DP IB Economics: HL

Your notes

3.6 Demand Management: Fiscal Policy

Contents

An Overview of Fiscal Policy

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An Introduction to Fiscal Policy

- Fiscal Policy involves the use of **government spending and taxation** (revenue) to influence **aggregate demand** in the economy

- Fiscal policy can be **expansionary** in order to generate further economic growth
  - Expansionary policies include reducing taxes or increasing government spending

- Fiscal policy can be **contractionary** in order to slow down economic growth or reduce inflation
  - Contractionary policies include increasing taxes or decreasing government spending

- Fiscal Policy is usually presented annually by the Government through the **Government Budget**
  - A **balanced budget** means that **government revenue = government expenditure**
  - A **budget deficit** means that **government revenue < government expenditure**
  - A **budget surplus** means that **government revenue > government expenditure**

- A budget deficit has to be financed through **public sector borrowing**
  - This borrowing gets added to the **public debt**

Sources of Government Revenue

- The main sources of government revenue include **taxation,** the sale of goods/services by government owned firms, and the sale of government owned assets (privatisation)

1. Taxation

- **Direct taxes** are taxes imposed on **income and profits**
  - They are **paid directly** to the government by the individual or firm
    - E.g. Income tax, corporation tax, **capital gains tax**, national insurance contributions, inheritance tax
- **Indirect taxes** are imposed on **spending**

- The **supplier** is responsible for sending the payment to the government
  - Depending on the **PED** and **PES** producers are able to pass on a proportion of the indirect tax to the consumer
  - The **less** a consumer spends the **less indirect tax** they pay
  - E.g Value Added Tax (20% VAT rate in the UK in 2022), taxes on **demerit goods**, excise duties on fuel etc.


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2. Sale of goods/services

- Government owned firms sometimes **charge for the goods/services** that they provide
  - E.g. Charges on public transport and fees paid to access some medical services

3. The sale of government owned assets

- **Privatisation** can generate significant **government revenue** during the year in which the government sells the asset
  - Most assets can only be sold once e.g. national airlines or railways
  - Some assets, such as the right for **mobile phone operators** to use the airwaves, can be sold every few years (the airway license is for a defined period of time)

Government Expenditure

- **Government expenditure** represents a significant portion of the **aggregate demand** in many economies. The expenditure can be broken down into three categories

1. **Current expenditures:** These include the **daily payments** required to run the government and public sector. E.g. The wages and salaries of public employees such as teachers, police, members of parliament, military personnel, judges, dentists etc. It also includes payments for goods/services such as medicines for government hospitals
2. **Capital expenditures:** These are investments in **infrastructure** and capital equipment. E.g. High speed rail projects; new hospitals and schools; new aircraft carriers
3. **Transfer payments:** These are payments made by the government for which **no goods/services are exchanged.** E.g. Unemployment benefits, disability payments, subsidies to producers and consumers etc. This type of government spending does not **contribute to aggregate demand** as income is only transferred from one group of people to another

The Goals of Fiscal Policy

- **Fiscal policy** is used to help the government achieve their **macroeconomic objectives**

- Specifically, the use of fiscal policy aims to
  - Maintain a low and stable rate of inflation
  - Maintain low unemployment
  - Reduce the **business cycle** fluctuations
  - Create a stable economic environment for long-term economic growth
  - **Redistribute income** so as to ensure more equity
  - Control the level of exports and imports (net external balance)
- When a policy decision is made, it creates a **ripple effect through the economy** impacting the macroeconomic objectives of the government
- **Changes to fiscal policy** can influence several of the components of **AD**
  - A change to any component of AD helps to achieve at least one of the **goals of fiscal policy**


