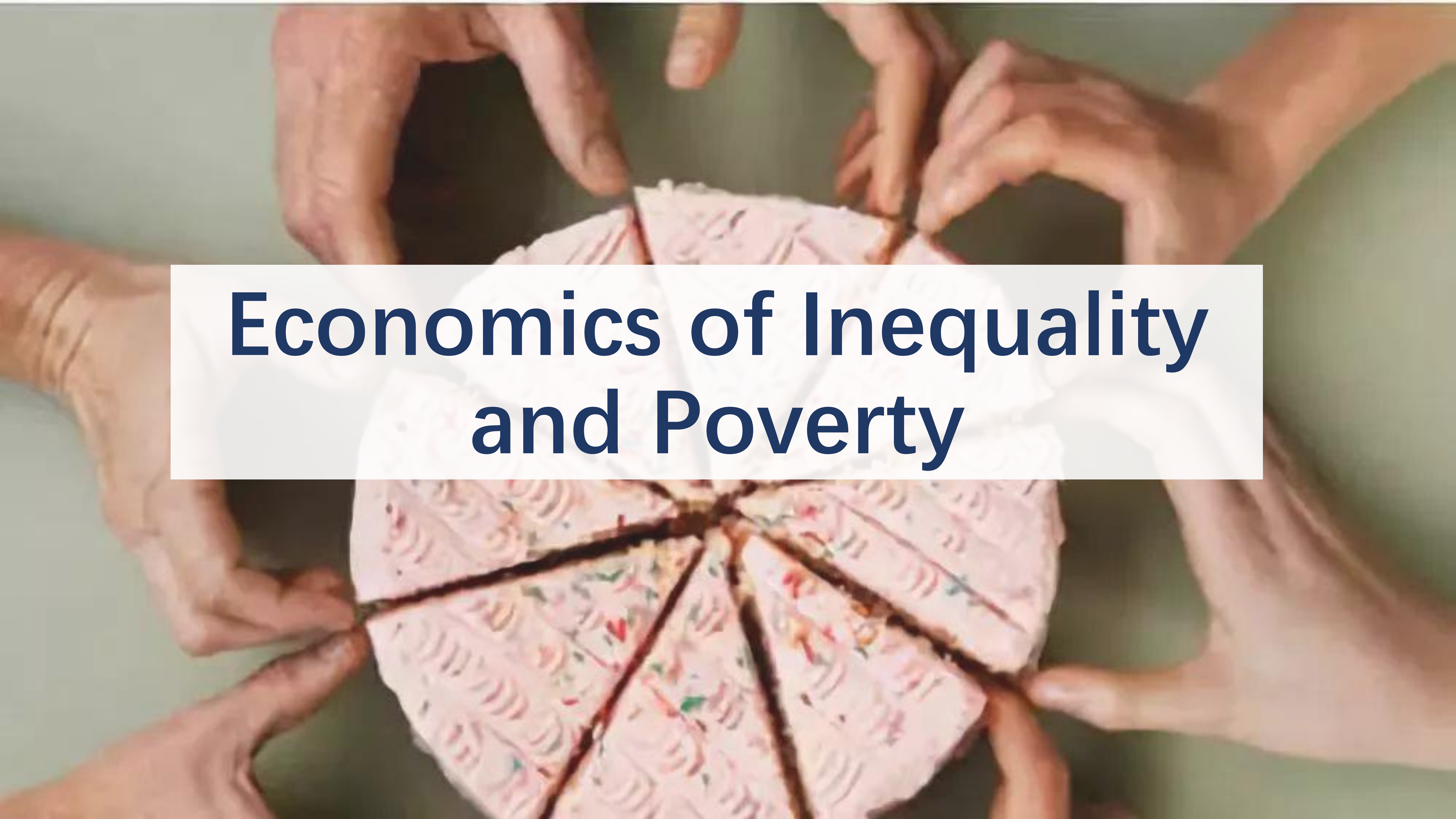
Economics of Inequality and Poverty

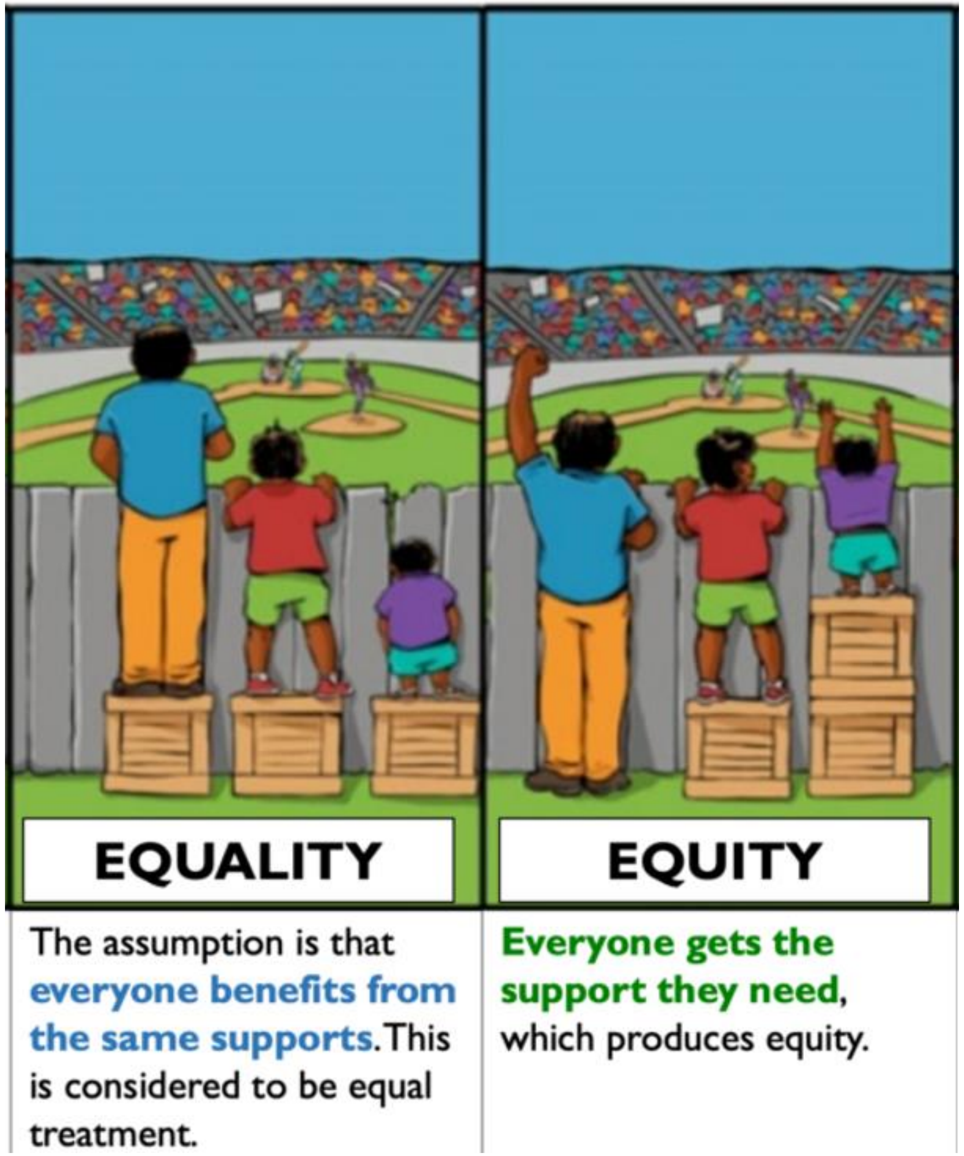



Inequality
& equity

The relationship between equity and equality

- **Equality:** sameness of treatment or outcomes for people or groups of people in a society.
  - Positive concept.

- **Equity:** being fair.
  - different people have different ideas and beliefs about what is fair. what is fair vary according to beliefs, value judgements and ideologies.
  - Normative concept



The relationship between equity and equality

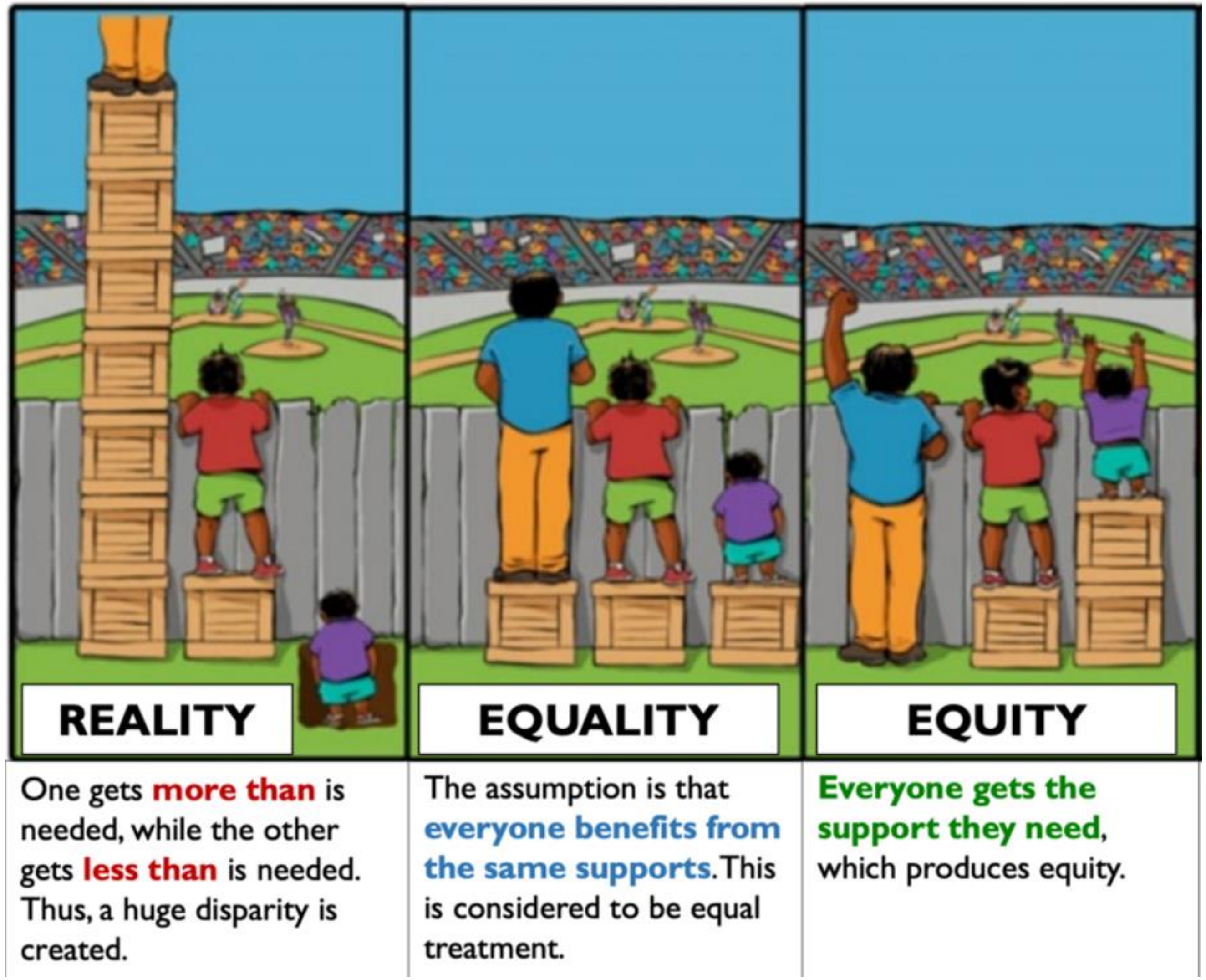
The concept of equity and equality are used in economics mainly to describe the **distribution of income and/or wealth.**

- Equity is usually interpreted to mean equality. Because there is a widely shared belief around the world that highly unequal distributions of income are unfair.

