

# 22 ECONOMICS OF INEQUALITY AND POVERTY

## REAL-WORLD ISSUE:

Why does economic activity vary over time and why does this matter? How do governments manage the economy and how effective are their policies?

### By the end of this chapter, you should be able to:

- Distinguish between equity and equality
- Explain the meaning of inequality
- Explain how income inequality may be measured
- Illustrate how the Lorenz curve shows inequality
- Explain the relationship between the Lorenz curve and the Gini index
- HL** Construct a Lorenz curve
- Explain the meaning of poverty
- Explain how poverty is measured
- Explain the Multidimensional Poverty Index
- Describe some of the causes of inequality and poverty
- Discuss the impact of inequality on economic growth, living standards and social stability
- Discuss the role of taxation in reducing poverty, income and wealth inequalities
- Evaluate policies available to a government to reduce poverty, income and wealth inequality.

This chapter is all about equity and economic well being and so these concepts will run throughout.

Key concept



EQUITY

Key concept



ECONOMIC WELLBEING

As we have seen, a goal of governments is an equitable distribution of income. Inequality and poverty are national and global problems. The following article presents several of the key issues surrounding the topic of inequality and poverty. It is useful to have a look at this before developing the theory.

## Richest 1 percent bagged 82 percent of wealth created last year – poorest half of humanity got nothing

Eighty two percent of the wealth generated last year went to the richest one percent of the global population, while the 3.7 billion people who make up the poorer half of the world saw no increase in their wealth, according to a new Oxfam report released today. The report is being launched as political and business elites gather for the World Economic Forum in Davos, Switzerland.

“**Reward Work, Not Wealth**” reveals how the global economy enables a wealthy elite to accumulate vast fortunes while hundreds of millions of people are struggling to survive on poverty pay.

- Billionaire wealth has risen by an annual average of 13 percent since 2010 – six times faster than the wages of ordinary workers, which have risen by a yearly average of just 2 percent. The number of billionaires rose at an unprecedented rate of one every two days between March 2016 and March 2017.
- It takes just four days for a CEO from one of the top five global fashion brands to earn what a Bangladeshi garment worker will earn in her lifetime. In the US, it takes slightly over one working day for a CEO to earn what an ordinary worker makes in a year.
- It would cost \$2.2 billion a year to increase the wages of all 2.5 million Vietnamese garment workers to a living wage. This is about a third of the amount paid out to wealthy shareholders by the top 5 companies in the garment sector in 2016.

Oxfam’s report outlines the key factors driving up rewards for shareholders and corporate bosses at the expense of workers’ pay and conditions. These include the erosion of workers’ rights; the excessive influence of big business over government policy-making; and the relentless corporate drive to minimize costs in order to maximize returns to shareholders.

Winnie Byanyima, Executive Director of Oxfam International said: “The billionaire boom is not a sign of a thriving economy but a symptom of a failing economic system. The people who make our clothes, assemble our phones and grow our food are being exploited to ensure a steady supply of cheap goods, and swell the profits of corporations and billionaire investors.”

Women workers often find themselves at the bottom of the heap. Across the world, women consistently earn less than men and are usually in the lowest paid and

least secure forms of work. By comparison, 9 out of 10 billionaires are men.

“Oxfam has spoken to women across the world whose lives are blighted by inequality. Women in Vietnamese garment factories who work far from home for poverty pay and don’t get to see their children for months at a time. Women working in the US poultry industry who are forced to wear nappies because they are denied toilet breaks,” said Byanyima.

Oxfam is calling for governments to ensure our economies work for everyone and not just the fortunate few:

- Limit returns to shareholders and top executives, and ensure all workers receive a minimum ‘living’ wage that would enable them to have a decent quality of life. For example, in Nigeria, the legal minimum wage would need to be tripled to ensure decent living standards.
- Eliminate the gender pay gap and protect the rights of women workers. At current rates of change, it will take 217 years to close the gap in pay and employment opportunities between women and men.
- Ensure the wealthy pay their fair share of tax through higher taxes and a crackdown on tax avoidance, and increase spending on public services such as healthcare and education. Oxfam estimates a global tax of 1.5 percent on billionaires’ wealth could pay for every child to go to school.

Results of a new global survey commissioned by Oxfam demonstrates a groundswell of support for action on inequality. Of the 70,000 people surveyed in 10 countries, nearly two-thirds of all respondents think the gap between the rich and the poor needs to be urgently addressed.

“It’s hard to find a political or business leader who doesn’t say they are worried about inequality. It’s even harder to find one who is doing something about it. Many are actively making things worse by slashing taxes and scrapping labor rights,” said Byanyima.

“People are ready for change. They want to see workers paid a living wage; they want corporations and the super-rich to pay more tax; they want women workers to enjoy the same rights as men; they want a limit on the power and the wealth which sits in the hands of so few. They want action.”

*Source: Adapted from OXFAM International Press Release, 22 January 2018.*



Some of the key points raised in the article are:

- throughout the world there is evidence of great inequalities in income and wealth
- poor people throughout the world are working hard, but lack the opportunities to improve their well-being
- inequality is caused by many factors
- inequality can harm everyone, but it is often women who are hardest hit
- it is not right that governments claim to be concerned about inequality, but then implement policies that actually increase it
- there are a number of things that governments can do, and there is widespread support for action to reduce inequality.

We will be considering all of these points as we work through this extremely important topic.

## Are equality and equity the same thing?

In contrast to the concept of equality, where economic outcomes are the same for different people or different social groups, equity does not mean that everyone should be the same or get the same treatment. In recognizing that all people are different, equity is about fairness; it means that despite their differences, everyone should be given the same opportunities to succeed. Where differences exist among people due to factors such as socio-economic background, gender or race, equity is about making sure that all people be treated fairly and be given the resources and opportunities that they need to reach their full, healthy potential.

It would be hard to find someone who did not agree that equity is an important element in any economy. When it comes to the question of equality, however, economists generally agree that some degree of inequality is inevitable, and even necessary, within a market economy. When there is some gap between the rich and the poor in an economy, it gives people the incentive to work harder, and to gain a better education. It also encourages entrepreneurship, since those who innovate and do well can enjoy the financial benefits of their risk-taking. All of these are important for individuals seeking to improve their own well-being, but they are also very important for overall improvements to the productivity and output of the economy as a whole.

However, it is argued that there are a great many reasons to be concerned about growing levels of income and wealth inequalities in the world. According to findings from the World Inequality Database (WID), income inequality has increased in nearly all regions of the world in recent decades. What is important to note, however, is that this has occurred at different rates. Income inequality has grown rapidly in North America, China, India and Russia, but has grown “only” moderately in Europe. In the Middle East, sub-Saharan Africa and



Brazil, income inequality has remained fairly stable, but at high levels. Given the fact that inequality levels are very different, even for countries sharing similar levels of development, it is clear that inequality is not determined by the level of national income. It is, instead, the result of national policies and institutions that do not cater for economic growth that is “fair” or “inclusive”. Because of the failings of these policies and institutions, the economic growth does not generate higher income and better opportunities for everyone.

Inequalities in income and wealth are considered to be “*inequalities in outcomes*”. The amount of income that a person earns, or the amount of wealth that they have accumulated may be the outcome of hard work, or sensible life choices and might then be seen as the reward that people deserve for their efforts and initiative. However, it is often the case that a person simply cannot earn as much, or afford to buy any assets simply because they do not have the same opportunities. This is referred to as “*inequality of opportunity*”. High levels of inequality of opportunity mean a person’s education, the types of health care they can access, the jobs they can get and ultimately the amount of income they can earn, are not based on their achievements, but are based on their circumstances at birth. These circumstances include their gender, their ethnicity, the place where they were born, their parents’ profession and socio-economic background.

Overall, the point is that rising levels of inequality in income, wealth, and opportunity reflect a lack of equity. It is important to gain an understanding of how such inequalities have increased and what governments and other institutions might do to reduce them.

In this chapter we look at the causes, consequences and possible solutions to issues related to inequality and poverty. It is vital to stress that inequalities and poverty are problems in all countries, regardless of the average level of income within the country. As you go through this chapter, you should be examining each of the topics in the context of your own chosen real-world examples.

## How is income inequality measured?

Income inequality in an economy can be measured. The most common representation of inequality comes in the form of a Lorenz curve. This takes data about household income gathered in national surveys and presents them graphically. Consider the following data:

Country	Survey year	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	GNI Index (2002–2007)
Bolivia	2007	2.7	6.5	11.0	18.6	61.2	58.2
Brazil	2007	3.0	6.9	11.8	19.6	58.7	55.0
Croatia	2005	8.8	13.3	17.3	22.7	37.9	29.0
Madagascar	2005	6.2	9.6	13.1	17.7	53.5	47.2

Sources: World Bank Data & UN Human Development Reports 2009

▲ Table 22.1 Income distribution for selected countries



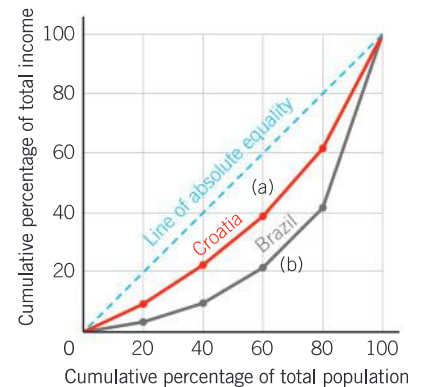
Households are ranked in ascending order of income levels and the share of total income going to groups of households is calculated. For example, if we look at Brazil, we see that the poorest 20% of households receive only 3.0% of total household income while the richest 20% of the households receive 58.7%. This contrasts with Croatia, where the data suggest more equality in distribution, with the poorest 20% receiving 8.8% of total household income, and the richest 20% receiving 37.9%.

The information can be graphed using Lorenz curves shown in Figure 22.1. The  $x$ -axis shows the cumulative percentage of the total population divided up in the quintiles shown in Table 22.1. The  $y$ -axis shows the cumulative percentage of total income earned by the quintiles. The line of absolute equality indicates a perfectly equal distribution of income where, for example, 10% of the population earns 10% of the income, and 90% of the population earns 90% of the income. Each country has its own Lorenz curve based on the income data. The farther away a country's curve is from the line of absolute equality, the more unequal is the distribution of income. In our example, the curve drawn for Brazil is further away than that of Croatia. We can quickly observe from the diagram that income is less equally distributed in Brazil than it is in Croatia.

