetzky. 2010. "Is the Multidimensional Poverty Index Robust to Different Weights?" OPHI Research in Progress Paper 22a.
7. Alkire, S. and M. E. Santos (2011), "Training Material for Producing National Human Development Reports" <http://www.ophi.org.uk/wp-content/uploads/OPHI-RP-30a.pdf-2011.pdf>
8. Sen, A, K. 1999. Development as Freedom. Oxford: Oxford University Press.
9. UNDP (United Nations Development Programme). 2010. Human Development Report 2010. The Real Wealth of Nations: Pathways to Human Development. UNDP, New York.
10. Yalonetzky, G. 2011. "A Note on the Standard Errors of the Members of the Alkire Foster Family and Its Components", OPHI Reach in Progress Paper 25.

#### Day 2 - Session 3 (Tuesday 04 July, 14:00-15:30)

**Topic:** Case Studies: the Global MPI

**Instructor:** Christian Oldiges

**Contents:**

- An introduction to the Global MPI – one possible implementation of one measure in the AF class of measures

**Reading List:**

1. Alkire, S., and M.E. Santos. (2010) "Acute Multidimensional Poverty: A New Index for Developing Countries." Background paper for the 2010 Human Development Report. UNDP.
2. Alkire, S., J.M. Roche and S. Seth (2012). "Sub-national Disparities and Inter-temporal Evolution of Multidimensional Poverty across Developing Countries" OPHI Research in Progress Paper 32a. <http://www.ophi.org.uk/wp-content/uploads/OPHI-RP-32a-2011.pdf>

#### Day 2 - Session 4 (Tuesday 04 July, 16:00-17:30)

**Topic:** Paper-based Exercises on AF Methodology

**Instructor:** Bilal Malaeb

**Contents:**

- Useful exercises on the AF method

**Wednesday 05 July**

<b>Day 3 – Session 1</b> (Wednesday 05 July, 09:00-10:30)
<p><b>Topic:</b> Solution: Paper-based Exercises on AF Methodology</p> <p><b>Instructor:</b> Bilal Malaeb (OPHI team to assist participants)</p>
<b>Day 3 – Session 2</b> (Wednesday 05 July, 11:00-12:30)
<p><b>Topic:</b> Introduction to the Capability Approach (CA)</p> <p><b>Instructor:</b> Sabina Alkire</p>
<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>● History and motivation of the capability approach</li> <li>● Capabilities</li> <li>● Functionings</li> <li>● Agency</li> <li>● Implications for economics</li> <li>● Issues for measurement</li> </ul>
<p><b>Reading:</b></p> <ol style="list-style-type: none"> <li>1. Alkire, S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), Multidimensional Poverty Measurement and Analysis, Oxford University Press (Chapter 6).</li> </ol> <p><b>Further reading:</b></p> <ol style="list-style-type: none"> <li>1. Alkire, S. (2005) Capabilities and Functionings: Definition and Justification. <a href="http://www.masterhdfs.org/masterHDFS/wp-content/uploads/2014/05/Alkire-Capability-Functioning-Briefing-Note.pdf">http://www.masterhdfs.org/masterHDFS/wp-content/uploads/2014/05/Alkire-Capability-Functioning-Briefing-Note.pdf</a></li> <li>2. Alkire, S. and S. Deneulin (2009), "The Human Development and Capability Approach" in Deneulin, S. and L. Shahani (eds) An Introduction to Human Development and Capability Approach, draft chapters. Chapter 2. <a href="http://www.ophi.org.uk/wp-content/uploads/ssAlkire-Deneulin_Ch2.pdf">http://www.ophi.org.uk/wp-content/uploads/ssAlkire-Deneulin_Ch2.pdf</a></li> <li>3. Sen, A. (1989), "Development as Capability Expansion" In S. Fukud-Parr and A.K. Shiva Kumar, Readings in Human Development, Oxford University Press (2003).</li> <li>4. Sen, A. (1999), Development as Freedom, Oxford University Press. Chapters 1-3.</li> </ol>
<b>Day 3 – Session 3</b> (Wednesday 05 July, 14:00-15:30)
<p><b>Topic:</b> Normative Issues in Multidimensional Poverty Measurement Design</p> <p><b>Instructor:</b> Nicolai Suppa</p>
<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>● Choice of the unit of analysis</li> <li>● Order of aggregation</li> <li>● Choice of dimensions</li> <li>● Choice of variables/indicators for dimensions</li> <li>● Choice of poverty lines</li> <li>● Choice of weights</li> <li>● Choice of identification criterion &amp; aggregate measures</li> </ul>

**Reading:**

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), Multidimensional Poverty Measurement and Analysis, Oxford University Press (Chapter 6).