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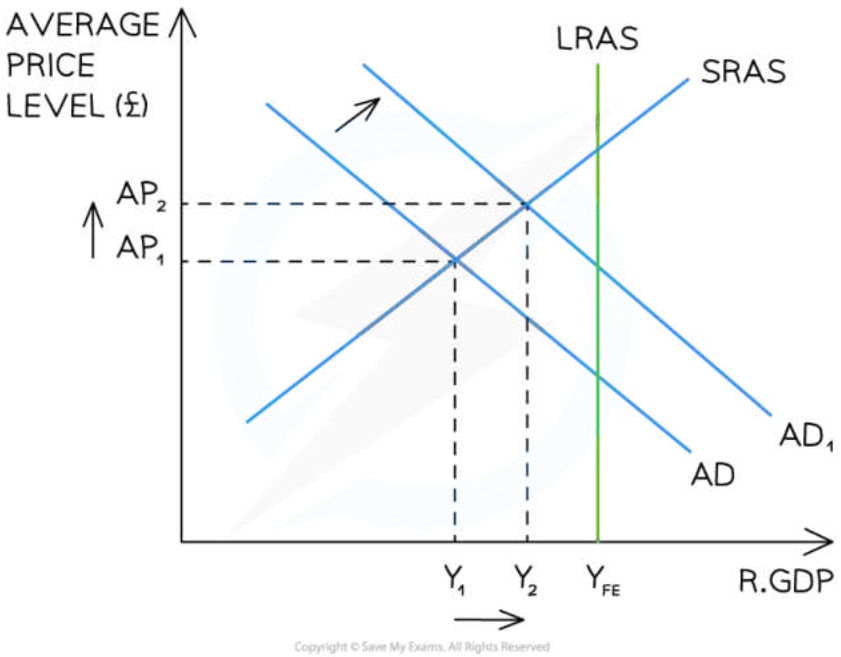
Expansionary & Contractionary Fiscal Policy

1. Expansionary Fiscal Policy

- Expansionary fiscal policies include reducing taxes or increasing government spending with the aim of increasing AD
- AD= household consumption (C) + firms investment (I) + government spending (G) + exports (X) - imports (M)
  - AD = C + I + G + (X - M)
- **Expansionary fiscal** policy aims to shift aggregate demand (AD) to the right



Classical diagram illustrating expansionary fiscal policy which increase real GDP ($Y_1 \rightarrow Y_2$) and average price levels ($AP_1 \rightarrow AP_2$)

Diagram Analysis

- The economy is initially in **macroeconomic equilibrium** AP_1Y_1 - there is a **recessionary gap**
- The Government is wanting to **boost economic growth** and lowers the rate of income and corporation taxes
- Lower taxes cause investment and consumption to increase which are components of AD
- Aggregate demand increases from AD→ AD_1
- The economy reaches a new equilibrium at AP_2Y_2 - a higher average price level and a greater level of national output

Examples of the Impact of Expansionary Fiscal Policy

Example 1: The Government decreases corporation tax

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Effect on the economy	Firms net profits increase → investment by firms increases → AD increases
Impact on macroeconomic aims	▪ **Economic growth** increases ▪ **Inflation** rises ▪ **Unemployment** may decrease as output is rising which requires more workers ▪ **Net external demand** - unsure - exports may rise due to new investments in the economy, but imports may rise due to higher income generated by the investment

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Example 2: The Government increases unemployment benefits	
Effect on the economy	Household income increases → consumption increases → AD increases
Impact on macroeconomic aims	▪ **Economic growth** increases ▪ **Inflation** rises ▪ **Unemployment** may decrease as output is rising which requires more workers (although increased unemployment benefits may discourage some people from entering the labour market) ▪ **Net external demand** is unlikely to change as this policy helps the poorest and imports are unlikely to increase ▪ **Redistribution of income** has increased and there is more equity in society

2. Contractionary Fiscal Policy

- Contractionary fiscal policies include increasing taxes or decreasing government spending with the aim of decreasing AD

- AD= household consumption (C) + firms investment (I) + government spending (G) + exports (X) - imports (M)

- AD = C + I + G + (X - M)