The Lorenz Curve model is useful for two things in particular. It may be used to compare two or more countries in terms of income distribution, or it may be used to compare the change in income distribution for a single country over time.

An indicator that neatly summarizes the information presented in the table and on the Lorenz curve is the Gini index. The Gini index is derived from the Lorenz curve and is a ratio of the area between the line of equality and a country's Lorenz curve (area (a) in Figure 22.1) to the total area under the line of absolute equality (areas (a) + (b) in Figure 22.1). The higher the Gini index, the more unequal is the distribution of income. Gini index values are given in Table 22.1. Of the four countries, Bolivia has the highest income inequality with a Gini Index score of 58.2, whereas Croatia has the lowest with a score of 29.0.

Although a reduction in income inequality may be an important objective of development, one must be very careful in using Gini index numbers as a basis for evaluating a country's development progress. While low-income countries tend to have higher levels of inequality than high-income countries, there is no hard and fast correlation between the level of development of a country measured by its Human Development Index (HDI) and its Gini index. There are countries with a high level of human development, such as the US (HDI rank 13), that have a relatively high Gini index (41.5) and countries with a low level of human development, such as Mauritania (HDI rank 159), with a much lower Gini value (32.6) (*Statistical Update 2018, Human Development Indices and Indicators*, UNDP).



(a) = area between line of equality and Lorenz curve

(a) + (b) = total area under line of equality

▲ **Figure 22.1** Lorenz curves for Brazil and Croatia

**Global inequality is on the rise – but at vastly different rates across the world**

<https://theconversation.com/global-inequality-is-on-the-rise-but-at-vastly-different-rates-across-the-world-88976>

**Economics in action**

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Table 22.2 provides examples of a range of Gini coefficients for different countries. The data is the latest available within the 2010–2017 time period. It is worth noting the difference between these figures and the figures in Table 22.1, which were for 2002–2007.

Madagascar, Brazil and especially Bolivia, have seen significant falls in their Gini Index values, ie income inequality has fallen. Investigate possible reasons for the fall in any one of the three countries.

**Note**

In the assessment advice box below, you do not have to do any calculations or show the curves accurately, you can simply draw a rough sketch to explain the change.

Table 22.2 provides examples of a range of Gini coefficients for different countries.

Country	Gini coefficient (latest figure available within 2010–2017 period)
Finland	27.1
Norway	27.5
Croatia	30.8
Canada	34.0
Ethiopia	39.1
United States	41.5
China	42.2
Madagascar	42.6
Bolivia	44.6
Brazil	51.3
Eswatini (Kingdom of)	51.5
South Africa	63.4

Source: Statistical Update 2018, Human Development Indices and Indicators, UNDP [http://hdr.undp.org/sites/default/files/2018\\_human\\_development\\_statistical\\_update.pdf](http://hdr.undp.org/sites/default/files/2018_human_development_statistical_update.pdf)

▲ Table 22.2 Gini coefficients for selected countries

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The income Gini coefficient is the most commonly used statistic to measure income inequality. However, there are a great many other ways that inequality is measured. One interesting value to examine is referred to as “top income inequality” which measures the amount of income earned by the richest 1% of the population. This is also useful to assess how income inequality is changing within an economy over time.

Try to find some data to show how the income earned by the richest 1% of the population in a country of your choice has changed in the last decades. What are the implications of this change?

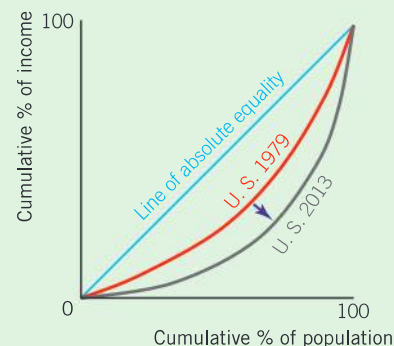
**Assessment advice – SL & HL**

In paper 2, you might be given Gini coefficient data and asked a question such as the following:

The Gini coefficient value for the United States increased from 34.6 in 1979 to 41.0 in 2013. Using a Lorenz curve diagram, explain what has happened to income distribution in the United States.

Model answer:

The Gini coefficient in the United States increased from 34.6 in 1979 to 41 in 2013. This means that the distribution of income has become more unequal. On the Lorenz curve diagram, we can see that the Lorenz curve for the U.S. moves outwards from 1979 to 2013, moving away from the line of absolute equality. This shows the increase in inequality.





## How is a Lorenz Curve constructed?

As we know, statistical data about household income is gathered in national surveys. The households are grouped into five quintiles according to their incomes, as we saw in Table 22.1. The first quintile is the poorest quintile representing the 20% of the population earning the lowest income. The fifth quintile is the richest quintile, representing the 20% of the population earning the highest income. The curve is drawn based on the cumulative income of each of the percentiles.

In HL Paper 2 or, more likely, HL Paper 3, you may be asked to construct a Lorenz curve from income quintile data.

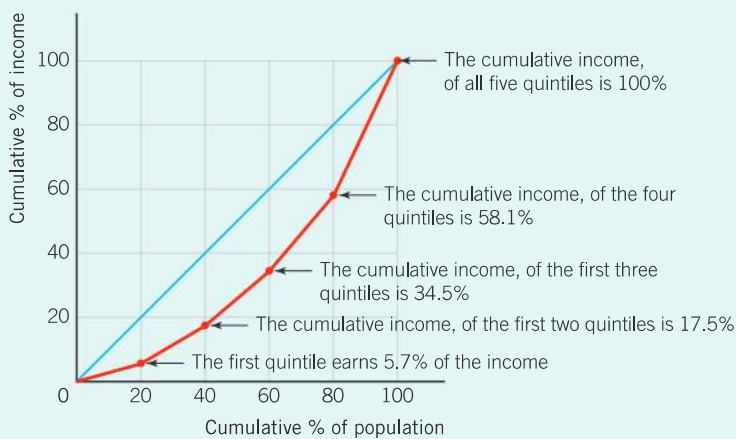
Consider the data in Table 22.3 for Spain, where we see that the poorest 20% of the population earns 5.7% of the income, and the richest 20% earns 41.9% of the income. In the examination, you would be given the first two columns of data and then be asked to construct an accurate Lorenz curve.

In order to do this, you will need to work out the cumulative share of the income, as we have shown in column 3. With this data, you can then draw the Lorenz curve accurately, as shown in Figure 22.3. (Obviously, you would not have to put all the details for each point that we have shown, this is just there to help you understand!)

Quintile	Share of income	Cumulative share of income
1st (poorest)	5.7	5.7
2nd	11.8	17.5 (5.7 + 11.8)
3rd	17	34.5 (5.7 + 11.8 + 17)
4th	23.6	58.1 (5.7 + 11.8 + 17 + 23.6)
5th	41.9	100 (5.7 + 11.8 + 17 + 23.6 + 41.9)

**Source:** Our World in Data, <https://ourworldindata.org/income-inequality>

▲ **Table 22.3** Spanish income statistics, 2014



▲ **Figure 22.2** Constructing a Lorenz curve

For practice, you might like to draw Lorenz curves for Bolivia and Madagascar, using the data to be found in Table 22.1.

### Exercise 22.1

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Household income data, by quintile, for Sweden and South Africa are given in the following table. There is also Gini coefficient data.

	Sweden	South Africa
1st quintile (poorest)	9.0	2.5
2nd quintile	14.1	4.7
3rd quintile	17.7	8
4th quintile	22.9	15.9
5th quintile (richest)	36.3	68.9
Gini coefficient	27.2	63.4

- a) On one graph, plot accurate Lorenz curves for both countries. [4 marks]
- b) Comment on the difference in the distribution of income between the two countries. [2 marks]
- c) Using the values for the Gini coefficients given in the last row, comment on the relationship between the Lorenz curve and the Gini coefficient. [2 marks]

## What about inequality of wealth?

While there is certainly a link between income inequality and wealth inequality, they are not the same thing. Income includes all the money that people earn from wages, salaries, interest from savings and bonds, dividends earned from the ownership of stocks and shares, rent and the money that people gain from selling assets for more than the assets cost (capital gains). For tax purposes, individuals are required to submit information about all sources of income, and so statistical data about incomes and income distribution is fairly easy for governments to acquire.

Wealth may also be referred to as “net worth” and is the value of all of a person’s total assets minus their total liabilities. The assets that make up wealth include houses and property, money in savings accounts, investments in stocks and bonds, and retirement savings. Liabilities include all the debts that a person owes, including things like mortgages, student loans, car loans and credit card debts. The difference between a person’s assets and liabilities is their wealth.

Wealth is substantially more concentrated than income. According to the Credit Suisse Global Wealth Report 2018, globally the bottom 50% of adults owns less than 1% of total wealth, the richest 10% owns 85% of total wealth and the top 1% alone owns almost half of all household wealth.

## How are inequality and poverty linked?

When there is a high level of income inequality, it means that a significant portion of the population is living in some form of poverty, and it is highly likely that this poverty will perpetuate the inequalities that exist.





## What is the meaning of poverty?

Poverty in all its forms is a global problem, and is a clear sign of a lack of equity. In fact, the number one Sustainable Development Goal (SDG1) of the United Nations is to “End poverty in all its forms everywhere”. Within SDG 1 are seven targets to address the different forms of poverty.

Although there are many different types of poverty (eg income poverty, food poverty, energy poverty, child poverty, old age poverty), here we address two particular types: “absolute poverty” and “relative poverty”.

*Absolute poverty* occurs when the income of a person, or household, is not enough for them to meet even their basic needs of shelter, food, safe drinking water, health and education. The World Bank sets what is known as the “International Poverty Line”; if people earn less than this international measure, then they are said to be living in absolute, or extreme poverty. In 2015, the international poverty line was revised upwards from US\$1.25 a day to US\$1.90.

Obviously, when \$1.90 is converted into a local currency at the official exchange rate, it will buy different amounts of goods and services in different countries. To overcome this, and allow for meaningful understanding of what the absolute poverty value really means, the figure is given in what economists refer to as “purchasing power parity” (PPP) exchange rates. These are also known as “international dollars”. When the figure of US\$1.90 is transferred into different currencies at the PPP exchange rate, it means that it will buy approximately the same amount of goods and services in any country.

