EURO Working Group
Multicriteria Decision Aiding

Quelles sont les characteristiques de l'apport méthodologique des members du groupe à l'AMCD?

What are characteristic features of the methodological contribution of group members to MCDA?

Yannis Siskos, Jean Moscarola,
Salvatore Greco, Yves de Smet, Jose Figueira,
Constantin Zopounidis, Maria-Franca Norese,...

Main methodological issues 1

- **preference modeling:** assessment of criteria, thresholds phenomena and associated mathematical structures (orders, semi-orders, PQI structures,…);

- **dominance and efficiency:** characterization and properties of the efficient set in multicriteria linear and combinatorial programming, extension of the dominance notion in the presence of thresholds;

- **aggregation procedures:** ordinary and fuzzy outranking relations assessment, use of outranking relations in order to select, to sort or to rank actions, utility functions assessment, …;

Main methodological issues 2

- notions of weights, aspiration levels, veto thresholds, ideal points,... and role devoted to them in different procedures;

- interactive methods for progressively assessing a multicriteria preference model (disaggregation-aggregation approaches, preference learning,...);

- study of meaningfulness: nature of data (qualitative/quantitative, ordinal/cardinal), various types of scales, validation of assertions ;

- search of robustness: reasons for it, formalization, typology, links with sensitivity, flexibility, stability, equity,...;

- multidimensional data analysis and MCDA;

- rough sets and MCDA;

Applications

- decisions in small firms, in the public sector, in the industry and in international organizations;

- banking sector, transportation, agriculture, industry, energy, raw material, regional planning, environmental topics, marketing, social equipment;

- role expected from multiple criteria models in real decision contexts.