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3. Macroeconomics / 3.6 Demand management—fiscal policy

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# Fiscal policy

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Notebook Fiscal policy is the term for when the government intervenes in the market and uses government expenditures and/or taxes to manage the economy.



Glossary Each year, the government creates a budget. The budget outlines how the government will spend the revenue it receives in taxes. Governments do not always need to balance their budget (where government expenditure = tax revenue). A government can choose to run a budget deficit, where a government's expenditure exceeds its revenue. Or, if a government takes in more revenue than it spends, it runs a budget surplus.

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### ✓ Important

A **budget surplus** occurs when a government spends less than it receives in tax in a single financial year. A **budget deficit** is the opposite, and the excess spending has to be borrowed. **Public debt** is the total amount borrowed over the years that has not been repaid.

## Sources of revenue

Governments raise significant government revenue through the tax system.

### Direct and indirect taxation

Taxes can be either direct (levied on income) or indirect (levied on goods and services).

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Direct taxes are collected on income, and can be easy to collect. Many governments use a PAYE (pay-as-you-earn) system, which takes taxes directly from salaries. Many workers are taxed before they even receive their wages. Direct taxes are also levied on the profits of firms.

Governments can also use direct taxes to redistribute income. Governments can use a progressive tax system to shift the burden of paying taxes to those on higher incomes, who can most afford it. We discussed this type of taxation in subtopic 3.4 (/study/app/pp/sid-186-cid-754025/book/the-big-picture-id-30471/).

### ✓ Important

A **direct tax** is one paid straight from the consumer's income or wealth, or from a firm's profits. An **indirect tax** is one imposed on expenditure. It is paid when a good or service is purchased. It is placed on the selling price of the product, raising a firm's costs of production.

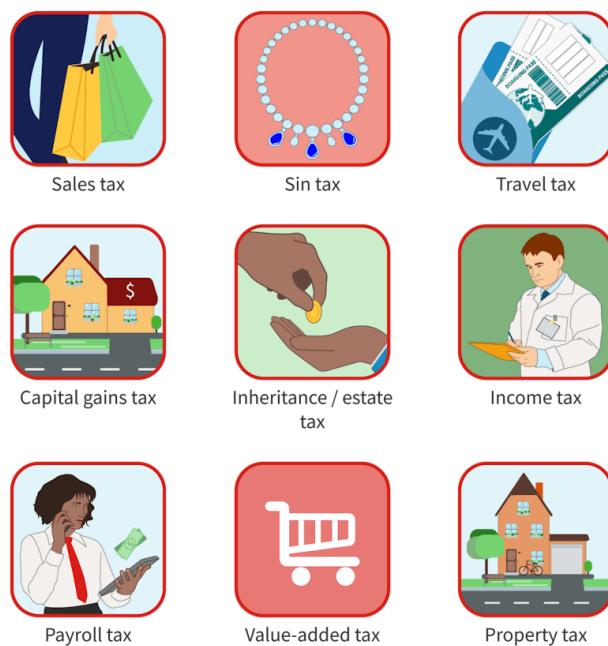


**Figure 1.** The tax you pay on your telephone calls is an indirect tax.

Indirect taxes are levied on goods and services. Value-added taxes (VATs) or goods and services taxes (GSTs) are examples of indirect taxes.

Governments can use indirect taxes to discourage the consumption of undesirable goods. Demerit goods that have negative externalities in consumption, such as alcohol or cigarettes, are often taxed. We discussed this type of taxation in [subtopic 2.8 \(/study/app/pp/sid-186-cid-754025/book/the-big-picture-id-29875/\)](#).

### Activity



**Figure 2.** Different types of taxes in the US.

Look at **Figure 2.** It describes the different types of taxes in the US.

1. Divide the taxes into direct taxes and indirect taxes.
2. Which taxes do you think are regressive or progressive?
3. Which taxes are designed to decrease the consumption of demerit goods?
4. Investigate the tax system for your country or a country you are interested in. How does it compare?

## Sale of goods and services from state-owned enterprises

A **state-owned enterprise** is a firm where the government has a significant financial stake and control. For example, in many countries the Post Office is state-owned. Other examples include oil companies owned by the government on whose soil they operate. For example, the State Oil Company of the Azerbaijan Republic (SOCAR) is the state-owned oil



company in Azerbaijan. The government of Azerbaijan earns revenue from the sale of oil.

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**Figure 3.** SOCAR is a state owned oil company in Azerbaijan.

Source: "Tank trucks, Sabir (P1090299) ([https://commons.wikimedia.org/wiki/File:Tank\\_trucks,\\_Sabir\\_\(P1090299\).jpg](https://commons.wikimedia.org/wiki/File:Tank_trucks,_Sabir_(P1090299).jpg))" by Matti Blume is licensed under CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/deed.en>)

Governments may find it difficult to benefit from selling natural resources such as oil or diamonds; this is described as the resource curse. The concept of the resource curse helps us understand why countries that are rich in natural resources find it challenging to grow their economies. Singapore has very few natural resources; it even has to import water from Malaysia. Yet Singapore is wealthier than its resource-rich neighbours. Why is this the case? Play the game Petronia (<https://petronia.games/#page/coursemap>) to understand why resource-rich nations often face challenges to growth and development.

## Activity

As you play the game Petronia (<https://petronia.games/#page/coursemap>), think about how you could advise a country like Venezuela to manage its oil. Share your advisory plan with your class.

Student view

## Sale of government assets

Governments can also raise revenue by selling state-owned enterprises. This is referred to as privatisation: the transfer of ownership of a firm from the public sector to the private sector. The revenue earned from privatisation is considered a one-off windfall.

When state-owned enterprises are transferred to the private sector, private firms are expected to improve efficiency, decrease costs and increase profits. Therefore privatisation not only creates additional revenue for the government, but may also offer greater efficiencies in the economy.

## Case study

### Raising government revenue through the sale of government assets

Governments may choose to sell off government assets as a way to raise government revenue. In fact, as part of their Structural Readjustment Development Policy, the International Monetary Fund (IMF) and World Bank have encouraged developing countries to raise revenue by selling publicly-owned companies. However, selling strategic



assets such as water to private firms has had mixed results.

The city of Cochabamba in Bolivia has sold off its water corporation to Aguas del Tunari (AdT). Within weeks of taking over the water system, AdT imposed huge rate hikes on local water users. Water rates soared by as much as 300 per cent. Residents with a monthly minimum wage of less than USD 100 were faced with USD 20 water bills; which was more than the amount they spent on food. AdT was forced to leave Bolivia, and even today the provision of water is a challenge to Cochabamba.



**Figure 4.** In some instances, privatisation of strategic assets like water has made some stakeholders worse off.

Source: "Water Crisis Rally"

([https://commons.wikimedia.org/wiki/File:Water\\_Crisis\\_Rally\\_at\\_MWSS\\_March\\_15,\\_2019.jpg](https://commons.wikimedia.org/wiki/File:Water_Crisis_Rally_at_MWSS_March_15,_2019.jpg)) by Ryomaandres is licensed under CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/deed.en>)

Privatising publicly-owned water corporations has proven disadvantageous elsewhere too. After the British government privatised water, prices skyrocketed, water quality decreased, employees were fired, and many households were disconnected for nonpayment.

'Water distribution based on the profit motive means that not everyone gets served,' says Jamie Dunn of Canada's Blue Planet Project.

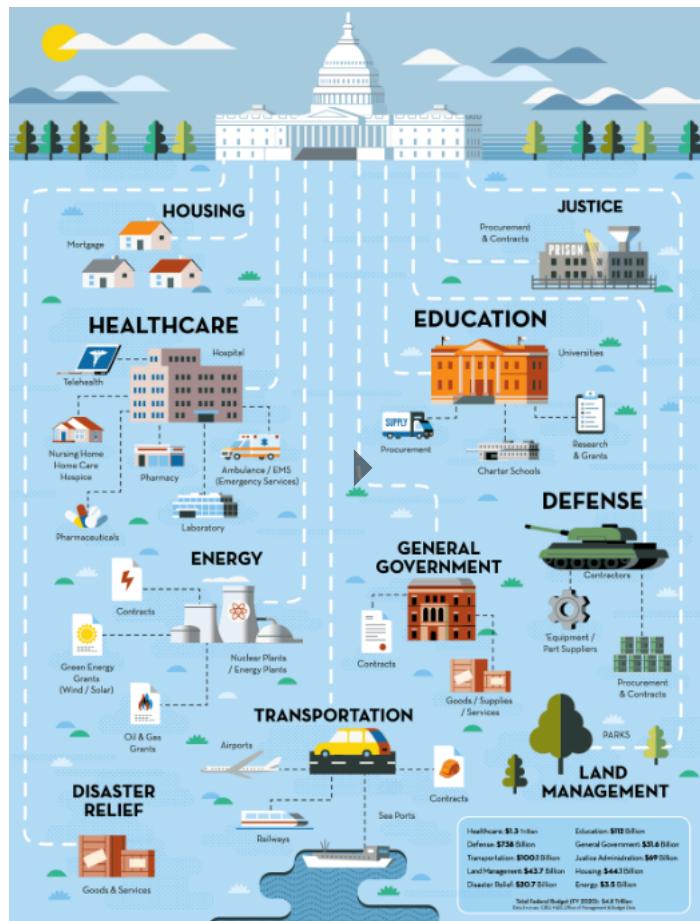
1. Using an appropriate diagram, explain the price elasticity for water.
2. What did the government aim to achieve by the privatisation of water?
3. Do you agree with Jamie Dunn?



You can read more about the privatisation of water [here](#)

(<https://www.theguardian.com/commentisfree/2019/mar/21/englands-running-out-of-water-and-privatisation-is-to-blame>).

## Government expenditure



**Figure 5.** Government Expenditure funds many things from health care to defense.

Source: "Lawsuit Legal <https://www.lawsuitlegal.com/government-money-public-private.php>"

More information for figure 5

This infographic depicts the 2020 budget allocations by the government across various sectors. At the top, there's an illustration of the U.S. Capitol building, symbolizing the government's central role. Below, the image is divided into sections, each representing a different area of expenditure.



Student view

1. **Housing:** Illustrated with small house icons and labeled with 'Mortgage'.
2. **Healthcare:** Showcases icons for telehealth, hospitals, nursing homes, and pharmacies, connected by dotted lines, indicating various services like ambulances, retirement homes, and laboratories.
3. **Education:** Features a university building and includes labels for procurement, charter schools, research, and grants.
4. **Justice:** Depicted with a prison and mentions procurement and contracts.
5. **Energy:** Illustrated with nuclear plants and mentions contracts, green energy grants, and oil & gas grants.
6. **General Government:** Identified with an icon of a government building, highlighting contracts and procurement of goods, supplies, and services.
7. **Defense:** Shown with a tank and mentions contractors and equipment suppliers.
8. **Transportation:** Displays icons for airports, railways, sea ports, and vehicles, indicating goods and services contracts.
9. **Disaster Relief:** Highlighted with goods and services boxes.
10. **Land Management:** Represented with trees and references parks and land usage contracts.

The bottom right of the infographic lists the budget allocations for each sector, such as healthcare: \$1.3 trillion, defense: \$738 billion, transportation: \$100 billion, etc. The sectors are connected by dotted paths showing the distribution of funds.