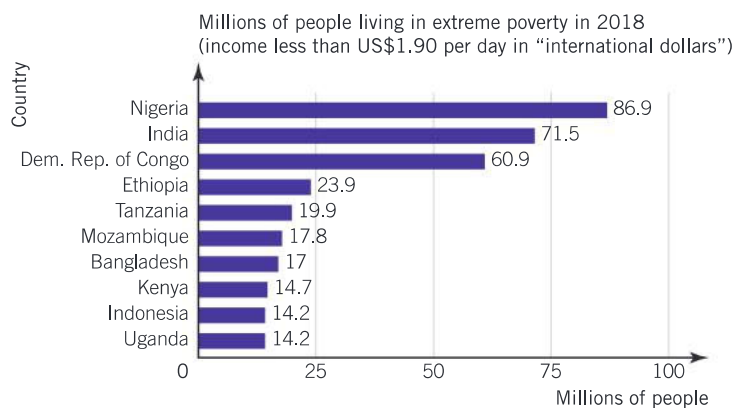
Extreme poverty rates have fallen by more than half since 1990, according to the United Nations. While this is a remarkable achievement, millions and millions of people in developing regions live on less than \$1.90 a day, and are therefore facing extreme deprivations. Furthermore, “millions more make little more than this daily amount and are at risk of slipping back into extreme poverty” (United Nations, SDG tracker, <https://sdg-tracker.org/no-poverty>).

Recognizing the inequity of extreme poverty, the first target of SDG1 (known as SDG1.1) is the elimination of extreme poverty by 2030. As Figure 22.3 indicates, the challenge is enormous.



### What is extreme poverty?

According to the UN’s Guiding Principles on Extreme Poverty and Human Rights, “Persons living in poverty are confronted by the most severe obstacles – physical, economic, cultural and social – to accessing their rights and entitlements. Consequently, they experience many interrelated and mutually reinforcing deprivations – including dangerous work conditions, unsafe housing, lack of nutritious food, unequal access to justice, lack of political power and limited access to health care – that prevent them from realizing their rights and perpetuate their poverty. Persons experiencing extreme poverty live in a vicious cycle of powerlessness, stigmatization, discrimination, exclusion and material deprivation, which all mutually reinforce one another.”



Source: Quartz Africa, <https://qz.com/africa/1313380/nigerias-has-the-highest-rate-of-extreme-poverty-globally/>

◀ **Figure 22.3** Extreme poverty figures for selected countries



### Economics in action

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Investigate the progress made in reaching SDG 1.1.

## What is the difference between absolute poverty and relative poverty?

The value of absolute poverty (currently at USD \$1.90 PPP) may be raised from time to time (by the World Bank) but it is considered to be fixed according to the costs of achieving very basic needs. Relative poverty, on the other hand, is a comparative measure based on the living standards in a particular country. It means that a person is poor relative to the others in the country. One standard measure of relative poverty is that it includes those people who earn less than 50% of the median income. So, for example, if the median income in a country is \$50,000, then a person would be living in relative poverty if their income was less than \$25,000. It would be argued that a level of income below \$25,000 would be inadequate for an acceptable standard of living in that country. Because poverty is defined in relative terms, this is also a measure of income inequality.

Absolute poverty is certainly a much more significant problem in developing countries. However, the global goal related to poverty is not just to eradicate extreme poverty, since people in poverty face enormous challenges and experience unacceptable low standards of living everywhere in the world. Therefore, there is also a target related to *relative* poverty in the Sustainable Goals. The second target of SDG1 (SDG1.2) aims to “reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions”. In other words, it wants to cut in half the number of people living in relative poverty in every country. This SDG 1.2 also recognizes that while lifting people out of absolute poverty is the priority, living even close to this very low level of income involves very low living standards.

## How is poverty measured?

As explained above, absolute poverty is measured by using the World Bank’s international poverty line, currently standing at \$US 1.90 PPP.

Economies set their own “national poverty lines” which reflect relative poverty. As we have already stated, the national poverty line is usually set at an arbitrary percentage of the median income. For example, Australia sets its national poverty line at 50% of median income. According to this value, 13.2% of the population was living in poverty in 2015–2016.

Figure 22.5 indicates the relative poverty for a selection of OECD countries. The OECD uses the 50% of median income as its threshold

### Economics in action

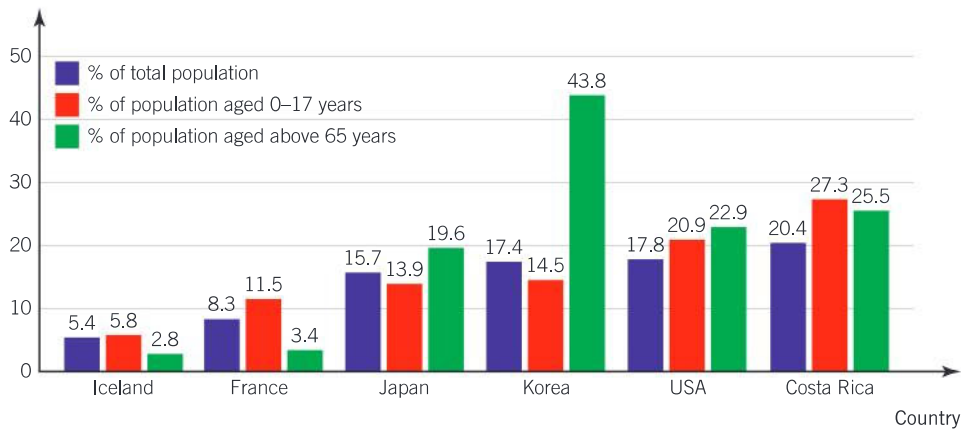
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Examine the nature of poverty in your chosen OECD country.



for relative poverty. Observe that the chart provides the total poverty rate, indicating the percentage of the total population living beneath the poverty line. It also indicates the poverty rate of two separate age groups – the child poverty rate, for people between 0 and 17 years, and the poverty rate for seniors, for people above 65 years. This data about different age groups is important, as it gives a greater picture of the nature of poverty in an economy, and it should help governments implement policies that can target the appropriate people.

Percentage of people living in relative poverty, per age group (selected OECD countries, 2017)



**Source:** OECD Data 2019 <https://data.oecd.org/inequality/poverty-rate.htm#indicator-chart>

**▲ Figure 22.4** Percentage of people living in relative poverty (earning less than 50% of the median income)

An alternative approach to measuring poverty in a country may be to set the poverty line at the minimum amount of income that households need to meet their basic needs for goods and services. This is similar to the World Bank’s international poverty line, but takes into account the need to live beyond mere survival, and to enjoy a certain “basic” standard of living deemed to be acceptable, relative to the standards of living of people across the country. It should be noted that this is, of course, an extremely normative issue – filled with judgements and opinions, and therefore open to some controversy.

We will look at one example of a national poverty line based on a minimum income standard.

Canada uses a “market-based measure” which measures the cost of a basket of goods and services needed to live a “modest, basic standard of living”. The figure is based on a family of four, with two children. Since costs of living vary across the country, the poverty line is different in different provinces to account for the different costs. Table 22.4 gives the monthly cost for the Canadian “basket” in two different provinces in 2015.

### Economics in action

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1. Compare and contrast the levels of poverty among the OECD countries presented in Figure 22.4.
2. What particular concerns might countries face as a result of the poverty experienced by people of different ages? To do this, you need to investigate the problems associated with child poverty and poverty among senior citizens.

	Alberta (CAD\$ per month)	Quebec (CAD\$ per month)
Clothing and footwear	\$134	\$161
Transportation	\$367	\$192
Nutritious food	\$1,036	\$947
Shelter (including electricity, heat, clean water)	\$980	\$604
Other goods and services (personal care items, basic telephone service, reading materials, recreation, entertainment, school supplies)	\$882	\$835
<b>Total</b>	<b>\$3,399</b>	<b>\$2,739</b>

**Source:** “*Opportunity for All: Canada’s First Poverty Reduction Strategy*”, Employment and Social Development Canada.

▲ **Table 22.4** Monthly cost of a basket required to live a “modest, basic standard” in two selected Canadian provinces.

The conclusion from this would be that for households in the province of Alberta, the government sets the poverty line at approximately \$40,780 per year. This is the minimum income that families would have to earn to enjoy a “modest, basic” standard of living. For households in Quebec, where costs are slightly lower, the poverty line is approximately \$32,880. The average poverty line for a four-person household in Canada in 2015 was \$37,542. This figure is adjusted for households of different sizes, such as single-parent households, or households with no children. For a single person, the line is set at around half of the household value. Based on these figures, it was estimated that in 2015, 12.1% of the population lived in poverty in Canada (Source: Adapted from *Canada’s official poverty line: what is it? how could it be better?* by Professor Miles Corak, August 21, 2018 <https://mileskorak.com/2018/08/21/canadas-official-poverty-line-what-is-it-how-could-it-be-better/>).

### What is the Multidimensional Poverty Index (MPI)?

Poverty means that people lack basic necessities and exist in poor conditions. These are referred to as deprivations. People in extreme poverty are deprived of clean water, sanitation, adequate nutrition, primary education and they suffer from poor health. In this way, they are multidimensionally poor. Of course they also lack income, but to simply say that poor people do not have enough income does not reveal what their individual circumstances are. More specifically, it does not reveal what their individual deprivations are.

As stated above, SGD1 aims to “reduce poverty in all its forms everywhere”. In recognizing that people experience poverty in many different forms, the United Nations has developed the Multidimensional Poverty Index (MPI). This is known as a “composite indicator” because it attempts to measure the many specific dimensions of poverty, rather than simply looking at income as a single indicator.

People have basic needs in three key dimensions: health, education and standards of living. Each of these three dimensions has equal weight in measuring the extent of poverty. For each of the dimensions, the



Multidimensional Poverty Index identifies specific ways to measure the dimension. These are known as the indicators. It then notes what it means to be poor or deprived in each of the indicators. For example, in the dimension of health, nutrition and child mortality are the two indicators. For the indicator of child mortality, the MPI considers the person to be poor if any child in the family has died in the five-year period prior to the time of the survey. The full tool is shown in Table 22.5.

