Untitled

## Methods

Eurostat develops I-O matrices at basic prices (product by product). The structure of IES derives from an aggregation of NACE classification.

IES is then represented as a I-O matrix; is how much system sold to system .

FIGURE

can be normalised into a proportion through the columns:

where is the sum of the row of ; or through the rows:

where is the sum of the column of .

is the proportion of how much buys from compared to other -sellers. is the proportion of how much sells to among the -buyers of .

From this matrix, four indicators of the generic system are derived:

* **Size**:

$$
\text{SIZE}(Y) = \frac{
\Bigl[ \sum\limits\_{j} x\_{i,j} \mid (i = Y)\Bigr] +
\Bigl[ \sum\limits\_{i} x\_{i,j} \mid (j = Y)\Bigr] }
{2 \cdot \sum X}
\qquad(3)$$

where is the sum of all .

* **Self-reliance**:

* **Ubiquity**:

$$
\text{UBIQ}(Y) = \Bigl(\sum\limits\_{j} b\_{i,j}^2\Bigr)^{-1} \mid Y = i
\qquad(5)$$

* **Financial Parity**:

$$
\text{PRTY}(Y) = \Bigl(\sum\limits\_{i} a\_{i,j}^2\Bigr)^{-1} \mid Y = j
\qquad(6)$$

[Equation 5](#eq-ubiq) and [Equation 6](#eq-prty) are reciprocals of the Repeat Rates of and , hence as demonstrated in Appendix XXX, these measures are specifications of the general function of “Ecological Diversity” and they measure how balanced is the diversification of the input-output fluxes. In particular, Ubiquity is a measure of balanced diversification in how much other ecosystems demand goods and services to and Financial Parity is a measure of balanced diversification in how allocates its budget of expenditure.

### Interpretation

* SIZE is the proportion of money involved in that EcoSystem over the whole number of money circulated in the country. It ranges from 0 (the ES is not existent) to 1 (the ES coincides with the country). Since there are 14 countries, a balanced uniform value would be
* SELF is the proportion of money that the EcoSystem trades with itself. It ranges from 0 (the ES is a pure fictional intermediary of other exchanges) to 1 (the ES always refute to trade with others).
* UBIQ is an indicator of how the ES serves the national economy when it does not exchange with itself. It ranges from 1 (exists as a mere supplier of another ES) to 14 (its a supplier of all other ES).
* PRTY is an indicator of how the ES buys a highly differentiated range of goods and services with no financial discrimination. A high value of it signals that investment in this ES is financially fair and does not favor specific groups of stakeholders. It ranges from 0 (it is only a buyer of another ES, i.e. financing it means to actually raise a lot of inequalities) to 1 (it buys from everybody, financing it it-s like giving money to everybody).

### Dataviz





