Macroeconomic Objectives: Income equality

Section 2.3

Learning Objectives

The meaning of equity in the distribution of income

- Explain the difference between equity in the distribution of income and equality in the distribution of income.
- Explain that due to unequal ownership of factors of production, the market system may not result in an equitable distribution of income.

Learning Objectives

Indicators of income equality/inequality

- Analyse data on relative income shares of given percentages of the population, including deciles and quintiles.
- Draw a Lorenz curve and explain its significance.
- Explain how the Gini coefficient is derived and interpreted.

Learning Objectives

Poverty

- Distinguish between absolute poverty and relative poverty.
- Explain possible causes of poverty, including low incomes, unemployment and lack of human capital.
- Explain possible consequences of poverty, including low living standards, and lack of access to health care and education.

Learning Objectives

The role of taxation in promoting equity

- Distinguish between direct and indirect taxes, providing examples of each, and explain that direct taxes may be used as a mechanism to redistribute income.
- Distinguish between progressive, regressive and proportional taxation, providing examples of each.
- Calculate the marginal rate of tax and the average rate of tax from a set of data. (HL ONLY)

Learning Objectives

Other measures to promote equity

- Explain that governments undertake expenditures to provide directly, or to subsidize, a variety of socially desirable goods and services (including health care services, education, and infrastructure that includes sanitation and clean water supplies), thereby making them available to those on low incomes.
- Explain the term transfer payments, and provide examples, including old age pensions, unemployment benefits and child allowances.

Learning Objectives

The relationship between equity and efficiency

- Evaluate government policies to promote equity (taxation, government expenditure and transfer payments) in terms of their potential positive or negative effects on efficiency in the allocation of resources.

Links to ToK

- The notion of fairness can be approached from a number of perspectives—equality of opportunity, maximizing the income of the least well-off group, and absolute equality of income. Which of these notions seems to be most attractive? Why? Examine what each of these perspectives suggests is a fair distribution of income.
- Equality of opportunity implies correcting for social advantage (for example, government might devote more resources to the education of a child brought up in less prosperous circumstances than one brought up in a comfortable home whose parents are university lecturers). How far should the state go in making such corrections? Should all parents be forced to read to their children so that no child should be at a disadvantage? Should the state attempt to correct for the uneven distribution of natural abilities such as IQ (intelligence quotient) by devoting proportionally more resources to children of less than average IQ.

Introduction to Equity of Income Distribution

Section 2.2

- The final macroeconomic objective we will discuss is that of *equity in the distribution of income*.
- As mentioned before one of the possible consequences of economic growth in a free market economy is inequality in the distribution of income.

Equity vs. Equality:

There is a difference between these two terms.

- Equality in income distribution would mean that everyone earns the same amount, regardless of what skills he or she provides to the labor market.
- This was an objective of *socialist economies* based on the *communist system* of economics.
- This, however, is not an objective of a modern, market economy.

Continued...

- Equity refers to *fairness* in the distribution of income.
    - Increased *fairness* can be achieved through macroeconomic policies that,
    - for example, place higher tax rates on higher income earners than on lower income earners,
    - Through fiscal policies that redistribute the nation's income through *transfer payments* and spending on *public goods*.
    - in a way that provides *equal opportunity* for all members of society to earn a decent income, greater equity can be promoted by the government.

Measuring Equality

Measuring Income Equality:

- To measure the income equality of a nation, economists use a model known as the *Lorenz Curve*
- which shows the percentage of total income earned by the different segments of a nation's population

Measuring Equality in Income Distribution

- The Lorenz Curve model plots the percentage of a nation's total income against the percentage of the nation's population
- thereby shows how much each *quintile* (or one fifth) of the population earns of the total income.