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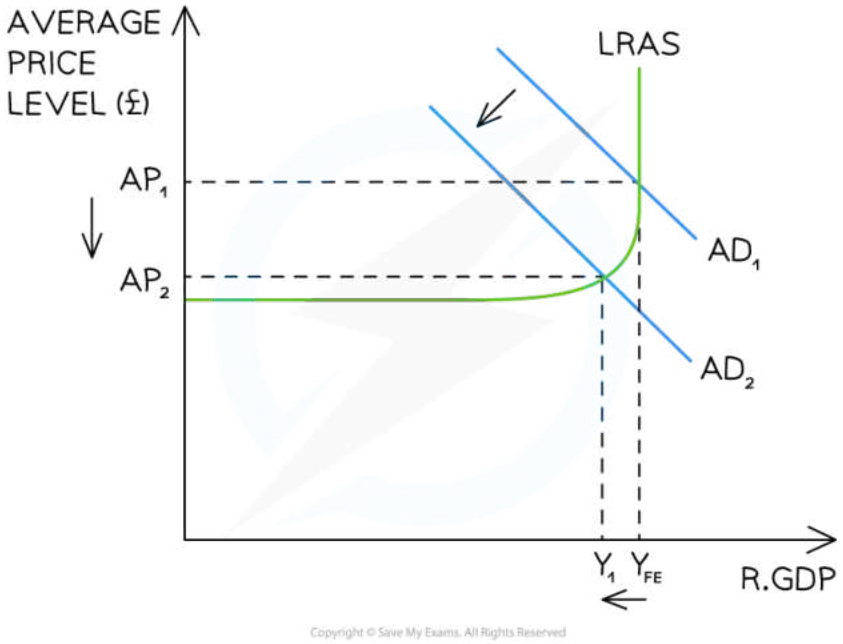
- **Changes to fiscal policy** can influence government spending or consumption or investment
  - Changing taxation can influence household consumption and the investment by firms

- **Contractionary fiscal** policies aims to shift aggregate demand (AD) to the left



Keynesian diagram illustrating how a contractionary fiscal policy aims to decrease real GDP ($Y_{FE} \rightarrow Y_1$) and average price levels ($AP_1 \rightarrow AP_2$)

Diagram Analysis

- The economy is initially in **macroeconomic equilibrium** AP_1Y_{FE} - an **inflationary output gap** is developing
- The economy is booming and the Government is wanting to **lower inflation towards its target of 2%**
- The Government increases the rate of income tax
- Higher tax rates cause households to have less **discretionary income** causing **consumption** to decrease
- Aggregate demand decreases from $AD_1 \rightarrow AD_2$

- The economy reaches a new equilibrium at AP_2Y_1 - a lower average price level and a smaller level of national output

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Examples of the Impact of Contractionary Fiscal Policy

Example 1: The Government increases the rate of income tax	
Effect on the economy	Households pay more tax → **discretionary income** reduces → consumption reduces → AD reduces
Impact on macroeconomic aims	▪ **Economic growth** slows down ▪ **Inflation** eases ▪ **Unemployment** may increase as output is falling and fewer workers are required ▪ **Net external demand** Improves (with less income, imports may fall)

Example 2: The Government freezes/reduces public sector workers pay	
Effect on the economy	Wages stagnate or reduce → Consumer confidence falls → consumption decreases → AD decreases
Impact on macroeconomic aims	▪ **Economic growth** slows down ▪ **Inflation** eases ▪ **Unemployment** may increase as output is falling ▪ **Net external demand** improves (with less income, imports may fall)

Example 3: The Government cuts Government Spending in their Budget

Effect on the economy	Less demand for goods/services → less income for firms → output and profits decrease → AD decreases
Impact on macroeconomic aims	▪ **Economic growth** slows down ▪ **Inflation** eases ▪ **Unemployment** may increase as output is falling ▪ **Net external demand may** Improve (with less income, imports may fall) ▪ Less corporation tax available for **redistribution**


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The Keynesian Multiplier

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An Introduction to the Keynesian Multiplier

- **The multiplier is the ratio of change in real income to the injection that created the change**
  - E.g. If the Brazilian government injected an additional 5bn Brazilian real (BZL) into the economy through government spending and it resulted in an increase in real income of 15bn BZL, the value of the multiplier would be 3
- The **multiplier process** is based on the idea that one individual's **spending** is another individual's **income**
  - An increase in consumption immediately increases AD
    - Store owners who have benefitted from the **extra consumption** now have **extra income**
    - They **spend some** of that income on goods/services
    - Their **expenditure** on goods/services is **now income** for the next tier of individuals
  - Due to the successive rounds of spending, the final **increase** in **national income** is **much larger** than the initial injection
  - The size of the multiplier is entirely dependent on the size of **leakages** that occur during the process
    - The higher the leakages the smaller the multiplier
- The **initial injection shifts AD** to the right
  - The **result** of the multiplier process is that there is then a **secondary movement of AD** to the right which (if the multiplier were 2) may be **double** the initial movement
- The **multiplier** can also **work in reverse** when **injections are reduced** (downward multiplier effect)