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There are three main categories of government expenditure: current expenditure, capital expenditure and transfer payments.

## Current expenditure

Current expenditure involves financing all the daily expenditure of the government to keep its structures and services working, including salaries for government employees such as politicians, police, and armed forces; supplies like office equipment for government institutions and pensions to all retired workers in the country.

## Capital expenditure

Capital expenditure includes all building of infrastructure financed by the government, including roads, hospitals and schools. These are long-term projects, and must be carefully planned in advance as they involve spending large amounts of money.

### Activity

Research a significant capital expenditure project in your country. Is there new infrastructure being built; hospitals or schools, perhaps? What are the true benefits of new capital expenditure? Consider both internal and external benefits.

✓  
Student view



**Figure 6.** Government spending on schools is capital expenditure.

Credit: Getty Images skynesher

## Transfer payments

Transfer payments are a type of government expenditure that is not in exchange for any goods or services. Often, transfer payments are used to redistribute income and are aimed at the poor. This includes assistance for the unemployed. Other transfer payments that countries tend to have include child support, housing benefits, and support for those who find it more difficult to work, such as people living with a disability or those who are caring for a sick relative. Transfer payments also include subsidies to specific industries and pensions for retirees.



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## ✓ Important

**Current expenditure** is the day-to-day spending of the government. **Capital expenditure** is the spending on large projects that add to the capital stock of the country. **Transfer payments** are financial support payments — often to lower-income groups.

Complete section with 3 questions

[Start questions](#)

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# Goals of fiscal policy

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The government operates fiscal policy to help grow the economy. This section explores how the specific goals of fiscal policy ensure long-term growth.

## Low and stable inflation

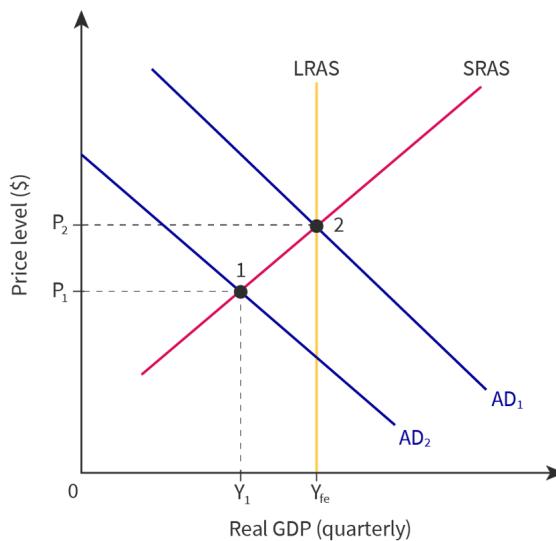
Fiscal policy can be constantly adjusted to create a low and stable rate of inflation. Price stability gives greater certainty for firms. It gives firms the confidence to make long-term decisions about growth and future investments. Even a large multinational company, like Samsung or Huawei, is unlikely to build a new factory if it is unsure of the costs because of runaway inflation.

**Table 1.** The 20 countries with the highest inflation rates in the world in 2019. Inflation can be a barrier to long-term growth.

#	Country	Inflation rate %	#	Country	Inflation rate %
1.	Venezuela	282972.8	11.	Angola	17.24
2.	Zimbabwe	175.66	12.	Ethiopia	15.5
3.	South Sudan	56.1	13.	Turkey	15.01
4.	North Korea	55	14.	Uzbekistan	14.3
5.	Argentina	54.4	15.	Nigeria	11.08
6.	Sudan	52.3	16.	Pakistan	10.3
7.	Iran	48	17.	Guinea	9.9
8.	Liberia	23.3	18.	Myanmar	9.51
9.	Haiti	18.6	19.	Yemen	9.49
10.	Sierra Leone	18.6	20.	Ghana	9.4

## Low unemployment

Expansionary fiscal policy can help achieve low unemployment. The government can stimulate aggregate demand to the level of full employment, where every worker who is willing and able to work has a job. At full employment only natural unemployment exists (the sum of frictional, seasonal and structural unemployment). As can be seen in **Figure 1**, at the full employment level of real GDP ( $Y_{fe}$ ), all factors of production are fully utilised in the best way. This allows the economy to produce at its physical limit. This gives a country the opportunity to maximise its GDP.



**Figure 1.** Full employment occurs at  $Y_{fe}$ , and at any level of real GDP below  $Y_{fe}$ , the economy faces unemployment.

More information for figure 1

The graph shows a macroeconomic model with the X-axis representing Real GDP on a quarterly basis, ranging from 0 to  $Y_{fe}$ , and the Y-axis representing Price Level in dollars. There are four lines on the graph: a vertically straight line labeled LRAS (Long Run Aggregate Supply) at  $Y_{fe}$ , a downward-sloping line labeled AD1 (Aggregate Demand) starting at the top left and moving to the bottom right, and a parallel downward-sloping line labeled AD2 further to the right. The SRAS (Short Run Aggregate Supply) line is upward sloping from the bottom left to the top right. Two equilibrium points are marked: Point 1, at the intersection of AD1 and SRAS lines with a price level  $P_1$  and GDP at  $Y_1$ ; and Point 2, at the intersection of AD2 and LRAS lines with a price level of  $P_2$  and GDP at  $Y_{fe}$ . This indicates the economy at full employment.

[Generated by AI]

## Promoting a stable economic environment for long-term growth



Governments can use fiscal policy to ensure a stable environment for long-term growth. Through expansionary fiscal policy, governments can build roads, ports, electricity grids, etc. Hence, fiscal policy can ensure that an economy has the infrastructure that is necessary for long term growth. Transport links increase trade, and hospitals and schools ensure a healthy and productive workforce. Infrastructure increases the efficiency of an economy.



**Figure 2.** Infrastructure is essential for long-term growth.

More information for figure 2

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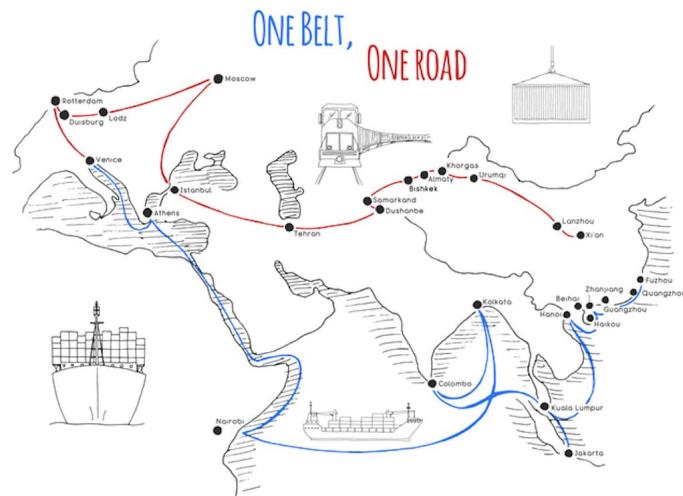
The image is a circular diagram divided into eight segments, each labeled with a component of infrastructure. At the center of the circle is a blue section labeled 'Infrastructure'. The outer ring is divided into eight sections, each with a yellow background and a different label: 'Airports' with an airplane icon, 'Ports' with an anchor icon, 'Railways' with a railway icon, 'Utilities' with a gear icon, 'Social' with a mask icon, 'Healthcare' with a medical cross icon, 'Education' with a graduation cap icon, and 'Energy' with a lightning bolt icon. Each segment represents an essential element contributing to overall infrastructure.

[Generated by AI]

## Case study

### Building infrastructure — China's Belt and Road Initiative.

China is building a revolutionary infrastructure project called the Belt and Road Initiative. It is a comprehensive network of road, rail and ports to enhance trade throughout Asia, Europe and Africa. The network will connect nearly 70 countries. The project's completion date is planned for 2049 to coincide with the 100th anniversary of the People's Republic of China.



**Figure 3.** China is building infrastructure to connect the world.

Getty Images Arkadiivna

More information for figure 3

The image is a map illustrating China's Belt and Road Initiative, showing two major routes: 'One Belt' and 'One Road.' The 'One Belt' route, marked in red, connects major cities starting from Rotterdam and Duisburg, then extending through Moscow, further branching to major locations such as Khorog, Almaty, and Lanzhou, ending in Xi'an. The 'One Road' segment, marked in blue, shows a maritime route connecting Venice to Athens, then through coastal locations such as Colombo, Kuala Lumpur, and ending near major Asian cities including Jakarta and Haikou. Key transportation modes are illustrated with symbols for trains and ships reflecting the trade connections. Major cities along the routes are highlighted with dots, and the map also includes elements such as crane and ship illustrations showcasing different logistics and transport modes involved in the initiative.

[Generated by AI]

Source: Adapted from China's Massive Belt and Road Initiative (<https://www.cfr.org/backgrounder/chinas-massive-belt-and-road-initiative>). Council on Foreign Relations.

1. Apart from trade, what other benefits may arise from the Belt and Road Initiative?
2. Explain how the increase in government expenditure on the Belt and Road Initiative might affect the macroeconomic goals of low unemployment and economic growth for both China and its neighbours.

### 3. Explain the relationship between increased trade (hint: consider exports and imports) and economic growth.



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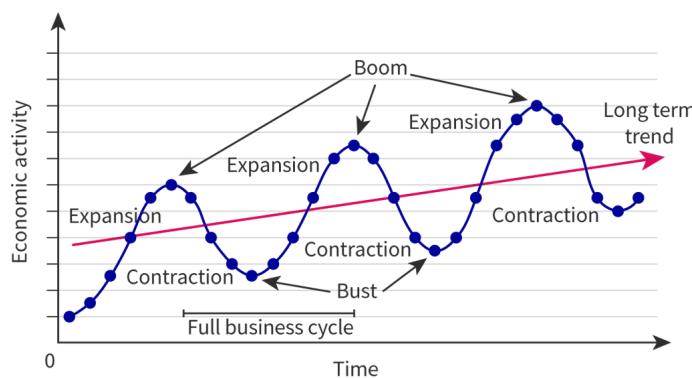
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## Reducing business cycle fluctuations

Economies are often subject to booms and busts as part of the business cycle. Fiscal policy is an important tool to smooth out fluctuations. Governments can use a fiscal stimulus in a bust of the business cycle to help the economy recover. An injection of government spending can help spur aggregate demand and economic growth. Alternatively the government can slow the economy in boom times, if the government is concerned about overheating.



**Figure 4.** An important role of fiscal policy is to smooth out the business cycle.

More information for figure 4

The graph represents economic activity over time, illustrating the business cycle phases of expansion, boom, contraction, and bust. The X-axis indicates time, while the Y-axis represents economic activity. A series of blue data points form a wave-like pattern, representing the fluctuations of the business cycle. The graph labels sections of the wave as 'Expansion,' 'Boom,' 'Contraction,' and 'Bust,' highlighting the cyclical nature of the economy. There is a red line that trends upwards, labeled 'Long term trend,' suggesting overall economic growth despite the cyclical fluctuations. Arrows are used to indicate movement between the different phases, and a 'Full business cycle' is marked at the bottom.

