



# DP IB Economics: HL



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## 4.8 Measuring Economic Development

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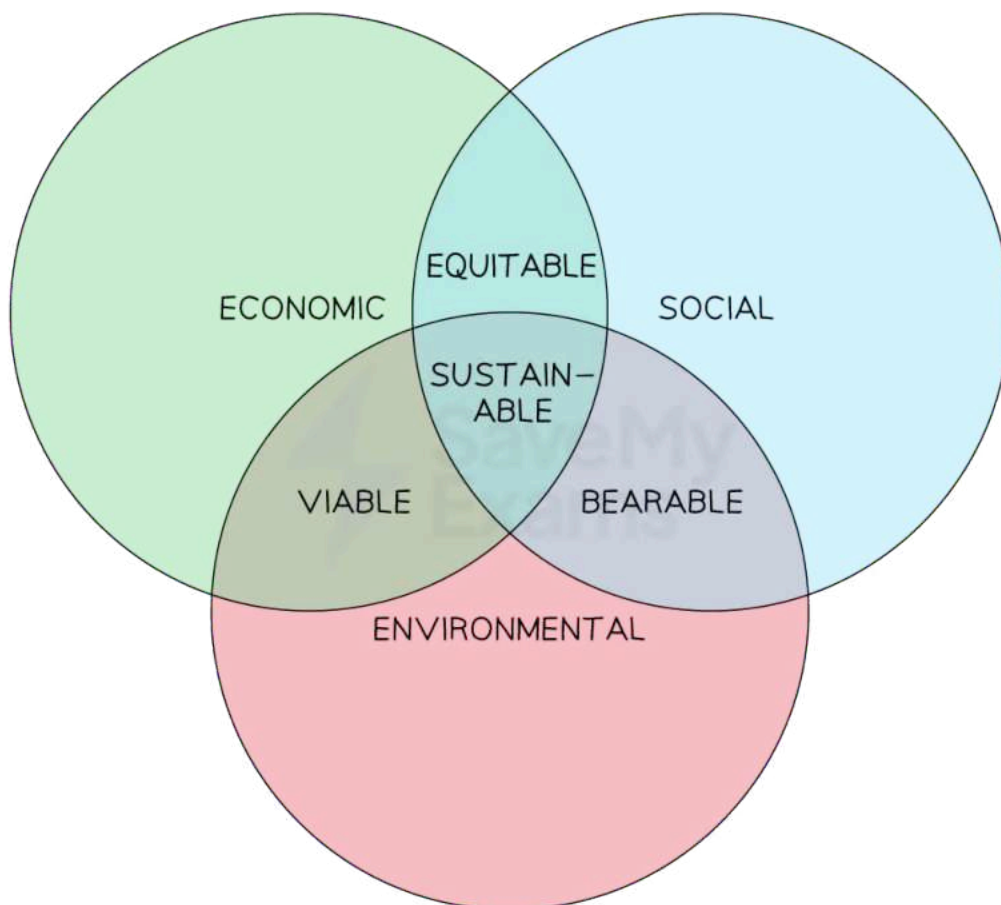
## Single Indicators of Development



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# The Multidimensional Nature of Economic Development

- The 17 **Sustainable Development Goals** demonstrate the complexity of the nature of **economic development**
- The different elements can be separated into three categories: **economic, social and environmental**
- **Sustainable economic development** occurs at the intersection of all three and is represented in the diagram below



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**Sustainable economic development is a multi-dimensional concept incorporating economic growth, environmental care and social progress**

- **Viable** refers to the fact that the combination of economic and environmental progress is happening with some care, however it is not sustainable in the long term
- **Bearable** refers to the fact that the interaction of society and the environment is happening with some thought, however it is still not sustainable in the long term
- **Equitable** refers to the fact that the interaction of the economy and society is happening with some attention to well-being, however it is still not sustainable in the long term
- Due to this complexity, elements of economic development can be measured using single or **composite** indicators