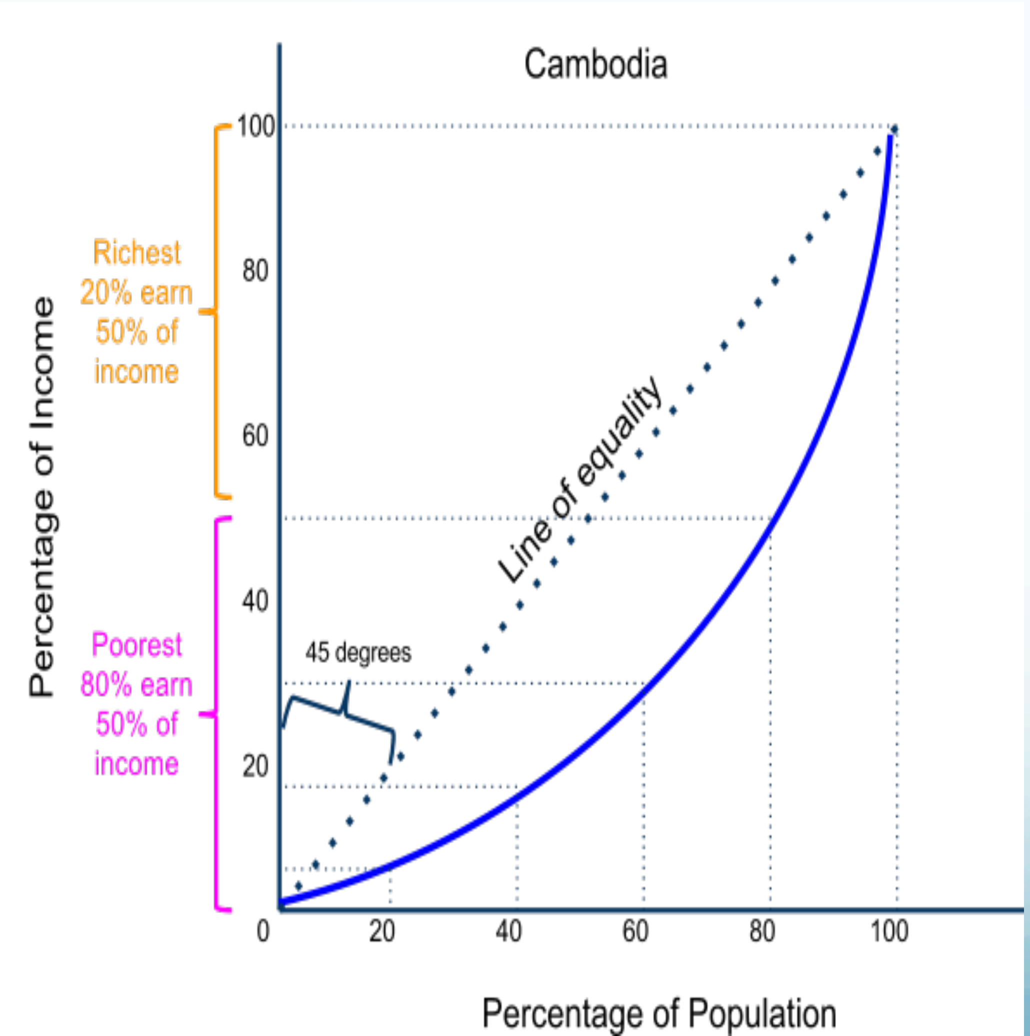
% of Population	Poorest 20%	2nd 20%	3rd 20%	4th 20%	Riches 20%	Gini Index
Cambodia	6.5%	9.7%	12.9%	18.9%	52%	43
Indonesia	7.4%	11%	14.9%	21.3%	45.5%	39.4
Brazil	3%	6.9%	11.8%	19.6%	58.7%	56.7
Vietnam	7.1%	10.8%	15.2%	21.6%	45.4%	37
Turkey	5.4%	10.3%	15.2%	22%	47.1%	41

- The table shows us the percentages of total income earned by each quintile of the populations of several countries.
- From this data we can observe:
  - Brazil is the *least equal country* on the list, because the poorest people earn a smaller proportion of total income relative to the richest compared to any other country.
  - Indonesia and Vietnam are the *most equal countries* on the list. The poorest 20% earn a larger proportion relative to the richest 20% compared to the other countries.
- *The data from the table can be plotted in a Lorenz Curve Diagram*

Illustrating Income Distribution in a Lorenz Curve Model- Example

- Let's take one country from the table on the previous slide, Cambodia
- and plot the data on a graph with the *percentage of the population* on the horizontal axis and *cumulative percentage of total income* on the vertical axis.
- This is our Lorenz Curve model

Example



The blue line is Cambodia's Lorenz Curve:

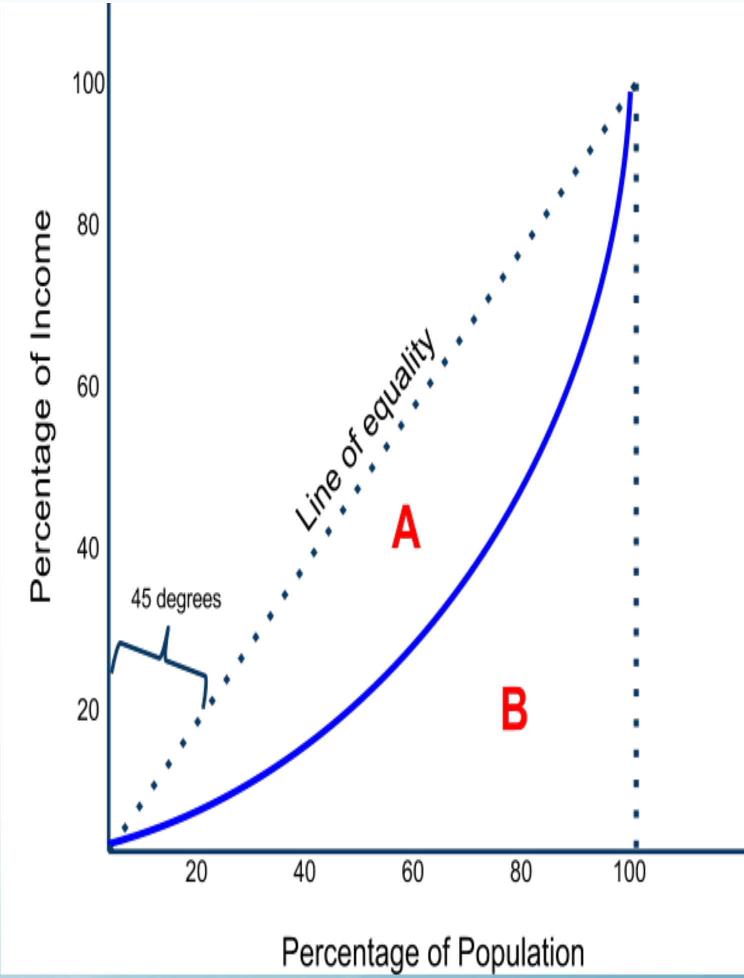
- It shows that the poorest 20% earn just 6.5% of total income, while the riches 20% earn over 50% of income.
- The 'line of equality' is for comparison; a country with a Lorenz Curve along this line would be totally equal, with everyone earning the same amount.
- The further a country's Lorenz Curve is from the line of equality, the more *unequally* income is distributed.
- The closer the Lorenz Curve to the line of equality *the more equally* income is distributed.

The Gini Coefficient as an Indicator of Income Inequality

- Because it would be inefficient to always draw a Lorenz Curve when comparing the levels of income equality across countries,
- economists have devised a numerical indicator of equality, known as the Gini Coefficient.

The Gini Coefficient:

- The ratio of the area below the line of equality and the Lorenz Curve and the entire area below the line of quality.
- Notice that the further away the Lorenz Curve is from the line of equality, the greater A will be relative to B, therefore the higher the Gini Coefficient will be.
- The closer the curve to the line of equality, the smaller A will be relative to B, and the lower the Gini Coefficient will be.
- The closer the coefficient is to ZERO, the *more equal* a country is. The closer it is to ONE, the *less equal* the country is



Comparing Income Distributions using Lorenz Curves

- By comparing the Lorenz Curves and Gini Coefficients of different countries,
- we can draw conclusions about the levels of income inequality.