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Student view

### Activity

Research the economy of the country in which you live. Consider the inflation rate, unemployment rate and economic growth. Where along the business cycle is the economy operating? Make a prediction: what type of economic policy do you think the government will implement?

## Equitable distribution of income

Governments can improve the distribution of income through taxes.

### Indirect taxes

Governments can levy higher taxes on luxuries such as caviar and perfume. At the same time, the government can levy lower taxes on essentials such as food, electricity or water. Hence, those consumers who have the greatest capacity to pay will pay more indirect taxes. In this way, the government can redistribute income from the richest segments of society to



those who are less well off.

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## Direct taxes

Governments can use a progressive tax system to shift the burden of paying taxes to the rich. Under a progressive tax system, as income increases, tax liability also increases. A progressive tax system applies a higher tax rate on high income earners compared to low income earners, ensuring the burden of the tax is based on an individual's ability to pay. This means high income earners pay a greater proportion of their income in tax than low income earners. Watch the video below to find out more.

What is Progressive Tax?



Video 1. What is Progressive Tax?

More information for video 1

[soft music plays]

Narrator: What is progressive tax?

Progressive tax is income tax

that takes a greater percentage of high earners' incomes

and a smaller proportion from lower income earners.

A progressive tax structure is one in which a person

or household's tax liability

rises as a fraction of income as earnings increase.

So let's look at an example of progressive taxation.

John earns \$2 million per year.

Mary earns \$300,000.

Harry's income is \$60,000

and Maggy's is \$15,000.

John pays a much higher percentage of his income in tax than Mary.

Mary pays a higher proportion than Harry,

who in turn pays a higher proportion than Maggy.

This is because they live in a country with a progressive tax system.

The United States has a progressive tax system,

and the United Kingdom has a progressive tax system.

Most rich countries

and the majority of emerging economies

have a progressive tax system.

Some people are against the system of progressive taxation

because they say it discriminates

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against higher earners and rich people.  
Others say it should be this way  
because rich individuals can afford to pay more,  
while low wage earners cannot.  
[music fades out]  
[music fades out]

## Transfer payments

Governments can improve the distribution of income through transfer payments. Governments can provide unemployment benefits, rental assistance, jobseeker allowance, and medical benefits to distribute income to the poorest sectors of the economy.

## External balance

External balance is achieved when a country's exports equal its imports. It is possible for the government to use fiscal policy in two ways to create external balance. Imagine a country has a trade deficit:

1. Governments can use tariffs (taxes on imports) to discourage domestic consumers from buying imports. The decrease in imports will move the economy closer to external balance.
2. Through contractionary fiscal policy, the government can discourage consumption of both domestic and imported goods. If the reduction in consumption includes imports, this will help move the economy to external balance.

### ⊕ International Mindedness

Creating external balance is an international challenge. One country's trade surplus is another country's trade deficit. Countries actively try to reduce their deficits, but what about countries with a trade surplus? Do countries with a trade surplus have an obligation to reduce their surplus?

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# Expansionary and contractionary fiscal policy

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The government can manage the booms and busts of the business cycle through fiscal policy. Governments use two tools for fiscal policy:



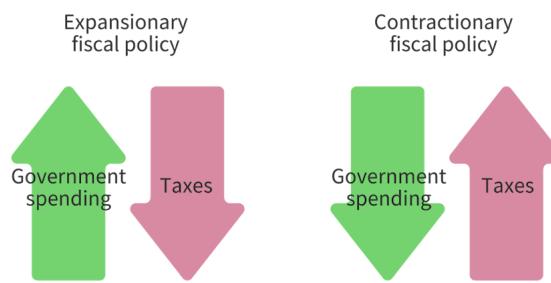
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- Government expenditure



**Figure 1.** Fiscal Policy can be either **expansionary**, to stimulate the economy or **contractionary**, to slow down the economy.

More information for figure 1

The diagram illustrates two types of fiscal policies: expansionary and contractionary. On the left side, under 'Expansionary fiscal policy,' there is a green upward arrow labeled 'Government spending' and a pink downward arrow labeled 'Taxes,' indicating that government spending increases while taxes decrease. On the right side, under 'Contractionary fiscal policy,' there is a green downward arrow labeled 'Government spending' and a pink upward arrow labeled 'Taxes,' showing that government spending decreases while taxes increase. The layout effectively contrasts the two approaches to managing economic activity through fiscal measures.

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view

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## Closing a recessionary gap

The government can intervene in the market and help the economy recover from a recession. **Figure 2** shows a recessionary gap arising from a fall in aggregate demand from  $AD_1$  to  $AD_2$ . This will result in price levels falling from  $P_1$  to  $P_2$  and real GDP at  $Y_1$  falling below the full employment level at  $Y_{fe}$ .

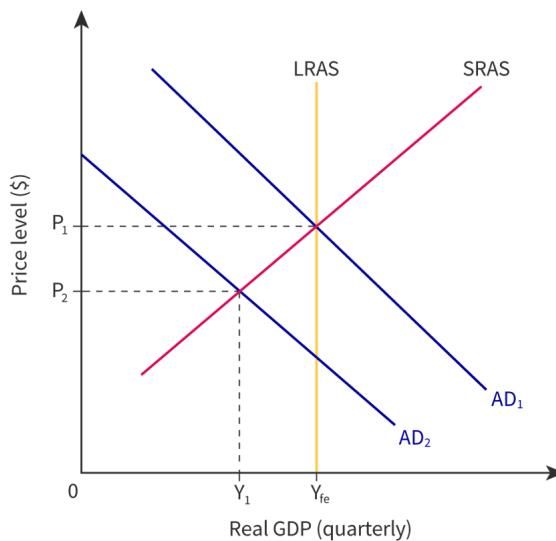


Figure 2. Closing a recessionary gap.

More information for figure 2

The graph illustrates a recessionary gap in an economy using intersecting lines representing various economic indicators. The X-axis is labeled 'Real GDP (quarterly)' and begins at 0, with marked points  $Y_1$  and  $Y_{fe}$  indicating levels of GDP. The Y-axis is labeled 'Price level (\$)' with points  $P_1$  and  $P_2$  depicting different price levels. Four lines are shown: LRAS (Long-Run Aggregate Supply) is a vertical yellow line at  $Y_{fe}$ , showing the full employment level of GDP. SRAS (Short-Run Aggregate Supply) is a red line indicating current supply conditions. AD<sub>1</sub> and AD<sub>2</sub> (Aggregate Demand) are represented by blue lines. AD<sub>1</sub> is above AD<sub>2</sub>, indicating a fall in aggregate demand from AD<sub>1</sub> to AD<sub>2</sub>, resulting in a lower price level ( $P_1$  falls to  $P_2$ ) and GDP level (from  $Y_{fe}$  to  $Y_1$ ), illustrating the recessionary gap.

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The economy is currently in recession at  $Y_1$ . To stimulate the economy, the government can use **expansionary fiscal policy**. This is where the government increases government expenditure (G) and/or reduces taxation.

Aggregate demand =  $C + I + G + (X - M)$ , so an increase in government expenditure (G) and a decrease in tax (which will lead to an increase in disposable incomes and therefore consumption, C) will increase aggregate demand. This will shift out the AD curve towards full employment, from AD<sub>2</sub> to AD<sub>1</sub>, increasing the price level from  $P_2$  to  $P_1$  and increasing real GDP from  $Y_1$  to  $Y_{fe}$ . In this way it is possible for expansionary fiscal policy to close a recessionary gap.

### ✓ Important

**Expansionary fiscal policy** is a programme of increased spending and/or reduced taxation by the government, with the aim of increasing aggregate demand.

## Monetarist versus Keynesian perspective

As you recall from [subtopic 3.2](#) (/study/app/pp/sid-186-cid-754025/book/the-big-picture-id-30486/), different economists have different views of the supply-side of the economy.

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**Monetarists** (also called new classical) believe that the economy is self-correcting and will move into equilibrium at the full employment level of real GDP without any intervention from the government. Look at **Figure 3a** below. If the economy moves into recession from A to B, the price level will fall from P to  $P_1$  and output will fall from  $Y_{fe}$  to  $Y_1$ . Unemployment will rise. As workers compete for jobs, wages will fall. This will lower the costs to firms, and profits will rise. This will induce firms to increase output, and in doing so will increase the SRAS from SRAS to SRAS<sub>1</sub>. According to monetarists, the economy will move back into equilibrium at C on its own, without any intervention from the government.

On the other hand, Keynesians believe that the economy is not self correcting, and is inherently unstable. Keynesians believe that the government must intervene to ensure the economy reaches full employment. Look at **Figure 3b** below. If a deflationary gap occurs from Y to  $Y_{fe}$ , unemployment will rise. However, Keynesians believe that wages are sticky downwards, and will not readjust. To move the economy back to equilibrium at full employment ( $Y_{fe}$ ) requires government intervention and expansionary fiscal policy.

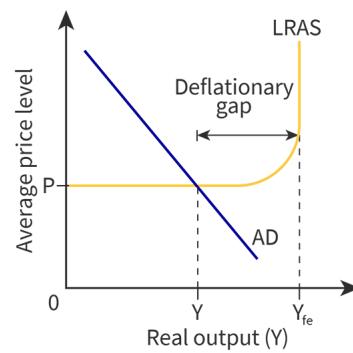
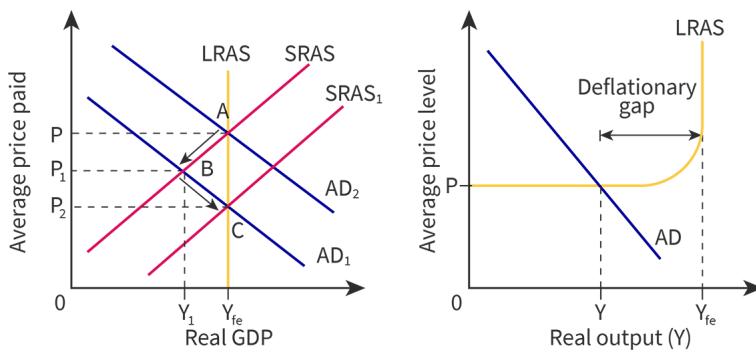


Figure 3a. Monetarist view of a deflationary gap. b. Keynesian view of a deflationary gap.

More information for figure 3

The image features two abstract overlapping shapes composed of multiple geometric forms in blue, yellow, and pink against a dark background. The left shape is a more complex arrangement of smaller polygons interlocking in different directions, while the right shape appears to be a single, larger form with smoother contours. Both shapes intersect at some points, creating a layered effect. The lack of symmetry and regular pattern adds a dynamic and artistic quality to the image.

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Student view

The main difference between Keynesians and monetarists is that monetarists believe that a deflationary gap only occurs in the short run, and that the economy will naturally return to full employment, whilst Keynesians believe a deflationary gap can occur in the short run **and** the long run, and that government intervention is necessary for the economy to return to full employment.

## Case study

### Hong Kong slips into recession and experiences a deflationary gap

In late 2019 Hong Kong slipped into recession. Political turmoil and regular protests each weekend meant many businesses struggled to stay open on weekends, and business activity plummeted. Transport links such as the MTR closed early on weekends and tourism and consumer spending fell.

