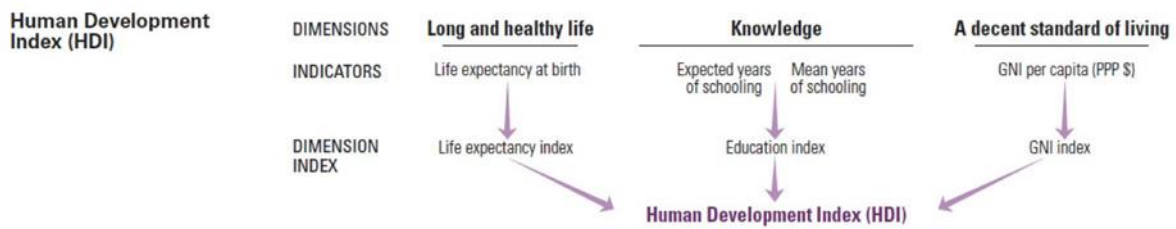


## **Human Development Index: What is it? What does it do? and Is it Enough? by Ege Gazitepe**

You probably heard the term Human Development Index or its abbreviation HDI before but what does it really mean? HDI is an annually conducted index released by the United Nations Development Programme or UNDP for short. The original creator of the index however is Pakistani economist Mahbub ul Haq and he says that he created it "to shift the focus of development economics from national income accounting to people-centered policies". Mahbub ul Haq wanted a re-definition of the term development as he believed economic development was just one of the many variables concerning a country's development. Thus, Mahbub ul Haq added other variables to the index concerning the issues of health and education and he launched the index in 1990. This belief of his opposed many academics and politicians at the time who thought economic power was everything. However, his beliefs became widely accepted over time as we see that HDI is in use for 30 years by UNDP. UNDP uses HDI to calculate two things. The different levels of development between countries and a country's own chart of progression or degression through time. We shall look closely at the variables of HDI and we shall discuss its strong and weak points to further understand its meaning and importance.

The Human Development Index consists of three different variables that are about health, education, and economics. These variables are life expectancy at birth, mean years and expected years of schooling, and finally gross national income per capita. The mathematical equation of the index is going to be given below with a chart on HDI's variables but essentially the final data comes down to a decimal number between 1.000 and 0.000. We shall look at different countries' decimal points to get a deeper understanding of the subject. Norway currently ranks first as the most developed nation on the index with 0.957 points and Norway has held this rank since 2007. Niger on the other hand is the least developed nation with 0.394 points. So, we can conclude that there is a 0.563-point difference between the world's most developed and least developed nations regarding the subjects of health, education, and economics. The list also has classifications according to the points of countries. Countries that have more than 0.800 points are classified as countries with very high human development, 0.700 to 0.800 is classified as high human development, 0.550 to 0.700 is classified as medium human development and finally, countries that have less than 0.550 points are classified as low human development. As you can expect most countries that have more than 0.800 are Western industrialized nations and most countries that have less than 0.550 are mostly African and Asian agricultural nations. In general, this shows us how HDI simplifies the complexity of understanding the great disparity on development levels between nations as the index turns all the data that comes from variables into a simple four-digit decimal.

Below is a chart showing the dimensions and indicators of HDI



Below is the 2010 and forward method of equitation for HDI.

$$\text{Life Expectancy Index (LEI)} = \frac{\text{LE} - 20}{85 - 20}$$

$$\frac{85 - 20}{85 - 20}$$

LEI is 1 when Life expectancy at birth is 85 and 0 when Life expectancy at birth is 20.

$$\text{2. Education Index (EI)} = \frac{\text{MYSI} + \text{EYSI}}{2}$$

$$\frac{15 + 18}{2}$$

$$\text{2.1 Mean Years of Schooling Index (MYSI)} = \frac{\text{MYS}}{15}$$

$$\frac{15}{15}$$

Fifteen is the projected maximum of this indicator for 2025.

$$\text{2.2 Expected Years of Schooling Index (EYSI)} = \frac{\text{EYS}}{18}$$

$$\frac{18}{18}$$

Eighteen is equivalent to achieving a master's degree in most countries.

$$\text{3. Income Index (II)} = \frac{\ln(\text{GNIpc}) - \ln(100)}{\ln(75,000) - \ln(100)}$$

$$\frac{\ln(75,000) - \ln(100)}{\ln(75,000) - \ln(100)}$$

II is 1 when GNI per capita is \$75,000 and 0 when GNI per capita is \$100.

Finally, the HDI is the geometric mean of the previous three normalized indices:

$$\text{HDI} = \sqrt[3]{\text{LEI} \times \text{EI} \times \text{II}}$$

LE: Life expectancy at birth

MYS: Mean years of schooling (i.e. years that a person aged 25 or older has spent in formal education)

EYS: Expected years of schooling (i.e. total expected years of schooling for children under 18 years of age)

GNIpc: Gross national income at purchasing power parity per capita

Human Development Index does come with its strong points but it also has points that can be criticized regarding its small number of variables, effectiveness, and justifiability. Starting with strong points it is certainly true that HDI managed to reach its previously mentioned goal of re-defining the term development. Most of us today agree that countries like Norway, Netherlands, and Switzerland are better places to live compared to the USA and we hold this belief because of this re-definition we had. We can also easily see the regression of countries like Venezuela or the progression of post-communist countries in Europe when we look at the simple final data that the index provides us. However, HDI is nowhere near perfect. There are still many attributes concerning development that are absent from HDI. Inequality of income distribution, gender disparity, press freedom, democracy, corruption, and happiness of the citizens are a few of those qualities that are not included in HDI. To overcome this problem a newer version of HDI called the Inequality-adjusted Human Development Index or IHDI for short is also released every year and the results are drastic. In IHDI most oil-rich Arabic nations lose their status as very highly developed nations because in reality all the developed aspects of those nations only serve a small fraction of the population. Another severe change happens in countries like the Central African Republic which loses a drastic forty percent of its points in IHDI as the country is in the hands of a small rich elite while almost everyone else in the country lives in crushing poverty. This shows us the importance of IHDI as we see the inaccurate representation HDI shows for some countries when inequality is not adjusted. Other than IHDI, individual indexes for all the other listed aspects of development also exist but there is not a version of them combined with HDI. HDI certainly needs to be improved with a newer version that unifies all of the given qualities into one to create the most accurate statistic on national development.

In conclusion, HDI is an incredible index that showed the world leaders, politicians, and academics that economic power is not the only valid verdict against a country's development level. It is also a great way to simplify many variables into one simple statistic. However, HDI needs to encompass many other variables if we want to create one hundred percent actual and truthful data on where countries rank on the scale of development.

## Sources

1. <http://hdr.undp.org/en/content/human-development-index-hdi>
2. <https://economictimes.indiatimes.com/definition/human-development-index>
3. <https://onlinelibrary.wiley.com/doi/full/10.1002/brb3.1755>