Measurement of the Human Development Index Inequality

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Abstract

This paper proposes a method of measuring the level of inequality of the Human Development Index in a country, using a formula made in April 2016, by Sigit Haryadi, and named as "Haryadi Index". This method is very important because by knowing the imbalance of HDI (Human Development Index) in a country, the government should make a policy to overcome the imbalance, where the HDI inequality is unconsciously is a negative multiplier effect, for example, there is an imbalance between big city and the small town around it, it will encourage people in small towns to migrate to big city, which will make the burden for big cities and reduce the productivity of small towns.

1. Internet Calculator

To facilitate the calculation, an internet calculator will be created, i.e. a website that provides a field of content, where we are required to fill in the HDI of all provinces in a country or HDI cities in a province, the calculator will provide: (a) Index inequality of HDI in a country or a province, (b) the level of HDI inequality in a country or a province.

The website address is <http://sigitharyadi.net/multidicipline/human-development-index-inequality/>.

2. Calculation Method Explanation

The calculation is done as follows:

- a) Calculates the share of the HDI of each city (on the measurement of an HDI inequality of a province) or HDI of each province (on the measurement of a country's HDI imbalance): S_i = (the HDI of a province divided by the total of the IPM of all provinces) or = the HDI of a city divided by the total number of HDI in all provinces in the province.
- b) Calculates the inequality of Human Development Index uses the following formula:

$$HDI\ Inequality = 1 - \frac{1}{N \left\{ \sum_{i>j}^N S_i^2 + \sum_{i=1}^N \sum_{j=1}^N (S_i - S_j)^2 \right\}}$$

- c) Then determines the level of imbalance HDI as follows:
- i. The index of inequality less than 0.005 is corresponding to the very small Human Development Index Inequality Rate.
 - ii. The index of inequality between 0.005 to 0.025 is corresponding to the Low Inequality Rate.
 - iii. The index of inequality between 0.025 to 0.05 is corresponding to the Moderate Inequality Rate.
 - iv. The index of inequality between 0.05 to 0.15 is corresponding to the High Inequality Rate.
 - v. The inequality index greater than 0.15 is corresponding to the Very High Human Development Index Inequality Rate.

3. Note

In order to better understand the Haryadi Index which is the spirit on the calculation of Human Development Index inequality level, please read the books and papers on the reference, but it is worth noting that the formula used to calculate the level of inequality is one minus the Haryadi Index, because the Haryadi Index is an equality index.

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