**Further reading:**

1. Alkire, S. and M. E. Santos (2009), "Poverty and Inequality Measurement", in Deneulin, S. and Shahani, L. An Introduction to the Human Development and Capability Approach, Chapter 6. London, Earthscan.
2. Alkire, S. (2002), "Dimensions of Human Development" World Development 30: 181-205.
3. Alkire, S. (2007), "Choosing Dimensions: The Capability Approach and Multidimensional Poverty
4. Decancq, K. and M. A. Lugo (2008), "Setting Weights in Multidimensional Indices of Well-being". <http://www.ophi.org.uk/wp-content/uploads/OPHI-wp18.pdf> and the references therein.
5. Foster, J. E. (1998) "Absolute versus Relative Poverty" American Economic Review, Papers and Proceedings. 88: 335-341.
6. Ravallion, M. and S. Chen (2009), "Weakly Relative Poverty" Policy Research Working Paper 4844, World Bank, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1348985](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1348985)

**Day 3 – Session 4** (Wednesday 05 July, 16:00-17:30)**Topic:** Case Studies: National Multidimensional Poverty Measures**Instructor:** Monica Pinilla and Adriana Conconi**Contents:**

- An overview of national AF measures in Colombia, Mexico, Pakistan and Bhutan

**Reading List:**

1. Hernandez-Llicona (2014) "Multidimensional Poverty Measurement: The Mexican Wave", Mexico: National Council for the Evaluation of Social Development Policy (CONEVAL).
2. Mac Master, B (2013) "Multidimensional Poverty Index Applications - Colombia", Bogota: Department of Social Prosperity, June. <http://www.ophi.org.uk/wp-content/uploads/The-Case-of-Colombia-Mr-Bruce-Mac-Master-Director-of-the-Department-fro-Social-Prosperity-DPS-Colombia.pdf?0a8fd7>
3. National Statistics Bureau of Bhutan (2014) "Bhutan Multidimensional Poverty Index", Thimphu: NSB [www.nsb.gov.bt/publication/download.php?id=279](http://www.nsb.gov.bt/publication/download.php?id=279)
4. Hanandita, W., & Tampubolon, G. (2015). Multidimensional poverty in Indonesia: trend over the last decade (2003–2013). Social Indicators Research, 1-29. <http://link.springer.com/article/10.1007/s11205-015-1044-0>

**Thursday 06 July****Day 4 – Session 1** (Thursday 06 July, 09:00-10:30)**Topic:** Working Groups: Normative Issues**Instructor:** Nicolai Suppa (OPHI team to assist participants)**Day 4 – Session 2** (Thursday 06 July, 11:00-12:30)**Topic:** Stata Lab and Descriptive Statistics**Instructor:** Monica Pinilla**Contents:**

- Review of STATA

- Descriptive statistics (categorical and continuous variables)
- Generating variables using loops
- Stata do-file steps following the AF method

**Reading List:**

1. Cameron A.C. and P.K. Trivedi. "Microeconometrics using STATA" Revised Edition (2010), Stata Press, 706 pages, Chapter 1-2
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>.
2. Prof. Cameron's webpage at the University of Davis, available at <http://cameron.econ.ucdavis.edu/stata/stata.html>

**Day 4 – Session 3** (Thursday 06 July, 14:00-15:30)**Topic:** Data and Indicators**Instructor:** Usha Kanagaratnam**Contents:**

- An overview of common data issues related to the use of household surveys for multidimensional poverty measurement

**Reading:**

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), Multidimensional Poverty Measurement and Analysis, Oxford University Press (Chapter 7).

**Further reading:**

1. Deaton, Angus (1997) The Analysis of Household Surveys: A Microeconomic Approach to Development Policy, Washington: The World Bank. (Specially chapters 1 and 2)
2. Brogan, D. "Sampling Error Estimation for Survey Data", in Household Sample Surveys in Developing and Transition Countries, New York: United Nation Publication.
3. Chromy, J. R. and Aveyasekera, S. (2005) "Statistical Analysis of Survey Data", in Household Sample Surveys in Developing and Transition Countries, New York: United Nation Publication.
4. Kasprzyk, D (2005) "Measurement Error in Household Surveys: Sources and Measurement", in Household Sample Surveys in Developing and Transition Countries, New York: United Nation Publication.
5. 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.
6. Yansaneh, I (2005) "Overview of Sample Design Issues for Household Surveys in Developing and Transition Countries", in Household Sample Surveys in Developing and Transition Countries, New York: United Nation Publication.