Dimensions of poverty	Indicator	Deprived if living in the household where...	Weight
Health	Nutrition	An adult under 70 years of age or a child is undernourished.	1/6
	Child mortality	Any child has died in the family in the five-year period preceding the survey.	1/6
Education	Years of schooling	No household member aged 10 years or older has completed six years of schooling.	1/6
	School attendance	Any school-aged child is not attending school up to the age at which he/she would complete class 8	1/6
Standard of living	Cooking Fuel	The household cooks with dung, wood, charcoal or coal.	1/18
	Sanitation	The household does not have access to improved (according to SDG guidelines) or it is improved but shared with other household.	1/18
	Drinking Water	The household does not have access to improved drinking water (according to SDG guidelines) or safe drinking water is at least a 30-minute walk from home, round trip.	1/18
	Electricity	The household has no electricity.	1/18
	Housing	Housing materials for at least one of roof, walls and floor are inadequate: the floor is of natural materials and/or the roof and/or walls are of natural or rudimentary materials.	1/18
	Assets	The household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike or refrigerator, and does not own a car or truck.	1/18

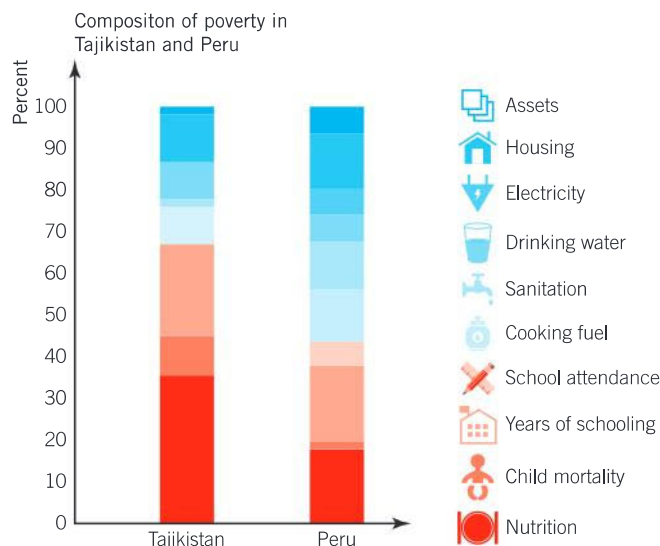
**Source:** United Nations Development Program, 2019, <http://hdr.undp.org/en/2018-MPI>

▲ **Table 22.5** 2018 MPI: dimensions, indicators, deprivation cutoffs and weights.

A person is considered to be multidimensionally poor if they experience deprivation in at least one-third of these weighted indicators. (Don't worry – the calculations are well beyond the requirements of this course, but it is useful to see how this is done!)

The UNDP 2018 Statistical Update presents estimates for 105 developing countries with a combined population of 5.7 billion (77% of the world total). It states that about 1.3 billion people in the countries covered – 23.3% of their entire population – lived in multidimensional poverty between 2006 and 2016–17. The UNDP Human Development Report of 2018 presents the specific data for all 105 developing countries, with important summaries and comparisons.

Understanding the particular nature of poverty in a particular country is valuable as it makes it possible to implement policies targeted specifically at the deprivations in that country. For example, Tajikistan and Peru have similar levels of multidimensional poverty, but they differ notably in the composition of their poverty. This is shown in Figure 22.5.



Source: <https://ophi.org.uk/wp-content/uploads/info4b-1.jpg>

▲ **Figure 22.5** Composition of poverty in Tajikistan and Peru.

In Peru, years of schooling contributes 18% to the MPI value, whereas in Tajikistan, it is only 1%. In Tajikistan, nutrition contributes approximately 35% to the MPI value, whereas in Peru it is around 18%. Clearly, the two countries would need to implement different strategies to tackle their own causes of poverty. This is evidence that a “one-size-fits-all” approach to poverty reduction is inappropriate.

### What are the difficulties in measuring poverty?

While it is extremely important to have a good idea of the nature and extent of poverty in an economy to be able to design and implement policies to alleviate it, there are a number of problems associated with its measurement:

- As we have noted, there are many different types of poverty including absolute poverty, relative poverty, extreme poverty, acute poverty, income poverty and multidimensional poverty. Each type of poverty has its own definition, but these may vary from country to country. Poverty can be difficult to measure because it is difficult to define.
- There are some elements of poverty which are difficult or impossible to measure – for example, people living in poverty suffer feelings of uncertainty, vulnerability, fear (eg of where the next meal is going to come from or if you can afford new shoes for your child, or how you are going to make it to the next pay day without income for food). These are all valid dimensions of poverty but they are all hard to measure; simple income measures of poverty may not capture this.

#### Economics in action

ATL Thinking, Communication and Research

Using any of the measures of inequality and poverty presented in this chapter, along with any others that you come across, discuss the nature of inequality and poverty in a developing country of your choice. The most recent United Nations Development Program (UNDP) Human Development Report will be a good place to start.



- Measures of poverty are most often based on household surveys. While surveying techniques have undoubtedly improved over the years, such surveying requires an enormous amount of resources. Results of such surveys may be of poor quality in countries where resources are stretched.
- Because governments are judged on their ability to support people in poverty, and indeed to help people lift themselves out of poverty, it is in the interest of governments to adjust their national poverty lines to reduce the extent of official poverty in the country. Simply defining the term differently will affect poverty statistics, even when the people concerned are in no better place to meet their basic needs.

## What are some of the causes of inequality and poverty?

The causes of inequality and poverty are complex and interrelated. We examine some of the causes here, but this is by no means an exclusive list. While the causes discussed here are relevant to all countries, the particular problems of developing countries will be treated in Chapter 30.

- **Inequality of opportunities**

Not only are people born into different conditions, but they also face vastly different opportunities as they grow up, get an education, find employment and grow older. The fact is that the opportunities that people face are unequal. A child born into a middle- or high-income family is likely to have educated parents who are in good health; they are likely to have good access to health care, do better in school, go to university and get a job with a decent income. They are more likely to be able to save money, and have enough collateral to be able to borrow money from the bank to buy a house. Their good health and socio-economic situation may allow them to live to an old age, with a good pension. This is not to say that life will be without challenges! But their opportunities will allow them to achieve their potential.

On the other hand, a child born into a poor household is faced with far fewer opportunities. The mother's health and nutrition may be poor, and this may result in lower birth weight and health challenges right from the outset. They may grow up without nutritious food and go to school hungry. They may become ill because of their poor nutrition, or they might suffer problems of obesity or diabetes as people on low incomes tend to eat more high-calorie inexpensive food. Their parents may have to work long hours with no holidays and may still not be able to afford a decent standard of living. As teenagers, children living in relative poverty may quit school as early as possible because they see no future in education, and so they leave with a lower level of skills and education. This means that they find it difficult to get a job where they can earn a decent living.

## Key concept



## CHANGE

They will be unable to save, needing to spend all money on meeting basic needs. As they grow older, they will struggle even more to make ends meet. Ultimately, their poor health may result in a lower life expectancy than those who were born with better opportunities. Throughout their life cycle, they may struggle to reach their potential, regardless of their effort and initiative.

The examples given above are clearly simplistic, but they do illustrate a common reality which is that both economic advantages and economic disadvantages tend to reinforce themselves through this life cycle. Sadly, children born into poverty are likely to enjoy very few opportunities to move out of poverty as they grow up. This is known as a poverty trap or poverty cycle. As noted by the OECD, *“The vicious confluence of poor educational opportunities, low skills and limited employment prospects can trap people in situations where they are also far more likely to be exposed to environmental hazards and violence. As a result of this multidimensional inequality, while some individuals, citizens and regions thrive, others fall further behind.”*

One problem here relates to the issue of “social mobility” which is the ability of people or households to move up or down the socio-economic “ladder”. Intragenerational social mobility refers to the ability of an individual to move from one income level to a higher income level within their own lifetime. Intergenerational social mobility refers to the ability of a person to move to a higher level of income than their parents. If a child born into a low-income family where neither parent had been to university was to go to university and get a job where they earn the median income, this would be an example of upward social mobility.

However, in its report *“A Broken Social Elevator? How to Promote Social Mobility”*, the OECD notes rather bleakly that both intergenerational and intragenerational social mobility is on the decline among OECD countries. Children with a disadvantaged background face too many challenges and have too few opportunities to move up the ladder, and those at the top of the ladder have the tools to pass on their advantages to their children, therefore reinforcing income and wealth inequalities. Empirical evidence suggests that in more unequal societies, characterized by both unequal incomes and unequal opportunities, people are less likely to be socially mobile and move up or down from their level on the income scale, especially if they are in the top or bottom 5% of earners.

The situation is even harsher in developing countries where children living in relative poverty face even fewer opportunities and greater challenges in terms of health and education. Those living in absolute poverty, especially in the Least Developed Countries have virtually no opportunities to improve their standards of living.

## Economics in action

ATL Thinking, Communication  
and Research

Find two countries that differ in terms of their social mobility. Identify possible reasons for this difference. Later, when looking at how governments can improve the opportunities available to people on lower incomes, the evidence you find here should be very useful.





- **Discrimination**

Inequality may be the result of unfair treatment, or discrimination, against certain people due to any number of factors, including their gender, race, ethnicity, age, religion, sexual orientation or socio-economic status. Discrimination manifests itself both in the opportunities that people face, and in the outcomes that they obtain. For example, as we saw above, lower-income children are discriminated against as they do not receive the same educational opportunities as higher income children, and as a result, they are unable to secure the higher-paying jobs as they move into the labour market.

Wage discrimination is a particular type of discrimination that contributes directly to inequality. Wage discrimination occurs when workers in similar positions receive different wages on the basis of their gender, race, ethnicity, age, sexual orientation or any other characteristics that are not related to their skills or productivity.

**Gender Discrimination  
is at the Heart of the  
Wage Gap**

<https://time.com/105292/gender-wage-gap/>

### Did you know?

According to the 2016 “Gender Pay Inequality Report” from the Joint Economic Committee in the United States:

- “A woman working full time, year-round, earns \$10,800 less per year than a man, based on median annual earnings. This disparity can add up to nearly half a million dollars over a career.
- On a percentage basis, a woman earns only 79% of what a man earns. This is known as the gender earnings ratio.
- Lower career earnings result in an even greater disparity in retirement income. Women 75 years and older are almost twice as likely to live in poverty as men.
- Women of colour face even larger gender pay gaps. Compared to white men, African-American women, on average, are paid only 60% and Latinas are paid only 55%.

