

# Announcements of three new publications by the IEAPS, AUI

Paper 1: Article published in [Estudios de Economía Aplicada](#)



Volume (Year): 27 (2009)

Issue (Month): (Agosto)

Pages: 523-544

## Interdependencies of Health, Education and Poverty: The Case of South Mediterranean Economies

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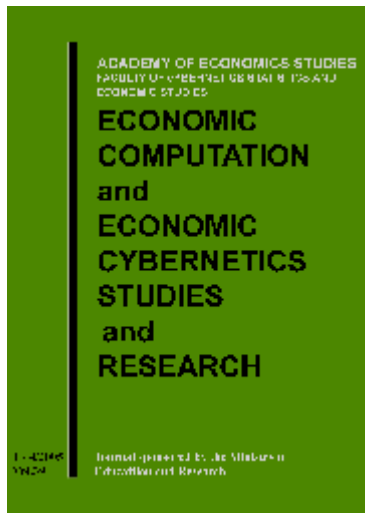
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### **Abstract:**

This study is devoted to assessing the interdependencies between health, education and wealth at the aggregate regional level of South Mediterranean Countries (SMC) for the purpose of strengthening transversal economic and social policies. It looks first, to the major contributions of the previous literature developed on this subject. Theoretical and empirical studies at micro and macroeconomic levels prove that there are causal relations between variables related to health, education and wealth. As long as only partial and limited evidence exists on these interdependencies for the SMC, the second part is an empirical analysis based on World Bank, United Nations and on composite international indices. The results show that large interdependencies appear to be consistently exhibited by the data. Also, in the Granger sense of causality, health and education have been revealed to have important effects in leading these economies. The results attained are likely contributions for the enhancement of the economic and social policies to strengthen human development in the region.

### **Paper 2: DO BETTER HEALTH AND EDUCATION ENHANCE ECONOMIC DEVELOPMENT?**



ISSUE 3, 2009 pages 189 :205

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### **DO BETTER HEALTH AND EDUCATION ENHANCE ECONOMIC DEVELOPMENT?**

**Abstract.** *The major objective of this study is to show the importance of interdependencies between health, education and poverty in the context of South Mediterranean Countries (SMC) compared to the economies of the European Union (EU). Empirical assessments of interdependencies are pursued after reviewing the previous theories and applications. The results attained have revealed the existence of important links between different sources of wealth which are health, knowledge, monetary assets and social capital. Furthermore, the importance of non monetary assets appeared to be at least as important as the traditional economic and financial wealth. Given the extent and magnitude of education, health and socio-economic deficits in the SMC, the identification of the interdependencies generates new avenues for more integrated economic and social policies.*

## 3. Forthcoming New Paper



**Theory and Decision**

Éditeur

Springer Netherlands

ISSN

0040-5833 (Print) 1573-7187 (Online)

# Utility Elicitation: Reconciling Tractability and Bias Minimization

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## Abstract of the paper

While risk attitude is known to be a key determinant of various economic and financial choices, behavioural studies aiming to assess the role of risk attitudes in such contexts requires specific instruments for measuring individual risk tolerance. Recent developments in decision theory provide such tools. Nevertheless, the methods at hands may be time-consuming. As a result, decision analysts and experimental economists might have an incentive to prefer simple and tractable methods to robust but costly methods. This paper proposes a generalization of the popular procedure initially suggested by Holt and Laury (2002) to elicit utility functions. Using outcome scale rather than probability scale choice menus, we extend the Holt and Laury's (2002) method to common situations where the decision maker transforms probabilities. An experimental study illustrates the gains in tractability and bias minimization that may result from such an extension.

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## Overview of the paper:

Expected utility provides a firm basis for rational decision making under risk. It is also used as a basis for most descriptive measurements of risk attitudes. This approach has been ingrained in standard economic terminology, with utility curvature usually described as "risk aversion." A long list of empirical findings has, however, revealed descriptive difficulties of expected utility (Starmer 2000). Many other studies show that expected utility violations lead to inconsistencies in utility measurement. This statement was recently consolidated with the theoretical argument that the commonly observed degree of risk aversion over small stakes implies an unrealistic degree of risk aversion over large stakes under expected utility (Rabin2000). The danger of using biased utilities is, obviously, that predictions of economic decisions will be distorted. A long list of experimental studies has shown that attitude towards risk is probability dependent (e.g. Fishburn and Kochenberger, 1979; Hershey and Schoemaker, 1980; Kahneman and Tversky, 1979). These studies revealed a fourfold pattern of risk attitudes implying risk seeking (aversion) for low (high) probability gains and high (low) probability losses. Clearly, the curvature of utility cannot explain alone the fourfold pattern of risk attitudes. Instead, it suggests a non-linear transformation of probabilities as modeled by rank-dependent utility (Quiggin, 1982) and its descriptive generalization: Prospect theory (Kahneman and Tversky, 1979; Tversky and Kahneman, 1992). A difficulty of measuring utility under risk, assuming rank-dependent utility, is that the traditional methods used to measure utility (e.g. the certainty equivalent method or the probability equivalent method) are no longer valid because they ignore subjective probability weighting (see Abdellaoui, Bleichrodt and L'Haridon, 2008). Assuming specific parametric forms for utility and probability weighting, Tversky and Kahneman (1992) provided one of the first attempts to measure utility under Prospect Theory. Subsequently, Wakker and Deneffe (1996) proposed the tradeoff method, a parameter-free measurement method that allows measuring utility under Prospect Theory as well as under expected utility. This method was generalized and simplified by Abdellaoui, Bleichrodt and Paraschiv (2007). A major drawback of these methods is that they involve several cognitively demanding tasks and are time consuming. As a consequence, decision analysts and experimental economists interested in utility measurement might prefer simple and tractable methods assuming expected utility. For instance, Holt and Laury (2002) used a simple elicitation method based on a menu of choices that permits 'interval measurement' of risk aversion and estimation of a parametric form of the utility function. The menu of choices aims at finding the shifting point between two binary lotteries by varying the common probability of their respective preferred outcome from 0 to 1. The use of the probability scale in a menu of choice becomes however problematic in the presence of

probability weighting. It imposes a joint estimation of the probability weighting function in addition to utility measurement. In addition to the complexity of the resulting estimation task, a misspecification of the probability weighting function can distort utility measurements.

This paper proposes a tractable generalization of the popular Holt and Laury's (2002) estimation procedure to the common situations where the decision maker transforms probabilities, i.e. under rank-dependent utility. Instead of using menus of choices comparing two-outcome lotteries on the probability scale as suggested in Holt and Laury's (2002) procedure, we use menus of choices comparing a sure amount of money with a given two-outcome lottery. The resulting comparison between options uses the outcome scale (i.e. variable sure outcome). The use of a fixed probability in the elicitation process allows avoiding the costly/tricky estimation of a probability weighting function on the whole probability interval. The paper also reports the results of an experimental study in which probability scale and outcome scale versions of Holt and Laury's (2002) procedure are used to elicit utility under expected utility and rank-dependent utility.

The paper proceeds as follows. Section 2 reviews expected utility, rank-dependent utility and previous empirical evidence on probability weighting. Section 3 describes the Holt and Laury's (2002) utility elicitation method, and extends it to rank-dependent utility. Section 4 describes an experiment in which our method was applied and reports the results of the experiment. Section 5 discusses the advantages of using our elicitation method under rank-dependent utility and concludes.