→ **'more equitable' = 'more equal' distribution of income/wealth**

Economic inequality

- **Economic inequality** refers to the degree that people in a population differ in their ability to satisfy their economic needs; it means inequality in living conditions that arise due to monetary factors.
- Sources of economic inequality:
    - **Income and wealth (economists focus on this factors)**
    - Education
    - Health
    - Nutrition
    - Gender, and so on.

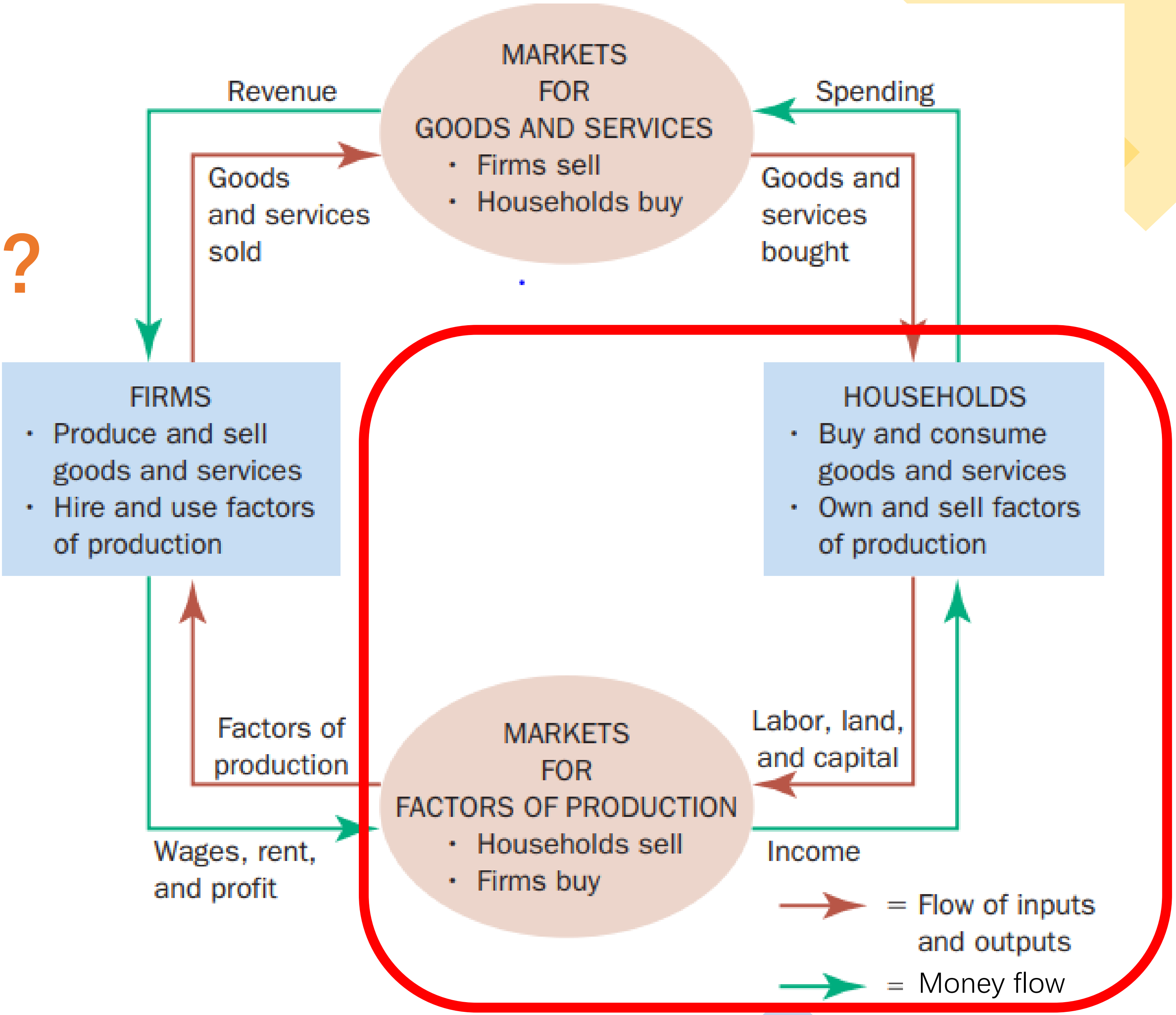


What decides people's income?

The **resources** households own and are able to sell in resource market, as well as the **prices** they sell.

Income of households:

- ✓ rent (for land),
- ✓ wages (for labour)
- ✓ interest (for capital)
- ✓ profit (for entrepreneurship)



The Circular-Flow Diagram

Income

Income – flow of money received by the owners of the factors of production. It includes:

- Money that people received from their employment
- Interest from saving accounts and holdings of bonds
- dividends from shares(stocks) in the stock market
- rents from property
- pensions or government benefits

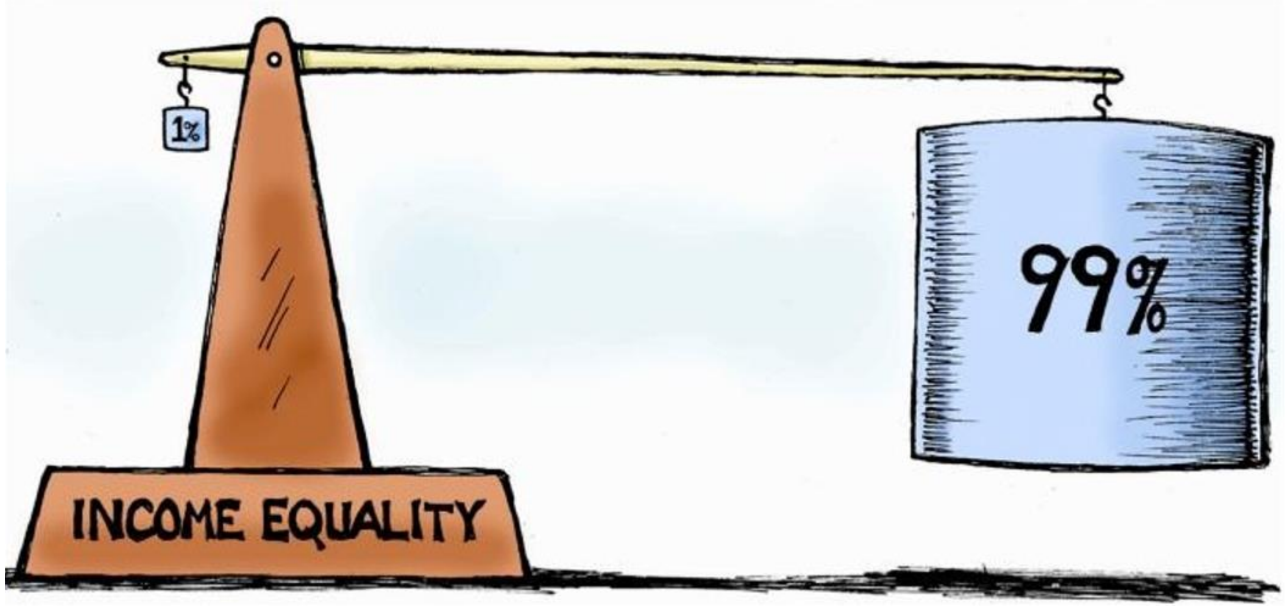
Unequal distribution of income

Unequal distribution of income for households:

- Ownership of factors of production is highly unequal, and the prices of factors of production determined in the market vary enormously.
  - People receive different wages based on their education background, skills and talent.
  - Unemployment due to personal or economic reason.
  - Some people own resources of land, capital and entrepreneurial ability, for which they receive rental, interest and profit income.

Other factors:

- Income distribution between countries
- The geographical regions of a country
- Males and females
- Age groups
- Ethnicities or occupations, and so on.



GDP per capita for top and bottom 10 countries in purchasing power parity, 2020

Country	GDP per capita ($), PPP
Madagascar	1,453.00
Sierra Leone	1,425.00
Mozambique	1,180.00
Malawi	1,163.00
Liberia	1,161.00
Niger	932.00
Congo	827.00
Central African Republic	775.00
Burundi	660.00
Mauritania	372.00
Total (bottom 10)	9,948.00

Country	GDP per capita ($), PPP
Qatar	112,532.00
Macao, PRC	108,831.00
Luxembourg	93,734.00
Singapore	90,091.00
Brunei	71,802.00
Ireland	70,361.00
United Arab Emirates	66,616.00
Kuwait	65,515.00
Norway	65,441.00
Switzerland	59,019.00
Total (top 10)	803,942.00

Measuring economic inequality

- The degree of income equality (or inequality) in an economy can be measured by the **relative share of national income earned by given percentages of the population**.
  - **Deciles**: splitting data into tenths, with each part accounting for 10% of the population.
  - **Quintiles**: divide statistical data set into fifths, with each part representing 20% of the population.
  - Income shares can also be shown by quartiles (25%), or broken down into 1% particularly for the top, or even the top 0.1%.