## Single Indicators of Economic Development

- A single indicator is one factor, such as GDP per person (capita), used to measure the development of a country
- Single indicators measures only one development characteristic within a country

### 1. GDP/GNI per person (per capita) at PPP

- **Real GDP** is the **value of all goods/services** produced in an economy in a **one-year** period - and **adjusted for inflation**
  - For example, if **nominal GDP** is £100bn and **inflation is 10%** then **real GDP** is £90bn
- **GDP per capita** = GDP / the population
  - It shows the **mean wealth** of each citizen in a country
  - This makes it easier to compare **standards of living** between countries:
    - For example, Switzerland has a much higher GDP/capita than Burundi
- **Gross national income (GNI)** measures the **income** earned by citizens operating **outside of the country + the GDP**
  - Many citizens **employ their resources** outside of a country's borders - and then send the income home
- **Purchasing power parity (PPP)** is a **conversion factor** that can be applied to GDP, GNI and GNP
  - PPP calculates the relative **purchasing power** of different currencies



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- It shows the number of **units of a country's currency** that are required to buy a product in the **local economy**, as \$1 would buy of the **same product** in the **USA**
- The **aim of PPP** is to help make a more accurate **standard of living comparison** between countries where goods/services cost **different amounts**
- Using **real GDP/Capita** provides better information than real GDP as it takes **population differences** into account
- Using **real GNI/capita** is a more realistic metric for analysing the **income available per person than GDP/capita**
- Using **GDP/GNI per person (per capita) at PPP** allows for comparisons between countries which take into account the substantial differences in the cost of living

## 2. Health and education indicators

- Multiple single indicators for health and education can **provide useful data for comparisons** between countries
- Typical **single health indicators** include:
  - Infant mortality rate
  - Life expectancy
  - Number of doctors per 1,000 of the population
  - Diabetes incidence
- Typical **single education indicators** include:
  - Youth literacy rate
  - Adult literacy rate
  - Mean years in school
  - Ratio girls/boys in school
  - Math achievement 8th grade

## 3. Economic/social inequality indicators

- Typical single **economic and societal indicators** include:
  - The **Gini Coefficient**
  - Murders per 1000 of the population

- Percentage of women in national parliaments

#### 4. Energy indicators

- Typical **single energy indicators** include:
  - Coal consumption per person
  - Electricity generation per person
  - Residential electricity usage
  - Oil consumption per person

#### 5. Environmental indicators

- Typical **single environmental indicators** include:
  - CO<sub>2</sub> emissions per person
  - Total CO<sub>2</sub> emissions
  - Agricultural water withdrawal
  - Primary forest area



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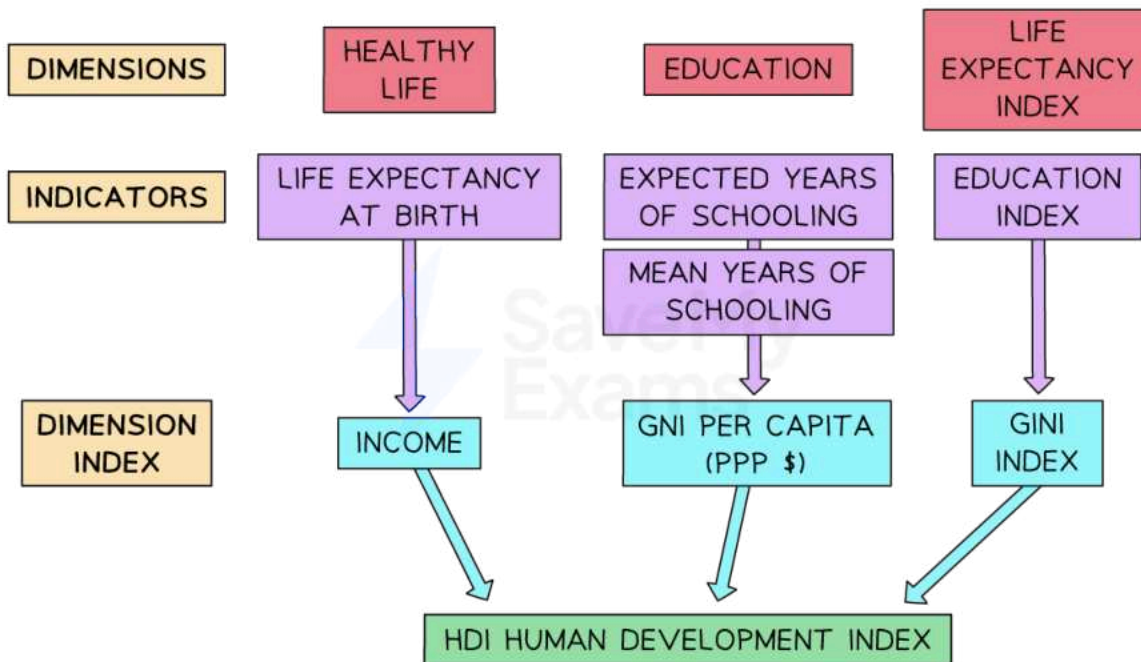