**Day 4 – Session 4** (Thursday 06 July, 16:00-17:30)**Topic:** Working Groups: Exploring the Dataset**Instructor:** Adriana Conconi (OPHI team to assist participants)

**Friday 07 July**

<b>Day 5 – Session 1</b> (Friday 07 July, 09:00-10:15)
<p><b>Topic:</b> Mid-term Exam  <b>Instructor:</b> Usha Kanagaratnam and OPHI Team</p>
<p><b>Exam questions will be focused on:</b></p> <ul style="list-style-type: none"> <li>● Why multidimensional (MD) poverty measures?</li> <li>● Unidimensional poverty measurement</li> <li>● Properties of unidimensional and MD poverty</li> <li>● Alkire-Foster (AF) methodology</li> <li>● Introduction to capability approach</li> <li>● Normative issues in MD poverty measurement</li> <li>● Global Multidimensional Poverty Index (MPI)</li> </ul>
<b>Day 5 – Session 2</b> (Friday 07 July, 10:30-12:00)
<p><b>Topic:</b> STATA Working Groups: Creating the Deprivation Matrix  <b>Instructor:</b> Adriana Conconi (OPHI team to assist participants)</p>
<b>Day 5 – Session 3</b> (Friday 07 July, 14:00-15:30)
<p><b>Topic:</b> Measures of Association and Redundancy  <b>Instructor:</b> Sabina Alkire</p>
<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>● Measuring association in contingency tables: local, and global odds ratios</li> <li>● Non-model based analysis of ordinal association: concordance and discordance measures of association, gamma, Kendall-tau</li> <li>● Introduction to redundancy: principles of EFA</li> </ul>
<p><b>Reading:</b></p> <ol style="list-style-type: none"> <li>1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), Multidimensional Poverty Measurement and Analysis, Oxford University Press (Chapter. 7).</li> </ol> <p><b>Further reading:</b></p> <ol style="list-style-type: none"> <li>1. Agresti, A. (1990) Categorical Data Analysis, New York, NY; Toronto: John Wiley &amp; Sons. Chapter 2.</li> <li>2. Anderson, T.W. (2003) An Introduction to Multivariate Statistical Analysis, 3rd Edition, John Wiley &amp; Sons. Chapter 14.</li> <li>3. Agresti, A. (1984). Analysis of Ordinal Categorical Data, New York, NY; Toronto: John Wiley &amp; Sons.</li> </ol>
<b>Day 5 – Session 4</b> (Friday 07 July, 1600-17:30)
<p><b>Topic:</b> STATA Working Groups: Creating the Deprivation Matrix and Redundancy  <b>Instructor:</b> OPHI Team</p>

**Saturday 08 July**

<b>Day 6 – Session 1</b> (Saturday 08 July, 09:00-10:30)
<b>Topic:</b> Working Groups: Preparing Presentations <b>Instructor:</b> OPHI team to assist participants
<b>Day 6 – Session 2</b> (Saturday 08 July, 11:00-12:30)
<b>Topic:</b> Working Groups: Presentations <b>Panel:</b> OPHI Team

