

Economic Theory

Journal of Economic Theory 133 (2007) 568-578

www.elsevier.com/locate/jet

# Does less inequality among households mean less inequality among individuals?<sup>☆</sup>

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> Received 3 May 2004; final version received 31 October 2005 Available online 20 December 2005

#### Abstract

Consider an income distribution among households of the same size in which individuals, equally needy from the point of view of an ethical observer, are treated unfairly. Individuals are split into two types, those who receive more than one half of the family budget and those who receive less than one half. We look for conditions under which welfare and inequality quasi-orders established at the household level still hold at the individual one. A necessary and sufficient condition for the Generalized Lorenz test is that the income of dominated individuals is a concave function of the household income: individuals of poor households have to stand more together than individuals of rich households. This property also proves to be crucial for the preservation of the Relative and Absolute Lorenz criteria, when the more egalitarian distribution is the poorest. Extensions to individuals heterogeneous in needs and more than two types are also provided. © 2005 Elsevier Inc. All rights reserved.

JEL classification: D13; D63; D31

Keywords: Lorenz dominance; Intra-household inequality; Concavity; Sharing rule

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<sup>\*</sup>We are grateful to Hélène Couprie, Valentino Dardanoni, Indraneel Dasgupta, Marc Fleurbaey, Peter Lambert, Michel Le Breton, Marco Li Calzi, François Maniquet, Patrick Moyes, Ernesto Savaglio, John Weymark and to the participants to the "Tenth Osnabruck Seminar on Individual Decisions and Social Choice" and the "Groupe de Travail THEMA" for useful comments. This paper is part of the research program: "Fondements éthiques de la protection sociale: nouveaux développements" supported by the M.I.R.E. The usual *caveat* applies.

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#### 1. Introduction

In modern western democracies, there is not much debate about the fact that the ultimate object of concern for economic policy is the well-being of individuals. When public authorities target social benefits to some specific group of individuals (e.g. children) or assess the impact of such a policy, their action is limited by asymmetries of information about the allocation of resources within the household. The household forms an informational screen between the government and the individuals, since intra-household allocation is considered as a domain of privacy and as such is protected by the law in many societies. A somewhat related informational problem is the fact that the elementary statistical unit remains the household in most data bases. There is at least one case where this veil of ignorance would be innocuous for the appraisal or the design of public policies. As pointed out by Bourguignon and Chiappori [2], if the household behavior is such that the intra-household distribution is optimal for the policy maker, then according to a decentralization device, it is sufficient for the state to ensure the resources allocation problem among families in order to achieve a grand optimum among individuals.

Yet, there is some empirical evidence that this rosy picture is out of this world and that the family, like other institutions, may be unfair in the sense that similar individuals from the policy's maker view point may be discriminated in the allocation of resources within a household. The origins of the literature on intra-household inequality are referred to in Sen [10]. He summarizes a number of studies which argue that girls are discriminated relatively to boys. The relevance of gender disparities has been recognized in the Human Development Report 1995, which introduces two new measures for ranking countries according to their performance in gender equality (see Anand and Sen [1] for more details). Hence, from the point of view of the decision maker, the most common background might be that some unknown intra-household inequality prevails.

Haddad and Kanbur [5,7] provide a first theoretical demonstration of the relative importance of intra-household inequality with respect to inter-household inequality. In their first paper, they show that the neglect of intra-household inequality is likely to lead to an understatement of the *levels* of inequality up to 30%. They also find this problem 'not dramatic' for inequality *comparisons*. More precisely, when intra-household inequality in the two populations is 'sufficiently similar', ignoring intra-household behavior does not reverse the results of inequality comparisons based on a decomposable index of inequality.

Here we deal with the same kind of questions and we are concerned with statements about the evolution of inequality at the individual level which can be inferred from the knowledge of the evolution of inequality at the household stage. In other words, by taking into account the fact that intra-household inequality is unobservable but that some general pattern of discrimination may be postulated, we exhibit cases where knowing the pattern of inter-household discrimination may be sufficient to predict the evolution of overall inequality. A major difference with Haddad and Kanbur analysis is that we are interested in dominance tools like the Lorenz curve, the Generalized Lorenz (GL) curve, with the advantages of robustness of conclusions associated to this approach.

Suppose that all individuals are homogeneous in the sense that either they are endowed with the same capacity of deriving welfare from income in a utilitarian perspective or their claim to obtain a share of the cake is considered to be identical from an ethical point of view. However, they are distinguished by some characteristics such as sex, age, which do not have to play a role in distribution issues. Despite the fact that the allocation within households ought to be equal, we suppose that the actual distribution of resources within households exhibits some inequality. Why this is so, is not described in the model, but we can imagine that the bargaining power is not equal within the types of individuals. The precise sharing rule adopted in each household is not

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