

Methodology

1. Identification

Description	Human Development Index
Responsible entity	Eustat
Availability	Annual

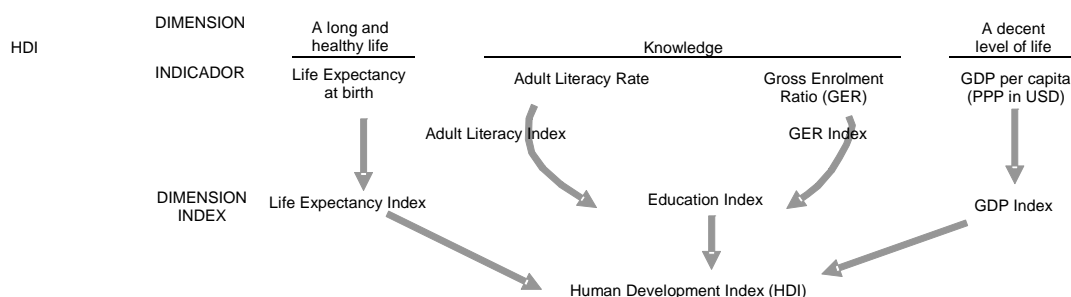
Indicator formula:

$$\text{Human Development Index} = \frac{\text{Life Expectancy Index} + \text{Education Index} + \text{GDP Index}}{3}$$

2. Objective

The HDI is a synoptic measurement of human development. The HDI measures the average achievements in a country in three basic dimensions of human development:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary, and tertiary gross enrollment ratio (with one-third weight).
- A decent standard of living, as measured by the log of gross domestic product (GDP) per capita at purchasing power parity (PPP) in USD.



It should be remembered that it is an index that aims to classify all countries and it is therefore not an excessively discriminating tool for neighbouring countries with a similar development level.

This index is defined and calculated by the Office for the United Nations Development Programme (UNDP).

The UNDP has published a report on the Human Development Index since 1990.

3. Sphere

Population:

Geographical Sphere: A. C. of the Basque Country/TTHH

Time period: Annual

4. Concepts and Definitions

4.1 Calculating the index (*)

a. Limits for calculating the HDI

Indicator	Max. Value	Min. Value
Life expectancy at birth (in years)	85	25
Adult Literacy Rate (%)	100	0
Combined Gross Enrolment Rate (%)	100	0
GDP per capita (PPP in USD)	40,000	100

b. Life expectancy index calculation.

The life expectancy index measures the relative achievement of a country in terms of life expectancy at birth.

In the case of Brazil, with a life expectancy of 70.8 years in 2004, the life expectancy index is 0.764.

$$\text{Life Expectancy Index} = \frac{70.8 - 25}{85 - 25} = 0.764$$

c. Education index calculation

The education index measures a country's relative achievement regarding adult literacy and combined gross enrolment in primary, secondary and tertiary education. First of all, the adult literacy index and the combined gross enrolment index are calculated. These indexes are then combined to create the education index, with a two-thirds weighting for adult literacy and a third for the combined gross enrolment.

In the case of Brazil, with an adult literacy rate of 88.6% in 2004 and a combined gross enrolment ratio of 86% in 2004, the education index is 0.876.

$$\text{Adult Literacy Rate} = \frac{88.6 - 0}{100 - 0} = 0.886$$

$$\text{Gross Enrolment Ratio} = \frac{86 - 0}{100 - 0} = 0.857$$

$$\begin{aligned} \text{Education index} &= 2/3 (\text{adult literacy index}) + 1/3 (\text{gross enrolment index}) \\ &= 2/3 (0,886) + 1/3 (0,857) = 0,8764. \end{aligned}$$

d. GDP index calculation

The adjusted value of the GDP per capita (PPP in USD) is used to calculate the GDP index. In the HDI, income acts as a substitute of all the dimensions of human development not reflected in a long and healthy life or in knowledge. The income is adjusted as unlimited income is not necessary to achieve a respectable level of human development. Therefore, the income logarithm is used.

In the case of Brazil, with GDP per capita of USD 8,195 (PPP in USD) in 2004, the GDP index is 0.735.

$$\text{GDP indexes} = \frac{\log(8,195) - \log(100)}{\log(40.000) - \log(100)} = 0.735$$

e. HDI calculation

Once the dimension indexes are calculated, it is easy to determine the HDI. The simple average of the three dimension indexes just have to be calculated.

$$\begin{aligned} \text{HDI} &= 1/3 (\text{life expectancy index}) + 1/3 (\text{education index}) \\ &+ 1/3 (\text{GDP index}) \\ &= 1/3 (0.764) + 1/3 (0.876) + 1/3 (0.735) = 0,792 \end{aligned}$$

(*) 2006 Humand Development Report. United Nations Development Programme. UNDP.

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5. Codes and nomenclatures

6. Quality

7. Further Information

UN

[Human Development Reports](#)