

DISA SEMINAR

PAIRWISE COMPARISON MATRICES: CONSISTENCY MEASURES AND WEIGHTING VECTORS

Bice Cavallo
Università di Napoli "Federico II"

Lunedì, 12 Dicembre 2011
Sala riunioni Disa – ore 15.00
Facoltà di Economia
Via Inama, 5 – Trento

In the context of the pairwise comparison matrices over an abelian linearly ordered group, we provide the notion of G -distance, as a metric valued in an alo-group G , and, under the assumption of divisibility for G , also a notion of o -mean of n elements. Thus, we associate, to each pairwise comparison matrix $A=(a_{ij})$ a o -mean vector $w_m(A)$ and provide a consistency measure $I_G(A)$, expressed in terms of o -mean of G -distances.

We choose the o -mean vector $w_m(A)$ as a weighting vector for the alternatives because it has several advantages; it satisfies, for instance, the independence of scale-inversion condition.

Finally, we establish a link between $w_m(A)$ and $I_G(A)$; the relevance of this link is twofold because it gives more validity to $I_G(A)$ and more meaning to $w_m(A)$.