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## Composite Indicators of Development

### The Human Development Index (HDI)

- **Economic development** is the sustainable increase in living standards for a country, typically characterised by increases in life span, education levels, & income
- **Composite indicators** include indicators such as the Human Development Index (HDI), the Gender Inequality Index (GII), Inequality Adjusted Human Development Index (IHDI), and the Happy Planet index (HPI)
- Developed by the United Nations, the Human Development Index is a combination of 3 indicators



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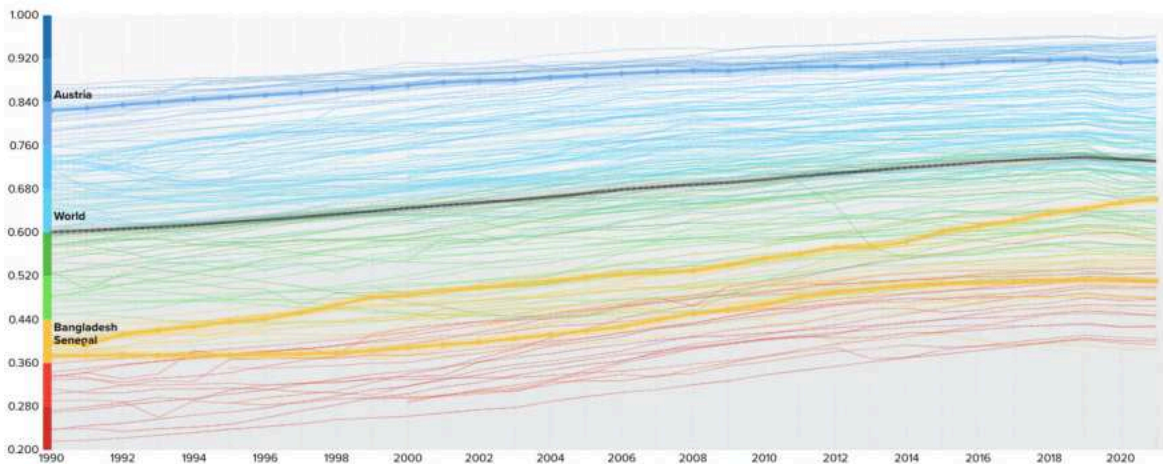
#### The components of the Human Development Index

1. **Health**, as measured by the life expectancy at birth e.g.in 2019 it was 81.2 years in the UK



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2. **Education**, as measured by a combination of the **mean** years of schooling that 25 year old's have received, together with the **expected years** of schooling for a pre-school child
3. **Income**, as measured by the real **gross national income** per capita at **purchasing power parity (PPP)**
  - Each indicator is given **equal weighting** in the index
  - The index ranks countries on a score between 0 & 1
    - The closer to 1, the **higher the level of economic development** & the better the **standard of living**