How economic inequality is measured

Country	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	Gini coefficient
Australia 2014	6.8	12.0	16.1	22.1	43.0	0.36
Belarus 2017	9.9	14.2	17.9	22.5	35.5	0.25
Bolivia 2017	4.1	9.5	15.0	22.8	48.5	0.44
Brazil 2017	3.2	7.4	12.2	19.5	57.8	0.53
China 2015	6.4	10.6	15.3	22.3	45.4	0.39
Denmark 2015	9.4	13.9	17.2	21.8	37.7	0.28
S. Africa 2014	2.4	4.8	8.2	16.5	68.2	0.63
United Kingdom 2015	7.5	12.2	16.8	23.0	40.6	0.33
United States 2016	5.0	10.2	15.3	22.6	46.9	0.42

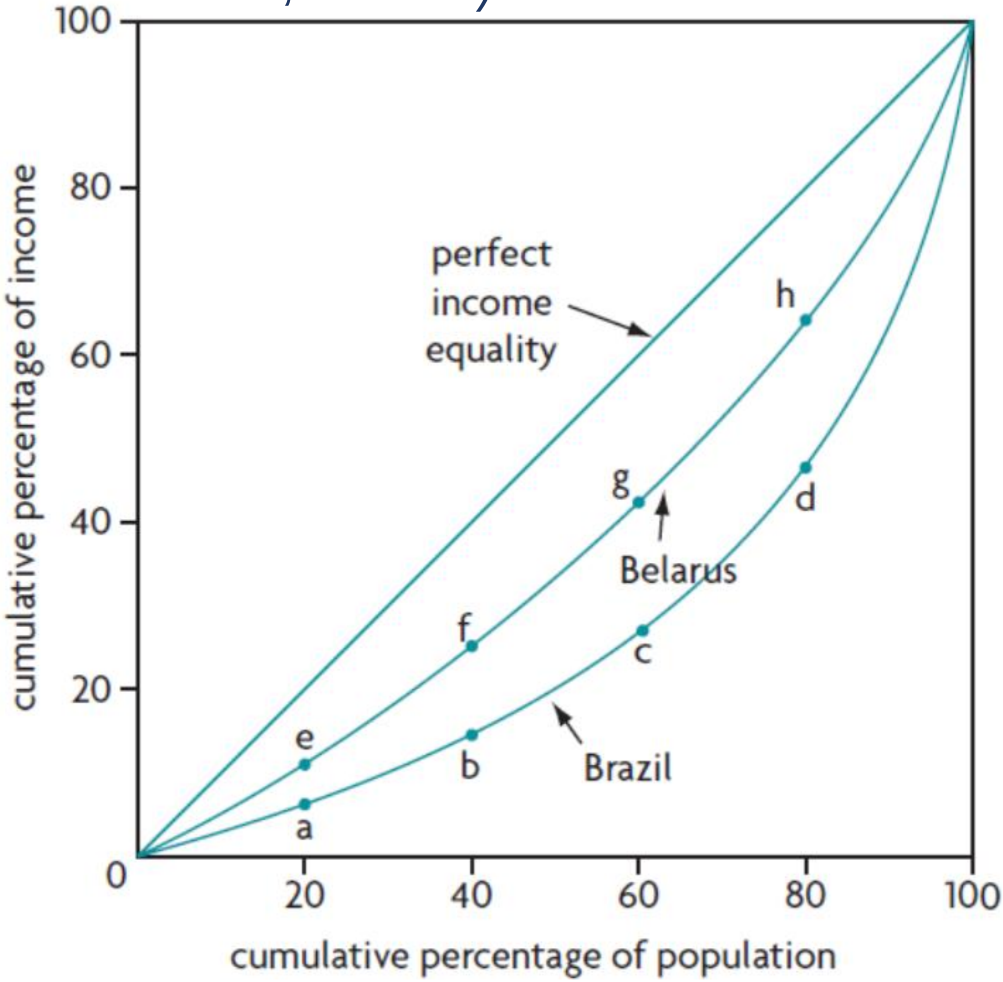
the table shows how income is distributed by **quintiles of the population**.

- If income were completely equal distributed, every quintiles should receive 20% of income. But in the real world this is a virtual impossibility.

The Lorenz curve – visual indicator

- A **Lorenz curve** is a graphical representation used to show the degree of income inequality in an economy. (Max Otto Lorenz, 1905)
- Square box
- **vertical axis**: total amount of **income** in an economy in cumulative %. (from 0 to 100%)
- **Horizontal axis**: total **population** in the economy in cumulative %. (from 0 to 100%)

→The closer a Lorenz curve is to the diagonal representing perfect income equality, the greater is the equality in income distribution.



How to construct a Lorenz curve from income quintile data

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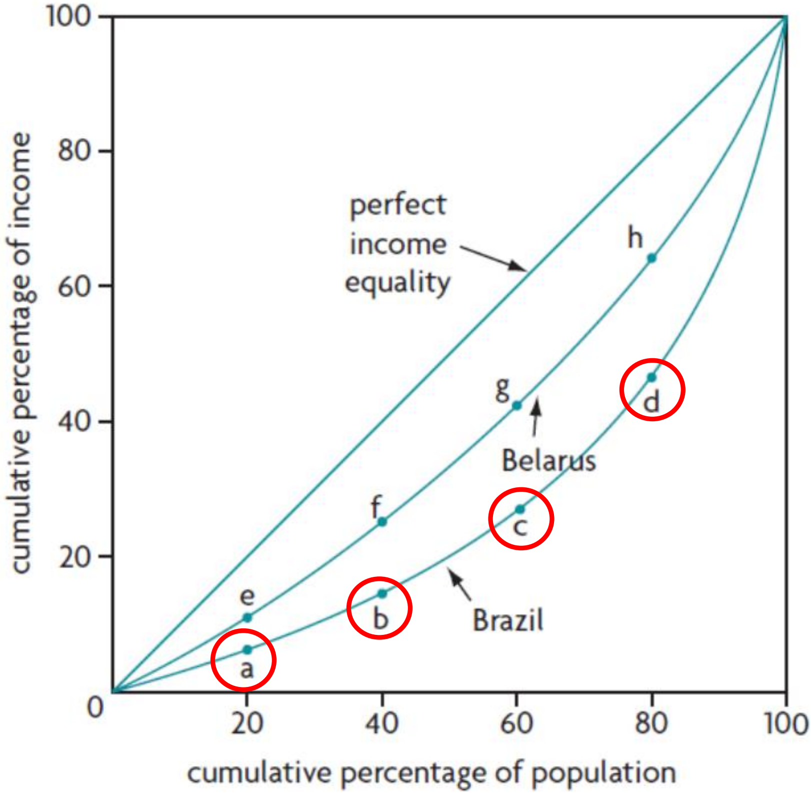
For Brazil:

Point **a**: poorest 20% of the population received 3.2% of income.

Point **b**: adding the income of 20% poorest population (3.2%) to the second quintile (7.4%), equals to 10.6%. – the cumulative income of the bottom 40% of the population.

Point **c**: adding the % of income received by the bottom three quintiles (60%) → 22.8%

Point **d**: adding the incomes of the bottom four quintiles (80%) → 42.3%



Some facts

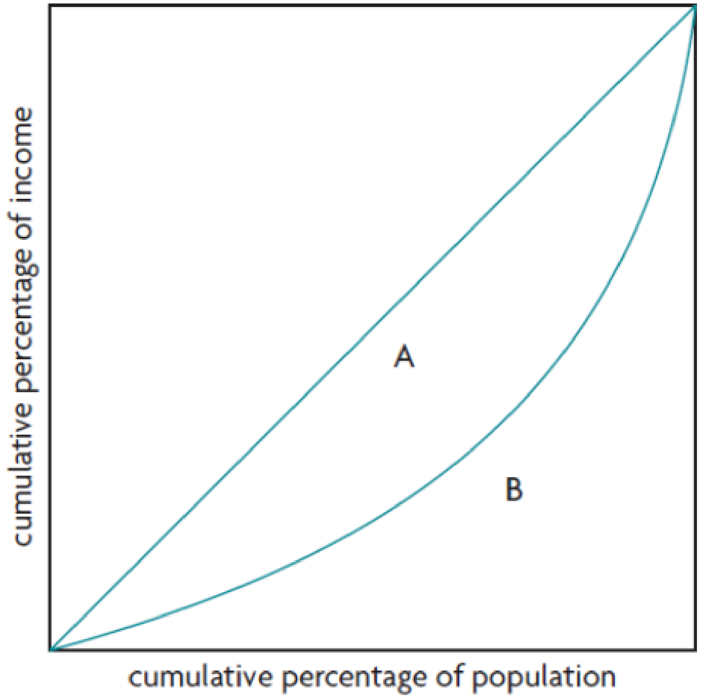
- The richest 1% of the world's population owned about 40% of the planet's productive assets. (released by UN in 2021)
- 85 of the wealthiest people in the world possessed more cumulative wealth than that of the bottom 48 countries (the equivalent of the wealth of more than 3 billion people) (released by Oxfam in 2014)
- The richest 3,500 people in South Africa(0.01% of the adult population) accounted for 15% of the country's total wealth.
- The bottom 90% of people in South Africa (31.8 million people) account for only 14% of the wealth in the country. (reported by BBC in 2020)

The Gini coefficient – mathematical indicator

The **Gini coefficient (or Gini index)**, named after Corrado Gini, an Italian statistician, is a summary measure of the information contained in the Lorenz curve of an economy.

$$\text{Gini coefficient} = \frac{\text{Area between diagonal and Lorenz curve}}{\text{Entire area under diagonal}} = \frac{A}{A+B}$$

- Value ranges from 0 to 1. (or as %, e.g. 37 out of 100)
- When Gini coefficient = 0 → perfect income equality.
- When Gini coefficient = 1 → a single household receives all the income of the economy.
- **The larger the Gini coefficient** (the closer it is to 1), **the greater is the income inequality**, since the further away is the Lorenz curve from the diagonal.



Gini Coefficients, 2020

Country	Gini coefficient
Lesotho	0.632
South Africa	0.625
Haiti	0.608
Botswana	0.605
Namibia	0.597
Zambia	0.575
Comoros	0.559
Hong kong, PRC	0.539
Guatemala	0.530
Paraguay	0.517

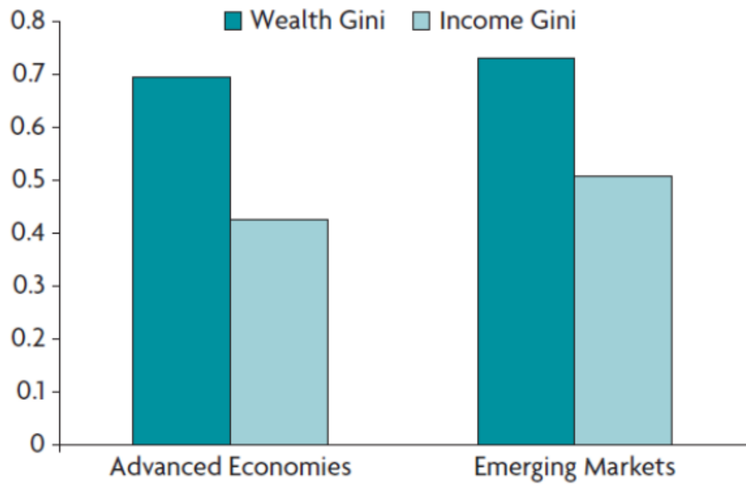
- Generally, low-income countries and/or those that suffer from a high degree of corruption have a high Gini coefficient, such as Lesotho (0.632) and South Africa(0.625).
- High-income countries tend to have a low Gini coefficient, such as Finland(0.272), Belgium(0.259) and Sweden(0.249).
- A large degree of income inequality tends to have detrimental social, political and economic impacts on the country, such as greater household debt, political unrest and slower GDP growth.

