



17th International Input-Output Conference

TITLE: A GENERALIZED HYPOTHETICAL EXTRACTION ANALYSIS

AUTHORS: TEMURSHOEV, UMED ;

EMAIL: u.temurshoev@rug.nl

COUNTRY: NETHERLANDS

**KEYWORDS: KEY GROUP OF SECTORS ; HYPOTHETICAL EXTRACTION ; FIELDS OF INFLUENCE ;
REDUNDANCY ; INPUT-OUTPUT**

PAPER CONFERENCE CODE: 4

FULL PAPER IN CD?: YES

ABSTRACT:

We explicitly formulate (optimization) problems of finding a key sector and a key group of sectors within the framework of a hypothetical extraction method (HEM), and derive their solutions in terms of simple measures termed industries' factor worths. It is shown that the top $k > 1$ sectors with the largest total contributions to some factor, in general, do not constitute the key group of k sectors, the issue which is totally ignored in the input-output linkage literature. The link to the fields of influence approach is discovered, which gives an alternative economic interpretation for the HEM problems in terms of sectors' input self-dependencies. Further, we examine how a change in an input coefficient affects the importance of an industry. The key group problem is applied to the Australian economy for factors of water use, CO₂ emissions, and generation of profits and wages.