- Retail sales fell by a quarter.
- Tourism declined significantly.
- Business confidence fell.



- The ongoing trade war between the US and China negatively affected exports.



**Figure 4.** In the second half of 2019, retail sales in Hong Kong plummeted.

Source: "Report on Monthly Survey of Retail Sales (<https://www.censtatd.gov.hk/hkstat/sub/sp320.jsp?productCode=B1080003>)" by HK Census and Statistics Department is in public domain.

More information for figure 4

The image is a graph that demonstrates trends in Hong Kong's retail sales from 2015 to 2019. The X-axis represents the years and is labeled with intervals from 2015 to 2019. The Y-axis represents the percentage change in retail sales and ranges from -50 to 40.

There are two lines depicted on the graph: a blue line representing 'Total retail sales' and a pink line representing 'Jewellery, watches and clocks'. In 2015, both lines show fluctuations around 0% change, with notable dips into negative percentages. Moving towards 2016 and 2017, fluctuations continue with both lines trending upwards sporadically.

In 2018, there is a noticeable peak where both lines reach approximately 20% increase, indicating a significant rise in sales during this period. However, by 2019, there is a stark decline in both lines, with percentages plummeting dramatically, touching below -40% towards the end of 2019. This trend reflects a sharp downturn in retail sales during this period, particularly evident in the sectors of jewellery, watches, and clocks.

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In early 2020, the economic situation for Hong Kong worsened. Hong Kong closed schools and some businesses to protect its citizens from COVID-19. The recession deepened further.

Source: Adapted from [Hong Kong Protests Bring Record Retail Sales Slump in August](#) (<http://www.bloomberg.com/news/articles/2019-10-01/hong-kong-protests-bring-more-pain-as-chinese-shoppers-stay-away>) and [Hong Kong Tourism Plunges 40%, Most Since SARS Crisis](#) (<https://www.bloomberg.com/news/articles/2019-10-01/hong-kong-protests-bring-more-pain-as-chinese-shoppers-stay-away>). Bloomberg.

Find out more in the links below.

- [Hong Kong Is Sinking Into a Recession With No Recovery in Sight](#) (<https://www.bloomberg.com/news/articles/2019-10-09/hong-kong-is-sinking-into-a-recession-with-no-recovery-in-sight>)
- [Hong Kong fell deeper into recession at end of 2019](#) (<https://www.aljazeera.com/ajimpact/hong-kong-fell-deeper-recession-2019-200203084830989.html>)

1. Use an AD/AS diagram to help explain the recessionary gap faced by Hong Kong.
2. Using your knowledge of fiscal policy, make some suggestions to help Hong Kong recover from recession from a monetarist and a Keynesian point of view.

## Closing an inflationary gap

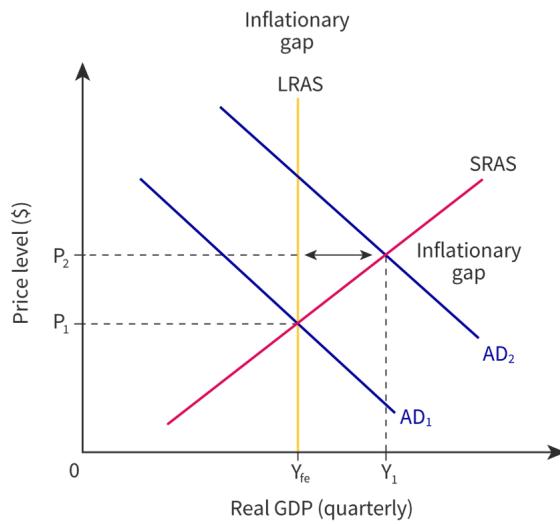
The government will also want to intervene when the economy overheats. This occurs when aggregate demand grows too fast in an economy, creating demand-pull inflation. **Figure 5** shows aggregate demand increasing beyond the full employment level of output  $Y_{fe}$ , which will create inflation in the country as  $AD_1$  rises to  $AD_2$ . This may be undesirable as



it can cause a reduction in confidence in the economy and other consequences associated with high rates of inflation. The government can use **contractionary fiscal policy** to close this inflationary gap.

If aggregate demand is responsible for the inflation shown in **Figure 5**, the government has two options in its use of fiscal policy. First, it can increase taxes, through either direct taxes on income or indirect taxes on expenditure on goods and services. This will leave households with less disposable income and will cause  $AD_2$  to fall back to  $AD_1$ .

Second, the government can reduce government expenditure. However, this may be an unpopular decision. Government expenditure consists of current and capital expenditure and transfer payments. Reducing government expenditure may mean that wages to government workers are cut (current expenditure), or a new hospital does not get built (capital expenditure), or unemployment benefits are decreased (transfer payments). All these options are undesirable.



**Figure 5.** Addressing demand-pull inflation and closing an inflationary gap.

More information for figure 5

The graph illustrates an inflationary gap using a standard supply and demand model. The X-axis represents Real GDP (quarterly), marked from 0 to  $Y_1$ , with  $Y_{fe}$  indicating full employment GDP. The Y-axis represents price level in dollars, marked from  $P_1$  to  $P_2$ . The graph features several key curves:

Student view

- LRAS (Long-Run Aggregate Supply) is a vertical line indicating full employment GDP ( $Y_{fe}$ ).
- SRAS (Short-Run Aggregate Supply) is a positively sloped line intersecting the LRAS at point  $P_2$ ,  $Y_{fe}$ .
- Two AD (Aggregate Demand) lines are shown:  $AD_1$  and  $AD_2$ , both negatively sloped, representing different levels of aggregate demand.  $AD_1$  intersects the SRAS line at point  $P_1$ ,  $Y_{fe}$ , showing a point of balance at full employment.
- $AD_2$  is positioned to the right of  $AD_1$ , increasing the real GDP at price level  $P_1$  and highlighting the inflationary gap.

The inflationary gap is marked between  $Y_{fe}$  and  $Y_1$  along the X-axis, denoting the disparity between full employment output and the elevated level of aggregate demand.

[Generated by AI]

### ! Exam tip

Whenever you draw a diagram for your internal assessment or your exam, make sure you explain it carefully. Look



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at the example below.

In **Figure 5** the economy is experiencing an inflationary gap at  $Y_1$ . To solve it, the government can use **contractionary fiscal policy**. This is where the government decreases government expenditure ( $G$ ) and/or increases taxation. Aggregate demand =  $C + I + G + (X - M)$ , so a decrease in government expenditure ( $G$ ) and an increase in tax (which will lead to a decrease in disposable incomes and therefore a decrease in consumption,  $C$ ) will decrease aggregate demand. This will shift the AD curve back towards full employment, from  $AD_2$  to  $AD_1$ , decreasing the price level from  $P_2$  to  $P_1$  and decreasing real GDP from  $Y_1$  to  $Y_{fe}$ . In this way it is possible for the government to close an inflationary gap.

### ✓ Important

**Contractionary fiscal policy** is where the government reduces spending and/or increases taxation. The aim can be either to reduce demand-pull inflation in the economy or to reduce a budget deficit.

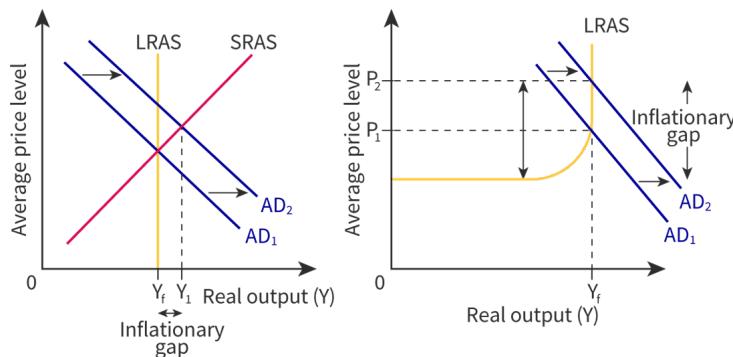
## Monetarist versus Keynesian perspective

Monetarists and Keynesians have different views about how to solve an inflationary gap.

Monetarists believe that an inflationary gap only occurs in the short run. If aggregate demand rises beyond the level that can be met by full employment, this will result in workers being induced through higher wages (for example, overtime pay) to work beyond full employment from  $Y_{fe}$  to  $Y_1$ . However, this will raise the costs to firms, who will find profits are squeezed, and will cut back output to equilibrium at  $Y_{fe}$ . Monetarists believe that in this way the economy will naturally move back into equilibrium on its own, without any government intervention.

Keynesians believe that any attempt to move output beyond full employment at  $Y_{fe}$  will only create further inflation. Government intervention is required to cool the economy.

Student view



**Figure 6a.** Monetarist view of an inflationary gap. **b.** Keynesian view of an inflationary gap.

More information for figure 6

The image contains two economic graphs side by side, illustrating the monetarist and Keynesian views of an inflationary gap.

On the left side, the monetarist view graph shows: - The X-axis labeled "Real output (Y)" ranging from 0. - The Y-axis labeled "Average price level" also ranging from 0. - The long-run aggregate supply (LRAS) curve is vertical at the full employment level, indicated as  $Y_f$ . - Short-run aggregate supply (SRAS) and aggregate demand (AD) curves intersect to the left of LRAS, at point  $Y_1$ . - The graph highlights an "Inflationary gap" between  $Y_f$  and  $Y_1$  with AD lines  $AD_1$  and  $AD_2$  indicating demand shifts.

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On the right side, the Keynesian view graph illustrates: - Similarly labeled axes as the monetarist graph. - The LRAS curve has a horizontal section before becoming vertical at  $Y_f$ , showing capacity. - AD curves show shifts from AD1 to AD2 resulting in increases in the average price level from  $P_1$  to  $P_2$ . - This graph also marks an "Inflationary gap," showing monetary changes with AD shifts.

[Generated by AI]

## Activity

Explore fiscal policy by playing the [Fiscal Ship](https://fiscalship.org/) (https://fiscalship.org/) game. Can you stop the Fiscal Ship from sinking?

As you play the game, make a record of all the different fiscal policy tools available to you to right the Fiscal Ship. Divide the tools into expansionary (tools that will stimulate the economy) and contractionary fiscal policy tools.

Complete section with 3 questions

Start questions

◀ Previous section (/study/app/pp/sid-186-cid-754025/book/goals-of-fiscal-policy-id-30484/)

Next section ➤ (/study/app/pp/sid-186-cid-754025/boo

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# Keynesian multiplier (HL)

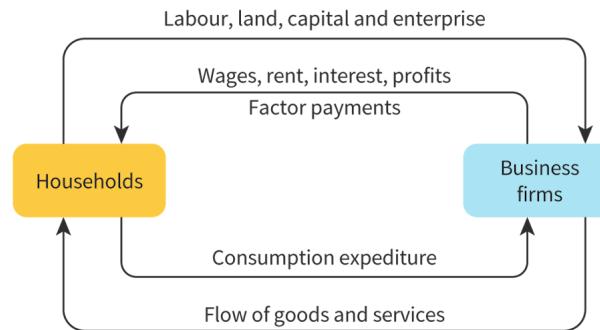
## Section

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What will be the effect on the economy if the government decides to use expansionary fiscal policy and spend an additional \$120 million?