The Effects of Marginal Propensities on the Multiplier

- The **'marginal propensities'** refer to the proportion of the **next $ earned** that a consumer saves, consumes, is taxed, or purchases imports with
- **Marginal propensities** are calculated for economies and provide insights into how **each additional $ of income** is allocated
  - Sweden has a **higher tendency to save** than the USA
    - Their marginal propensity to save is higher

- The USA, therefore, has a greater multiplier on any injections into the Circular Flow

An Explanation of the Marginal Propensities

Marginal Propensity	Explanation	Formula
Marginal Propensity to Consume (MPC)	▪ The proportion of additional income that is **spent on consumption (C)**	$MPC = \frac{\Delta C}{\Delta Y}$
Marginal Propensity to Save (MPS)	▪ The proportion of additional income that is **saved** (S)	$MPS = \frac{\Delta S}{\Delta Y}$
Marginal Propensity to Tax (MPT)	▪ The proportion of additional income that is **paid in tax (T)**	$MPT = \frac{\Delta T}{\Delta Y}$
Marginal Propensity to Import (MPM)	▪ The proportion of additional income that is spent on **imports (M**	$MPM = \frac{\Delta M}{\Delta Y}$

Calculating the Multiplier

- The **value of the multiplier** can be calculated one of two ways
  - By focusing on the **marginal propensity to consume (MPC)**
  - Or, by focusing on the **withdrawals** that occur on each additional $ of income (MPS + MPT + MPM)

1. **Focussing on the MPC**

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

2. **Focusing on the Withdrawals**

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

Worked Example

An economy has the marginal propensity to save of 0.15, marginal propensity to tax of 0.20 and a marginal propensity to import of 0.15.

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a) Calculate the size of the multiplier.

b) If the Government increases their infrastructure spending by £60m, calculate the total increase in GDP, assuming all other things remain equal.

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Answer:

Step 1: Insert the values into the withdrawal formula

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

$$= \frac{1}{(0.15 + 0.15 + 0.20)} = \frac{1}{0.5}$$

$$= 2$$

Step 2: Multiply the injection by the multiplier

Impact on GDP = Injection x multiplier

= £60m x 2

= £120m

Worked Example

Calculate the amount of government spending required to restore an economy's macroeconomic equilibrium if the economy faces a $22bn recessionary gap and its MPC is 0.6 [2]

Answer:

Step 1: Calculate the multiplier

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

$$\text{Multiplier} = \frac{1}{(1 - 0.6)} \quad \text{[1 mark]}$$

$$\text{Multiplier} = 2.5$$

Step 2: Calculate the value of government spending required

$$\text{Government spending required} = \frac{\$\ 22\ \text{bn}}{2.5}$$

$$\text{Government spending required} = \$\ 8.80\ \text{bn}$$ [1 mark]

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Significance of the Multiplier in Shifting Aggregate Demand (AD)

- The **greater the withdrawals**, the **smaller the value of the multiplier** - and vice versa
- The **greater the MPC**, the higher the value of the multiplier - and vice versa
- Any change in one of the **factors** that impacts on **disposable income**, will change the multiplier
  - If **taxes increase** the value of the **multiplier reduces**
  - If **interest rates increase**, savings increase and consumption decreases and the **multiplier reduces**
  - If **exchange rates appreciate** the level of imports will increase and the **multiplier decreases**
  - If **confidence in the economy** increases consumption increases and the **multiplier increases**
- It is extremely useful for the **Government** to know the value of the **multiplier**
  - They can use it to **judge the likely economic growth** caused by increased spending
- There is a time lag as it takes time for the successive rounds of income to work through the economy

Examiner Tips and Tricks

The final bullet point above mentions time lags. This is an excellent point to include in any **evaluation** on the effectiveness of the multiplier. It may take up to 18 months for the full multiplier effect to be seen & any change to consumer confidence during this period will impact the final outcome.