Unequal distribution of wealth

- **Wealth =** The money or things of value that people own – Debt to bank/financial institutions
    - Saving deposits
    - Stocks, bonds
    - Land
    - House and property
    - Valuable paintings or jewelry

Income → rise to the saving/interests/dividends/rents → create wealth

Income inequality → wealth inequality



- Measurements of (1) quintiles, (2) Lorenz curves and (3) Gini coefficients can be used to show the extent of wealth inequality as well.

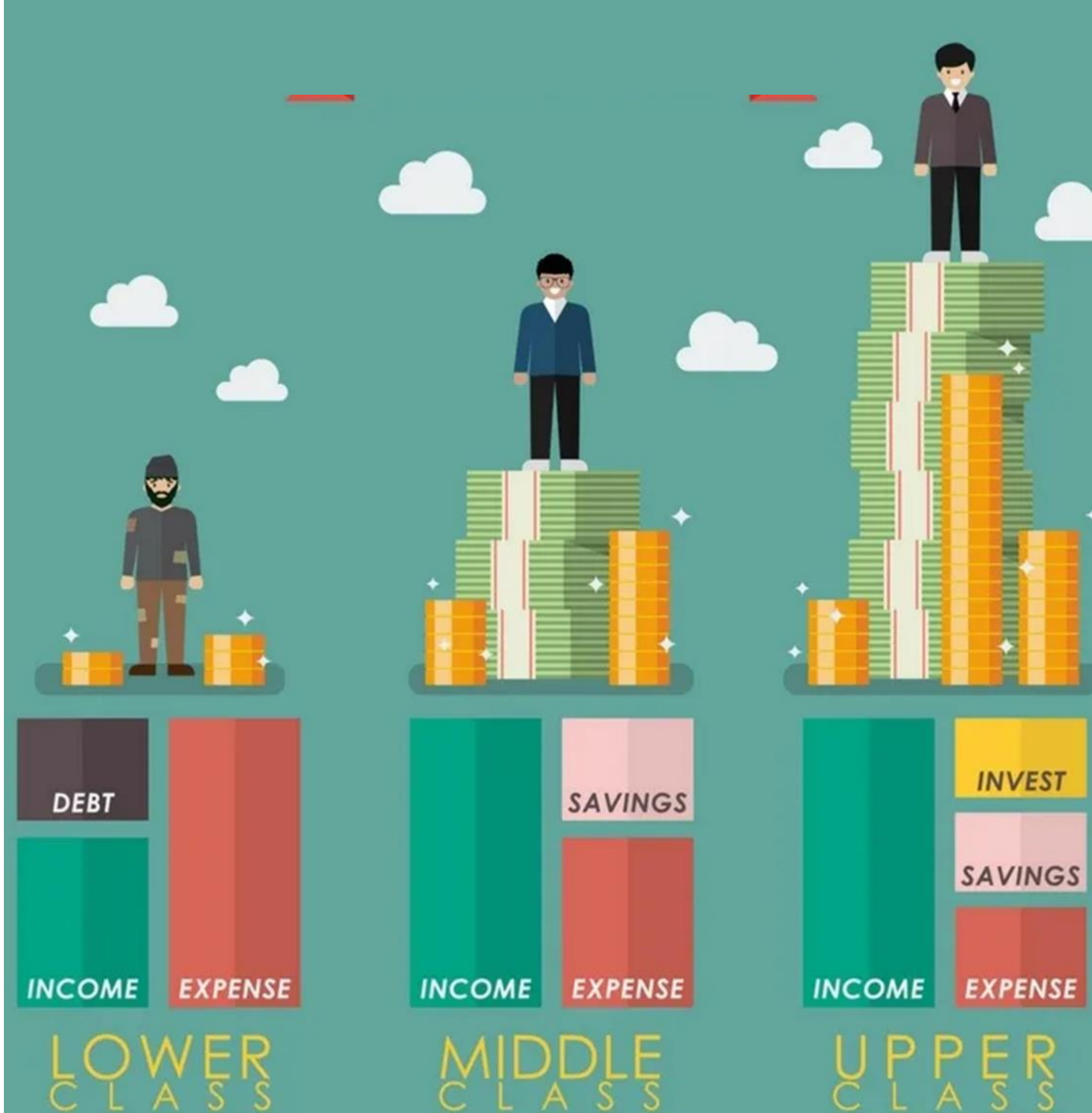
- Unequal distribution of income/wealth are both to populations within countries, as well as across countries.

- **The distribution of wealth is generally far more unequal than the distribution of income in most countries in the world.**

Reasons of greater wealth inequality

1. Limited growth in wages makes it difficult for low-income and middle-income people to save and accumulate wealth.

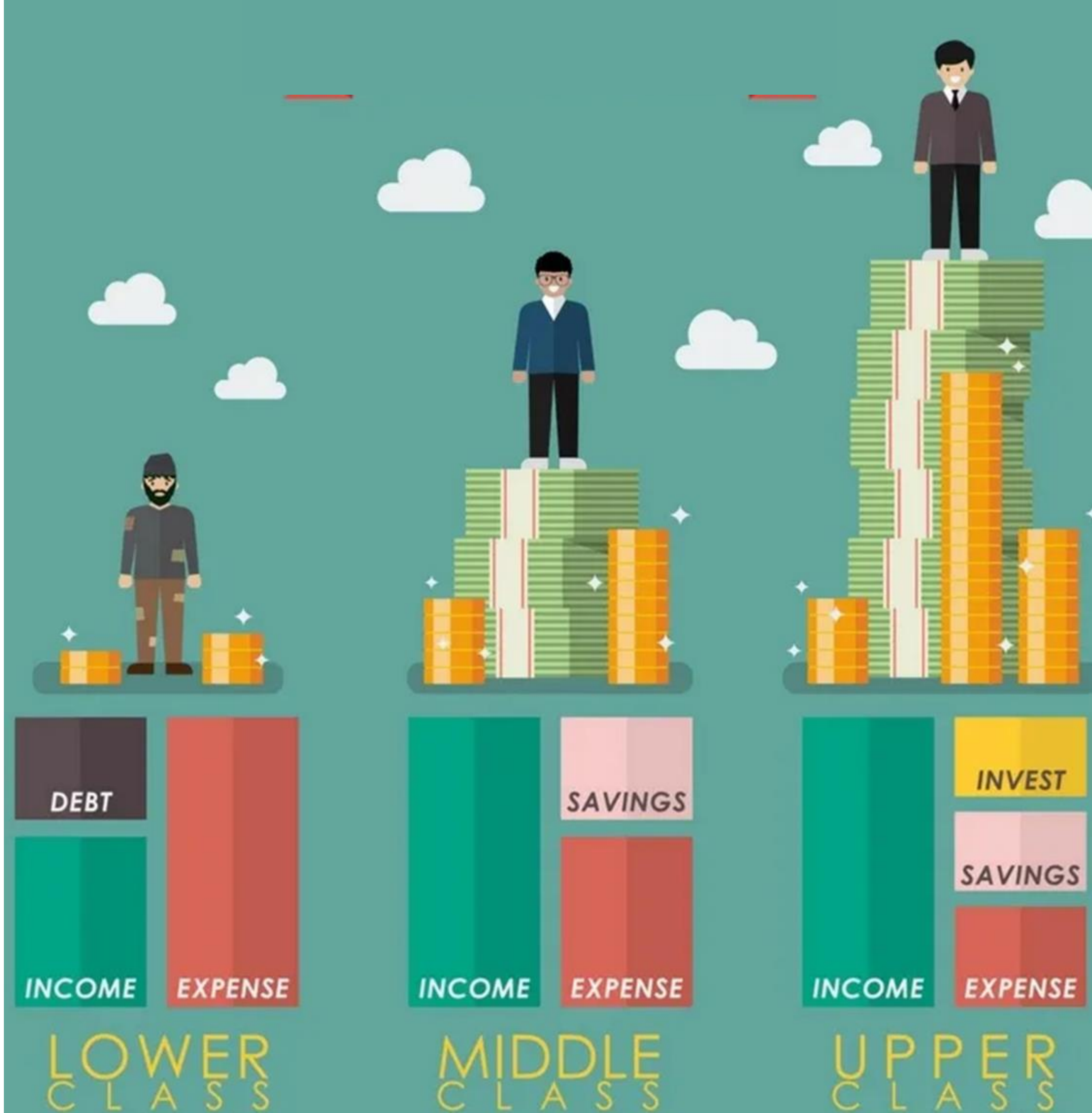
2. High-income people tend to consume a smaller fraction of their income than lower-income people therefore have greater possibilities of saving and accumulating wealth.



Reasons of greater wealth inequality

3. **Income and wealth inequalities feed on each other. (mutually reinforced)**
    - It is easier for higher income households to accumulate wealth through savings and purchasing assets or investment funds.
    - Many types of wealth (stocks, bonds, real estate) lead to even more income and hence even more possibilities for accumulating more wealth. High incomes→ assets →assets generate more incomes→ more assets
    - In contrast, low-income households are likely to incur debts (negative wealth), which reduce their income as households have to pay interest on their loans.

→ These will contribute to the widening wealth gap between the rich and poor.



Mean wealth of adults($), 2018

Country	Mean wealth per adult ($)
Niger	863.00
Guinea	813.00
Chad	735.00
Uganda	710.00
Guinea-Bissau	701.00
Rwanda	660.00
Afghanistan	643.00
Sudan	530.00
Mozambique	482.00
Madagascar	432.00
Sierra Leone	355.00
Congo,Dem.Rep.	331.00
Burundi	321.00
Ethiopia	167.00
Malawi	141.00

Country	Mean wealth per adult ($)
Iceland	555,726.00
Switzerland	530,244.00
Luxembourg	412,127.00
Australia	411,060.00
USA	403,974.00
Belgium	313,045.00
Norway	291,103.00
New Zealand	289,798.00
Canada	288,263.00
Denmark	286,712.00
Singapore	283,118.00
France	280,580.00
United Kingdom	279,048.00
Netherlands	253,205.00
Sweden	249,765.00


POVERTY

Let's talk poverty

Poverty - the inability of an individual or family to satisfy minimum consumption needs. this standard may be **absolute** or **relative**.

- **Absolute poverty** refers to a situation where a person or family does not have enough income to meet basic human needs.
- **Relative poverty** is a concept that compares the income or individuals or households in a society with median incomes. (comparative measure)

Absolute poverty and its measurement

- **Poverty line**: an income level that is considered minimally sufficient to sustain a family in terms of food, housing, clothing, medical needs and so on.
- Most countries have a **national poverty line**, determined by government authorities as an appropriate amount of income required to satisfy minimum needs.

- The **International poverty line** by the World Bank:
  - **Extreme poverty**: living on less than $1.90 a day
  - **poverty line for lower-middle-income countries:** Living on less than $3.20 a day
  - **poverty line for upper-middle-income countries:** living on less than $5.50 a day.

* Nearly half of the world's population lives below the poverty line of $5.50 per day.

