Incidence of Tax — where it is levied

Burden of Tax — who pays the tax.

₹ TAX ₹

DIRECT

Incidence and Burden are on same individual

Example: Income Tax
Wealth Tax
Profit Tax.

INDIRECT

Incidence and Burden are on different individuals

Example: Sales Tax
Services Tax
Central excise duty (CESS) → for recovering welfare scheme funds

GOODS AND SERVICES TAX (GST)

- UT/State GST
- Centre GST

→ within a State/UT

- Integrated GST → for imports and interstate.

★ GST introduced to tackle the different Indirect Taxes

★ GST is DESTINATION BASED Tax system.

Example:

Bread ⇒ ₹ 500
Sales Tax ⇒ 10%
Mfg Tax ⇒ 10%

→ 500 + 10% (mfg tax) on 500 + 10% (Sales Tax) on

$500 + 500 \times \frac{10}{100}$

$= 605$

Sales tax on 550 instead of 500 → CASCADING EFFECT OF TAX.

National Income Accounting

macro economic aggregates

Reason: 1) How economy of country is progressing
2) Comparing with other countries.

Fundamental aims of economy.

(1) Income High / High GDP.
(2) Less unemployment
(3) Low inflation rate

GDP: Gross Domestic product.

The monetary value of all final goods and services produced within political boundaries of a territory / country within a specific time period (Year).

1. Monetary Value / Market Value:

① To add up the diversified goods and services in one unit.

② Self Services don't add up.

③ Avoid Black Market.

② Final? Why?

① To avoid over counting of intermediate products / goods.

✓ Nalanda Complex = 100 Cr added in GDP

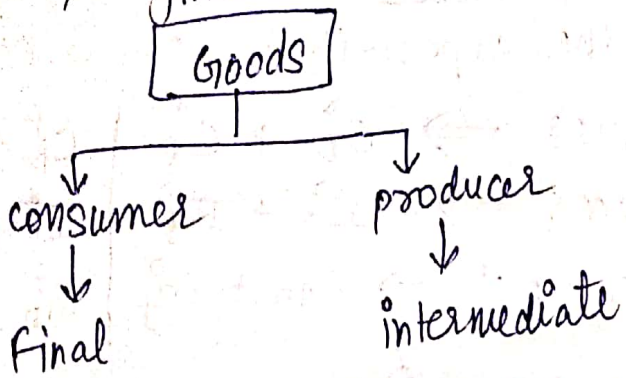
✗ Cement = 20 Cr not added in GDP.

only Final Product:

✓ Sweets → added in GDP

✗ Sugar, milk → not added in GDP.

To distinguish b/w final or intermediate ~~produ~~ Goods.



Sometimes producer can be consumer

③ Political Boundary.

Not Geographical Boundary [in colonial world the political Boundary is larger than Geographical Boundary]

GDP Vs GNP (Gross national Product).

GDP
- Political Boundary matters
- Internation MNC ✓

GNP
- Nationality of Producers matter
- International MNC ✗

British had the GDP of colony also added in their own GDP during colonial times

④ Time period

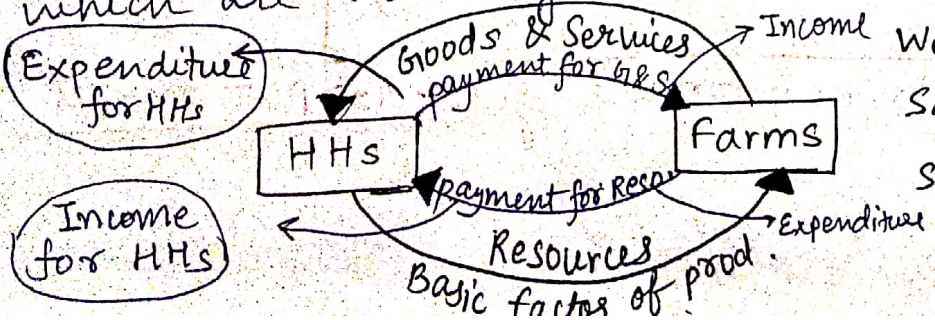
- To avoid the overcounting of of Re sall product.

10/01/2019

GDP is measured using 3 different approaches:

1. Expenditure Approach.
2. Income approach
3. Value added approach.

Suppose we have a Region with only Households and farms. Households own the farms. farms produce goods and Services, which are used by Households.



