

PÍLDORA ECONÓMICA Nº 3

BOX 1 : THE INDEX OF REVEALED COMPARATIVE ADVANTAGE (IRCA)

The index of revealed comparative advantage (IRCA) as defined by Bela Balassa (1965, 1977 1979) reads as follows:

$$IRCA_{ij} = \frac{X_{ij} / \sum_{j=1}^m X_{ij}}{\sum_{i=1}^n X_{ij} / \sum_{i=1}^n \sum_{j=1}^m X_{ij}}$$

Being: X, exports
i, sector or product
j, country or geographic area

The numerator expresses the proportion of the exports of sector "i" in country "j" with respect to the world total exports of sector "i", while the denominator expresses the share that country "j" has on the world trade market. The index will tell us how sector "i" of country "j" performs as compared to the remaining sectors of the country. When the values of the index deviate from unit they "reveal" advantages (>1) or disadvantages (<1) of that sector and country. One of the limitations of the Bela Balassa's IRCA refers to the fact that the term 'comparative advantage' is associated with net foreign trade, whereas in Balassa's formulation imports are not taken into consideration. To circumvent this methodological constraint, Donges and Riedel (1977) considered net exports. They defined the IRCA of a country as the quotient among the ratios expressing the proportions of the net exports of sector "i" over total net exports of this country in relation to the respective trade volumes (total exports and imports).

$$ICS_i = \frac{\frac{X_i - M_i}{X_i + M_i}}{\frac{\sum X_i - \sum M_i}{\sum X_i + \sum M_i}} - 1$$

More recently, Suárez, Fernández and García (1996) proposed an alternative way of measuring the revealed comparative advantage as defined by the proportion of exports of sector "i" of country "j" over imports – the sectoral coverage rate – of the same sector and country, with respect to the total exports of country "i" over total imports – the total coverage rate – of country "j". In this case, the "comparative advantage" of a sector is not measured by exports but by means of the coverage rate which better summarises the competitive capacity of an economic sector. Furthermore, the index is expressed in logarithms to overcome the asymmetry of the values that define the rank of the index. In this way, the index of revealed comparative advantage is transformed into a symmetrical scale around a zero central value. The index is defined as follows:

$$IVCR_{ij} = \text{Log} \left[\frac{X_{ij} / M_{ij}}{\sum_{i=1}^n X_{ij} / \sum_{i=1}^n M_{ij}} \right]$$

X_{ij}: Exports of sector "i" from country "j".
M_{ij}: Imports of sector "i" from country "j".
X_{ij}/M_{ij}: Coverage rate of sector "i" in country "j".

$\sum_{i=1}^n X_{ij} / \sum_{i=1}^n M_{ij}$: Total (all sectors) coverage rate of country "j".