

Winter School on Inequality and Welfare Theory IT4
Department of Economics University of Verona
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Lecture title:

From Unidimensional to Multidimensional Inequality, Welfare and Poverty Measurement

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The lecture will cover theoretical issues underlying inequality and poverty measurement. We will briefly discuss the basic concepts related to the analysis of the income distributions and we will move to specific issues taking into the multidimensional perspective to well being, inequality and poverty evaluations. The focus of the lecture will be on the illustration of problems and potentials of the multidimensional approach.

Useful references follow. In particular basic relevant concepts discussed during the lecture can be found in the (**) references, while useful preliminary reading material is marked with (*). A detailed outline of the talk with all the reading material is provided in the handout of the lecture.

General readings on the topic of inequality, welfare and poverty measurement (mostly on unidimensional issues):

- (*) Cowell, F. (2000): Measurement of Inequality in B. Atkinson and F. Bourguignon (eds.), *Handbook of Income Distribution*, North Holland, Amsterdam. <http://sticerd.lse.ac.uk/dps/darp/darp36.pdf>
- Sen, A. K. (1973): *On Economic Inequality*. Oxford: Clarendon Press. (1997) expanded edition with the annexe "On Economic Inequality After a Quarter Century" by Foster, J. And Sen, A.K..
- Silber, J. (1999): *Handbook of Income Inequality Measurement*. J. Silber ed. Kluwer Academic: Boston.

Some detailed surveys on unidimensional measurement are:

- (*) Chakravarty, S and Muliere, P. (2003): Welfare indicators: a review and new perspectives. 1. Measurement of inequality. *Metron, International Journal of Statistics*, 61, 457-497. <http://ideas.repec.org/a/mtn/ancoec/030308.html>
- (*) Chakravarty, S and Muliere, P. (2004): Welfare indicators: a review and new perspectives. 2. Measurement of poverty. *Metron, International Journal of Statistics*, 62, 247-281. <http://ideas.repec.org/a/mtn/ancoec/040206.html>
- Mosler, K. and Muliere, P. (1998): Welfare means and equalizing transfers. *Metron, International Journal of Statistics*, 56, 11-52.
- Zheng, B. (1997): Aggregate poverty measures, *Journal of Economic Surveys*, 11, 123-162.
- (*) Zheng, B. (2000): Poverty orderings. *Journal of Economic Surveys*, 14, 427-466.

General reading on stochastic orders (with relevant material both on unidimensional and multidimensional orders):

- Müller, Alfred; Stoyan, Dietrich (2002). *Comparison Methods for Stochastic Models and Risks*. Wiley, Chichester.
- Shaked, M. and Shanthikumar, J. G. (1994): *Stochastic Orders and Their Applications*. Academic Press: Boston.

Readings on specific issues mainly on Multidimensional Inequality, Welfare and Poverty:

Atkinson, A.B. (2003): Multidimensional deprivation: contrasting social welfare and counting approaches. *Journal of Economic Inequality*, vol. 1, pp. 51-65.

Atkinson, A. B. and Bourguignon, F. (1982). The comparison of multi-dimensioned distribution of economic status. *Review of Economic Studies*, 49, 183-201.

(**) Bourguignon, F. and S.R. Chakravarty (2002): *Multidimensional Poverty Orderings*. DELTA, Paris.

(*) Bourguignon, F. and S. R. Chakravarty (2003): The Measurement of Multidimensional Poverty, *Journal of Economic Inequality*, 1, 25-49.

(*) Bourguignon, F. and S. R. Chakravarty (2003): The Measurement of Multidimensional Poverty, *Journal of Economic Inequality*, 1, 25-49.

- Chakravarty, S. R (2003): A generalization of the human development index. *Review of Development Economics*, 7, 99-114.
- Chakravarty, S. and F. Bourguignon (2008): *Multidimensional Poverty Orderings: Theory and Applications*, Forthcoming in *Welfare, Development, Philosophy and Social Science: Essays for Amartya Sen's 75th Birthday (Volume 2: Development Economics and Policy)*, K. Basu and R. Kanbur (eds.), London: Oxford University Press.
- Chakravarty, S. R, and D'Ambrosio C. (2006) The measurement of social exclusion. *Review of Income and Wealth*, 52 (3) , 377-398.
- Deutsch, J. and Silber J. (2005): Measuring multidimensional poverty: an empirical comparison of various approaches, *Review of Income and Wealth* 51 (1) , 145-174.
- Duclos, P. Y., Sahn, D. and Younger, S. D. (2006). Robust multidimensional poverty comparisons. *Economic Journal*, 116, 943-68.
- (**) Dutta I., Pattanaik P. K. and Xu Y. (2003):** On Measuring Deprivation and the Standard of Living in a Multidimensional Framework on the Basis of Aggregate Data, *Economica*, 70, 197-221.
- (*) Epstein L. G. and S. M. Tanny (1980): Increasing Generalized Correlation: A Definition and Some Economic Consequences. *The Canadian Journal of Economics*, 13, 16-34.
- Koshevoy, G., and Mosler, K. (1996) The Lorenz zonoid of a multivariate distribution. *Journal of the American Statistical Association* 91, 873-882
- (**) Koshevoy, G., and Mosler, K. (2007):** Multivariate Lorenz dominance based on zonoids. *Advances in Statistical Analysis* 91, 57-76.
- Kolm, S.C. (1977) Multidimensional egalitarianisms. *Quarterly Journal of Economics* 91, 1-13
- Rubinstein A. and P. C. Fishburn (1986): Algebraic aggregation theory. *Journal of Economic Theory*, 38, 1, 63-77.
- (*) Tsui, K.-Y. (1999): Multidimensional inequality and multidimensional generalised entropy measures: an axiomatic approach, *Social Choice and Welfare*, 16, 145--158.
- Tsui, K.-Y. (2002): Multidimensional poverty indices, *Social Choice and Welfare* 19, 69-93.
- (**) Weymark, J. (2004):** The normative approach to the measurement of multidimensional inequality, Working Paper No. 03-W14R, Vanderbilt University.
- Xu, Y. (2002): Functionings, capabilities and the standard of living—an axiomatic approach. *Economic Theory* 20, 387-399.