We don't consider Savings for this simple economic model.

#1. Expenditure Approach

We look at the expenditures of 3 economic agents

① Consumer ⟹ $C_D^D + C_f^D$ | $C_D^f + C_f^f$

② Producer ⟹ $I_D^D + I_f^D$ | $I_D^f + I_f^f$

③ Government ⟹ $G_D^D + G_f^D$ | $G_D^f + G_f^f$

D = Domestic, f = foreign

→ Not of Interest

Let C = Consumer expenditure
I = Investment expenditure
G = Govt expenditure.

Note C_D^D → Domestic consumer purchasing domestic goods.
C_D^f → foreign consumer purchasing domestic goods

$C_D^D + C_f^D \;\|\; C_D^f + C_f^f$
$I_D^D + I_f^D \;\|\; I_D^f + I_f^f$
$G_D^D + G_f^D \;\|\; G_D^f + G_f^f$

→ Not of Interest.

$C_f^D + I_f^D + G_f^D$ → Imports (M)
Domestic economic Actors purchasing foreign produced goods

$C_D^f + I_D^f + G_D^f$ → Exports (X)

$$GDP = C + I + G + (X - M)$$

Expenditure Approach formula gives GDP at Market Price

#2) Income Approach

Land → Rent
Labour → Wage
Capital → Interest
Entrepreneurs → Profit

→ Σ → GDP at Factor Cost.

GDP = Rent + Wage + Interest + Profit

GDP at factor Cost.

Also,

GDP at factor Cost = GDP at Market Prices
+ Subsidies
− Indirect Taxes.

→ Bcoz we only consider the value of Goods and Services we have to deduct Indirect Taxes to Get GDP at factor Cost.

→ 'Open market' → ₹50/kg → seeds
Subsidies → ₹30/kg
Farmer's input → ₹20/kg + ₹100 Labour + ₹80 Land = ₹200

₹200 ← Market price

₹200 + ₹30 ← for factor cost calculation we add Subsidies

factor Cost.

⊙ Bcoz of circular flow of economy the Expenditure approach GDP = Income approach GDP

Date-19-1

(3) VALUE-ADDED APPROACH

Each goods & service passes through difference stages of production. At each stage the value is added.

Think of an Economy that Produces only single Bread.

Then value of GDP = Value of Bread.

~~Let Bread~~

In value added approach we consider the following:

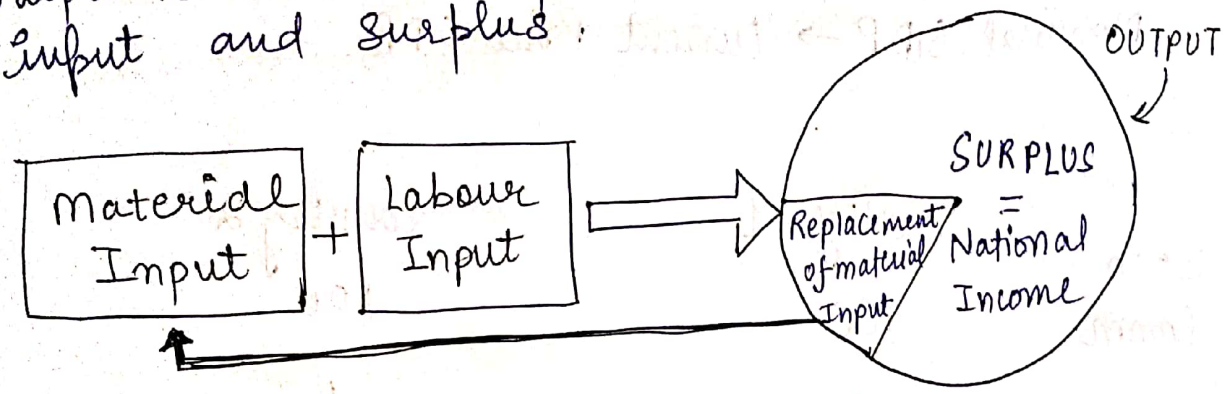
1. What are we producing.
2. Basic factors of Productions Required
3. Inputs
4. Output

Let for Bread;

What	Basic FP	Input	Output	Value addition
Seeds	Labour	0	₹10	₹10
Wheat	Labour + Land	₹10	₹100	₹90
Flour	Land + Labour + Capital + Entrepre	₹100	₹200	₹100
Bread	Land + Labour + Capital + Entre	₹200	₹400 GDP	₹200
TOTAL				₹400

Hence Sum of all Value added at each stage = GDP

Apart from natural inputs we add material input and labour input which gives us output. Output is used in ① Replacement of material input and surplus.