- *Women’s increased participation in the paid labour force has been a major driver of economic growth in recent decades. According to the Council of Economic advisers, the US economy is \$2.0 trillion bigger today than it would have been if women had not increased their participation and hours since 1970.*
- *Enacting policies that would narrow the gender pay gap and help more women work full time in the paid labour force would decrease income inequality and lift many women out of poverty.”*

[https://www.jec.senate.gov/public/\\_cache/files/0779dc2f-4a4e-4386-b847-9ae919735acc/gender-pay-inequality---us-congress-joint-economic-committee.pdf](https://www.jec.senate.gov/public/_cache/files/0779dc2f-4a4e-4386-b847-9ae919735acc/gender-pay-inequality---us-congress-joint-economic-committee.pdf)

- **Differences in human capital**

Simple economic theory can be used to show that a person’s income may be determined by supply and demand for their particular type of labour. If there is a lower supply of highly-skilled computer engineers than there is for unskilled manual work, the wages of the higher-skilled people will be higher, and so there will be inequality. This may be justified by the fact that the higher-skilled person should be rewarded for the investment in their own human capital.

However, in the last decades, the wages of skilled workers have risen at a higher rate than those of unskilled workers leading to increasing inequality. Furthermore, a reduction in trade-union power in many countries has meant that workers in low-skilled jobs have much less job security and protection from falling real wages.

### Economics in action

ATL Thinking, Communication  
and Research

Explain how discrimination worsens the opportunities and incomes of a particular group of people in a country of your choice. Support your reasoning with data.

### Theory of knowledge

Consider the enormous amounts of money paid to famous athletes or celebrities. How can supply and demand analysis be used to justify their high incomes? Is this equitable?

### Economics in action

ATL Thinking, Communication and Research

How have globalization and technological change affected the nature of jobs and employment in your chosen OECD country?

- **Different levels of ownership of resources, particularly the unequal ownership of capital.**

When people own physical capital, such as companies, they can earn profit. When they own financial capital, such as shares in companies, they can earn a share of the profits through dividends. The higher a person's income, the more physical and financial capital they will own. In contrast, lower income people tend not to own capital and the vast majority of their income comes from wages and salaries. In recent years, average profits and the value of share prices has risen at a much higher rate than average wages and salaries, translating into even higher incomes for those wealthy people with financial assets. As a result, there has been an increased concentration of wealth among the rich.

- **Globalization and technological progress have affected different types of labour differently**

Increased global trade and the freedom of companies to locate their production facilities all around the world means that there is less demand for manufacturing workers in developed countries. Technological progress means that machinery and computerized technologies are able to do the repetitive work that skilled workers used to do, compounding the problem of falling demand for such labour. The result is that wages for manufacturing workers in developed countries have been depressed and there has been increasing structural (technological) unemployment. Yet labour markets still demand the skilled labour of people with higher education in sectors such as the financial, technology and electronic industries, so incomes of professionals in those sectors have risen, resulting in greater inequality.

This is sometimes referred to as the “hollowing out of the middle class”, with a relatively small percentage of people earning high incomes, a notably larger percentage on low incomes, and shrinking numbers of people earning middle incomes.

- **Market-oriented, supply-side policies**

In the 1980s, market-oriented, new-classical supply-side policies became very popular in the UK, under Prime Minister Margaret Thatcher, and in the US, under President Ronald Reagan. There is a strong correlation between the introduction of these policies and rising inequality.

Deregulation in financial markets greatly increased the opportunity for wealthy people to earn more income from their investments. The same deregulation is often blamed for the financial crisis in 2007 that significantly deepened inequalities. It has been argued that the deregulation allowed the financial system to take much greater risks than they would have done under effective supervision.



Labour market reforms to reduce the power of trade unions and make labour markets more flexible mean that workers have less power to use collective bargaining power with employers to protect their wages and working conditions, and this has depressed wages. Labour market reforms have also allowed firms to offer more “non-standard employment”. Standard employment is when a person has a permanent and secure contract to work full-time. Non-standard employment, which includes temporary workers, part-time workers, workers on zero hours contracts and self-employed workers, offers far less security and lower incomes. On a zero-hours contract, an employer does not have to employ a worker for any given number of hours; the workers can be called upon when needed.

While there are benefits of non-standard employment, both to firms and to some workers, the International Labour Organisation (ILO) notes that the rise in non-standard employment poses many risks for workers, firms, labour markets and society. These risks include a lack of job security, lower average earnings, uncertain working hours with negative implications for work-life balance, concerns over health and safety of workers and an inability of non-standard workers to access social security benefits such as unemployment insurance or pensions.

- **Government tax and benefits policies**

While most countries implement tax policies that are “progressive” and take a higher percentage of tax at higher levels of income, the top rate of income tax has fallen in many countries. Corporate profits are generally taxed at a lower rate than income taxes, and so owners of capital benefit. Furthermore, governments tend to tax income from savings, dividends and capital gains at a lower rate than taxes on wages and salaries. People with higher incomes and those with significant wealth benefit from such policies, and this widens inequalities in income and wealth.

There has also been a move towards “austerity” policies in many countries, as governments have reduced spending to try to reduce their public debts. This has involved less spending by governments in all areas, including those areas which are specifically aimed at redistributing income, such as social welfare benefits like unemployment insurance, child benefits and housing allowances. These austerity policies have therefore tended to worsen the incomes and standards of living among lower-income people.

- **Unequal status and power**

Where the ownership of resources and income in an economy are concentrated among a small percentage of the population, those wealthier people may have a disproportionate say in the development of government policies. When people running for public office finance their campaigns with donations from private individuals, they will need to gain support from wealthy citizens

**Households are struggling with declining incomes due to flat wages**

<https://thenewdaily.com.au/money/finance-news/2019/07/30/incomes-falling-hilda-report/>

and companies. When they are elected, those politicians are then more likely to develop policies that are in the interest of the wealthy people and businesses supporting them, such as reduced minimum wages, reduced business regulations and tax cuts for the wealthy, thus worsening the economic well-being of lower income people.

Low-income people are also less likely to become involved in the political process. They may lack the background, the education, the social networks or they may simply lack the time to engage in political activities. As a result, the “voice” of low-income people may not be adequately represented in government policy.

## What are the consequences of inequality and poverty?

- **For economic growth**

The debate about the link between inequality and economic growth has fueled much theoretical and empirical research. On the one hand, large gaps between high- and low-income groups provide the incentives for entrepreneurship and innovation. The attractiveness of high incomes gives lower paid workers the motivation to work harder and improve their education and skills so that they may move into the higher paid jobs. When there is more equality and the gap is smaller, there are fewer incentives. Furthermore, it is argued that high levels of investment are needed for an economy to grow, and that the pools of savings needed for investment will not be as available in a more equal society.

On the other hand, it is also argued that inequality harms economic growth. Where there is high inequality and high levels of poverty, there are increasingly fewer opportunities for lower income members of society, and as we have already seen, this can become a vicious cycle. Children from poorer backgrounds are likely to leave school without appropriate skills and training. This may result in lower productivity levels, which damages economic growth. As noted by the OECD, “If a large swathe of the population is unable to invest in its skills, that’s bad news for the economy.” Furthermore, the social and political instability that is often associated with high levels of poverty can be a deterrent to growth. This underlines a very important point written about by a wide range of economists – that inequality is damaging for everyone, not just the poor.

- **For living standards and social stability**

Logically, wide gaps in income mean that those living below the average level of income are living in some degree of poverty. Poverty may take all kinds of shapes, but the clear result is unacceptably low living standards and economic vulnerability.

People in poverty have to make difficult choices about how to use their very limited incomes – food, fuel, school supplies and

### Key concept



### EFFICIENCY

#### Cornwall fuel poverty laid bare as thousands struggle to heat homes

<https://www.cornwalllive.com/news/cornwall-news/cornwall-fuel-poverty-laid-bare-3037571>



transportation. The Joseph Rowntree Foundation identifies what it means to be poor in the UK: *“Poverty means not being able to heat your home, pay your rent or buy the essentials for your children. It means waking up every day facing insecurity, uncertainty and impossible decisions about money. It means facing marginalization – and even discrimination – because of your financial circumstances. The constant stress it causes can lead to problems that deprive people of the chance to play a full part in society.”*

In unequal societies, neighbourhoods and areas of cities may become identified by their income groups, with “rich” areas and “poor” areas, and this may be self-perpetuating. If government-subsidized housing is concentrated in particular areas, this will result in even greater concentration of people living with low incomes. Low-income areas are less likely to have good schools and attract good teachers, so education prospects suffer. Low-income areas may suffer from poor infrastructure and facilities, so this limits opportunities for its residents.

Social stability is precarious in situations of high inequalities. Where people are living in extremely disadvantaged circumstances, with low living standards, resentment and hostility may be high. Studies have shown that this leads to social tension and increased criminal behaviour. This is particularly the case where young people feel that they have no job prospects and legitimate ways of earning a living. There may be increased gang-related activity. People living in impoverished areas may feel unsafe, and law enforcement may not be able to deal with the dangers. Social instability may result in threats to private property.

When a significant proportion of a population lives in relative poverty and people see a system that they perceive is unfair and not working for them, they are unlikely to support the political system and democratic process. This can give rise to an unstable social and political climate and tension between low-income people and those that govern. This further emphasizes the conclusion that high levels of inequality are harmful for everyone.

### Economics in action

ATL Thinking, Communication and Research

As we have already stated, inequality is not a function of national income. It is the result of national policies and institutions that shape the way in which a nation’s advantages and benefits are shared. Therefore, governments have it within their power to shape institutions and develop policies that reduce inequalities in opportunities, income and wealth. The policies identified in the rest of this chapter are by no means exhaustive, and include just a few country-specific examples. It is expected that you will find your own examples of government action in different countries, so that

### Exercise 22.2

ATL Thinking and Communication

Even back in 1776, Adam Smith, who became known for his support of *laissez faire* economic policies (see Chapter 2), recognized the lack of equity in a society with a large share of people in poverty. Try to translate the following into modern language!

“No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable. It is but equity that they who feed, clothe and lodge the whole body of people should have such a share of the produce of their own labour as to be themselves tolerably well-fed, clothed and lodged”.