Country	Poverty rate %	Country	Poverty rate %
Iceland	0	India	13.4
Portugal	0.1	Bangladesh	15.2
Norway	0.2	South Africa	18.9
Ireland	0.2	Ethiopia	27
United Kingdom	0.2	Chad	34.1
Australia	0.5	Tanzania	40.7
China	0.7	Rwanda	51.5
Brazil	3.4	Mozambique	62.2
Philippines	8.3	Central African Republic	77.7

Relative poverty and its measurement

- **Relative poverty** is a concept that **compares** the income of individuals or households in a society **with median incomes**. The median income is that income that lies in the middle of all income levels.
  - **The idea behind**: poverty is much more than being unable to afford a minimum of basic goods/services. Even though people may be able to buy basic necessities, they are still poor if they cannot afford goods and services and a lifestyle that are typical in a society.

- **Measurement of relative poverty** involves specifying a particular percentage of median income below (usually 50%) which there is poverty.

Country	% of population living below 50% of median income (2017 or latest available)	Country	% of population living below 50% of median income (2017 or latest available)
Iceland	5.4	Germany	10.4
Denmark	5.5	United Kingdom	11.1
Netherlands	8.3	Australia	12.1
Norway	8.4	Canada	12.4
Belgium	9.7	Greece	14.4
Ireland	9.8	Latvia	16.9
Hungary	10.1	United States	17.8

Relative poverty among social groups

- In general, older people, children, single-parent households, women, and racial and ethnic groups that suffer discrimination, face higher poverty rates than national average.

	Under 18 years % in poverty	18–64 years % in poverty	65 years and over % in poverty
Black	28.8	18.3	19.3
Hispanic	24.7	15.0	17.0
Asian	11.1	9.5	10.8
White	10.5	8.6	7.0

Table 12.4: United States poverty rates by race and age, 2017[14]

Measurement of poverty

- **Single indicators** of measuring poverty
    1. International poverty line
    2. National poverty line
    3. Minimum income standards (MIS)

- **Composite indicators** - are measures of complex phenomena that cannot easily be described by a single indicator.
    1. Multidimensional Poverty Index (MPI)
    2. Multidimensional Poverty Index of The World Bank

Measuring poverty - 1. Minimum income standards

- **Minimum income standards (MIS)** : a method to measure poverty consisting of ongoing research on what people in a population believe are the essentials for a **minimum acceptable standard of living** that allows people to participate in society.
- It is used to create a **basket of goods** needed to achieve this minimum standard of living.
- Based on this information it calculates the **minimum income** that is required for different family types (No. of people, ages, geographical areas, etc.) to be able to buy the essentials in the basket.
- **MIS reveals important information about:**
  - The number of people living below the minimum income required to buy the essentials
  - The relative contribution of each item in the basket to households' ability to achieve MIS
  - How these change over time.

Measuring poverty - 1. Minimum income standards

MIS can help the government as a **guide to making policies** to deal with poverty.

- To calculate the living wage (minimum wage)
- To act as a quantitative benchmark for non-governmental organizations and charities to determine a point of reference for helping people in need.
- To calculate the costs of bearing and raising a child. → help the government to determine the level of social security and transfer payments such as child allowances.

Measuring poverty -
2. Multidimensional Poverty Index (MPI)

Multidimensional Poverty Index (MPI) – 2010

- It measures poverty in three dimensions: health, education and living standards. Each of these dimensions is intended to reflect depravations.

• Health is measured by • child mortality • nutrition • Education is measured by • years of schooling • school attendance	• Living standards are measured by • cooking fuel • sanitation • drinking water • electricity • housing • assets

- Each country receives and MPI value from 0 to 1, **the higher the MPI value, the greater the poverty.**
- MPI can be broken down by indicator so that for each country it is possible to determine which indicators make the most important contributions to poverty.

Some data of MPI

Developing region	MPI	Number of poor people (millions)	% of poor in total population*
Eastern Europe and Central Asia	0.009	3.5	2.4%
East Asia and the Pacific	0.025	117.7	5.9%
Latin America and the Caribbean	0.033	30.7	7.7%
Arab States	0.098	65.7	19.2%
South Asia	0.143	545.9	31.3%
Sub-Saharan Africa	0.317	559.4	57.7%
Global MPI Developing regions	0.115	1.33 billion	23.2%

- Nearly one quarter of the population of the 105 countries live in multidimensional poverty.
- Most of the world's MPI poor, 89%, live in south Asia or sub-Saharan Africa.
- There is poverty in developing countries as well as in developed countries.

Measuring poverty -
3. Multidimensional Poverty Index (MPI) of The World Bank

- The World Bank is in the process of developing another MPI.
- It proposes a new MPI to complement and include a monetary indicator (income per capita) as well as some additional indicators.

Income per capita	Electricity
Child school enrolment	Coverage of key health services
Adult school attainment	Malnourishment (child and adult)
Limited-standard drinking water	Incidence of crime
Limited-standard sanitation	Incidence of natural disaster

Difficulties in measuring poverty

1. **Poverty has different meanings and different approaches to measurement.**
   - The distinction between **absolute poverty** and **relative poverty**.
   - Different poverty measures on the basis of income, as well as on the basis of deprivations in a number of different **non-monetary areas**.
   - The whole population of a country does not develop at the same time, and neither do areas or regions within the country.
   - Relative poverty is a highly subjective issue.

Difficulties in measuring poverty

2. Measurement problems

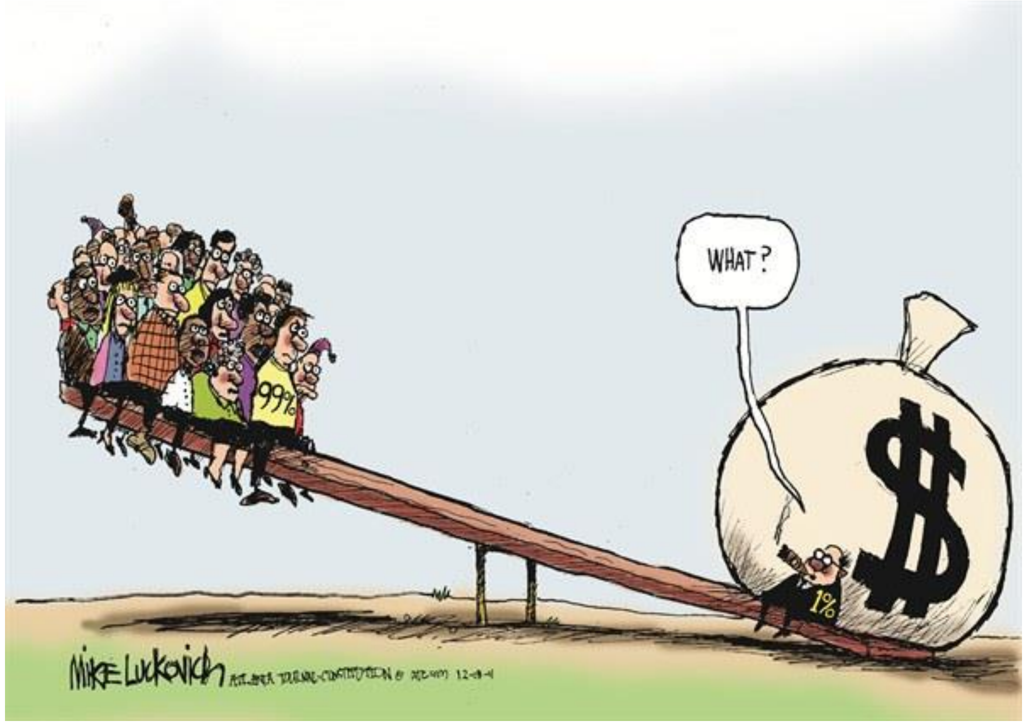
- Poverty is measured on the basis of income of a household. It **do not** take wealth or savings into consideration.
- In some case, poverty is measured by use of **household surveys**, this raises several issues:
  - Different people may have different opinions (subjective) about their economic situation.
  - It do not include homeless people and people in institutions who are much more affected by poverty →underestimates of poverty
  - Freelance work or income from investment → overestimates of poverty
- **Urban areas** usually have a higher cost of living than **rural areas**, so national poverty lines often exclude many poor in urban areas.
- Poverty lines only tell us **how many** people fall below the poverty line, but do not provide information on **how much** people fall below the poverty line.

Difficulties in measuring poverty

3. Overestimation or underestimation of the national poverty line.
    - **Overestimation** – when government want to argue in favour of receiving more foreign aid or multilateral assistance.
    - **Underestimation** - when government are formulating national strategies for poverty reduction, they want to spend less on poverty reduction.

Causes of economic inequality and poverty

1. Inequality of opportunity
2. Different levels of human capital
3. Different levels of resource ownership
4. Discrimination
5. Unequal status and power
6. Government tax and benefits policies
7. Technological change
8. Globalization
9. Market-based supply-side policies
10. High abnormal profits of firms with increasing market power
11. Increases in pay of certain occupations
12. Unemployment
13. Geography
14. Age
15. Poverty



Causes of economic inequality and poverty

1. Inequality of opportunity

- It means that some individuals and societies have less or no access to **employment and consumption opportunities** so are deprived of economic prosperity.
- It is concerned with inequalities in potential outcomes in standards of living that arise from circumstances that **are beyond one's control**.
- The world bank terms it the "**lottery of birth**"
  - Parent's level of education and occupation
  - Parent's level of income
  - Place of birth
  - Gender
  - Race and ethnicity

→This factor contribute for 25% economic inequality in Columbia, 51% in Guatemala, 4% in Norway, 40% in Mali, 31% in U.K and 45% in U.S.

Causes of economic inequality and poverty

2. Different levels of human capital

- **Human capital** refers to the accumulation of skills, knowledge, education and good health possessed by individuals or the workforce of a country.
- There is generally a positive relationship between skill/educational attainment and income levels.
- In general, the lack of sufficient provision of and investment in education, training and healthcare leads to mass poverty in the country.
  - Low levels of education and skills → low income.
  - Poor levels of health → low income

3. Different levels of resource ownership

- Some people inherit, or accumulate through savings from very high incomes, financial capital or other forms of property, which gives them both an income advantage as well as increased wealth.

Causes of economic inequality and poverty

4. Discrimination

- Discrimination can be described as **any form of social exclusions**, that is communities do not accept or respect groups of people based on differences in gender, race, ethnicity, religion, political or ideological views, income level or any other socioeconomic factor.
- Some social groups (racial and ethnic groups, women) often face discrimination in the job market, with the result that they may receive lower wages or may find more difficulty finding work.
- They may live in poor quality environments and have less access to social services.

Causes of economic inequality and poverty

5. Unequal status and power

- **Status** refers to one's social or professional position in a society, it may be due to level of education, or level of income and wealth, or some form of social arrangement.
- The concept of status dictates the resources and economic power, signaling a particular group is "better" or more worthy than others. → **Status is often closely related to power**.
- People in positions of power may sometimes use this to **influence government policies favoring their own interests** and hence protecting their incomes and wealth, rather than policies that favor redistribution.