**Monday 10 July**

<b>Day 7 – Session 1</b> (Monday 10 July, 09:00-10:30)
<b>Topic:</b> STATA Working Groups: Aggregation of MPI <b>Instructor:</b> Adriana Conconi (OPHI team to assist participants)
<b>Day 7 – Session 2</b> (Monday 10 July, 11:00-12:30)
<b>Topic:</b> STATA Working Groups: Aggregation of MPI <b>Instructor:</b> OPHI team to assist participants
<b>Day 7 – Session 3</b> (Monday 10 July, 14:00-15:30)
<b>Topic:</b> STATA Working Groups:Decomposition, Maps and Dimensional Breakdown <b>Instructor:</b> Christian Oldiges
<b>Contents:</b> <ul style="list-style-type: none"> <li>● Decompositions by population subgroups</li> <li>● Break-down by dimension</li> <li>● Analysis of trends in AF Measure</li> </ul>
<b>Reading List:</b> <ol style="list-style-type: none"> <li>1. Alkire, S. and J. M. Roche (2013), “How Multidimensional Poverty Went Down: Dynamics and Comparison”, Research briefing <a href="http://www.ophi.org.uk/wp-content/uploads/How-Multidimensional-Poverty-went-down.pdf?7ff332">http://www.ophi.org.uk/wp-content/uploads/How-Multidimensional-Poverty-went-down.pdf?7ff332</a></li> <li>2. Alkire, S. and M. E. Santos (2010), “Acute Multidimensional Poverty: A New Index for Developing Countries”, OPHI WP 38. <a href="http://www.ophi.org.uk/wp-content/uploads/ophi-wp38.pdf">http://www.ophi.org.uk/wp-content/uploads/ophi-wp38.pdf</a></li> <li>3. Alkire, S. and S. Seth (2013), “Selecting a Targeting Method to Identify BPL Households in India”. Social Indicators Research, Volume 112, Issue 2, pp 417-446.</li> <li>4. Alkire, S. and S. Seth (2013), “Multidimensional Poverty Reduction in India between 1999 and 2006: Where and How?” OPHI Working Paper No 60.</li> <li>5. Batana, Y. (2008), “Multidimensional Measurement of Poverty in Sub-Saharan Africa”, OPHI WP. No 13.</li> <li>6. Bennett, C. and S. Slingh, (2010), “Multidimensional poverty: Measurement, Estimation and Inference”, manuscript.</li> </ol>

7. Roche J. M. (2013), "Monitoring Progress in Child Poverty Reduction: Methodological Insights and Illustration to the Case Study of Bangladesh", *Social Indicators Research*, Vol. 112, Issue 2, pp 363-390.
8. Santox, M. E. and Ura, K. (2008), "Multidimensional Poverty in Bhutan: Estimates and Policy Implications", OPHI WP. 14
9. Santos, M.E, Lugo, M. A., Lopez-Calva, L. F., Cruces, G., Battiston, D. (2010), "Refining the Basic Needs Approach: A Multidimensional Analysis of Poverty in Latin America", *Research on Economic Inequality*, Chapter 1, Vol. 18.

#### Day 7 – Session 3 (Monday 10 July, 14:00-15:30)

**Topic:** STATA Working Groups: Decomposition, Maps and Dimensional Breakdown

**Instructor:** OPHI team to assist participants

### Tuesday 11 July

#### Day 8 – Session 1 (Tuesday 11 July, 09:00-10:30)

**Topic:** Sensitivity, Robustness Analysis and Standard Errors

**Instructor:** Bouba Housseini

**Contents:**

- Unidimensional versus multidimensional dominance
- Application of stochastic dominance in AF 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:**

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), *Multidimensional Poverty Measurement and Analysis*, Oxford University Press (Chapter 8).

**Further reading:**

1. Alkire S., and J.E. Foster (2011). "Counting and Multidimensional Poverty Measurement." *Journal of Public Economics*. 95(7-8): 476-487.
2. Alkire S., ME. Santos, S. Seth and G. Yalonetzky (2010). *Is the Multidimensional Poverty Index Robust to Different Weights?* OPHI Working Paper 22a
3. Atkinson, A.B and F. Bourguignon (1982), "The Comparison of Multidimensioned Distributions of Economic Status", *Review of Economic Studies*, 49(2): 183-201.
4. Deaton, A. (1997). *The analysis of household surveys. A Microeconomic Approach to Development Policy*. The World Bank
5. Duclos, J-Y., Sahin, D and S. Younger (2006), "Robust Multidimensional Poverty Comparisons", *The Economic Journal*. 116(514): 943-68.
6. Lynn, P. (2007). *Hypothesis Testing Using Complex Survey Data*. <http://www.restore.ac.uk/Longitudinal/surveynetwork/documents/PragueCourseNotesPLv3.pdf>



7. Yalonetzky, G (2011), Conditions for the Most Robust Poverty Comparisons Using the Alkire-Foster Family of Measures. OPHI Working Paper 44b.
8. Yalonetzky, Gaston (2009), "Testing for Stochastic Dominance among Additive, Multivariate Welfare Functions", manuscript.
9. Aanderson, G. (1996), 'Nonparametric Tests of Stochastic Dominance in Income Distributions', *Econometrica*, 64(5): 1183-1193.
10. Aanderson, G. (2008), "The Empirical Assessment of Multidimensional Welfare, Inequality and Poverty: Sample Weighted Multivariate Generalizations of the Kolmogorov-Smirnov Two Sample Test for Stochastic Dominance", *Journal of Economic Inequality*, 6(1): 73-87.
11. Davidson, R. and J. Duclos, (2000), "Statistical Inference for Stochastic Dominance and for the Measurement of Poverty and Inequality", *Econometrica*, 68(6): 1435-65.
12. Duclos, J-Y., Sahn, D and S. Younger (2006), "Robust Multidimensional Poverty Comparisons with Discrete Indicators of Well-being", CIRPEE Working Paper, 06-28.