Glossary

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assistance

**Figure 1.** A \$120-million stimulus to the circular flow creates a much larger increase in GDP.

[More information for figure 1](#)

The image is a diagram illustrating the circular flow of income between households and business firms. On the left, there is a box labeled 'Households' in yellow, and on the right, there is a box labeled 'Business firms' in blue. Arrows between these boxes indicate the flow of resources and goods.

At the top, an arrow pointing from 'Households' to 'Business firms' is labeled 'Labour, land, capital and enterprise.' This represents households providing these resources to firms.

Below that, an arrow pointing from 'Business firms' back to 'Households' is labeled 'Wages, rent, interest, profits,' indicating that firms compensate households for the resources.

An arrow from 'Households' to 'Business firms' is labeled 'Consumption expenditure' at the bottom, illustrating that households use their income to purchase goods and services from firms.

Lastly, an arrow pointing back from 'Business firms' to 'Households' reads 'Flow of goods and services,' showing that firms provide these products in exchange for income.

[Generated by AI]

If the government increases spending – for example, by building roads, painting schools, or buying more X-ray machines for hospitals – the firms they hire for these projects will notice that their inventories are falling, because they will have used up some of their stock to complete the new projects. In an effort to maintain stocks they will increase output by \$120 million. They will hire additional factors of production and increase income to households by \$120 million. Households

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will either spend or save the additional income. The proportion of income that households choose to spend is called the marginal propensity to consume. Let's assume that households spend 40% of their income. 40% or 0.4 of this additional income is spent on domestic goods and services:

$$0.4 \times \$120 \text{ million} = \$48 \text{ million}$$

Firms, finding that their inventories of consumer goods are falling, expand output, which in turn increases household income by \$48 million. With this additional income, consumers will spend 0.4 of this and thus consume  $0.4 \times \$48 \text{ million} = \$19.2 \text{ million}$  of additional goods and services, and so this cycle continues. Real GDP has increased by \$120 million + \$48 million + \$19.2 million + .... + .... etc. If this series were completed, the total increase in real GDP would be \$200 million. This increase in GDP (\$200 million) is significantly larger than the original stimulus (\$120m) because of the multiplier effect.

✓  
Student  
view

**Worked example 1**

Round	Initial stimulus	Firms	Households (HH)			Addition to GDP
1	\$120 million: govt hires a firm to build a new road.	Firms hire \$120m factors of production (FOP) from HH to build a new road.	HH earn an extra \$120m income.			\$120m
			Households (HH)	Firms	Households	Addition to GDP
2			HH spend 0.4 of their extra income (\$120m):  HH spend an extra \$48m.	Must produce an extra \$48m of output. Need to hire more FOP.	HH earn an extra \$48m.	\$48m

Using information from the text, calculate round 3.

			Households (HH)	Firms	Households	Addition to GDP
3			HH spend 0.4 of their extra income (\$48m):  HH spend an extra \$19.2m.	Must produce an extra \$19.2m of output. Need to hire more FOP.	HH earn an extra \$19.2m.	\$19.2m

Using information from the text, calculate round 4.

			Households (HH)	Firms	Households	Addition to GDP
4			HH spend 0.4 of their extra income (\$19.2m):  HH spend an extra \$7.68m.	Must produce an extra \$7.68m of output. Need to hire more FOP.	HH earn an extra \$7.68m.	\$7.68m

Using information from the text, calculate round 5.

		Households (HH)	Firms	Households	Addition to GDP
5		HH spend 0.4 of their extra income (\$7.68m):  HH spend an extra \$3.07 m.	Must produce an extra \$3.07m of output. Need to hire more FOP.	HH earn an extra \$3.07m.	\$3.07m

## Activity

Calculate what might happen in round 6.

		Households	Firms	Households	Addition to GDP
6		HH spend 0.4 of their extra income \$3.07 m:  HH spend an extra \$? m.	Must produce an extra \$?m of output. Need to hire more FOP.	HH earn an extra \$?m.	\$?m

In your class, continue to calculate what will happen in each round. How long does it take until the addition to  $GDP = \$200$  million?



Student view

MPC and multiplier | Macroeconomics

The multiplier effect demonstrates how a change in government expenditure (\$120 million) will bring about a greater than proportionate change in GDP (\$200 million).

 In fact, any increase in any autonomous variable such as investment or net exports will have a multiplier effect. For example, a change in investment will bring about a greater than proportionate change in GDP.

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The size of the multiplier effect depends upon how much of the additional income is passed on as increased purchases of domestic goods and services. The increase in consumption arising from an increase in income is known as the **marginal propensity to consume (MPC)**. It refers to the proportion of the addition to income that is spent.

The multiplier is calculated by:

$$\frac{1}{1-MPC}$$

For example, if the MPC had been 0.5, then the multiplier would be:

$$\text{Multiplier} = \frac{1}{1-MPC}$$

$$= \frac{1}{1-0.5}$$

$$= 2$$

### Worked example 2

a) Calculate the multiplier when the MPC = 0.2.

$$\text{Multiplier} = \frac{1}{1-MPC}$$

$$= \frac{1}{1-0.2}$$

$$= \frac{1}{0.8}$$

$$= 1.25$$

 Student view

b) Calculate the multiplier when the MPC = 0.8.

$$\text{Multiplier} = \frac{1}{1-MPC}$$

$$= \frac{1}{1-0.8}$$

$$= \frac{1}{0.2}$$

$$= 5$$

c) Calculate the multiplier when the MPC = 0.

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$$\text{Multiplier} = \frac{1}{1-\text{MPC}}$$

$$= \frac{1}{1-0}$$

$$= \frac{1}{1}$$

$$= 1$$

## Activity

As a class, calculate the multiplier using these values of the MPC.

MPC = 0.1

MPC = 0.4

MPC = 0.7

MPC = 0.2

MPC = 0.5

MPC = 0.8

MPC = 0.3

MPC = 0.6

MPC = 0.9



What do you notice? What happens to the size of the multiplier as the MPC increases? Why do you think this is the case?

**The higher the MPC, the higher the multiplier and the higher the increase in real GDP.** The multiplier will always be greater than or equal to 1 because any change in autonomous expenditure will bring about a proportionate or larger than proportionate change in real GDP.

However, this is not the only way to calculate the multiplier. There are actually two different ways to calculate the multiplier:

a. The multiplier is calculated by:  $\frac{1}{1-\text{MPC}}$

OR

b. The multiplier is calculated by:  $\frac{1}{\text{MPS} + \text{MPT} + \text{MPM}}$

## ✓ Important

MPS is the marginal propensity to save: the proportion of additional income that is saved =  $(1 - MPC)$ .

MPT is the marginal propensity to tax: the proportion of additional income that is taxed.

MPM is the marginal propensity to import: the proportion of additional income that is spent on imports .

When we use the formula  $\frac{1}{(1-MPC)}$  we may overstate the size of the multiplier. Some of the consumption spending (MPC) is on imports, so we need to reduce this to the marginal propensity to consume domestic goods and services. To get the most accurate measure of the multiplier, we should also remove the proportion of additional income that is saved, taxed and spent on imports.

Hence, using the formula  $\frac{1}{MPS + MPT + MPM}$  is much more accurate.

For example, if an individual saves 10 cents of their last dollar, pays 40% in taxes, and does not buy imports, then the multiplier would have been:

$$\text{Multiplier} = \frac{1}{MPS + MPT + MPM}$$

$$= \frac{1}{0.1 + 0.4 + 0}$$

$$= \frac{1}{0.5}$$

$$= 2$$

### Worked example 3



- a) Calculate the multiplier when an individual saves 10 cents of their last dollar, pays 10% of their income in taxes, and does not buy any imports.

$$\text{Multiplier} = \frac{1}{MPS + MPT + MPM}$$

$$= \frac{1}{0.1 + 0.1 + 0}$$

$$= \frac{1}{0.2}$$

$$= 5$$

- b) Calculate the multiplier when an individual saves 20 cents of their last dollar, pays 20% of their income in taxes, and spends 40 cents of their last dollar on imports.

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$$\text{Multiplier} = \frac{1}{\text{MPS} + \text{MPT} + \text{MPM}}$$

$$= \frac{1}{0.2 + 0.2 + 0.4}$$

$$= \frac{1}{0.8}$$

$$= 1.25$$

- c) Calculate the multiplier when an individual saves 30 cents of their last dollar, pays 10% of their income in taxes, and spends 10 cents of their last dollar on imports.

$$\text{Multiplier} = \frac{1}{\text{MPS} + \text{MPT} + \text{MPM}}$$

$$= \frac{1}{0.3 + 0.1 + 0.1}$$

$$= \frac{1}{0.5}$$

$$= 2$$

## Activity

As a class, discuss whether it is possible for the MPS + MPT + MPM to ever be greater than 1. Why/why not?

✓  
Student  
view

## Case study

### Marginal propensity to consume

The higher the MPC, the larger the multiplier, and therefore the larger the increase in GDP.

Governments will sometimes try to increase the size of the MPC. How can they induce people to spend a greater proportion of their additional income?



**Figure 2. Imlay, Michigan.**

Credit: Getty Images Sheryl L. Sutter

'Buy Local' is an advertising campaign from the Imlay City Chamber of Commerce to raise awareness of the importance of supporting local businesses. The 'My Heart's in Imlay City' promotion is designed to create a sense of place that makes Imlay City unique. 'All that makes us unique is largely thanks to our small businesses. Where we meet to dine with friends, where we take our out-of-town guests to visit, where we buy gifts, where we enjoy craft beers are all what build our culture.' According to the local Chamber of Commerce for Imlay City, for each dollar spent, 68¢ stays in the local community. The campaign is designed to encourage residents to spend more money locally.

1. What is the size of the MPC for Imlay City?
2. What would happen to the MPC if the campaign is successful?
3. Calculate the size of the multiplier.
4. Do you have other suggestions for Imlay City to increase the multiplier?

## How do we calculate the change in GDP?

**Change in GDP = the multiplier × the change in autonomous expenditure.**

If the government increases spending by \$100 million, what will be the size of the stimulus to the economy? Assume that the MPC = 0.2.

Change in GDP = the multiplier × the change in autonomous expenditure

$$= \left( \frac{1}{1 - 0.2} \right) \times 100 = 1.25 \times \$100 = 125 \text{ million}$$

Therefore if the government spends an additional \$100 million, they will increase output by a total of \$125 million.

### Worked example 4:

If investment spending increases by \$200 million, what will be the size of the stimulus to the economy if MPC = 0.5?

Student view

Change in GDP = the multiplier × the change in autonomous expenditure

$$= \left( \frac{1}{1 - 0.5} \right) \times 200 = 2 \times 200 = 400 \text{ million}$$

Therefore if investment increases by an additional \$200 million, GDP will increase by \$400 million.

b) If export revenues unexpectedly increase by 20 million, what will be the size of the stimulus to the economy if MPC = 0.8?

Change in GDP = the multiplier × the change in autonomous expenditure

$$= \left( \frac{1}{1 - 0.8} \right) \times 20 = 5 \times 20 = 100 \text{ million}$$



Therefore if investment increases by an additional \$20 million, GDP will increase by \$100 million.