GDP = Gross Domestic product (GDP)

GNP = Gross National product (GNP)

NDP = Net Domestic product (NDP)

NNP = Net National Product (NNP)

NDP = GDP − Depreciation.

- Use up of Physical Capital
- Wear and Tear
- In India usually 2-3%.

NNP = GNP − Depreciation

Measuring depreciation is usually done by assuming an average value of the wear and tear of products.

NNP at factor Cost = National Income

- REAL GDP VS NOMINAL GDP

Real GDP → Constant Price GDP
Nominal GDP → Current Price GDP

	Country 1	Country 2	
2010			
Comm	100	100	
Price	1	1	
2019			
Comm	200	200	← Nominal GDP (at current Price)
Price	1	2	
Real GDP at 2010 price	100	100	

When we calculate GDP over time we should compare Real GDP & not nominal GDP.

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price Index (PI)}}$$

$$\text{PI} = \text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}}$$

STRUCTURAL TRANSFORMATION

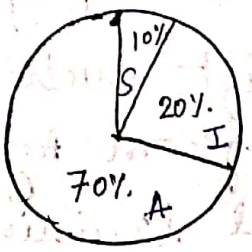
22/01/19

Economy is divided into 3 sectors
- Agriculture / Primary
- Industrial / Secondary
- Service / Tertiary

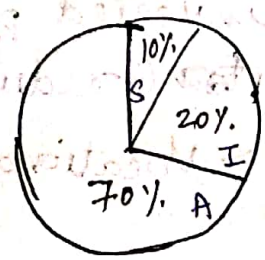
Structural Transformation is the move of GDP contribution from one sector to another. (A → I → S)

PHASE I

GDP

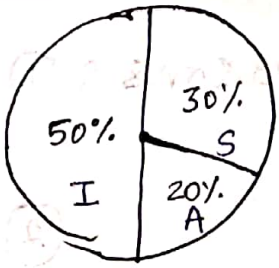


Employment

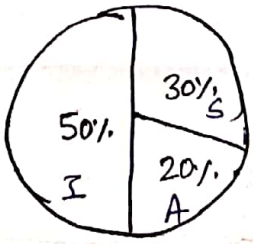


PHASE II

GDP

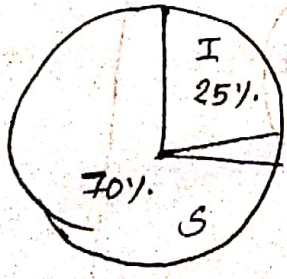


Employment

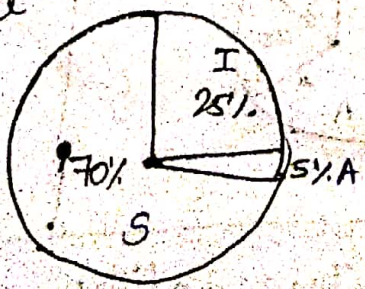


PHASE III

GDP



Employment



- A → I → S
- GDP is max in Phase III.
- When service sector grows then better Division of labour
- Division of labour:
  A < I < S

  Therefore
  Productivity:
  A < I < S

- India, Germany and Singapore etc are some of the exceptions of Structural Transformation.
- Singapore was initially ~~to~~ in PHASE I (Agriculture including fishing). They jumped from PHASE I to PHASE III. (No industrial development)
- For India.

During 1950's → PHASE I.