#### Day 8 – Session 2 (Tuesday 11 July, 11:00-12:30)

**Topic:** STATA Working Groups: Sensitivity, Robustness Analysis and Standard Errors

**Instructor:** OPHI team to assist participants

#### Day 8 – Session 3 (Tuesday 11 July, 14:00-15:30)

**Topic:** Changes over Time

**Instructor:** Nicolai Suppa

#### Contents:

- Analysis of changes in multidimensional poverty
- Empirical examples
- Time decompositions for panel datasets
- Remarks on decomposition of changes using cross-sectional data

#### Reading:

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), *Multidimensional Poverty Measurement and Analysis*, Oxford University Press (Chapter 9).

#### Further reading:

1. Apablaza, M. and G. Yalonetzky (2011). Measuring the Dynamics of Multiple Deprivations among Children: the Cases of Andhra Pradesh, Ethiopia, Peru, and Vietnam. OPHI Working Paper 26a
2. Apablaza, M., J.P Ocampo and G. Yalonetzky, (2010). 'Decomposing Changes in Multidimensional Poverty in 10 Countries', mimeo, Oxford Poverty and Human Development Initiative, Oxford Department of International Development, University of Oxford
3. Foster, J.E. (2009). A Class of Chronic Poverty Measures. In: Addison A, Hulme D, Kanbur R (eds) *Poverty Dynamics: Towards Inter-disciplinary Approaches*. Oxford University Press, Oxford.
4. Foster, J.E. and M.E. Santos (2012). Measuring Chronic Poverty. OPHI Working Paper.
5. Bossert, W., S. Chakravarty, and C. D'Ambrosio. (2010). Poverty and Time. Working Papers wp2010-74. World Institute for Development Economic Research (UNU-WIDER)
6. Bouillon, C. and P. Yanez-Pagans (2011). Dynamic Consistency of Multidimensional and Income Targeting: An Application for Mexico Using Panel Data Information. RES Working Papers. Inter-American Development Bank, Research Department.

7. Calvo, C and S. Dercon (2007). Chronic Poverty and All that: The Measurement of Poverty Over Time. University of Oxford.
8. Carter, M.R. and C.B. Barrett (2006) The Economics of Poverty Traps and Persistent Poverty: An Asset-Based Approach. *Journal of Development Studies*, 42(2): 178-99.
9. Hulme, D. and A. McKay (2005). Identifying and Measuring Chronic Poverty: Beyond Monetary Measures. Chronic Poverty Research Centre Working Paper No 30.
10. Ray, N.A. (2011). Duration and Persistence in Multidimensional Deprivation: Methodology and Australian Application. *Economic Record* 88, 280, 106-126.

#### Day 8 – Session 4 (Tuesday 11 July, 16:00-17:30)

**Topic:** Interpreting the MPI Results

**Instructor:** Adriana Conconi

**Contents:**

- Analysis and Interpretation of aggregated results (M0, H, A)
- Comparing the MPI to other measures of welfare or poverty
- Analysis and interpretation of results by subgroup
- Analysis and interpretation of dimensional results (raw and censored headcount ratios)

**Reading List:**

1. Alkire, S., Santos, M.E.: Acute multidimensional poverty: a new index for developing countries. OPHI working paper series, 38 (2010).
2. Alkire, S., Multidimensional poverty and its discontents. (OPHI working paper series, 44) (2011).
3. Alkire, Sabina, and James Foster. "Understandings and misunderstandings of multidimensional poverty measurement." *The Journal of Economic Inequality*, 9.2 (2011): 289-314.