*The Human Development Index scores from 1990 to 2021 (Source: [UNDP Data Centre](https://datacenter.undev.org/))*

- A value of < 0.550 is considered **low development** e.g. Senegal was at 0.514 in 2021
- A value of 0.550–0.699 is considered **medium development** e.g. Bangladesh was at 0.667 in 2021
- A value of 0.700–0.799 is considered **high development** e.g. Thailand was at 0.777 in 2021
- A value  $\geq 0.800$  is considered **very high development** e.g. Austria was at 0.918 in 2021

## Inequality adjusted Human Development Index (IHDI)

- Created in 2010 to deal with the lack of information that the HDI provides on **inequality**
- The IHDI will be **equal** to the HDI value when there is **no inequality**, but falls below the HDI value as inequality rises
- This means that the IHDI measures the level of human development when **inequality** is accounted for
- The difference between the HDI and IHDI can be expressed as a percentage and represents the loss in **potential human development** due to inequality

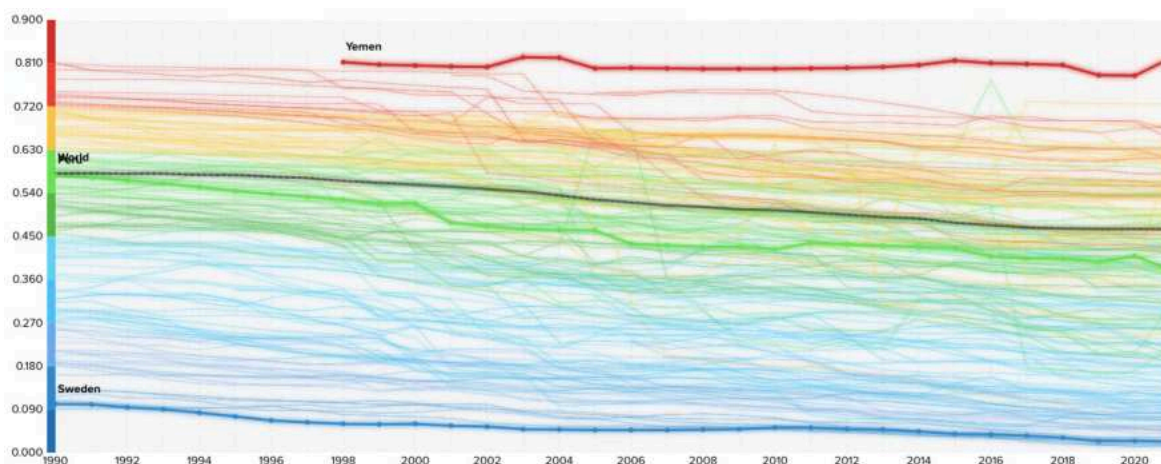


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- It provides greater insight into the **differences in human development** that exist in a country as opposed to the average human development

## Gender Inequality Index (GII)

- The **Gender Inequality Index (GII)** measures gender inequality using three dimensions:
  - Reproductive health
  - Empowerment
  - The labour market
- Countries are graded on a scale of 0→1
  - The **lower the value** the better the inequality between men and women, and vice-versa



*Sweden, Peru and Yemen all score vastly differently on the GI index with Sweden the most equal and Yemen the least equal (Source: [UNDP Data Centre](#))*

## Happy Planet Index (HPI)

- The Happy Planet Index (HPI) attempts to measure **sustainable** wellbeing
- Countries are ranked by how efficiently they deliver long, happy lives using the earth's scarce resources in a sustainable way
- The HPI scores countries with a lower ecological footprint higher than countries with more environmental degradation
- The HPI measures a country's progress using three variables
  - Wellbeing**



- Life expectancy
- Ecological footprint

▪ 
$$\text{HPI Score} = \frac{\text{wellbeing} \times \text{life expectancy}}{\text{ecological footprint}}$$