Causes of economic inequality and poverty

6. Government tax and benefits policies

- People on low incomes must often rely heavily on transfer payments, social services, merit goods provided or subsidized by the government.
- If these are limited or are reduced by the government, people on low incomes may be forced into poverty by having to purchase these in the market.
- The rule of government tax in determining income and wealth distribution.
- The combination of low taxes and low welfare benefits creates poverty and inequalities in the economy.

Causes of economic inequality and poverty

7. Technological change

- The development of new technologies contributed to greater inequality in recent years. It has eliminated some jobs by replacing human labour by machines (automation)
- E.g. jobs in packaging or manufacturing that require a lot of repetitive work.
- On the other hand, new technologies have created demand for new higher-level skills, meaning that wages of such workers rise faster than those of low skill workers.
- The replacement of labour by capital → increase in incomes of owners of capital.

→ Widened income inequality.

Causes of economic inequality and poverty

8. Globalization

- Globalization contributes to the technological advancement, economic integration on a global scale. Increased foreign direct investment means greater demand for skilled rather than unskilled workers, increasing the income differences between the two.
- Developed economies sometimes offshore certain jobs (relocating them to other countries with lower labor costs), resulting in a lower domestic demand for certain skills.
- Multinational companies have been accused of exploiting workers in low-income countries by underpaying them and making them work long hours.
- It has also caused market instability due to the collapse of local businesses that cannot compete with large multinational companies. → greater inequity and poverty in low-income countries.

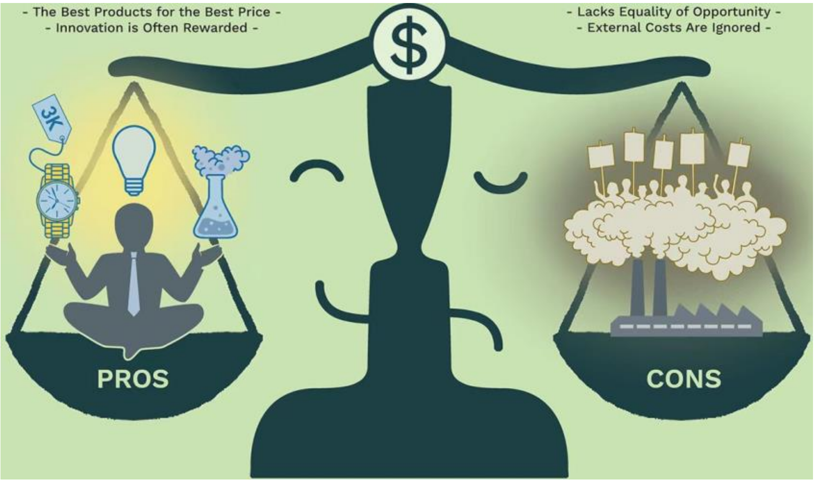
Causes of economic inequality and poverty

9. Market-based supply-side policies

- It may lead to greater unemployment, or lower incomes for lower-skilled workers → increased income inequalities and poverty.
  - Deregulation and privatization
  - Discouraging trade union and reduction of the bargaining power of labour
  - Reduction of the minimum wage
  - Reductions in employment protection

10. High abnormal profits of firms with increasing market power

- Large firms with market power have been able to earn abnormal profits which transfer income and wealth away from consumers and toward the owners of the firms.



Causes of economic inequality and poverty

10. Increases in pay of certain occupations

- Certain occupations, in particular executives and professionals in the financial sector and non-financial executives have been enjoying huge increases in pay.

11. Unemployment

- Unemployment individual don’t receive income but only receive unemployment benefit (generally lower than income), the unemployment benefit are only provided for limited periods.
- If unemployment last long time, an individual or family is more likely to become poor.

Causes of economic inequality and poverty

13. Geography

- Some people may live in remote, isolated geographical regions, with limited possibilities for employment, and little possibilities to relocate to other more economically active regions (due to poverty, age, or lack of communication and lack of marketable skills)

14. Age

- Older people may receive pensions that are barely enough to cover minimum needs, and in many countries may receive no pensions at all if they have been living and working in the informal economy.

15. Poverty

- Poverty itself may become a cause of further poverty.
- Low income → no access to essential services, such as health care, education and housing →low human capital → low incomes (a self perpetuating cycle)

The impact of income and wealth inequality (AO3)

1. Economic growth
2. Low living standards
3. Social and political stability

The impact of income and wealth inequality

1. Economic growth

- Generally, Higher levels of inequality are not good for economic growth, while lower inequality is linked with faster and more sustained growth.
  - Increases in the share of income of the poor and middle class → increase growth
  - Increases share of the top 20% results in lower growth.

Why Higher inequality leads to lower economic growth:

① **The inability of lower income households to invest in human and physical capital**.

- Poor children going to lower-quality schools → more difficult for them to continue to university → lower labor productivity → lower growth

② Higher income inequality → **higher levels of inequality of opportunity in education (transferred from generation to generation)** → children of low-income families are likely to also have low incomes.

③ Higher income groups spend a lower fraction of their income → higher savings of higher income groups often leave the country as **financial investment abroad** → reducing resources available for domestic investment. →lower growth

④ The concentration of income & wealth → **significant political control and the ability of powerful groups to influence government policies for their own benefit** → these policies may go against the interests of the whole population.

The impact of income and wealth inequality
1. Economic growth

- **Why Higher inequality leads to lower economic growth:**

⑤ Significant political control by the rich → less government **provision of essential merit goods** which works against the interests of lower income groups and works against growth.

⑥ An improved income distribution increases the **demand for locally produced goods and services**, thus encouraging local production and promoting local employment and investment. With high income inequalities, these potential benefits are lost.

⑦ Higher income inequality means that the poor are **unable to obtain credit** (they have no collateral as they have no wealth)

- fewer investments for low income groups → lower growth and development.
- Reduced opportunities to pay for education and health care through borrowing → lower human capital and lower growth & development.

⑧ More equal distribution of income → greater political stability

- Highly unequal distributions → **social dissatisfaction, unrest and political instability** → lower growth.

⑨ Greater inequality → **more government spending of transfer payments** → Transfer payments add to the burden of government debt and do not directly add to the national income of the country.

The impact of income and wealth inequality

1. Economic growth

- There are debates of the impact of income and wealth inequality on economic growth.
- **Reasons why greater income inequality may be beneficial for a country:**
  ① High income and wealth inequality bring the possibility of higher income for those who work hard, which can create **incentives for people to work** harder thereby improving labour effort.
  ② A prospect of earning higher incomes can **encourage people to invest in their own education and skills development**, thereby improving labour productivity.
  ③ **Entrepreneurial instincts** are encouraged as a result of the potential to earn higher profits. E.g. firms may increase their investments in R&D and be more innovative.
  ④ Greater incentives and wealth creation can lead to a **higher saving ratio**, which can be used to **fund investment**, which generates an increase in the economy's long-term growth and development.

→ Incentives to work and invest, more spending on human capital and an increase in risk-taking → improved economic performance.

The impact of income and wealth inequality
2. Low living standards

Low income leads to low living standards directly.

- Greater levels of psychological stress, Substance abuse, poor nutrition, Poor levels of health

→All leading to poorer job and income-earning prospects.

Low living standards are also a consequence of the factors below:

- **Lack of access to health care and education**
  - Reduced ability to access health care and education →lower human capital formation, lower productivity and lower incomes → self-perpetuating poverty cycle.
- **Higher infant, child and maternal mortality**
  - The inability to access needed health care services, as well as poor nutrition for mothers and children lead to large numbers of unnecessary deaths among infants, children and women due to pregnancy-related causes.
- **Higher levels of preventable diseases.**
  - Poor hygiene and nutrition make both children and adults more prone to illnesses.
- **Social problems**
  - Higher crime rates, drug use, family breakdowns and homelessness.
- **Inability to realize one's full potential.**
  - Due to all of the above people in very low income groups are unable to realize their full potential, leading to a waste of human talent → personal costs and lower economic growth. (by adversely affecting the economy's PPC or LRAS curve.

The impact of income and wealth inequality
3. Social and political stability

- **The economic inequality leads to political inequality.**
  - Reduced sense of social solidarity and trust in the system, the groups at the top begin to feel entitled.
  - Those high income groups with **political power influence political rules of system and economic policies in their favor**, so that economic inequality becomes even greater.

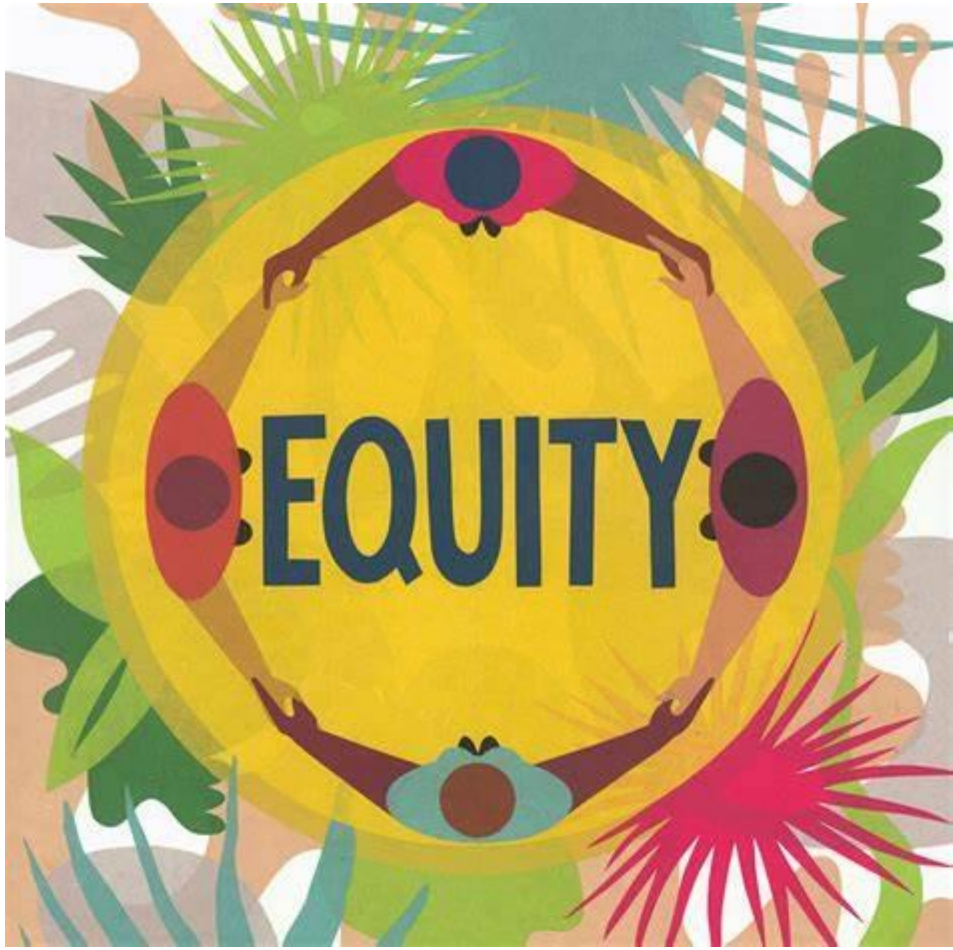
  →vicious circle of greater economic inequality and political inequality.