An Evaluation of Fiscal Policy

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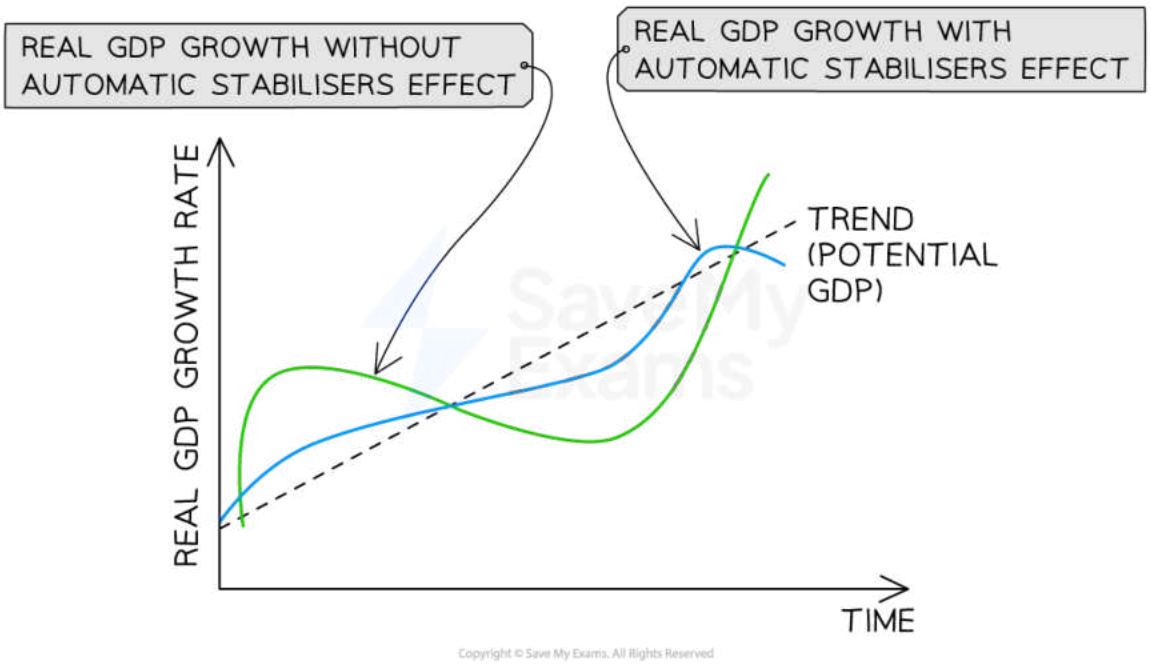
Strengths of Fiscal Policy

- Spending can be **targeted** at specific industries
- It can be highly effective in restoring confidence in an economy during a deep **recession**
- **Redistributes income** through taxation
- Reduces **negative externalities** through taxation
- Increased consumption of merit/public goods
- Short term government spending can lead to an increase in the **aggregate supply** of an economy
    - E.g. Building a new airport **immediately** increases government spending and AD, but when it is built, the potential output will have increased (Production Possibility Curve has shifted outward)

Automatic Stabilisers as a Strength of Fiscal Policy

- **Automatic stabilisers** are **automatic fiscal changes** that occur as the economy moves through stages of the **business/trade cycle**



The impact of automatic stabilisers on an economy during a boom and recession

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1. Effect in a recession

- In a recession, there will (automatically) be **lower tax revenue due to the nature of progressive taxation** - as incomes fall **households are taxed less**
- In a recession, as unemployment rises, the government will pay **higher unemployment benefits** / transfer payments which households will then be **used for consumption**
- Both of the above will result in **real GDP being higher** than it would otherwise have been

2. Effect in a boom

- In a boom, there will (automatically) be **higher tax revenue due to the nature of progressive taxation** - as incomes rise **households are taxed more**
- In a boom, as unemployment falls the government will pay **less unemployment benefits** / transfer payments which households which then does not get generate increased **consumption**
- Both of the above will result in **real GDP being lower** than it would otherwise have been
- This is effectively an **automatic disinflationary effect**