Adam Smith, *The Wealth of Nations*

### Economics in action

ATL Thinking, Communication and Research

Work in pairs and choose a city in a developed country of your choice. Make a presentation to demonstrate any consequences of inequality and/or poverty that are evident in the city. Support your presentation with specific data and pictures.



you can make your own suggestions about what works and doesn't work to promote equity.

Areas for inquiry include:

- the role of a country's tax structure in achieving equity
- policies to improve people's opportunities to reach their potential
- the effectiveness of transfer payments in reducing poverty and inequality
- advantages and disadvantages of minimum wages
- Universal Basic Income as a means of reducing poverty and inequality.

## What is the role of taxation in reducing poverty, income and wealth inequality?

Governments at all levels (municipal, state/provincial, national) impose a huge array of different taxes for a range of reasons. Indirect taxes may be imposed to reduce the consumption of goods whose consumption creates negative externalities, they may be used to pursue environmental goals and they may be imposed on imported goods to help domestic producers. Direct taxes may be raised or lowered to change the level of aggregate demand in the economy to achieve macroeconomic goals. Taxes are also levied so that government can finance its expenditures. In this section, we are looking at the way that different taxes and tax systems influence the distribution of income.

Households pay their direct taxes in the form of income taxes. Each year, people must fill in a tax return, noting all the different forms of income they may have received. The amount of tax that they owe depends on this income. Most governments implement a progressive income tax system as the main way of achieving greater equity. A progressive tax means that as income rises, people pay a higher percentage of this income as tax. In a progressive system, a person earning a low income might pay a small percentage of their income to the government, whereas a person earning a very high income would have to pay a larger percentage.

Many countries have property taxes as a form of a tax on wealth. The higher the value of a person's home, or property, the higher the amount of tax would be paid. A few countries have "wealth" taxes, where they charge people a tax based on the value of their financial assets. Despite the fact that relatively few countries impose such taxes, there is much political debate on the issue. In 2014, the French economist Thomas Piketty wrote a lengthy and very popular book called *Capital in the Twenty-First Century* documenting and analysing changes in wealth and income inequality over time. His great concern with rapidly increasing inequality in the last decades led him to call for a coordinated global tax on wealth. This has become a popular demand, particularly from people,



politicians and economists who are greatly concerned about growing inequalities and the global concentration of wealth among a very small percentage of the world's population. A small percentage tax on the wealth of the super-rich in an economy could generate significant funds. This might allow the government to reduce income taxes on middle- and low-income earners or to finance important infrastructure initiatives.

Businesses pay taxes on their profits, known as corporate taxes. Corporate taxes vary from country to country. In some cases, the tax rate is constant, regardless of the level of profits, while in others, they may be progressive so that companies theoretically pay higher rates of taxes on higher levels of profits. In reality, despite the official corporate tax rates, companies can often take advantage of a huge number of "tax breaks" that allow them to pay a much lower "effective" tax rate than the official corporate rate. Some very large multinational companies are often in the media spotlight for the relatively small percentage of taxes they pay as a percentage of their total profits. It is argued that these very large companies are able to take advantage of different tax systems by employing global tax experts to help them minimize their tax commitments. To reduce global inequalities, it is necessary that large multinational corporations pay appropriate taxes on their profits. A statement from the International Monetary Fund acknowledges this problem in its claim that "A new approach to international corporate tax rules is urgent".

## How are progressive taxes calculated?

We can see a simple example of a progressive tax system in Table 22.6.

Tax "Bracket"	"Taxable" income (\$)	Tax rate
1	Up to \$10,000	0
2	Over \$10,000 and up to \$25,000	30%
3	Over \$25,000 and up to \$50,000	40%
4	Over \$50,000	50%

▲ **Table 22.6** Tax rates for different income levels [hypothetical]

Often (but not in all countries), there is a certain amount of income that is not taxed. In these systems, a person earning a low income (in the first tax bracket) would pay no tax at all. However, when the income rises and moves into the second tax bracket, then a certain percentage of the income will have to be paid to the government as income tax. In this case, the "marginal rate" of tax of 30% would have to be paid on all income between \$10,000 and \$25,000. Then if income were to rise further, moving the person into the third bracket, 40% would have to be paid on all income between \$25,000 and \$50,000. If a person's income increased above \$50,000, this would put the additional income into the top tax bracket with a marginal rate of 50%. But note that this 50% would only be paid on incomes over \$50,000.

Let's look at two examples of how this works.

Katja and Marija both live in the hypothetical economy with the tax rates as shown in Table 22.6. Katja earns \$43,000 and Marija earns \$80,000. How much does each of them pay in income tax? The calculations are shown below:

Katja "Taxable" Income \$43,000	Marginal rate	Calculation	Tax paid
Up to \$10,000	0%	$10,000 \times 0$	0
Income between \$10,000 and 25,000	30%	$15,000 \times 0.3$	4,500
Income above \$25,000 (\$18,000)	40%	$18,000 \times 0.4$	7,200
Total income \$43,000			Total tax paid: \$11,700

Marija "Taxable" Income \$80,000	Marginal rate	Calculation	Tax paid
Up to \$10,000	0%	$10,000 \times 0$	0
Income between \$10,000 and 25,000	30%	$15,000 \times 0.3$	4,500
Income between \$25,000 and \$50,000	40%	$25,000 \times 0.4$	10,000
Income above \$50,000 (\$30,000)	50%	$30,000 \times .5$	15,000
Total income: \$80,000			Total tax paid: \$29,500

We can also calculate the average tax rate paid by each of the residents. The average tax is simply: total tax paid/total income  $\times 100$ .

In this case, Katja's average tax rate is  $\frac{11,700}{43,000} \times 100 = 27.21\%$ .

Marija's average tax rate is  $\frac{29,500}{80,000} \times 100 = 36.88\%$ .

It is very important to note that the example used in Table 22.6 represents a vastly simplified tax structure. In reality, most countries have tax structures that are far more complicated. The biggest complication comes in the form of "tax deductions" and how "taxable" income is calculated. Tax deductions allow people to reduce their "taxable" income as a result of spending on certain things. For example, if a person moves from one part of the country to another to take a different job and the cost of the move is \$5,000, they might be able to deduct this amount from their income, and therefore reduce their "taxable" income, reducing the amount of tax they pay. The government might do this to ease the costs of moving and encourage workers to be more willing to change jobs. A common tax deduction in many countries is when people donate money to a recognized charity; they can claim this on their tax form and reduce their taxable income. Tax deductions vary from country to country.





### Assessment advice

In HL P3, you may be asked to calculate total tax, average tax and the amount of indirect tax from a set of data. Here is one example of the type of questions you might be asked. You are given half of the answers as a model.

The following table shows the tax rates for income tax in the country of Opportunia for 2018.

Tax bracket	Disposable Income	Tax rate
1	Up to \$11,000	0%
2	Over \$11,000 and up to \$18,000	25%
3	Over \$18,000 and up to \$31,000	35%
4	Over \$31,000 and up to \$60,000	42%
5	Over \$60,000 and up to \$90,000	48%
6	Over \$90,000 and up to \$1,000,000	50%
7	Over \$1,000,000	55%

In Opportunia, there is also an indirect VAT (Value added tax) on all goods and services purchased of 15%.

Samaya and Wesley both work in Opportunia. Their incomes are given in the table below. Read the information in the table and use it to answer the questions that follow. The calculations for the questions concerning Samaya are given for you in blue, so you should complete the questions for Wesley.

	Annual Income EUR (Given)	Income tax paid EUR	Disposable Income (Yd)	% of Yd spent (Given)	VAT paid	Total tax paid	Average rate of tax
Samaya	45,000	\$12,180	\$32,820	90	\$3,852.78	\$16,032.78	35.63%
Wesley	90,000			60			

- a) Calculate the annual income tax to be paid by Samaya and Wesley.

For Samaya: (Bracket 1)  $11,000 \times 0\% = 0$   
 (Bracket 2)  $7,000 \times 25\% = 1,750$   
 (Bracket 3)  $13,000 \times 35\% = 4,550$   
 (Bracket 4)  $14,000 \times 42\% = 5,880$   
 $= \$12,180$

- b) Calculate the disposable income earned by Samaya and Wesley.

Samaya's disposable income (total income minus income tax) is:  
 $45,000 - 12,180 = \$32,820$

- c) Calculate the GST paid by Samaya and Wesley.

Samaya spends 90% of her disposable income (given).  
 Therefore, Samaya spends:  
 $32,820 \times .90 = \$29,538$

This amount that Samaya spends includes the VAT on the goods and services that she bought. Therefore, we have to work out how much of her spending was the indirect tax.

There are two different methods that you might use to work this out.



**Method one**

Solve the equation:  $X + (\text{Indirect Tax Rate} \times X) = \text{Total spending}$

Where  $X = \text{Original expenditure}$

For Samaya:  $X + 15\%X = 29,538$

$$1.15X = 29,538$$

$$X = 25,685.22 \text{ (rounded to two decimal places, or cents)}$$

If \$25,685.22 is the original expenditure, and the total spending is \$29,538, then the indirect tax is the difference of \$3,852.78.

**Method two**

Use the equation:  $\text{Total expenditure} \times \frac{\text{Indirect Tax Rate}}{(100 + \text{Indirect Tax Rate})}$

For Samaya:  $29,538 \times \frac{15}{115} = \$3,852.78$

d) Calculate the total tax paid by Samaya and Wesley.

For Samaya:  $\text{Total tax paid is } \$12,180 + \$3,852.78 = \$16,032.78$

e) Calculate the average rate of tax (including both direct tax and indirect tax) paid by Samaya and Wesley.

Use the equation:  $\frac{\text{Total tax paid}}{\text{Total income}} \times 100$

Where total tax paid = total direct tax paid + total indirect tax paid

For Samaya:  $\frac{\$16,032.78}{\$45,000} \times 100 = 35.63\%$

f) Is this a progressive tax? With reference to values, explain your answer.

g) Opportunia changes its tax structure, and increases the VAT to 20%. Using a Lorenz curve diagram (with two Lorenz curves), explain how a change like this would affect its Lorenz curve.

## What are “regressive” taxes?

An income tax structure is progressive if it takes a larger percentage of a larger income and a smaller percentage of a smaller income. As noted above, most direct tax structures are progressive.

On the other hand, indirect taxes are *regressive*, in that they take a larger share of income from lower income people than from higher income people. This is not a deliberate policy to harm low income people; it is simply a mathematical fact.