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186-cid-754025/ MPT = 0.4, MPM = 0.2?

Change in GDP = the multiplier × the change in autonomous expenditure

$$= \left( \frac{1}{1 - 0.2} \right) \times 20 = 1.25 \times 20 = 25 \text{ million}$$

Therefore if the government spends an additional \$20 million, they will increase real GDP by a total of \$25 million.

**Complete section with 5 questions**

[Start questions](#)

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Next section [▶ \(/study/app/pp/](#)



Student view



(https://intercom.help/kognity)



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3. Macroeconomics / 3.6 Demand management—fiscal policy

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# Constraints on fiscal policy

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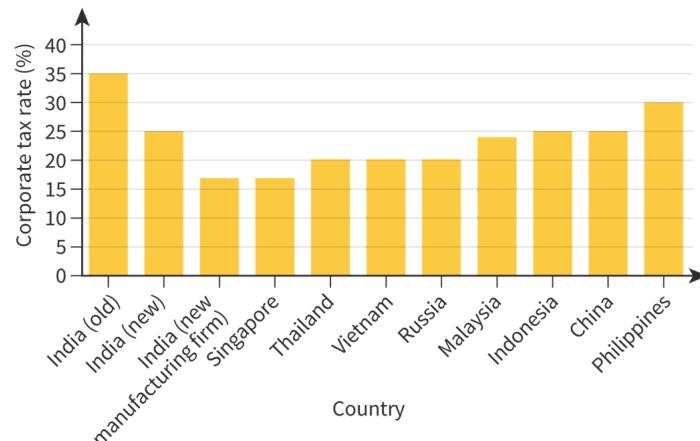


Glossary

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## Political pressure

Democratic governments are usually made up of different political parties who do not always agree on which fiscal policy tool to use. Should the government stimulate the economy by increasing government expenditure, or by reducing tax? Different political parties may have different philosophical beliefs. For example, one party may believe that tax cuts for firms are preferable to increasing unemployment benefits. Such decisions may take months of debate. As a result, making the necessary changes to fiscal policy can take time.



**Figure 1.** To gain a competitive edge, India reduced taxes for new manufacturing industries. It took almost a year for the Indian parliament to pass the tax cut into law.

Source: [KPMG](https://home.kpmg/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html)

More information for figure 1

The bar chart compares corporate tax rates across various countries. The Y-axis represents the corporate tax rate in percentage, ranging from 0% to 40%. The X-axis lists countries: India (old), India (new), India (new manufacturing firm), Singapore, Thailand, Vietnam, Russia, Malaysia, Indonesia, China, and Philippines.

Key observations: - India (old) has the highest tax rate at around 35%. - The tax rate for new firms in India is significantly reduced, with India (new) and India (new manufacturing firm) showing lower rates around 25% and 15% respectively. - Singapore, Thailand, Vietnam, Russia, Malaysia, and Indonesia have tax rates ranging between 15% to 25%. - China and Philippines both have tax rates around 27%.

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## Time lags

Overview

(/study/app/186-cid-754025/book/constraints-on-fiscal-policy-id-30488/) Once a new policy is debated in parliament and passed into law, it may take time for the effects of the policy to be felt. The Indian government has cut taxes to help new manufacturers be more competitive. But how fast can new manufacturers adjust to the change in tax? India wishes to attract business from abroad, but it will take time for foreign firms to choose to shift manufacturing from other countries, such as China and Vietnam, to India. Many brands, such as the jeans manufacturer Levi Strauss & Co., will need significant encouragement to shift the production of blue jeans from China to India. Hence the new policy will take time to be effective.

## Sustainable debt

If the government wishes to stimulate the economy, it must operate a budget deficit. The deficit or shortfall in revenue has to be financed by borrowing. Governments can borrow money by selling bonds (see [section 3.4 \(/study/app/pp/sid-186-cid-754025/book/the-big-picture-id-30471/\)](#)). Governments sell bonds for a fixed sum of money to investors and pay it back at an agreed date with interest. Because government bonds tend to be quite safe investments, they carry low interest rates. If a government continues to run a budget deficit and borrow money, the total amount borrowed will increase. The total amount borrowed is called the public sector debt or national debt.

What is the national debt today?

\$25,595,749,934,483

That is \$80,512 for every single person in America



**Figure 2.** The national debt of the US grows day by day. It is important to note however, this is more than just government debt.

More information for figure 2



Student view

The image is an illustration focused on the U.S. national debt. At the top, a question is posed: "What is the national debt today?" Directly below, in a highlighted green box, the figure "\$25,595,749,934,483" is displayed, indicating the total national debt. Underneath, another statement reads: "That is \$80,512 for every single person in America." Below these texts, there is an illustration of six green figures raising their arms, symbolizing people. The design emphasizes the massive scale of the national debt and its per capita impact across the population.

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## Case study

Why do Greece and Argentina have a problem with debt, but Japan does not?



**Figure 3.** Fisherman in a sailing boat in Kawaguchiko Lake, Japan.

Credit: Getty Images DoctorEgg

Look at the data below of government debt for Greece, Argentina, China and Japan.

**Table 1.** Debt by country, 2019

	National debt relative to GDP	World ranking
Japan	234.18%	1
Greece	181.78%	4
Argentina	86.90%	27
China	54.44%	86

Source: IMF data

 Student view

From the data it is clear that Japan has the most debt (top in the world rankings for debt) at over 234% of GDP. Yet, economists argue that Japan is in no danger of defaulting on its debt. In contrast, Greece already defaulted on its debt in 2015, and has received 3 bailouts. Argentina (which ranks 27th in the world in terms of debt) is predicted to default on its debt by the end of 2020, and is in talks with the IMF to restructure its debt.

#### Why is debt a more serious problem in some countries than in others?

##### Japan

In 2019 Japan issued bonds to finance its debt. However, Japan is in no danger of defaulting, and individuals feel confident to buy bonds and lend money to Japan. Why?

Most of Japan's debt is held by Japanese citizens or the Bank of Japan (BOJ). This means when the debt is repaid, it is paid back (with interest) to individuals in Japan. The debt repayments are not a leakage from the Japanese economy. Instead, Japanese citizens are most likely to spend their returns from their investment in Japanese bonds within the economy of Japan.

Essentially Japan has lent money to itself.

Find out more about Japan's debt [here ↗](https://medium.com/@JapanDetail/explain-with-charts-why-japans-huge-national-debt-is-not-a-problem-at-all-5b1994293915) (<https://medium.com/@JapanDetail/explain-with-charts-why-japans-huge-national-debt-is-not-a-problem-at-all-5b1994293915>).

##### Argentina

Argentina's debt was only 86.9% of GDP as of December 2019. Yet many economists are concerned that Argentina's debt burden is too high, and Argentina may have no choice but to either default or ask for its debt to be restructured. Why is this situation so different to Japan?

In 2015, Argentina borrowed money from the IMF. The vast majority of that money was used to pay down previous debt, so the Argentinian economy did not feel the benefit of the money borrowed. When Argentina pays back the interest and principal of the debt, money will flow out of Argentina to the IMF. This represents a leakage from the Argentinian economy. Essentially, debt repayment is only possible if Argentina runs a budget surplus. Therefore Argentina's debt repayment acts just like contractionary fiscal policy and creates a recession. This is why the international financial market is so concerned for Argentina and its level of debt.

Read more about Argentina's debt [here ↗ \(https://www.batimes.com.ar/news/argentina/argentina-and-the-imf-a-story-of-love-and-hatred.phtml\)](https://www.batimes.com.ar/news/argentina/argentina-and-the-imf-a-story-of-love-and-hatred.phtml).

1. Research the debt-to-GDP ratio for your country.
2. Who owns the majority of the debt for your country?
3. Evaluate the extent to which debt may or may not be sustainable.

Many countries have responded to high debt levels by implementing austerity programs. Austerity is an economic term used to define a reduction in spending, usually associated with government expenditure. It has been deemed essential by policy makers in the quest to reduce government debt accrued through years of borrowing from abroad, and spending on services, such as public health and education.

In the United Kingdom, austerity has seen a significant reduction in government expenditure on essential services, such as disability payments and the National Health Service. In Greece, austerity has meant a serious reduction in or even abolition of government spending on key services, including the police, civil services and health care. Austerity is a contractionary fiscal policy that has had serious effects on the distribution of income, whereby the poorest in the economy have found their ability to access and afford essential services is reduced.

### ✓ Important

Although it may make financial sense for a government to reduce its spending when borrowing has risen too much, it is important to bear in mind that doing so can have a contractionary impact on the aggregate demand in an economy.

Complete section with 3 questions

Start questions

◀ Previous section(/study/app/pp/sid-186-cid-754025/book/keynesian-multiplier-hl-id-30487/)

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# Crowding out (HL)

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## What is crowding out?

Crowding out occurs when public sector spending replaces private sector spending; when the government replaces investment that would otherwise have been made by the private sector. It can occur when the government attempts to stimulate the economy by increasing government expenditure on infrastructure.

What Is Crowding Out?



A government may choose to build a large infrastructure project such as a road or bridge. Who should build it? The public sector or the private sector?

Student  
view



Source: "Banyumanik Toll Plaza ([https://en.wikipedia.org/wiki/File:Banyumanik\\_Toll\\_Plaza.JPG](https://en.wikipedia.org/wiki/File:Banyumanik_Toll_Plaza.JPG))" by Bowo Deswantoro is licensed under CC BY-

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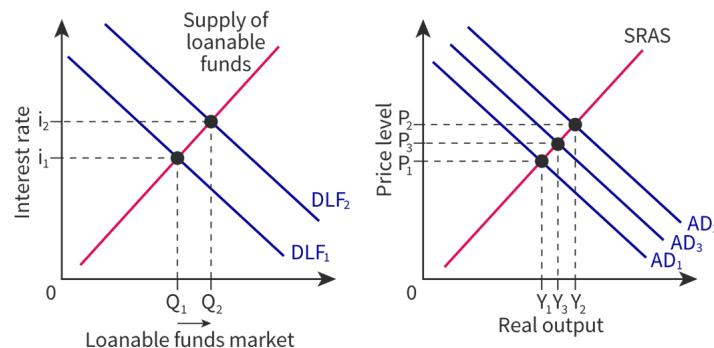
Source: "G6 expressway from offramp to North Fifth Ring Road, Beijing"

([https://commons.wikimedia.org/wiki/File:G6\\_expressway\\_from\\_offramp\\_to\\_North\\_Fifth\\_Ring\\_Road,\\_Beijing.jpg](https://commons.wikimedia.org/wiki/File:G6_expressway_from_offramp_to_North_Fifth_Ring_Road,_Beijing.jpg)) by Daniel Case is licensed under CC BY-SA 3.0 (<https://creativecommons.org/licenses/by-sa/3.0/deed.en>)

**Figure 1.** A toll road in Jakarta built by the private sector and a road in China built by the public sector.

If the Chinese government chooses to build an expressway like the one above, it must run a budget deficit and finance its increased spending in some way. An increase in government expenditure (G) on road building will shift out the aggregate demand curve from  $AD_1$  to  $AD_2$ , increasing the price level from  $P_1$  to  $P_2$  and increasing real output from  $Y_1$  to  $Y_2$  (**Figure 2b**).