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| RANK | COUNTRY    | LIFE EXPECTANCY | WELL BEING | ECOLOGICAL FOOTPRINT | HPI SCORE |
|------|------------|-----------------|------------|----------------------|-----------|
| 1    | COSTA RICA | ○ 80.4 years    | ○ 7.00/10  | ● 2.65 gha/p         | 62.1      |
| 2    | VANUATU    | ● 70.5 years    | ○ 6.96/10  | ● 1.62 gha/p         | 60.4      |
| 3    | COLOMBIA   | ○ 77.3 years    | ○ 6.35/10  | ● 1.90 gha/p         | 60.2      |

|     |                          |              |           |               |      |
|-----|--------------------------|--------------|-----------|---------------|------|
| 150 | CENTRAL AFRICAN REPUBLIC | ○ 53.3 years | ○ 3.08/10 | ● 1.21 gha/p  | 25.2 |
| 151 | MONGOLIA                 | ● 69.9 years | ● 5.56/10 | ○ 10.08 gha/p | 24.5 |
| 152 | QATAR                    | ● 80.2 years | ● 6.37/10 | ○ 15.04 gha/p | 24.3 |

The top 3 and bottom 3 countries on the HPI in December 2022 (Source: [Happy Planet Index](#))



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## Evaluating the Different Approaches

# Evaluating the Different Approaches used to Measure Development

- All **development indicators** have limitations
- Due to the **multi-dimensional nature** of economic development, it is necessary to use a **range of indicators** in order to gain insights into the many dimensions of quality of life, well-being, human development and happiness
- **Composite indicators** provide better insight than single indicators
- Single indicators can be useful in targeting just one aspect - or in **prioritising different aspects** of development
- **Qualitative data** is used to measure many aspects of economic development and this can be subject to bias and errors in data interpretation
- It requires **time** to gather qualitative data and this means that the data often lags reality by several years
- **Data collection and statistical reporting** is subject to political agendas and often the data presented has to be questioned in light of these e.g. many Middle East countries moved from the bottom third to the top third in the Gender Inequality index (GII) in 2017, a very unlikely transition in such a short time period

### The Advantages and Disadvantages of Using the HDI

| Advantages   | Disadvantages  |
|--|--|
| <ul style="list-style-type: none"> <li>▪ It is a composite indicator which provides a <b>more useful</b> comparison metric than single indicators do</li> <li>▪ It incorporates three of the <b>most important metrics</b> for households i.e. health, education and income</li> <li>▪ It is widely used all over the world which provides an opportunity for <b>meaningful comparisons</b></li> <li>▪ It provides a goal for governments to use when developing their policies e.g. it may help identify</li> </ul> | <ul style="list-style-type: none"> <li>▪ It does not measure the <b>inequality</b> that exists as it uses the mean GNI/capita</li> <li>▪ It does not measure or compare the levels of absolute and relative poverty that exist</li> <li>▪ For many countries it does not provide useful <b>short-term information</b> as gathering the data required for the calculation is difficult. This means the <b>data often lags reality</b> by several years</li> </ul> |

that the education levels are holding back improvements to the HDI and **government policy** can target that

- It provides citizens with an understanding of how their **quality of life** compares to other countries



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## The Relationship Between Economic Growth & Economic Development

- Data shows that **economic growth** often has a very positive impact on **economic development**
- Economic growth can lead to higher income, however, the **equity in the distribution of this income** influences the level of economic development that occurs as a result
  - Where the equity in distribution is higher, economic development is greater
  - Where the equity in distribution is lower, economic development is lower
- In most cases **growth precedes development**, but this is not always true e.g. Bangladesh used a range of strategies (including micro-finance) to transform the quality of life for many households
- In some cases (usually in developing countries) economic growth is tied to **one industry** & generates so many **negative externalities of production** that the standard of living **decreases** for many even as growth increases