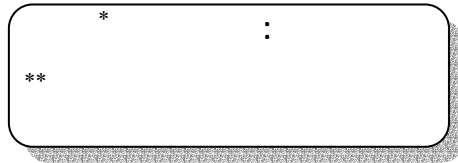




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1. Aggregate
2. Input-Coefficients
3. Location Quotients

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Superior Data

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Location Quotients

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$$L = \begin{pmatrix} e_1 & & \\ & \ddots & \\ & & e_n \end{pmatrix} * \begin{pmatrix} 1 - a_{11} & & -a_{1n} \\ & \ddots & \\ -a_{n1} & & 1 - a_{nn} \end{pmatrix}^{-1} = \begin{pmatrix} 1_{11} & & 1_{1n} \\ & \ddots & \\ 1_{n1} & & 1_{nn} \end{pmatrix}$$

$$EBL_j = n \sum_i l_{ij} / \sum_i \sum_j l_{ij}$$

$$EFL_i = n \sum_j l_{ij} / \sum_i \sum_j l_{ij}$$

l_{ij}

j

: EBL

i

: EFL

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$$BL_j = \frac{\sum_{i=1}^n X_{ij}}{X_j} = \sum_{i=1}^n a_{ij}$$

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$$FL_i = \frac{\sum_{j=1}^n X_{ij}}{X_i}$$

\ . Backward Linkage
 \ . Forward Linkage

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$$P_j = \frac{1}{n} \sum_{i=1}^n b_{ij} / \left(\frac{1}{n} \sum_i \sum_j b_{ij} \right)$$

$$q_i = n \sum_{j=1}^p b_{ij} / \sum_i \sum_j b_{ij}$$

$q \quad p$

$i \quad j$

$q \quad p$

$V_i \quad V_j$

$$\sigma_j = \sqrt{\frac{1}{n-1} \sum_i (b_{ij} - \frac{1}{n} \sum_{i=1}^n b_{ij})^2}$$

$$\sigma_i = \sqrt{\frac{1}{n-1} \sum_j (b_{ij} - \frac{1}{n} \sum_{i=1}^n b_{ij})^2}$$

$i \quad j$

$\sigma_i \quad \sigma_j$

$$V_j = \frac{\sigma_j}{\sum_i b_{ij}} \quad , \quad V_i = \frac{\sigma_i}{\sum_j b_{ij}}$$

$$q_i \quad p_j$$

$$V_j \quad V_i$$

$$V_j^b = \sqrt{\frac{\frac{1}{n} \sum_{i=1}^n (b_{ij} - \frac{1}{n} \sum_{i=1}^n b_{ij})^2}{\frac{1}{n} \sum_{i=1}^n b_{ij}}}$$

$$V_i^f = \sqrt{\frac{\frac{1}{n} \sum_{j=1}^n (b_{ij} - \frac{1}{n} \sum_{i=1}^n b_{ij})^2}{\frac{1}{n} \sum_{j=1}^n b_{ij}}}$$

$$SB_j = \frac{V_j^b}{\frac{1}{n} \sum_i V_j^b} \quad , \quad SF_i = \frac{V_i^f}{\frac{1}{n} \sum_i V_i^f}$$

$$SF \quad j$$

$$SB$$

$$i$$

$$SB_j < 1$$

$$SB_j \geq 1$$

$$i$$

$$SF_i < 1$$

$$SF_i \geq 1$$

$$(\quad)$$

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$$TOE_{XYj} = \sum_i b_{ij}(Y_j / X)$$

$$b_{ij} = dX_i / dY_j \quad , \quad X = \sum_i X_i = \sum_i \sum_j b_{ij} Y_j$$

j : $TOE_{X.Y.j}$

j ($DOE_{X.j.y.j}$)

(j)

$$DOE_{XjYj} = b_{jj}(Y_j / X_j)$$

(j)

1. Matts. K. A, Shrestha. C. M. A New Approach to Determining Sectoral Priorities in an Economy Input-Output Elasticities. Applied Economics, 1991, 23, 247-254.

(IE)

(EE)

$$EE_{XY_j} = [\sum_i (L_i / X_j) b_{ij} / (L_j / X_j)] (Y_j / X)$$

$$IE_{XY_j} = [\sum_i (h_i / X_j) b_{ij} / (h_j / X_j)] (Y_j / X)$$

j : I_j

j : h_j

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$$IOE_{XY_j} = (\sum_i b_{ij} - b_{jj}) \cdot (Y_j / X - X_j)$$

$$EE_{XY_j} = \sum_i e_{ij} (Y_j / E)$$

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: I_{ij}

: E

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(EE_{xyj})

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(IOE)

(TOE)

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(TOE)

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RANK	TOE	DOE	IOE	EE	ee _i	P*	ENBL**
TOE	1,000	0,379	0,920	0,889	0,905	0,176	-0,075
DOE	0,379	1,000	0,356	0,354	0,365	-0,176	-0,090
IOE	0,920	0,356	1,000	0,841	0,860	0,468	0,015
EE	0,889	0,354	0,841	1,000	0,734	0,190	-0,238
ee _i	0,905	0,365	0,860	0,734	1,000	0,158	0,305
P	0,176	-0,176	0,468	0,190	0,158	1,000	0,128
ENBL	-0,075	-0,090	0,015	-0,238	0,305	0,128	1,000

P*

ENBL**

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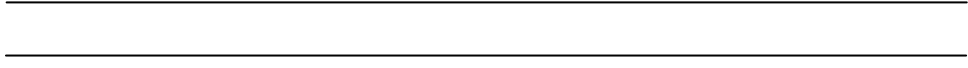
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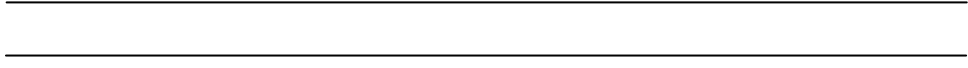
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GRIMP, Input-Output Analysis for Practitioners, An Interactive Input-Output Software Package, Version 4.1, Users Guide, Department of Economics University of Queensland, Australia, April, 1993.

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