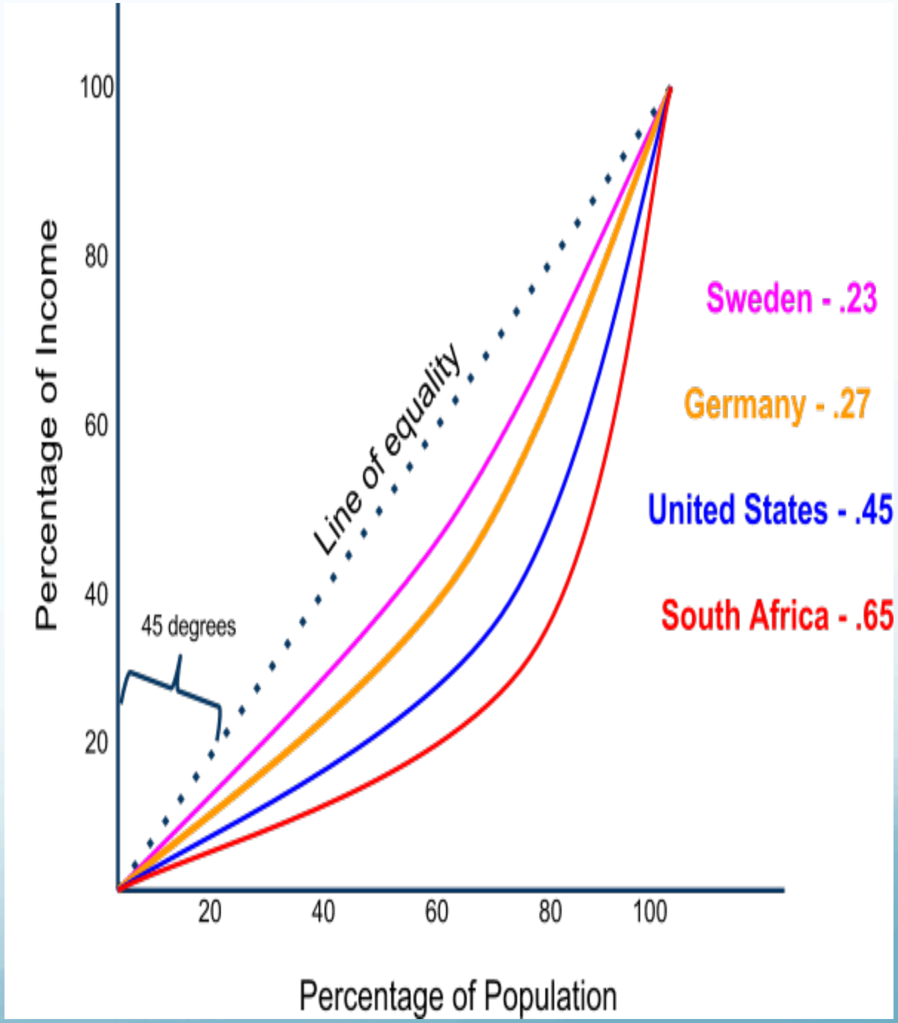
Example

From the Diagram, we can conclude:

- Sweden is the country in which income is distributed *most evenly*.
- South Africa is the country in which income is distributed *least evenly.*

Sources of Income Inequality: Why would one country be more equal than another?

- The primary answer lies in the extent to which the government of Sweden promotes equity in income distribution compared to the government of South Africa.
- *Income inequality is a market failure, that without government intervention will be rampant in a free market economy.*



Test your knowledge

- Answer the following question and post on edmodo (Macro Objectives subgroup)

1. Explain the difference between equity in the distribution of income and equality in the distribution of income.
2. Draw a Lorenz curve and explain its significance.
3. Explain how the Gini coefficient is derived and interpreted.

Relative versus Absolute Poverty

- Without certain government policies to promote equity, a free market economy will ultimately create a society in which there is vast gap between the richest and the poorest households.
- This will likely result in *poverty,* both *relative poverty* and in the poorest countries, *absolute poverty*.

Relative poverty:

- When certain households in a nation earn an income that makes them poor relative to the richer households in a nation.
- Relative poverty exists in even the richest countries, and while individuals may be able to afford the basic necessities of life,
- their standards of living will be significantly lower than the relatively rich within their societies.

Absolute poverty:

- When a household earns an income that is below a level that allows them to buy even the basic necessities of life (nutritious food, shelter, clothing, education and health).
- The World Bank defines the absolute poverty line as $2 per day.
- There are approximately 1 billion individuals in the world living in absolute poverty in 2012, mostly in Sub-Saharan Africa, parts of Central Asia and parts of Latin America.
- Unlike relative poverty, which exists everywhere, there is little or no absolute poverty in the more developed countries in the world.

Test your knowledge

- With your new partner, answer the following questions and post on edmodo (Macro Objectives subgroup)
- Distinguish between absolute poverty and relative poverty.
- Explain possible consequences of poverty, including low living standards, and lack of access to health care and education.

The Role of Government in Promoting Equity

Taxes

- Certain government interventions in the free market can promote equity, or fairness, in a market economy,
- and thus, indirectly, reduce the level of income inequality in a nation.
- Policies include the taxes a government collects and the transfer payments and public goods it provides.

Regressive taxes

- A tax that consist of a larger percentage of poor household's income than a rich household's income.
- Indirect taxes are regressive: A tax on consumption of a particular percentage places a larger burden on a poor consumer than on a rich consumer.
- For example, a 10% tax on a $100 good is $10. To a poor household, $10 is a much bigger deal than to a rich household.
- A government that uses indirect taxes as its primary revenue source will actually *worsen income inequality in society* since they place a smaller burden on the rich than on the poor.