Consider an example of a \$1.00 tax on a litre of diesel, and assume that people end up spending \$50 per month in petrol taxes. For a person earning \$500 per month, this \$50 tax represents 10% of their income. For a person earning \$2,500 per month, this same tax of \$50 only takes 2% of their income. Thus, the indirect tax is regressive because it takes a larger percentage of income from lower income people than from higher income people.

Indirect taxes are an important source of revenue for governments, and they can be used to discourage the consumption of goods that create negative externalities (such as diesel). However, because they are regressive, they worsen income inequality.



Most countries have tax systems that combine elements of different types of taxes, some of which may be progressive and some of which may be regressive. A progressive income tax structure which makes the distribution of income more equal will be offset to some extent by the country's indirect taxes.

### What are the arguments for and against progressive taxation as a means of achieving a more equitable distribution of income?

Since equity is about fairness, it may be argued that it would not be fair to charge all income earners the same rate of tax, since lower income households need to use more of their income to meet their needs, and taxes could substantially reduce their economic well-being. Since those with higher incomes can afford to pay more, it may be argued that it is fair that they should pay more. A progressive income tax narrows the gap between high income and low income people and it is seen as a means of achieving greater equity. A government seeking to achieve a more equal distribution of income could make its tax structure more progressive, by raising the tax rate at higher levels of income or lowering the rate of tax at lower levels of income.

Furthermore, a progressive tax structure gives the government the funds to finance its necessary expenditures and also allows for redistributive policies. This is done through the provision of transfer payments, such as child allowances, maternity and paternity benefits, unemployment insurance and pensions as a means of promoting equity.

Some countries have much more progressive tax structures than others. That is, the average tax and the marginal tax rates are relatively higher. Those countries that have more progressive taxes have a more equal distribution of income; they can also afford much more in terms of social services and social welfare programmes to support living standards of lower income households.

However, there are also arguments against progressive tax structures. As noted in Chapter 18, free market economists who support market-oriented, supply-side policies argue that higher marginal taxes create *disincentives*. According to this view:

- if people feel that their hard work is simply going to result in them having to pay a higher rate of tax, they have less incentive to work harder and improve their economic situation
- higher taxes could discourage entrepreneurial activity and even encourage entrepreneurs to leave the country in favour of more "favourable" tax climates
- taxes on interest, dividends and capital gains, which particularly affect higher income earners, could depress saving and the purchasing of stocks and shares, which would deprive financial markets of necessary funds.

#### Economics in action

ATL Thinking, Communication and Research

A tax is a proportional tax if the proportion of income paid in tax is constant for all income levels. It may be argued that a proportional tax structure is good for an economy as it removes the possible disincentive associated with a progressive tax. If people know that that they will not be taxed at a higher rate if they earn more money, they may have more incentive to work hard.

Can you find any examples of economies which use a proportional tax system? Why do they do this?

Key concept



EFFICIENCY

Despite these arguments, there is little evidence that such possible disincentives would have any notable effect of the economic well-being of the richest within any population. Economies which have very progressive tax structures do not demonstrate weaker economic performance. It may be argued that the benefits of greater equality far outweigh possible costs to those on very high incomes.

## What further policies may be used to reduce poverty and inequalities in income and wealth?

### What are transfer payments?

Governments use tax revenues to redistribute income and provide different types of assistance to groups in the economy to improve their living standards and opportunities. These are known as transfer payments since the assistance represents income that is transferred from some groups in the economy to support other groups. They may also be known as “welfare payments” or “social security payments”.

There are many different types of transfer payments, including child support, maternity and paternity benefits, old age pensions, housing allowances, fuel allowances to help pay for heating and other welfare payments. Some transfers are “universal”; that is, they are given to everyone. For example, child support might be given to all parents for all children that they have. Others transfer payments are “means tested”; that is, they are given only to people whose incomes are below a certain level or they are given based on eligibility requirements. These represent targeted spending aimed at reaching those who clearly need the support and are seen as an important way to reduce poverty and inequality.

### Exercise 22.4

ATL Thinking and Communication

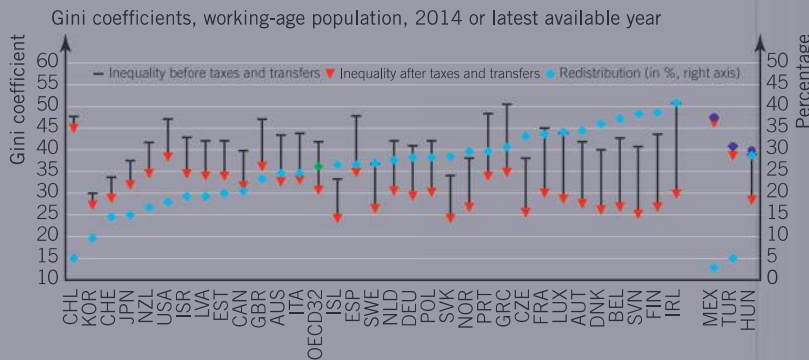
Read the article and answer the questions that follow

## Income redistribution through taxes and transfers across OECD countries

Tax and transfer systems play a crucial role in income redistribution and inequality reduction, but concerns have arisen about their effectiveness under the pressure of globalisation and the emergence of new forms of work. This has prompted vivid debates on introducing a universal basic income and reigniting tax progressivity through the taxation of top incomes and wealth.

Taxes and transfers reduce market income inequality by slightly more than 25% on average across the OECD (Figure 1); but this average masks a great deal of difference ranging from 40% in

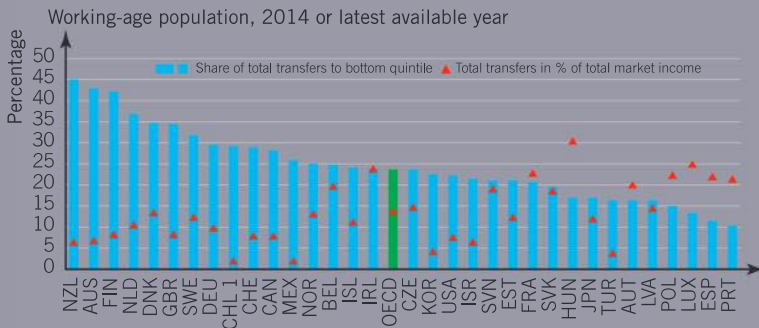
Ireland to around 5% in Chile. The level of redistribution is also highly variable in countries exhibiting similar levels of market income inequality – for example, the Gini index stands at around 38 in both Japan and Norway, but the Gini index for income after taxes and transfers stands at around 27 in Norway compared to 32 points in Japan. Such variations reflect cross-country differences in the size of the public sector, and, indeed, the level of redistribution is strongly associated with the level of public social spending on cash support to the working-age population, as well as to the level of total tax revenues.



**▲ Figure 1** The equalising effect of taxes and transfers varies widely across OECD countries, even for similar levels of inequality before taxes and transfers

At the same time, size is not enough to fully explain income redistribution, for instance because it says little about the extent to which social spending and transfer payments go to the poorest households. For example,

in Greece, Italy, Portugal and Spain, 10% or less of total transfers accrues to bottom quintile households, by contrast with more than 40% in Australia, Finland and New Zealand.



Source: Adapted from “Income redistribution through taxes and transfers across OECD countries”, Vox, CEPR Policy Report, <https://voxeu.org/article/income-redistribution-through-taxes-and-transfers>

**▲ Figure 2** Targeting of cash transfers to low-income households differs across OECD countries

1. By comparing two contrasting countries in Figure 1, explain how the system of “tax and transfer” results in different outcomes in terms of reducing income inequality. Use numbers in your response. You might have to look up the OECD abbreviations for countries to do this. (The text shows an example of this by comparing Japan and Norway. Do not use this same example!)
2. Suggest why the share of social spending and transfer payments that reaches the poorest 20% of the population is lower in some countries.
3. With reference to the information in Figure 2, explain how Spain could reduce income inequality by adopting measures similar to New Zealand.

## What are policies to promote equal opportunities through investment in human capital?

It is not enough to simply say that governments should increase their spending on education and/or health. It is not the quantity of spending that brings about improvements in human capital; it is the nature and quality of that spending. Governments need to design policies that ensure equal opportunities for people at all income levels. This requires targeted government subsidies, transfers and programmes that support lower income households who are currently locked out of many opportunities. Governments in countries, regions and cities with low levels of social mobility can learn from the evidence of successes in other areas to help to develop policies that help to break the cycle of poverty.

As the OECD points out in its report on promoting social mobility, governments need to create opportunities for improved health and education at all age levels, from pre-school to university and to adult education and training and through to retirement. Examples of policies at different levels include:

- Public health insurance (universal health care) to make sure that all households have access to the health care system.
- Programmes to provide pre-natal and post-natal care to low income families.
- Improved access to good-quality child care and preschool programmes to children from disadvantaged backgrounds. This could be done through subsidies to make early education affordable.
- Conditional cash transfers (CCTs). These are payments to families given on the condition that the parent or parents meet certain requirements related to their children's education and health. Such conditions might include immunization or a certain percentage of school attendance. Such programmes are seen to reduce current poverty by providing cash and reduce future poverty by increasing the human capital of children and youths so that they can benefit from more opportunities later.
- School food policies to make sure that children from low-income households can have nutritious meals that help them to learn more effectively.
- Health education in schools and in the media to improve diet and nutrition.
- Recruitment of quality teachers and more educational resources for schools in disadvantaged areas.
- Provision of after-school programmes to teach non-academic skills and provide safe environments.
- Targeted support for low-performing students to prevent school dropouts.
- Apprenticeships for older students to help prepare for the workplace.
- Financial support, counselling and tutoring to help students from lower-income families attend and stay in higher education.



- Training and work experience programmes to increase the employability of adults who lose their jobs.
- Community programmes to provide parenting support.
- More resources targeted towards elder care to help senior citizens struggling on low pensions.

## What are policies to reduce gender and other discrimination?

In terms of basic human rights, all people in an economy should have the same access to private and public services, jobs and opportunities regardless of their gender, disabilities, race, religion, political stance or sexual orientation. It is the government's responsibility to have effective policies in place to prevent any unfair treatment, and thereby work towards decreasing the inequalities which can significantly damage people's standards of living.