The government may choose to finance the new expressway by borrowing domestically. For example, it may choose to sell bonds – and thereby compete directly with the private sector in the loanable funds market. This competition will drive up the interest rate from  $i_1$  to  $i_2$  (**Figure 2a**). As the interest rate rises, firms may find it too expensive to invest in projects – and overall investment in the economy will fall. This decrease in investment (I) will shift the aggregate demand curve back from  $AD_2$  to  $AD_3$  (this is crowding out). The price level will fall from  $P_2$  to  $P_3$  and output will fall back from  $Y_2$  to  $Y_3$  (**Figure 2b**).



**Figure 2.** Crowding out occurs when interest rates are driven up, and discourage private firms from investing

More information for figure 2

The image consists of two graphs. The left graph displays the loanable funds market with the X-axis representing 'Loanable funds market' and the Y-axis representing 'Interest rate'. There are two demand curves labeled 'DLF1' and 'DLF2', and a supply curve labeled 'Supply of loanable funds'. The intersection points of the demand and supply curves show interest rates at  $i_1$  and  $i_2$ , where  $i_2$  is higher indicating increased interest rates due to competition in borrowing.

The right graph shows the relationship between 'Real output' on the X-axis and 'Price level' on the Y-axis. Three aggregate demand curves, labeled 'AD1', 'AD2', and 'AD3', and the supply curve labeled 'SRAS' are present. The intersection points explain the shifts in demand, leading to changes in price levels from  $P_1$  to  $P_3$  and real output from  $Y_1$  to  $Y_3$ . Overall, this graph illustrates the economic concept of crowding out, where increased interest rates reduce private investment, shifting the aggregate demand curve leftward.



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Overview

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Whether or not crowding out takes place depends heavily on the interest rate change. In countries like the United States, the United Kingdom and Japan, all of which have borrowed substantially in recent years, interest rates have not risen and borrowing has remained cheap.

## Activity

In your class, debate whether the government of your country should build expressways (like China) or whether road-building should be left to private firms (like in Indonesia).

**Complete section with 3 questions**

[Start questions](#)

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Student view



# Strengths of fiscal policy

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Fiscal policy can be very effective and in some cases it has advantages over other types of government policy.

## Ability to target specific sectors of the economy

Governments can target specific sectors of the economy to support. This is because the government can choose where to spend their money and for whom to lower taxes. For example, if the government wishes to improve income equality, it can decrease taxes for low income earners.

The six major welfare programs



**Figure 1.** Government programmes in the United States targeted to specific economic sectors: the sick, the poor and the old.

[More information for figure 1](#)

The image displays six colored boxes arranged in two rows of three. Each box represents a major welfare program in the United States. The text "The six major welfare programs" is at the top. The programs are: "Temporary assistance for those in need" in a yellow box, "Supplemental nutrition assistance programmes" in a light blue box, "Medicaid" in a lavender box, "Supplemental security income" in a light beige box, "Earned income tax credit" in a brownish box, and "Housing assistance" in a pink box. This layout visually categorizes the welfare programs but does not imply any hierarchy or order.

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In 2019, as part of an ongoing trade war, China placed tariffs on US soybeans and other agricultural goods. The loss of a very important export market pushed many US farmers close to bankruptcy. To help support farmers, the US government provided a farm subsidy of USD 16 billion to soybean farmers.

## Activity

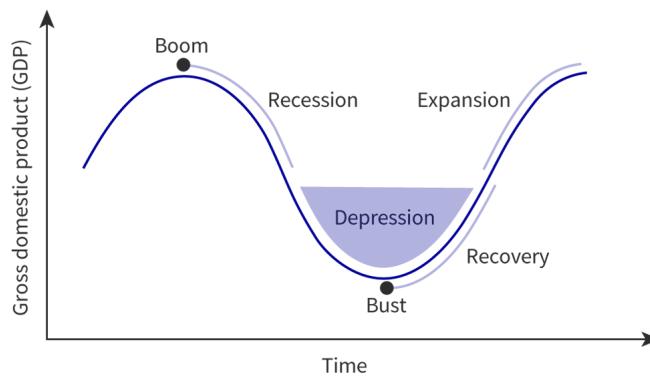
Research one way the government targets a specific economic sector in your country. Do you agree with the justification for the tax cut or subsidy? What will the consequences be in the short term, and the long term?



## Government spending is effective in deep recession

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An important strength of fiscal policy is its ability to help an economy recover from a recession, or even from a depression



**Figure 2.** A deep recession or depression occurs in a deep trough of the business cycle.

More information for figure 2

This graph illustrates the business cycle, depicting fluctuations in Gross Domestic Product (GDP) over time. The X-axis represents time, while the Y-axis represents GDP. The graph displays a wavy line with labeled points indicating different phases of the business cycle: Boom, Recession, Bust, Depression, Recovery, and Expansion. During the Boom phase, GDP peaks, followed by a decline into Recession. The lowest point is labeled Bust, leading into the Depression phase indicated by a deep trough. Afterwards, the graph shows Recovery as GDP rises, eventually leading into the Expansion phase where GDP growth accelerates.

[Generated by AI]

The business cycle describes the booms and busts of an economy. An expansion is the first stage. Business and consumer confidence is high; consumers feel confident to upgrade their car or take a well-earned holiday. This increase in consumption drives firms to increase output, hire more workers, and buy more machinery (they increase investment). The economy grows, unemployment falls, investment booms, and prices may start to rise.

Student view

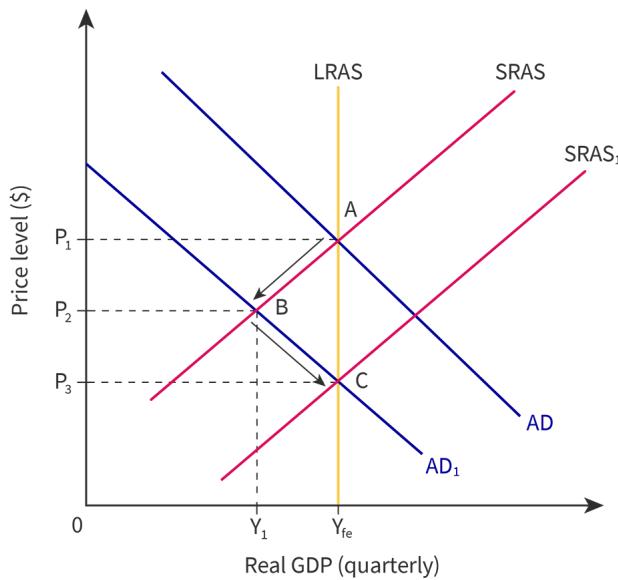
As expansion continues, and more and more people are employed, the economy may reach the peak phase. The economy is operating at full capacity and enjoys full employment. However, as firms continue to expand, they must compete for scarce workers; this drives up wages. Increasing labour costs and higher production costs will squeeze profits for firms. As firms face falling profits, they may reduce production. The economy now enters a corrective phase: a recession.

In a recession, firms will react to falling profits by cutting back output and dismissing workers. In turn, individuals who lose their jobs and their incomes will cut their consumption. During a recession unemployment rises, incomes fall, consumption falls and GDP falls.

If the recession is serious enough (defined as GDP falling by 25%), the economy is said to be in depression. But what can turn the economy around? Is it the role of governments to intervene in the market and restore economic growth?

## The monetarist or new classical perspective

Monetarists argue that there is no need for the government to intervene. The economy will readjust automatically, and will move back into equilibrium at the full employment level of output on its own.



**Figure 3.** A monetarist view of why there is no need for the government to intervene in a recession.

Let's assume the economy is facing a recessionary gap, and real GDP at  $Y_1$  falls below the full employment level at  $Y_{fe}$ . In a recession, firms react to falling profits by cutting back output and dismissing workers. Individuals who lose their jobs and their incomes will cut consumption. Should the government intervene? Monetarists or new classical economists say *no*. They argue that:

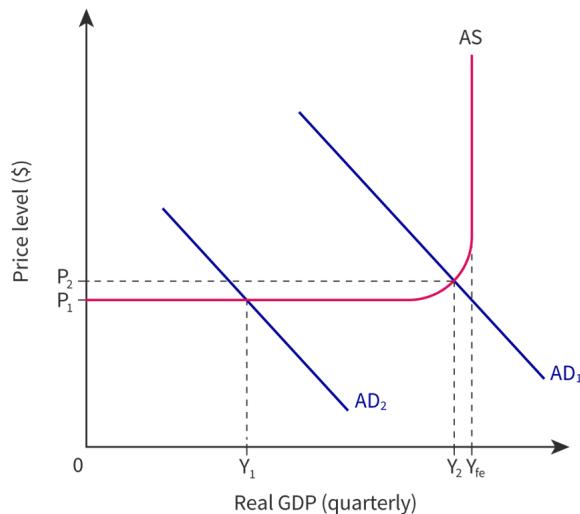
- As workers lose their jobs, they are prepared to take on employment at lower wages.
- Firms can now employ cheaper labour and thus reduce their costs.
- Lower costs would allow producers to produce more by shifting the SRAS to SRAS1.
- To do so, they must hire more to increase output back to  $Y_{fe}$ , but now at a lower average price level  $P_3$ .
- This will lead to the expansionary phase of the business cycle.

Therefore, the economy will recover without any need for government interference.

## • The Keynesian perspective

Student view

Keynesians argue that the government must intervene. In a recession, the economy may be in equilibrium, but at a level *below the full employment level of output*. To help the economy readjust to equilibrium at the full employment level of output, the government will need to intervene.





#### Figure 4. A Keynesian view of the need for the government to intervene in a recession.

More information for figure 4

This image depicts a graph typically used in macroeconomics to illustrate the Keynesian view of economic intervention during a recession. The X-axis represents Real GDP (quarterly), ranging from 0 to beyond  $Y_{fe}$  (full employment level). The Y-axis represents Price level (\$), ranging from 0 upwards.

There are three main curves depicted: 1. **AS (Aggregate Supply)**: A curve bending sharply upwards after the  $Y_{fe}$  point, indicating a steep increase in price level with little increase in aggregate supply. 2. **AD1 (Aggregate Demand 1)**: A downward-sloping line crossing the AS curve at a higher price level ( $P_2$ ) and real GDP level ( $Y_2$ ), suggesting an initial equilibrium. 3. **AD2 (Aggregate Demand 2)**: Another downward-sloping line, parallel to AD1, crossing the AS curve at a lower price level ( $P_1$ ) and real GDP level ( $Y_1$ ), indicating a recessionary gap.

The graph shows two key price levels,  $P_1$  and  $P_2$ , and real GDP levels,  $Y_1$ ,  $Y_2$ , and  $Y_{fe}$ . It visually represents the necessity for governmental intervention to move the economy from a recessionary equilibrium at  $Y_1$  to full employment equilibrium at  $Y_{fe}$ .

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Let's assume the economy is facing a recessionary gap, and real GDP at  $Y_1$  falls below the full employment level of the output at  $Y_{fe}$ . Should the government intervene? Keynesians say **yes**. They argue that:

- As workers lose their jobs, they will cut back consumption.
- Firms notice that inventories are rising and they are not selling as many goods and services, so they will cut back output.
- Firms will therefore dismiss more workers.
- As workers lose their jobs, they will cut back consumption and so the cycle continues.