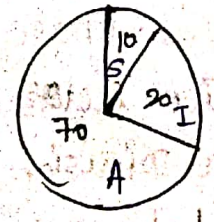
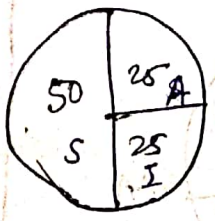
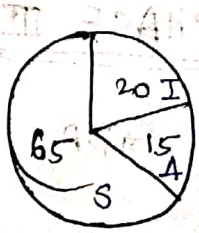
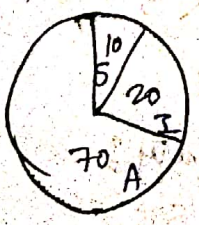
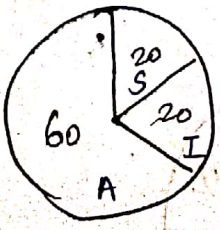
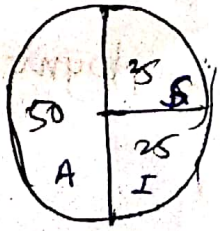
By 2000's → According to GDP → PHASE III

According to employment → PHASE I

Reasons: ① Unable to shift such a large population from Agriculture.

② No vocational training till schooling. We have invested pyramid. Vocational. ~~Gra~~ Graduates (Engineers > Vocational trained).

India

	1950	2000	2019
GDP			
Employment			

Result → Increase in Inequality.

UNEMPLOYMENT

Things to consider:

1.> Population (P)

2.> Labour Force (LF): Number of individuals working in or willing to work at the existing wage rate.

3.> Work Force (WF/E) (Employed): No. of individuals working at the existing wage rate.

$U = LF - E$

- LF Participation Rate $= \frac{LF}{P}$
- WF Participation Rate $= \frac{E}{P}$
- Unemployment Rate $= \frac{U}{LF} = \frac{LF - E}{LF}$

Total Time $= T = h + L$

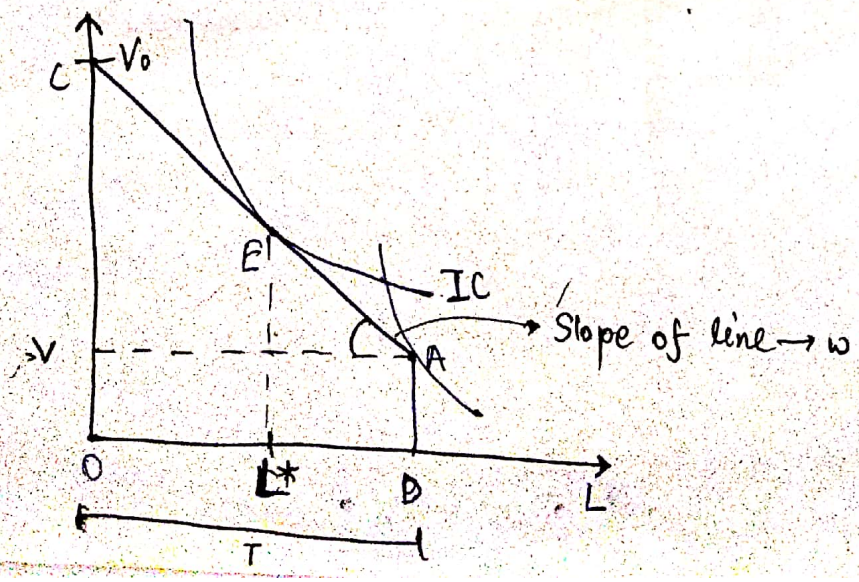
L = Leisure Time

h = work time

Wage Rate = w

Non Labour Income = V

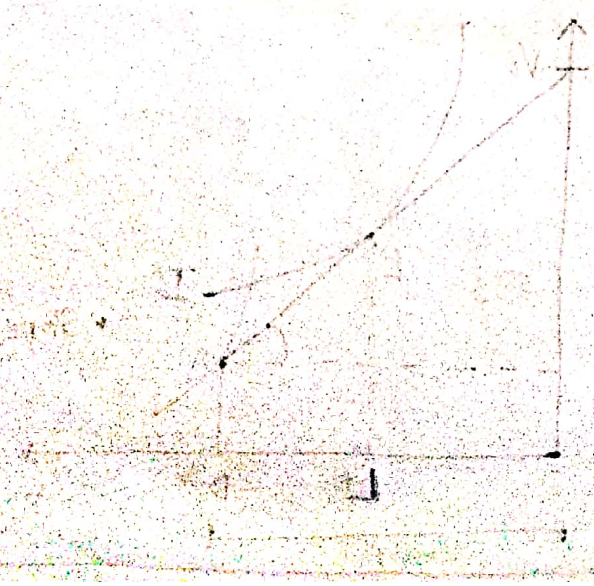
$V + wT = \underbrace{wh + wL + V}_{\text{Potential Income.}}$