**Further readings:**

1. Battiston, D., Cruces, G., et al. (2009). Income and beyond: Multidimensional poverty in six Latin American countries. OPHI Working Paper 17, University of Oxford.
2. Dynamic Comparison between Multidimensional Poverty and Monetary Poverty, Research workshop, 21-22 November 2012, Oxford Department of International Development, Oxford 2012.
3. Ravallion, Martin. "On Multidimensional Indices of Poverty." *The Journal of Economic Inequality* 9.2 (2011): 235-248.

### Wednesday 12 July

#### Day 9 – Session 1 (Wednesday 12 July, 09:00-10:30)

**Topic:** Regression Analysis

**Instructor:** Bouba Housseini

**Contents:**

- Introduction to Generalised Linear Models (GLMs)
- Regression models for indicators of deprivation: Poisson models for count data
- Regression models for subnational MPI: Linear regression

**Reading:**

1. Alkire S., J. E. Foster, S. Seth, S. Santos, J. M. Roche, P. Ballon, (2015), *Multidimensional Poverty Measurement and Analysis*, Oxford University Press (Chapter 10).

**Further reading:**

1. Ballon, P. (2011). *A Structural Model for Female Empowerment*. PhD dissertation. Mimeo, University of Geneva, Switzerland, 2011.
2. Bollen, K. A. (1989). *Structural Equations with Latent Variables*. Wiley Series in Probability and Mathematical Statistics. New York
3. Cameron A.C. and P.K. Trivedi (2005). *Microeconometrics: Methods and Applications*. Cambridge University Press, Cambridge.
4. Krishnakumar, J. & P. Ballon (2008). "Estimating Basic Capabilities: A Structural Equation Model Applied to Bolivia". *World Development* Vol 36 (6) pages 992-110.
5. Kuklys, W. (2005) *Amartya Sen's Capability Approach: Theoretical Insights and Empirical Applications*, Berlin, Springer.

**Day 9 – Session 2** (Wednesday 12 July, 11:00-12:30)**Topic:** Linking MPI and SDGs**Instructor:** Dr. Babatunde Omilola**Day 9 – Session 3** (Wednesday 12 July, 14:00-15:30)**Topic:** Impact Evaluation**Instructor:** Bilal Malaeb**Contents:**

- Impact evaluation and multidimensional poverty

**Reading:**

1. Robano, V. & Smith, S. C. (2014) *Multidimensional targeting and evaluation: A General Framework with an Application to a Poverty Program in Bangladesh*. OPHI Working Paper 65. Available at: <http://www.ophi.org.uk/multidimensional-targeting-and-evaluation-a-general-framework-with-an-application-to-a-poverty-program-in-bangladesh/>

**Further reading:**

1. Loschmann C., C. R. Parsons and M. Siegel (2015) "Does Shelter Assistance Reduce Poverty in Afghanistan?" *World Development*, 74, 305-322.

**Day 9 – Session 4** (Wednesday 12 July, 16:00-17:30)**Topic:** Working Groups: Preparing Final Presentation**Instructor:** OPHI team to assist participants

**Thursday 13 July**

<b>Day 10 – Session 1</b> (Thursday 13 July, 09:00-10:30)
<b>Topic:</b> Working Groups: Preparing Final Presentation <b>Instructor:</b> OPHI team to assist participants
<b>Day 10 – Session 2</b> (Thursday 13 July, 11:00-12:30)
<b>Topic:</b> Working Groups: Preparing Final Presentation <b>Instructor:</b> OPHI team to assist participants
<b>Day 10 – Session 3</b> (Thursday 13 July, 14:00-15:30)
<b>Topic:</b> Communication and Policy <b>Instructor:</b> Sabina Alkire
<b>Day 10 – Session 4</b> (Thursday 13 July, 16:00-17:30)
<b>Topic:</b> Review of the Course and Closure <b>Instructor:</b> Sabina Alkire
<b>Contents:</b> <ul style="list-style-type: none"> <li>● Recapping key lessons and topics covered during the course</li> <li>● General advice and next steps</li> </ul>

**Friday 14 July**

<b>Day 11 – Session 1 to Session 4:</b> (Friday 14 July)
<b>Topic:</b> Working Group: Presentation of final work <b>Panel:</b> OPHI Team

**Saturday 15 July**

<b>Day 12 – Session 1</b> (Saturday 15 July, 09:00-10:30)
<b>Topic:</b> Non-Compulsory Exam <b>Instructor:</b> Usha Kanagaratnam, Monica Pinilla, Adriana Conconi and Christian Oldiges
<b>Contents:</b> <ul style="list-style-type: none"> <li>● The whole of the course</li> </ul>