- Growing inequalities increasingly give rise to the feeling that those low income groups at the bottom are socially inferior, giving rise to a pronounced sense of dissatisfaction → **social instability with possible social conflicts**.
- Government polarize society by serving the interests of their supporters such as lobbyists or big money donors at the expense of the interests of the whole of society. → Divisions between social groups widen → more difficult to reach consensus on important challenges.

Policies to reduce income and wealth inequalities and poverty (AO3)

Policies to reduce income and wealth inequalities and poverty

1. Taxation
   ① Direct taxes
   ② Indirect taxes
2. Investment in human capital
3. Transfer payments
4. Targeted government spending on goods and services
5. Universal basic income
6. Policies to reduce discrimination
7. Government intervention in markets: minimum wages and price controls



Policies to reduce income and wealth inequalities and poverty – 1. Taxation

- Taxation is one of the most important instruments for income and wealth redistribution, because it can lower inequalities by taking more taxes from the rich than from the poor, and is used to finance a broad variety of government expenditures.

1. Direct taxes – a levy imposed on income

① **Personal income taxes**

② **Corporate income taxes**

③ **Wealth taxes**: taxes on the ownership of assets.

- Property taxes
- Inheritance taxes

④ **Social insurance (social security) contributions or payroll taxes**

- Paid by workers and their employers (who pay on behalf of their employees). The revenues from these taxes are paid into specific funds, and are used to finance specific expenditures, such as pensions, social insurance and health care (in some countries)

Policies to reduce income and wealth inequalities and poverty – 1.Taxation

2. Indirect taxes - a levy imposed on expenditure

① General expenditures taxes:

- taxes on spending or sales or goods/services.
  - ➢ Sales taxes in U.S – fixed percentage of the retail price of goods/services.
  - ➢ Value added tax (VAT) in European, China, etc. – tax paid on the value added by each producer in the production process.
- Many countries exempt or exclude certain goods/services from payment of taxes on the grounds of equity.
- There may be different rate for different types of goods/services on the grounds of equity.

② Excise taxes

- Taxes paid on specific goods/services, such as cigarettes and petrol.

③ Customs duties, also known as tariffs.

- A type of tax applied on imports of foreign goods into a country.
- Reasons for levying tariffs:
  - ✓ To keep imports out of the country by making them more expensive to consumers
  - ✓ To raise tax revenues.

Proportional taxation

- As income increases, the fraction of income paid as taxes remains constant
- Constant tax rate

Progressive taxation

- As income increases, the fraction of income paid as taxes increases
- Increasing tax rate

Regressive taxation

- As income increase, the fraction of income paid as taxes decreases
- Decreasing tax rate

	Proportional taxation		Progressive taxation				Regressive taxation	
Income $	Tax rate	Amount of tax $	Tax rate (mildly progressive)	Amount of tax $	Tax rate (Strong progressive)	Amount of tax $	Tax rate	Amount of tax $
10,000	15%	1,500	15%	1,500	15%	1,500	15%	1,500
20,000	15%	3,000	20%	4,000	25%	5,000	10%	2,000
30,000	15%	4,500	25%	7,500	40%	12,000	5%	1,500

- For the proportional and progressive taxation, as income increases, the amount of tax paid become larger. All three satisfied the principle of vertical equity -Those with greater income should pay a larger tax than those with less income.
- By shrinking the difference between the high and low income levels, progressive taxation achieves a more equal income distribution, the more progressive a tax system, the more equal (or less unequal) the after-tax distribution of income becomes.
- The regressive taxation makes income distribution less equal.

Classify of different taxes

Progressive, proportional and regressive taxation do not apply just to income taxes, but to all types of taxes, whether direct or indirect.

- Progressive tax: income tax
- Proportional tax: corporate income taxes, social insurance contributions.
- Regressive tax: indirect taxes

Why indirect taxes are regressive?

Darcy
Annual income:
$20,000

The $2,000 of tax is
10% of Eric's income

Car Price: $20,000
Indirect tax rate: 10%
Tax amount: $2,000

Catherine
Annual income:
$50,000

The $2,000 of tax is
4% of Vivi's income

- As income increases from $20,000 to $50,000, the fraction of income paid on the indirect tax decreases from 10% to 4%. → regressive taxation

→ indirect taxes are inconsistent with the objective of a more equal distribution of income.

- Most countries have a mix of direct and indirect taxes, they vary with regard to the degree of reliance on each of these, as well as on the particular mix of types of taxes within each group.
- Whether the overall tax system of a country is more progressive or regressive depends on the mix of taxes and tax rates, and their relative importance as sources of government revenue.

→ **The more progressive a tax system, the more equal is the after-tax distribution of income compared to the pre-tax distribution of income**. Regressive tax systems tend to make the distribution of income less equal.

Marginal tax rate & Average tax rate

- A **marginal tax rate (MTR)** is the tax rate paid on additional income, or on the last amount of tax paid, expressed as a percentage.
- The change in tax (ΔT) as a result of a change in income (ΔY)

$$\underline{MRT = \Delta T / \Delta Y}$$

  - Compare to proportional taxation, progressive taxation imposes a larger marginal tax rate as incomes rise, which is where the more you earn, the greater the average rate of tax paid as a % of the individual’s total income.

- An **average tax rate (ATR)** is tax paid divided by total income, also expressed as a percentage.

$$\underline{ATR = \text{Total tax/Total income}}$$

Calculation of income taxes

- Income taxes in a progressive tax system are calculated using successive layers of income and applying a different tax rate to each layer.
- The layers of income are called tax brackets, the corresponding tax rates are the marginal tax rates.

1) Calculate the income tax for Sophie with annual income of $65,800

1 Annual income ($)	2 Marginal tax rate (%)
0–10 000	0
10 001–25 000	9
25 001–55 000	22
55 001–115 000	40
115 001 or more	55

Annual Income ($)	Marginal tax rate (%)	Income tax calculation	Income tax amount
from 0 to 10,000	0	=10,000 * 0%	-
10,001 - 25,000	9%	=15,000 * 9%	1,350.00
25,001 - 55,000	22%	=30,000 * 22%	6,600.00
55,001 - 65,800	40%	=10,800 * 40%	4,320.00
		Total income tax	12,270.00

2) Calculate the average tax rate for the income of $65,800.
$12,270/$65,800 = 18.65%

Excise

1) Calculate the income tax for Oscar with annual income of $175,000

1 Annual income ($)	2 Marginal tax rate (%)
0–10 000	0
10 001–25 000	9
25 001–55 000	22
55 001–115 000	40
115 001 or more	55

Annual Income ($)	Marginal tax rate (%)	Income tax calculation	Income tax amount
from 0 to 10,000	0	=10,000 * 0%	-
10,001 - 25,000	9%	=15,000 * 9%	1,350.00
25,001 - 55,000	22%	=30,000 * 22%	6,600.00
55,001 - 115,000	40%	=60,000 * 40%	24,000.00
115,001 to 175,000	55%	=60,000 * 55%	33,000.00
		Total income tax	64,950.00

OR

(0*$10,000)+(0.09*$15,000)+(0.22*$30,000)+(0.4*$60,000)+(0.55*$60,000) = $64,950

2) Calculate the average tax rate for the income of $175,000.

$64,950/$175,000 = 37.11%

Calculation of indirect taxes

$$\text{Indirect tax} = r\,\% \; * \; \frac{S}{1 + r\,\%}$$

- S = the amount available for purchases
- r = the rate of indirect tax

Example:

- A firm paid $47,000 including VAT, in order to purchase a piece of industrial equipment. The rate of VAT for this equipment is 20%.
- Calculate the amount of VAT which was paid on the purchase of this equipment.

Price before tax: 47000/(1+20%) = $ 39,166.67

VAT paid: 39,166.67 * 20% = $ 7,833.33

Calculations involving indirect taxes

A family with an annual income of $60,000 pays income taxes of $15,000.

1. Calculate the disposable income

   $60,000 - $15,000 = $45,000

2. Calculate the average rate of income tax

   15,000/60,000 = 25%

3. Suppose the family spends all of its disposable income. This spending includes an indirect tax that is imposed on purchases of all goods and services of 12.5%. Calculate the indirect tax this family pays.

   Spending excluding indirect tax = Z

   Z * (1+0.125) = 45,000 → Z = 45,000/1.125 = $40,000

   Indirect tax paid = 40,000 * 0.125 = $5,000

4. Calculate the average rate of indirect tax for this family

   5,000/60,000 = 8.33%

5. Calculate the total average rate of tax of this family (including both the direct and indirect tax)

   (5,000+15,000)/60,000 = 33.33% OR

   25% + 8.33% = 33.33%

Evaluating taxes as a policy for redistribution

Arguments against higher taxation

- High taxation have disincentive effects.
  ① Progressive income taxes reduce after-tax income → disincentive to work and to save especially among high income earners who would be taxed more heavily.
    - Disincentive to work → reduce the quantity of labor offered in the market
    - Lower savings → reduce investment → lower production of new capital goods

  ② Corporate taxes reduce after-tax profit → reduce the incentive to invest → lower production of new capital goods
  Higher corporate taxes will result in multinational corporations make increasing use of tax havens as well as other methods to avoid paying taxes.→ reduce tax revenue

  ③ Wealth taxes also have negative effects on efficiency and innovation by reducing incentives to invest in productive capital

  ①②③→lower rates of growth for the economy

Arguments against lower taxation

- tax systems that favour progressive direct taxes would reduce income inequalities and would be good for growth.
- Lower taxes leads to increasing economic inequality.
  - Lower income tax may not lead to more work but more leisure time.
  - Lower corporate tax may have adverse effect of decreasing investment, CEOs and senior executives are increasing their own pay, without using higher profits to increase investment.

    → less investment

    → more inequitable of income distribution.
  - Certain wealth taxes, including taxes on real estate and land are both equitable and efficient.

Exercise:

The family with income of $48,000 spends 85% of its disposable (after tax) income (it saves 15%) of it. Suppose that the family pays a 17% VAT on its spending on all good and services.

a. Calculate the amount of indirect tax paid

   $48,000 *0.85 = $40,800

   Spending before tax * (1+0.17) = 40,800 ➔ Spending before tax = $34,871.79

   VAT tax amount = 34,871.79 * 17% = $5,928.20

b. Calculate the amount of indirect tax paid as a percentage of income.