Reservation wage :

$$W_R = \left| \frac{MU_L}{MU_C} \right| \text{ at point A}$$

$$= \frac{U_L(V,T)}{U_C(V,T)}$$



28/02/19

$U = U(C, L)$

st $C = wT + V = wL + wh + V$

C = consumption

L = Leisure

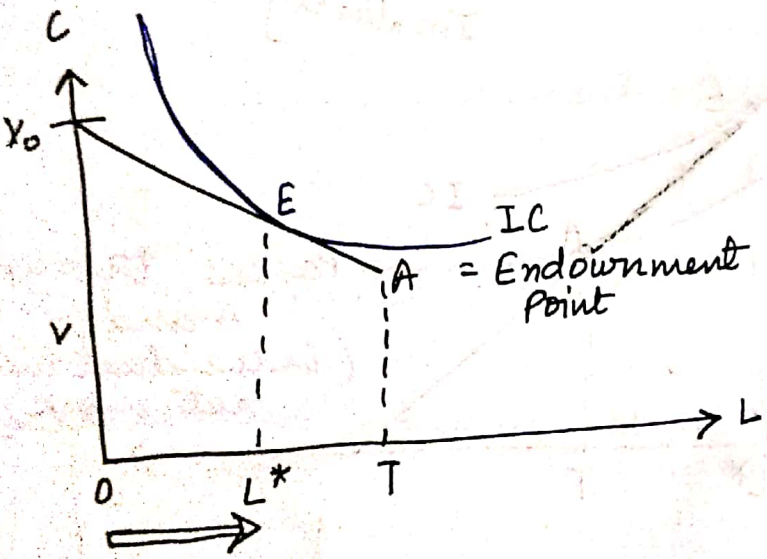
Total Time = T

Wage Rate = w (P_2)

Non Labour income = V

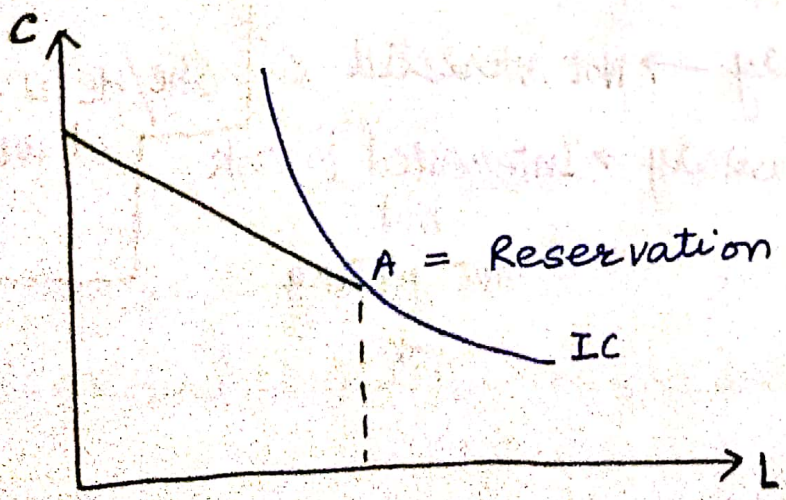
Price of C = 1 (P_1)