Weaknesses of Fiscal policy

- **Political pressures:** Policies can fluctuate significantly when **new governments** are elected
  - **Long term** infrastructure projects may lack follow-through
- **Unsustainable debt**: Increased government spending can create budget deficits which are added to the **national debt**
  - Repaying this debt may lead to **austerity** on future generations
- **Conflicts** between objectives
  - E.g. Cutting taxes to increase economic growth may cause inflation
- **Time lags:** It is difficult to predict exactly when the desired effect on the economy will occur. Fiscal policy also takes a longer time to plan and implement than monetary policy
  - Government budgets are usually presented once a year whereas monetary policy adjustments can take place 4–8 times per year

Crowding Out as a Weakness of Fiscal Policy

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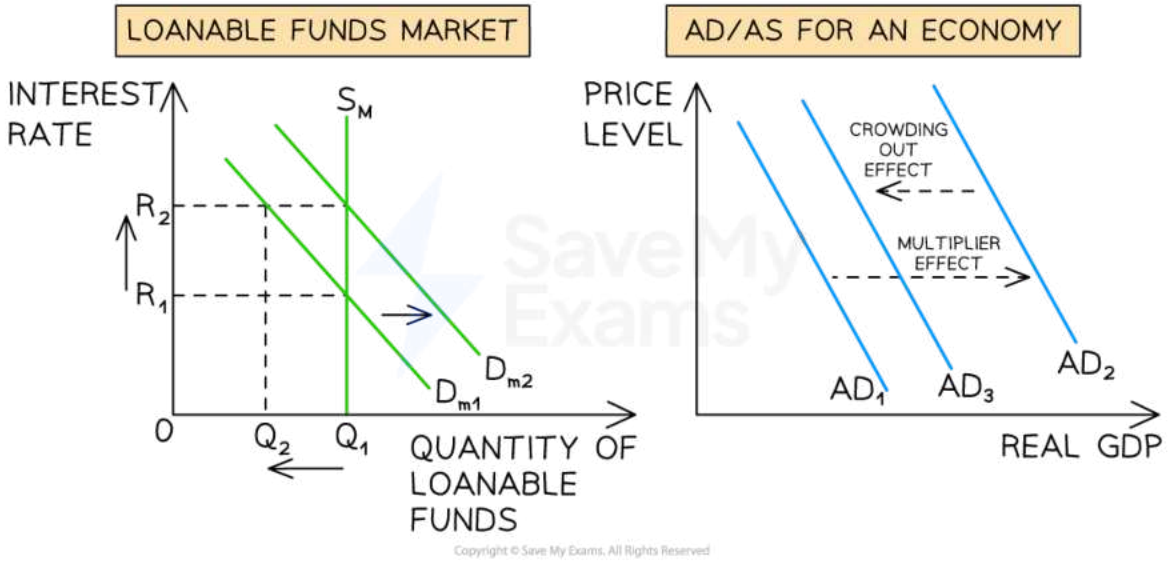
- Crowding out refers to a phenomenon where **expansionary fiscal policy**, particularly government spending, can result in a **reduction of private sector spending or investment**

- Government borrowing results in competition with others in the economy who **want to borrow the limited amount of savings available**
  - This competition causes the real **interest rate to rise and private investment decreases (is crowded out)**



The diagram on the left shows how government borrowing increases interest rates, resulting in a fall in AD in the diagram on the right as private firms are crowded out of the market

Diagram Analysis

- Increased government borrowing causes the demand for money in the loanable funds market to increase from $\mathbf{D_{M1} \rightarrow D_{M2}}$
- This **extra demand** raises interest rates from $R_1 \rightarrow R_2$
- The government increases their spending using the borrowed funds and aggregate demand in the economy increases from $AD_1 \rightarrow AD_2$
  - The increase in AD is **greater than the actual value of the injection** due to the **Keynesian multiplier**

- **Private firms** are put off from borrowing loanable funds due to the increased rate of interest and **investment falls**
  - As investment falls, aggregate demand decreases, shifting back to AD_3
- Private firms have been **crowded out of the market** by the governments actions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