#### ✓ Important

The fundamental difference between Keynesians and monetarists is that Keynesians believe that wages are sticky and workers will not accept a pay cut .



Keynesians believe that without government intervention, the economy will move into a downward spiral.

Keynesians believe that government intervention and expansionary fiscal policy are effective tools to stimulate the economy in a deep recession. As government spending is a component of aggregate demand, and taxation directly affects consumption and investment, fiscal policy can be very effective in directly managing expenditure in the economy. An increase in aggregate demand from  $AD_2$  to  $AD_1$  can directly increase real GDP from  $Y_1$  to  $Y_2$  (**Figure 4**). Government schemes, such as school building projects, road building and improvements in telecommunications, will involve the creation of jobs in those areas. Job creation is an important way of boosting aggregate demand and the government can play a big role in this. Certainly, a large percentage of people will be employed by the public sector (including teachers, fire department employees, police, nurses, doctors, politicians and, in some countries, train drivers), with the government paying them their salaries directly.

When the economy finds itself in a position in which no group in society has the confidence to spend money (consumers reduce spending, especially on luxuries, and businesses put planned investments on hold), the government may be the only entity who can make a difference. Keynes saw this as the most crucial responsibility of government: to spend when everyone is not and to stop when everyone starts spending again.

## Theory of Knowledge

As described above, there are two contradictory perspectives on the aggregate supply curve, and the need for government intervention.

**The monetarist perspective:** Monetarists argue that there is no need for the government to intervene. The economy will readjust automatically, and will move back into equilibrium at the full employment level of output on its own.

**The Keynesian perspective:** Keynesians argue that the government must intervene. In a recession the economy may be in equilibrium, but at a level below the full employment level of output.

Who is correct; Monetarists or Keynesians?

The term 'physics envy' was coined by biologist Joel E. Cohen in a 1971 issue of Science. In its contemporary context, it is a term used to describe the condition from which economists are said to suffer — that is, wanting to fit a complex system science into a linear mathematical form.

In economic theory we have two distinctly different, and yet both widely accepted, perspectives.

**Knowledge question:** What are the limitations of knowledge in Economics that makes it impossible to determine which perspective is correct?

## Strengths and limitations in promoting growth, low unemployment, and a low and stable rate of inflation

There can be a conflict between government economic objectives. Governments aim to achieve economic growth, low unemployment and low inflation all at the same time. However, it is very challenging to meet all of these objectives in the short term.

If the government wishes to stimulate growth and employment, it may use expansionary fiscal policy.

✓  
Student view

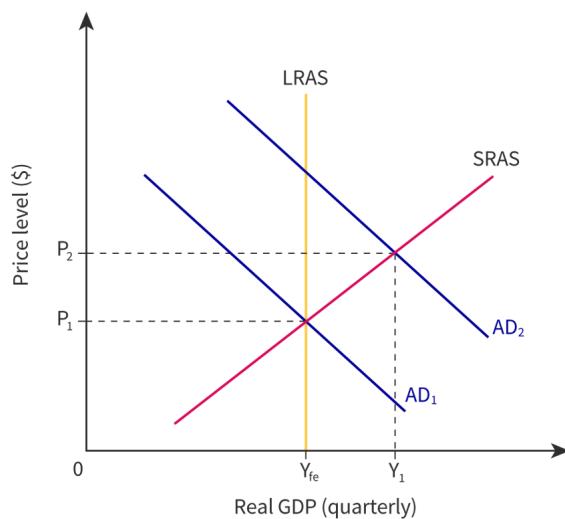


Figure 5. Expansionary fiscal policy creates growth and lowers unemployment.

More information for figure 5

The graph is an economic model showing the relationship between real GDP (quarterly) and price level (\$). The X-axis represents real GDP, with range starting from 0 to an indeterminate upper value, marking points at  $Y_{fe}$  for equilibrium GDP and  $Y_1$  for actual GDP. The Y-axis represents the price level with markers at  $P_1$  and  $P_2$  indicating different price levels.



Three lines are shown in different colors:

1. Long-Run Aggregate Supply (LRAS), represented by a vertical yellow line indicating full employment or potential GDP at  $Y_{fe}$ .
2. Short-Run Aggregate Supply (SRAS), shown as an upward-sloping line intersecting the LRAS line.
3. Two Aggregate Demand lines (AD\_1 and AD\_2), depicted in blue, showing shifts to the right, indicating increased aggregate demand leading to higher prices and real GDP level changes from  $P_1$  to  $P_2$  and  $Y_{fe}$  to  $Y_1$  respectively.

[Generated by AI]

Although the government objectives of growth and low unemployment are met, the goal of low inflation is not.

### Activity

How can governments achieve all three objectives at the same time? Is it possible for economies to have growth, low unemployment and low inflation?

In your class, identify a country that has achieved all three. What government policies were put into place to achieve this?

**Complete section with 3 questions**

Start questions

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Student view



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3. Macroeconomics / 3.6 Demand management—fiscal policy

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# Automatic stabilisers (HL)

## Section

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Notebook The economy has an in-built stabilising mechanism, where fiscal policy tools automatically kick in to soften booms and busts in the business cycle.



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## Economic boom

During an economic boom the economy will be growing, and moving closer to full employment. As the economy moves closer to the physical limit, prices may increase, and overheating may occur.

Should the government intervene in the market to slow the economy?

Automatic stabilisers will kick in to automatically slow down the economy. During an economic boom, unemployment falls, and government spending on unemployment benefits will fall. Governments may also pay less in rental subsidies for low income earners, as well as food stamps. Overall, government expenditure (G) will *automatically* fall without any direct intervention from the government.

At the same time, an economic boom will drive up wages and push workers into the next tax bracket. If a government is using a progressive tax system, a rise in wages means that workers will pay more income tax.

**Table 1.** Progressive tax brackets for Australian taxpayers.

Taxable income (residents)	Tax rate
\$0 - \$18 200	Nothing
\$18 201 - \$37 000	19 % for each \$1 over \$18 200
\$37 001 - \$80 000	\$3 572 + 32.5% for each \$1 over \$37 00
\$80 001 - \$180 000	\$17 547 + 37% for each \$1 over \$80 000
\$180 001 and over	\$54 547 + 47% for each \$1 over \$180 000

In a progressive tax system, the tax rate increases as incomes increase.

For the first AUD 18 200 you earn, you will pay no tax.

So if you are earning AUD 18 000 per year, your total tax liability is AUD 0.

Suppose, as a result of the economic boom, your income increases to AUD 19 000.

For the first AUD 18 200 you earn, you will pay no tax.

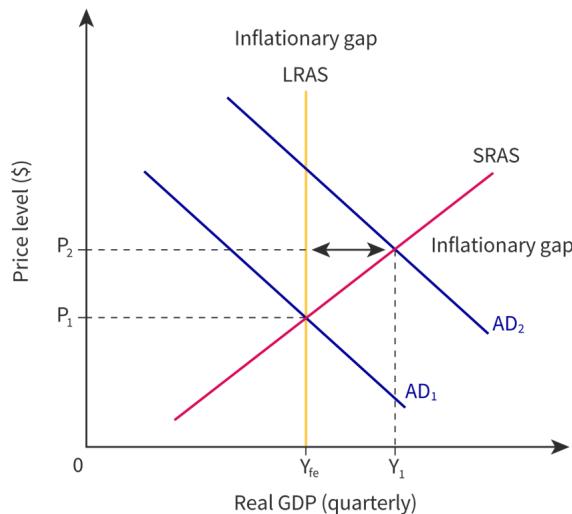


However, for every dollar you earn over AUD 18 200, you will pay 19¢.

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Hence you will pay  $(800 \times 0.19)$ . Your total tax liability is AUD 152.

Therefore, as incomes increase, taxes will increase *automatically*. Overall, a fall in government expenditure (G) and an increase in taxes (T) will decrease aggregate demand from  $AD_2$  to  $AD_1$  and slow down the economy towards  $Y_{fe}$ . Hence, the built-in automatic stabilisers decrease the need for the government to intervene in the market.



**Figure 1. Automatic stabilisers will dampen overheating in the economy.**

More information for figure 1

The graph depicts an economic model illustrating the relationship between various economic factors. The horizontal axis represents Real GDP (quarterly) starting from 0, while the vertical axis represents the Price level in dollars (\$). There are several key lines on the graph:

1. AD2 and AD1: Two blue lines represent different levels of aggregate demand. AD2 is farther to the right than AD1.
2. SRAS: A solid pink line indicating the Short-Run Aggregate Supply.
3. LRAS: A vertical yellow line signifying the Long-Run Aggregate Supply.
4. Inflationary gap: The gap between AD2 and AD1 indicates the inflationary pressures between these demand levels.
5.  $Y_{fe}$ : This point on the horizontal axis indicates full employment equilibrium.
6.  $Y_1$ : A point further to the right of  $Y_{fe}$ , showing another demand condition.
7.  $P_1$  and  $P_2$ : Horizontal dashed lines corresponding to different price levels related to AD1 and AD2.

The graph shows how shifts in aggregate demand and supply can lead to changes in price levels and GDP, creating an inflationary gap if demand is too high relative to the long-run supply.

[Generated by AI]

## Economic bust

During an economic bust or a recession the economy is slowing down. Firms are cutting back output and firing workers. Workers are losing their jobs and cutting back their spending. The economy is moving into a downward spiral.



**Figure 2.** The unemployed lining up outside a soup kitchen in 1931. The downturn during the Great Depression was significant.

Source: ["Unemployed men queued outside a depression soup kitchen opened in Chicago by Al Capone, 02-1931 - NARA - 541927"](#)

([https://commons.wikimedia.org/wiki/File:Unemployed\\_men\\_queued\\_outside\\_a\\_depression\\_soup\\_kitchen\\_opened\\_in\\_Chicago\\_by\\_1931\\_-\\_NARA\\_-\\_541927.jpg](https://commons.wikimedia.org/wiki/File:Unemployed_men_queued_outside_a_depression_soup_kitchen_opened_in_Chicago_by_1931_-_NARA_-_541927.jpg)) by U.S. National Archives and Records Administration is in public domain.

Should the government intervene in the market to stimulate the economy?

Just like in an economic boom, automatic stabilisers will kick in to stimulate the economy. During an economic bust, unemployment rises, and the government will spend more on unemployment benefits. At the same time, an economic bust may drive down wages, and push workers into a lower tax bracket. As a result, less tax revenue will be collected. A rise in government expenditure (G) and a decrease in taxes (T) will stimulate aggregate demand and create economic growth. Hence, automatic stabilisers decrease the need for the government to intervene in the market.

Automatic stabilisers are not enough by themselves to stabilise the economy and eliminate inflationary and deflationary gaps. However, they can reduce the severity of business cycle fluctuations.

### ⚠ Be aware

Student view

Automatic stabilisers are more effective in some countries than others. In developing countries such as Indonesia, there are no unemployment benefit programmes, welfare is limited and the corporate tax rate is flat. In this case, the most important mechanisms for effective automatic stabilisers are missing.

Complete section with 3 questions

Start questions

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