h : Hours of Ls



$OL^* \Rightarrow$ Leisure

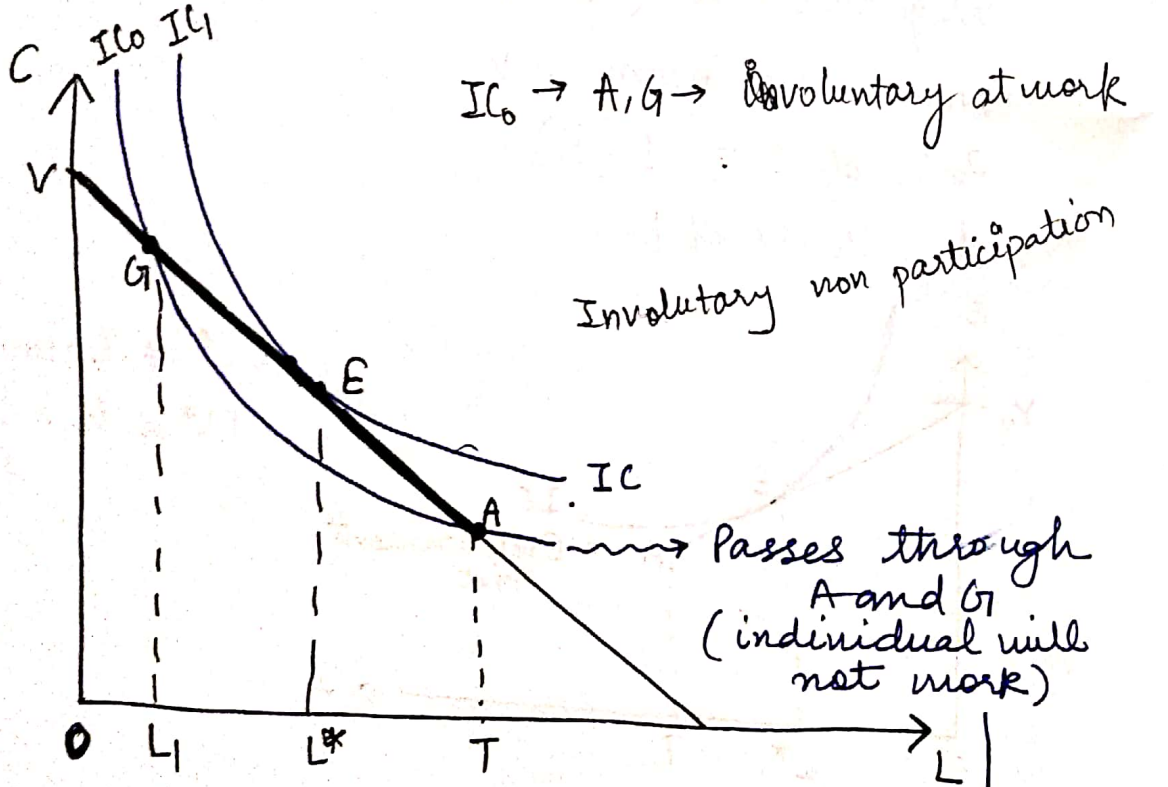
$TL^* \Rightarrow h$ = Labour supply.



$w = \left.\frac{MU_L}{MU_C}\right|$ at point E

⊙ Reservation wage = $w_R = \frac{MU_L\ (L=T,\ C=V)}{MU_C\ (L=T,\ C=V)}$

⊙ Non Labour Income : Income without any work.



IC_0 → A, G → Involuntary at work

Involutary non participation

→ Passes through A and G (individual will not work)

UNEMPLOYMENT

→ Voluntary → Not interested

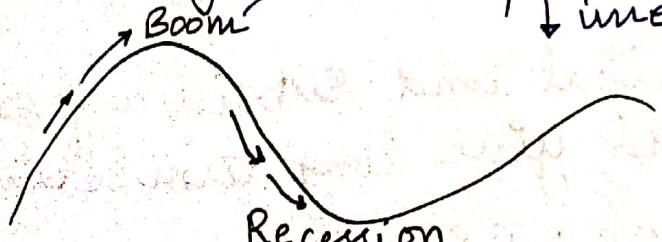
→ Involuntary → Interested to work But not getting job

She/He is voluntar at work.

UNEMPLOYMENT

- Voluntary
- Involuntary
  - Open (Developed)
    - ① Frictional
      - one job to another.
    - ② Structural
      - Skill level not as per requirement when Structural Transformation
    - ③ Cyclical
  - Hidden (Developing)
    - ⑤ Disguised
    - ⑥ Seasonal
    - ⑦ Underemployment
      - working below marginal productivity

③ # Business Cycle



Boom → more people employed. ↓ unemployment

Recession → people get fired ↑ unemployment.

CYCLICAL UNEMPLOYMENT

⑤ Disguised = Marginal productivity of labour = 0

$MU_L = 0$

⑥ Seasonal = → firecracker industry

maybe
Summer → employed.
winter → unemployed.

mostly agriculture

Criterias to measure unemployment 29/01/1

R

1. Willingness
2. Time
3. Income
4. Productivity

] These are not used to measure employm nowadays

In case of India

NSSO : National Sample and Survey organisation.