Proportional taxes

- This is a tax that remains constant as a proportion of income as incomes increase.
- A direct tax (on income) may be a *flat tax*,
- for example, all households pay 15% of their income in tax, regardless of the income level.
- Proportional taxes do *nothing* to promote income equality, although they will not *worsen inequality*

Progressive taxes

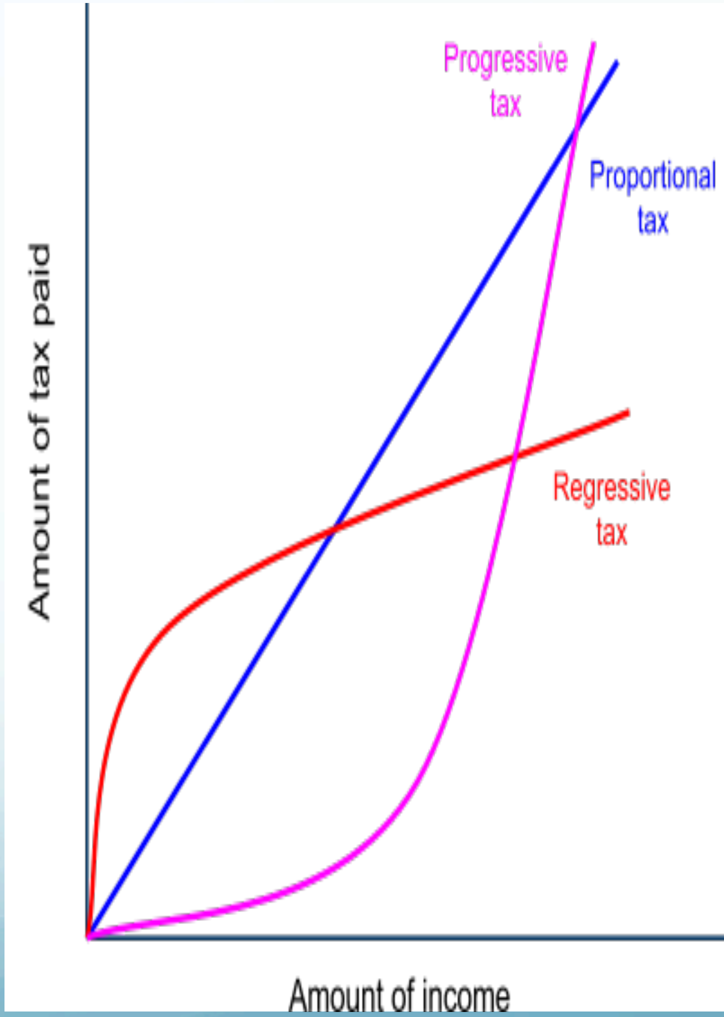
- A tax that *increases as a percentage of total income as income increases*.
- For example, households earning $50,000 may pay only 10% in income tax, while those earning $250,000 may pay 35% in taxes.
- A progressive tax promotes *greater income equality* because those who can *afford to pay the most* do, and those whose incomes are lower and cannot afford to pay as much *pay less,*
- leaving poorer households with more disposable income to enable a higher standard of living.

Taxes

- A progressive income tax is the most proven method for reducing income inequality.
- It is not a coincidence that the *most equal countries in the world (Sweden, Denmark, Norway, France, the Netherlands)* have some of the *most progressive tax systems*.
- The grapg on the next slide shows the amount of tax paid relative to income under the three systems:

The graph- Example

- **Regressive taxes:** Rich pay MORE total tax (since they consume more than the poor), but as a proportion of their income they pay LESS as their incomes rise (since richer households tend to save a larger proportion of their incomes than poor households)
- **Proportional taxes**: Sometimes called 'fair taxes' because everyone pays the same percentage. But under such a system the tax system does not increase equality or provide greater equity through the government
- **Progressive taxes:** Increase exponentially as income increases. Arguments against this say it discourages hard work, because the more income you earn, the more you have to pay in tax. But this system does the most to promote equity and equality in income distribution



Calculating MRT & ART (HL ONLY)

- Marginal rate of taxation: change in tax over change in gross income
- MRT= $\Delta t / \Delta Y_G$
- Average rate of taxation: tax over gross income
- ART= tax / Y_G

Example

- Income bracket 0-8375=10%
- Income bracket 8375-34000=15%
- A worker earns $8000 will pay $800 in taxes. If his income increases to $10000, he/she will not pay taxes 15% on the entire income.
- He will pay only 15% above the remaider of$ 8375
- Do exercise on page 362 of 2.2 textbook

Test your knowledge

- With your new partner, answer the following questions and post on edmodo (Macro Objectives subgroup)
- Distinguish between progressive, regressive and proportional taxation, providing examples of each.