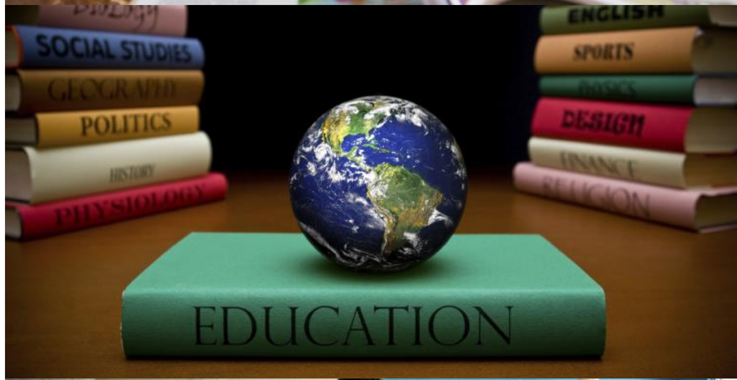
   5,928.20/48,000 = 12.35%

Policies to reduce income and wealth inequalities and poverty – 2. investment in human capital

- Inequality of opportunity is a major factor leading to income and wealth inequality.
  - Lower education attainment
  - Higher infant mortality rate, etc

- **Solution: investment in human capital**
  - ✓Provide access to high quality education
  - ✓Provide access to high quality health care

→To reach people on very low incomes these services should be provided **free of charge** rather than rely on out-of-pocket (private) payments, as such services are beyond the reach of the poor.



Policies to reduce income and wealth inequalities and poverty – 3. Transfer payments

- **Transfer payments** are payments made by the government to individuals specifically for the purpose of redistributing income away from certain groups and towards other groups.
- It transfer income from those who work and pay taxes towards those who need assistance.

Groups of people who receives(vulnerable groups):

- Older people
- Sick people
- Very poor people
- Children of poor families
- Unemployment people, etc.

Transfer payments includes:

- Old age pensions
- Disability pensions
- Unemployment benefits
- War veterans' benefits
- Maternity benefits
- Child allowance
- Housing benefit for the poor
- Student grants, etc.

Policies to reduce income and wealth inequalities and poverty – 3. Transfer payments

- **Advantages:**
  - Transfer payments are broadly used both in developed and developing countries, as a major effective anti-poverty tool.
  - They focus on the extremely important objective of building human capital.
  - Transfer payments play a major role in improving income distribution. In developed countries they contribute an estimated 75% to improved distribution (the 25% being due to the tax system)
- **Disadvantages:**
  - Burden on the government budget and the opportunity costs.
  - Transfer payment may create incentives for people not to work.

Policies to reduce income and wealth inequalities and poverty – 4. targeted government spending on goods/services

- Governments spend to **provide merit goods with positive consumption externalities**. - in the absence of government intervention, these merit goods would be underconsumed.
- Government need to ensure that these are affordable for very low income groups. The government often provide these at zero or low price.
  - Education and health care. Two of the most important merit goods.
  - Infrastructure (e.g. clean water supplies, sanitation and sewerage, etc.)

→Reduce income and wealth inequalities

- **Limitation**： burden on the government budget and entails opportunity costs in terms of foregone alternatives.

Policies to reduce income and wealth inequalities and poverty – 5. Universal basic income

- **Universal basic income** is a method intended to provide residents in a country with a sum of money that they would receive regardless of any other income they may have.
  - **Fundamental principle**: everyone in a society is entitled to a basic income, regardless whether or not they work for it or under what circumstances they have been born into.
  - Purpose: reduce income inequalities and poverty.

Supporter's view

- Effective to reduce poverty
- Simple to carry out
- Better balance between workers and employers by giving workers more freedom to leave jobs they are unhappy with.
- Stabilize the economy during a recession by providing income to the unemployed.

Objector's view

- It's too expensive, since all households including middle-income and high-income ones that do not need it would also receive it. → better to offer basic income only to people whose income falls below a certain amount.
- After the introduction of UBI, the economy would suddenly experience a significant rise in the AD for goods/services, this leads to a rise in the general price level of goods and services (inflation).
- People might lose the incentive to work.
- Opportunity cost of government spending.

Policies to reduce income and wealth inequalities and poverty – 5. Policies to reduce discrimination

- **Anti-discrimination policies, Legislation that forbids discrimination in the society.**
  - Setting a commonly agreed standard for individual and collective behavior towards any form of discrimination.
  - Educating the public about the standards expected within a society
  - Establishing deterrents and consequences for those who violate the standards
- Management training on anti-discrimination practice
- Communication of anti-discrimination policy to employees.

Policies to reduce income and wealth inequalities and poverty – 6. Government intervention in markets

- **Price controls** affect the distribution of income. (lead to allocative inefficiency and a loss of social surplus)
- **Minimum wage legislation**.
  - Raising the wages of low-income (usually unskilled) workers.
  - Standard economic theory predicts this will create unemployment, actual practice indicates that it works to improve income distribution while also usually increasing employment.
- **Food price ceiling**
  - Making food more affordable for low-income groups
- **Rent control**
  - Set maximum rents to support low income people
- **Price floors for farmers**
  - Raise the agriculture product price above the equilibrium market price in order to support farmers' income.

Efficiency and Equity

Society faces trade-off between efficiency and equity.

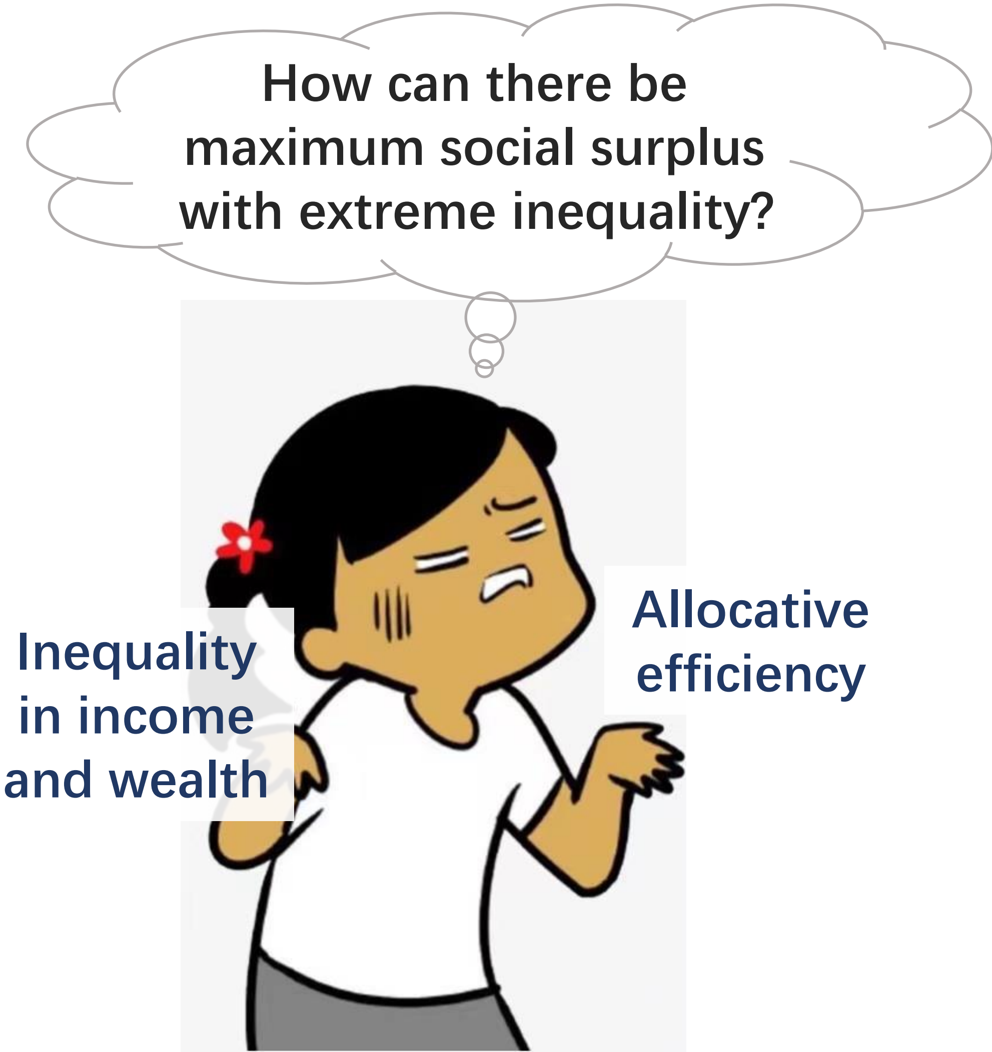
- ✓ Efficiency: society is getting the maximum benefits from its scarce resources. (i.e. economic growth ->maximize the pie)
- ✓ Equity: Equality means that those benefits are distributed uniformly among society's members. (the pie is divided into individual slices)
  - welfare system
  - unemployment insurance
  - individual income tax

reduces the reward for working hard

when the government tries to cut the economic pie into more equal slices, the pie gets smaller.

Inequality in income and wealth in relation to market failure

- Free market economy results in inequalities that are considered to be unfair.
- Market failure is the inability of the market to achieve allocative efficiency of MSB = MSC, when social surplus is maximum.
- Inequality in income and wealth is not a type of market failure.
- We can have inequality in income and wealth and market allocative efficiency **at the same time**.



Inequality in income and wealth in relation to market failure

Reason 1:

- **Maximize social surplus** refers to the *what/how much to produce* and *how to produce* questions of economics → making the best possible use of resources (positive economics)
- **Equality and inequality** refers to the *for whom to produce* question. (normative economics)

Reason 2:

- Demand shows the various quantities of a good that a consumer is **willing and able to buy** at different possible prices.
- People without the ability to buy the product will not show in demand curve. – ignored and forgotten…

Trade-off between efficiency and equity

- **Efficiency in Microeconomics**: Allocative efficiency & Productive efficiency
- **Efficiency in Macroeconomics**: efficiency in the utilization of the economy's factors of production
  - LRAS shift to the left → less efficient use of the resources in an economy
  - LRAS shift to the right → greater efficiency use of the resources in an economy
- **Positive:**
  - Government policies improving allocative efficiency in the case of externalities
  - government spending on socially desirable goods and services (e.g health care services, education, sanitation, clean water supplies)
    - In short run: through the positive impact of government spending on AD
    - In long run: positively impact efficiency in the utilization of the economy's resources. (eg through poverty reduction and human capital formation)
  - Certain kinds of government taxation may increase allocative efficiency (e.g., through the decreased consumption of demerit goods)
  - Government policies to reduce the monopoly power could improve allocative efficiency and equity at the same time.
  - Automatic stabilizers might improve efficiency in the utilization of the economy's resources in the short run (eg through the positive impact on AD during recessions)
- **Negative:**
  - Allocative inefficiency of decreasing social surplus due to government intervention in the market (e.g. taxes, price ceilings, price floor)
  - the disincentive effects of progressive taxation, transfer payments
  - government provision of merit goods may be less efficient than private provision