Every 5 years : Employment and Unemploym (2011-2012) ~~Form~~. Survey.

They use the TIME CRITERIA to define Status:

1. Principal Status: 180 days +
2. Subsidiary Status: 30-180 days
3. Weekly Status : Last 7 days
4. Current Daily Status:

UPSS : The Principal and Subsidiary status together give long term Status.

{ Usual Principal Subsidiary Status } = PS + SS

Disguised unemployment ~~Status~~

⇒ UPSS - CDS ⇒ Disguised unemployment

UPSS → People are employed in long term

CDS → People are employed on ~~a~~ current day.

NOTE: As per survey in India unemployment is around 2%. This is not the Truth as it is not capturing HIDDEN unemployment.
Thus for developing country this is not a suitable way of measuring unemployment.

★ Current Weekly Status (CWS)

Day 1	Day 2	Day 3	....	Day 7.
1	0.5			0
I	2hrs			No work

Score given for 4hrs

Total Calculated as $\left\{ \frac{\Sigma \text{ for 7 days}}{7} \right\}$

If values is $= 0.5 +$ Then, considered employed.

HUMAN DEVELOPMENT

A process of enlarging human choices.

- Growth: A subset of Development
  A very narrow view
  May not be sustainable
- Development: Provides longer, sustainable view.

Growth, Development $\subset$ Human Development

Growth $\subset$ Development

Choices are not random but defined on some Dimensions.

The universally agreed upon dimensions are :

1. Standard of Living
2. Knowledge
3. Health.

As dimensions are fulfilled the choices ↑.

To measure these dimensions :→ "Indicators".

- Standard of living : Per Capita Income.
- Knowledge : ① Gross ~~ero~~ enrollment rate in Primary School (GER)
  ② Adult literacy Rate.

⊛ Sometimes NER = Number of students in P.S and are aged (6-11) / No. of children (6-11)

Net Enrollment Ratio

Primary School : 1-5 Classes.

⊛ NER < 100
GER can be > 100.

⊛ In India we have self reported literacy survey done by census. (Registrar of India).

Knowledge dimension can also be measured using : 1. Average years of schooling (AYS)
2. Expected years of schooling (EYS)

◉ Health: Several criterias can be used:-

- ~~Infant~~ Infant mortality Rate, Life (IMR)
- Life expectancy
- U5MR (<5 year)

Human development

Process of enlarging human choices

	DIMENSIONS		INDICATORS
1.	Standard of Living	I	Per capita income ($)
2.	Knowledge	E_1	① AYS (Y)
		E_2	② EYS (Y)
3.	Health	H	Life expectancy (Y) at Birth

Since different indicators are measured in different units; we need to standardise them to see total effect and aggregate them.

To standardize knowledge and health we;

$$\Rightarrow \frac{\text{Actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}} \in [0,1]$$

Standardized

Minimum value and Maximum value are known as GoalPosts:

for income the process used is

$$\frac{\ln(\text{Actual value}) - \ln(\text{min value})}{\ln(\text{max value}) - \ln(\text{min value})}$$

NOTE: We take natural log of income bcoz increasing income has a diminishing effect on choices which is reflected through natural log.

Meaning → If you reach a certain level of income (Threshold income) then increase in further income does not changes much to your choices. But it does change to choices of an average man.

Example: 10 cr for Ambani (does not effect his choices)

40k for rickshaw puller (effects his choices).

Example

	MIN	MAX
PCI	$100	$75000
AYS	0	18
EYS	0	18
Life expectancy	25	85

for knowledge we have E_1 and E_2.

Education Index (E) = $\frac{E_1 + E_2}{2}$.

Earlier

Human development Index (HDI)

$$HDI = \frac{I + E + H}{3}$$

{when adult literacy Rate and GER was measured in Pr schools}

If one factor ↑ but other ↓ then also HDI can remain same.

Now this measure technique is used.

$$HDI = (I * E * H)^{1/3}$$

Extra Readings:

Human Development Report published by UNDP — 1990 — CHAP 1 Appendix A

2017 — Technical Appendix.

Inequality adjusted HDI