**PROCEEDINGS OF THE
INTERNATIONAL WORKSHOP ON**

SOCIAL
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REFORM

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Chapter 2:

A Way to Formalization

Equity and risk factors
in aspiration-based approaches[*]

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As pointed out by A.P. Wierzbicki and M.Makowski the aspiration-led decision support techniques were successfully applied to solve many real-life problems and may be very useful for the analysis related to preparation of the Social Security Reform. While considering the use of the aspiration-led decision support within the domain of Social Security Reform it is important, however, to ensure that various equity and risk aspects be taken into account. Indeed, the former application of the aspiration-led decision support did not deal with these aspects. Nevertheless. the equity and risk factors can be introduced into this approach.

Equity is, essentially, a socio-political abstract concept that implies fairness and justness. Nevertheless, equity is usually quantified with the so called inequality measures. Among many measures perhaps the most commonly accepted in economics is the Gini's index which has a popular graphical interpretation as the area of the inequality space within the Lorenz diagram. The minimization of an inequality measure like the Gini's index, may contradict the efficiency of the entire system. As an extreme one may consider a case of no incomes for all system participants as the perfect equity (the inequality measure equal to zero). Better modeling of equity aspects can be achieved with the so-called equitable efficiency. Modeling of equity is here based on the principle of transfers assuming that any transfer of a small amount of good from a better-off individual to a worse-off one results in a more preferred solution. The equitable efficiency assumes both the

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principle of transfers and the efficiency principle (for any individual more is better). The equitable efficiency is a multiple criteria solution concept and therefore it can be incorporated into aspiration-led decision support analysis.

The fallacy of the solutions based solely on the expected values and the necessity of taking into account the risk factors is commonly known. While the quantification of risk is based on the expert's knowledge the decision making under risk is quite a normative process. Recent results shows that the risk averse preferences can be modeled with the multiple criteria solution concepts where the criteria correspond to several scenarios. Therefore, similar to the equitable efficiency, the risk aversion can be incorporated into aspiration-led decision analysis.