Governments and most large companies have "diversity" policies to ensure that they are giving equal and fair treatment to all groups within society. There is much overlap here with the policies addressed above, as the goal is to increase the opportunities available to those who may have been denied certain opportunities as a result of their gender, race, sexual orientation etc.

Policies could include:

- Laws related to salaries and wages to ensure equal pay for work of equal value.
- Positive/affirmative action to encourage businesses and government bodies to have greater diversity in their workplaces and provide more opportunities for those groups of people who have previously been discriminated against.
- Legislation to make it illegal to discriminate against any individuals in, for example, education, an employment position, or in the rental market.
- Diversity quotas (or targets) to ensure that members of groups that have been discriminated against make up at least a certain required percentage of the people working in a particular capacity. For example, in government, there could be a requirement that a certain percentage of women be members of particular committees. This would give groups that had been disadvantaged greater representation in the government and theoretically promote their interests more effectively.
- To promote gender equality, governments might mandate that a certain percentage of company boards of directors be women.
- Requirements for accessibility so that a person cannot be excluded due to disabilities.

### What will increased minimum wages achieve?

By definition, a minimum wage is “the minimum amount of remuneration that an employer can legally pay a worker”. According to the International Labour Organization (ILO), the “purpose of minimum wages is to protect workers against unduly low pay. They help ensure a just and equitable share of the fruits of progress to all and a minimum living wage to all who are employed and in need of such protection. Minimum wages can also be one element of a policy to overcome poverty and reduce inequality.”<sup>1</sup>

**In-work poverty a growing crisis for 14 million struggling to make ends meet**

<https://www.bigissue.com/latest/in-work-poverty-a-growing-crisis-for-14-million-struggling-to-make-ends-meet/>

While having a job is one important way of ensuring a decent standard of living, many countries face the problem of “working poverty” where people have jobs but are still living below their country’s national poverty line. One reason for this may be to do with the fact that in some countries, the national minimum wage is not sufficient to ensure a reasonable standard of living.

It may be argued that it is simply not fair if a person is living in poverty yet working a full-time job earning the minimum wage. Given the significant negative consequences of poverty and inequality, an appropriate solution would be to raise the minimum wage to a level that guarantees an income which will allow for a reasonable standard of living.

There is significant debate on the consequences of raising minimum wages. Table 22.7 briefly presents some of the key arguments and counter arguments for not increasing minimum wages.

Arguments against:	Counter arguments:
A higher minimum wage will hurt the workers it is designed to help because firms will reduce the quantity of labour they demand and so it will lead to an increase in unemployment for those unskilled workers working at the minimum wage.	There is no obvious empirical relationship between a minimum wage and unemployment.
Employers will replace workers with machines if the price of labour increases.	Much of the work done by minimum wage workers cannot be done by machines.
Higher wages mean higher costs of production and so higher prices.	Higher wages motivate people to work harder and so their higher productivity offsets the higher wages.
Businesses that cannot afford the higher wages will go out of business, increasing unemployment.	Higher wages encourage people to stay in their jobs longer, and this reduces the costs of hiring and re-training new workers.

▲ **Table 22.7** Arguments against minimum wage increases and their counter arguments

<sup>1</sup> **Source:** The International Labour Organization: How to define a minimum wage, <https://www.ilo.org/global/topics/wages/minimum-wages/definition/lang--en/index.htm>





There are also a number of additional arguments for increasing the minimum wage rate:

- Higher wages encourage people to join the labour market, and so reduce unemployment.
- Higher wages result in increased consumption by low-wage workers, leading to an increase in aggregate demand and increased employment.
- The minimum wage is generally what is earned by low-skilled workers in occupations such as retail salespeople, fast-food workers, cleaners and people who care for children or the elderly. These are often the people who were deprived of the opportunities to obtain an education that would have given them the skills needed for higher-paid jobs. A higher minimum wage may allow them to escape their poverty trap and provide better opportunities for their own children.
- Many of the jobs done by minimum wage workers are done by women. Increasing the minimum wage can narrow the wage gap between men and women.
- Higher minimum wages reduce inequality.

### What is Universal Basic Income?

Welfare programmes providing transfer payments, such as unemployment benefits, are essential to reduce poverty and ensure that those people who need government support are able to get it. However, many programmes require significant amounts of paperwork, conditions, resources to make sure that recipients are eligible for the benefits and sanctions for those who “cheat” the system.

Issues can arise for a vast variety of reasons. Consider one simple example, of a person receiving some form of jobless payment of \$900 per month. They have the opportunity to take a job, but the pay of \$950 they would receive would still leave them in poverty, and they would clearly lose the unemployment benefit. An option would be to apply for a different type of income support, but this would be time-consuming and difficult, and might leave them unable to afford the basics for some time. This would create a disincentive to take a job, which is not the intention of the benefits system! Problems with such welfare systems can leave poor people trapped in poverty.

One solution would be to give every single person a Universal Basic Income (UBI). Proponents of such a scheme have been around for centuries, and include philosophers, politicians and economists from all side of the spectrum, even free market economists such as Friedrich von Hayek and Milton Friedman.

Universal Basic Income has been nicknamed “free money for everyone”, and the idea has gained popularity across the world in recent years. The observation that technology and automation is going to continue to eliminate certain forms of work and increase inequalities has lead many people to recognise that different solutions need to be found to ensure that people can live in dignity and enjoy reasonable living standards.

#### Did you know?

In 2019, the minimum wage in Spain increased by an impressive 22%. This was the largest increase in 40 years. The monthly salary increased from €736 to €900. Since most workers in Spain are paid 14 times a year, this results in an annual income of €12,600. The legal wage is to be paid to temporary and part-time workers, as well as domestic employees.

Spanish Prime Minister Pedro Sánchez claimed that “a rich country cannot have poor workers”.

The following appeared in the royal decree that announced the increase, “The rise in the minimum wage is a decisive factor for the creation of employment and economic recovery to be translated into a progressive real reduction of poverty and of wage inequality and will serve to improve the general conditions of the economy”.

In a UBI scheme, all citizens would receive a guaranteed amount, each week, or each month, with no conditions or eligibility requirements. The amount given would be enough to keep people above the poverty line and would be the same for everyone, regardless of their income or whether they are working or not working. Table 22.8 briefly presents some of the key arguments and counter arguments for not giving a UBI.

Arguments against UBI	Counter-arguments
Giving people money will make them lazy, and they will stop working, or not look for work	The amount given would be enough to meet basic needs, preventing people from living in poverty. People will still want to improve their economic well being by working to earn more. A UBI gives people opportunities to do many things, all of which can be good for themselves and the wider community/economy. Possibilities include: <ul style="list-style-type: none"> <li>• Returning to school to improve skills to get a good job</li> <li>• Looking after children/older family members</li> <li>• Starting a business</li> </ul>
It is too expensive.	There are several arguments against this: <ul style="list-style-type: none"> <li>• Inequality and poverty are a problem for everyone, not just the poor. It is in the interest of the rich people that poverty and inequality be reduced and so marginal tax rates for the very rich could be increased to help finance a UBI.</li> <li>• In many countries, the benefits of economic growth have gone to the wealthiest few; maybe it is time for redistributive policies, such as higher taxes and wealth taxes on the very rich, to spread the benefits a little more equally.</li> <li>• Removing many of a country's conditional welfare payments and replacing them with an unconditional UBI would free up significant amounts of resources.</li> </ul>
What's the point of giving it to rich people, too?	It needs to be universal and seen as a right for everyone. Any conditions or threshold incomes make it another form of welfare, requiring resources to administer.

▲ **Table 22.8** Arguments against providing UBI and their counter arguments

### Economics in action

ATL Thinking, Communication and Research

Different versions of Universal Basic Income schemes have been used or trialed around the world. Politicians in many countries advocate their implementation. Present your own version of the advantages and disadvantages, supporting your points with evidence.

### EXAMINATION QUESTIONS

#### Paper 1, part (a) questions – HL & SL

1. Distinguish between equity and equality. [10 marks]
2. Explain two ways in which a country might establish its national poverty line. [10 marks]
3. Explain the difference between absolute and relative poverty. [10 marks]
4. Explain two causes of inequality. [10 marks]
5. Explain what would happen to the distribution of income if a country were to decrease the direct tax rates for top income earners, and reduce its indirect tax rate. [10 marks]



### Paper 1, part (a) questions – HL only

1. Analyse the relationship between a country's Gini coefficient and its Lorenz curve. [10 marks]

### Paper 1, part (b) questions – HL only

1. Using real-world examples, evaluate the consequences of a country adopting a more progressive tax structure. [15 marks]
2. Using real-world examples, evaluate the effectiveness of minimum wages in achieving a more equitable distribution of income. [15 marks]
3. Using real-world examples, discuss the extent to which transfer payments can alleviate poverty. [15 marks]
4. Using real-world examples, evaluate the view that a government's fiscal policy can be both a cause of inequality and a means of reducing inequality. [15 marks]

### 4-mark questions (HL P2, SL P2 or HL P3)

1. A country increases its indirect tax rate. Using a Lorenz curve diagram, explain how this may impact the country's distribution of income. (HL and SL) [4 marks]
2. Citizen A in a country earns \$130,000 and pays \$12,000 in taxes. Citizen B earns \$55,000 and pays \$10,000 in taxes. Explain whether the tax structure is progressive or regressive. (HL only) [4 marks]

## Assessment advice: Internal assessment

It is required that one of your commentaries be about macroeconomics. You should be able to see that there are a large number of possible topic areas here. Your investigations into different countries should be useful here as it is possible that you used contemporary articles in gathering your information. Perhaps one of these will be suitable for a commentary. Just remember that the article you choose has to have been written no earlier than one year before you write your commentary.

Having finished macroeconomics, you are likely to be able to bring together many topics that are interwoven. This will give you an opportunity to evaluate. For example, you may find an article about a central bank's efforts to control inflationary pressures through interest rate increases.

Evaluation in such a case may involve an assessment of the likely effects of this on the stakeholders and a consideration of the potential conflict among policy objectives.

When you are choosing your article, bear in mind that there must be a clear link to one of the key concepts in the course. When you write your commentary, be sure that your analysis includes meaningful references to this concept.

Please remember that all three of the articles that you use to write your commentaries must come from different sources. This not only gives you the opportunity to read articles that may come from different perspectives, but ideally, it should allow you to learn about economics in different parts of the world.