Demand-Side Policy

MONETARY POLICY

3.5

Definition

Monetary Policy

Monetary = Money

The activities conducted by a central bank using the money supply and interest rates to regulate an economy.

Definition

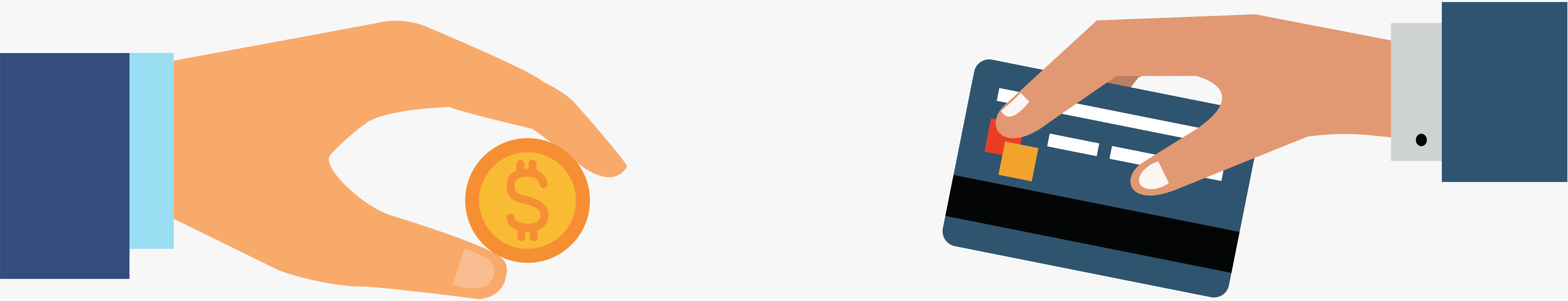
Central Bank

A national bank of a country that controls the money supply using monetary policy and manages the domestic currency.

Definition

Money Supply

The total amount of money in circulation in an economy.



Central Bank Functions

1. **Determines the money supply and interest rate**
2. **Prints money and mints coins**
3. **'Last Resort' lender for commercial banks**
4. **Open Market Operations (Buying/Selling Bonds)**
5. **Regulates the banking system (Required Reserve Ratio)**

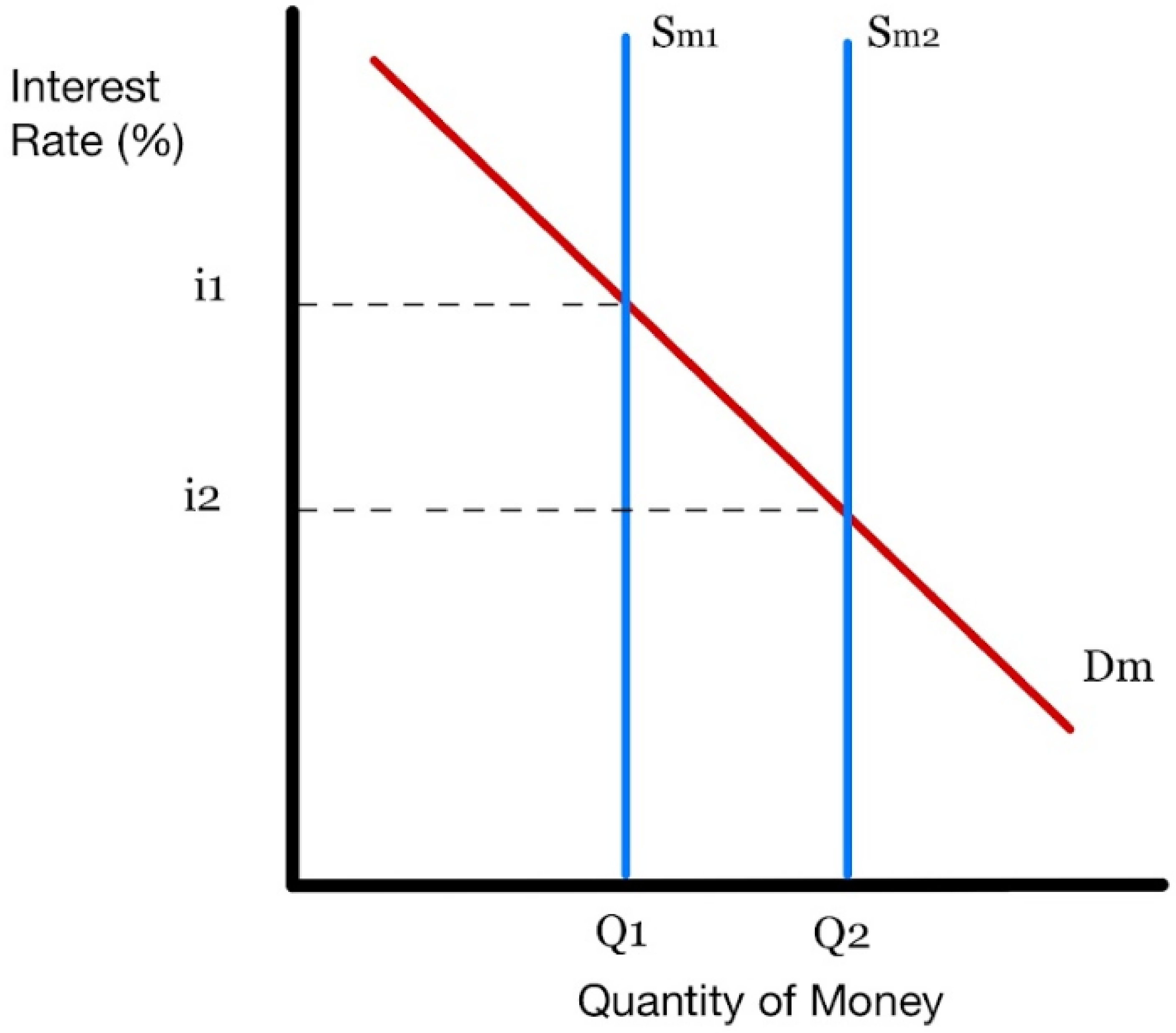
1. Determines Money Supply and Interest Rate

There is only a certain amount of money available in an economy therefore, the supply of the money supply is **fixed** or **perfectly inelastic.** **(**Sm**)**

A nation's central bank can choose to intervene and increase the total money supply in an economy.

The relationship between the quantity of money and interest rate is **INVERSE.** A lower interest rate and increased money supply are designed to stimulate the economy.

This Monetary Policy is used to increase both Consumption and Investment, increasing AD



2. Prints Money and Mints Coins

The Central Bank is in charge of printing banknotes and minting coins.

This gives them the ability to :

- control the money supply
- replace old or illegible banknotes
- regulate counterfeit notes by implementing security features within the notes.

3. 'Last Resort' Lender for Commercial Banks

If consumers lose confidence in the banking system, everyone will rush to take out their money (known as a ' run on the bank') .

Banks will not have this money on hand and therefore, run out of money very quickly.

In this scenario, a central bank typically guarantees deposits up to a certain amount. Additionally, it may step in and limit withdrawal amounts, close banks, or give loans.

The run on the bank from 'It's A Wonderful Life'.

4. Open Market Operations (Buying/Selling Bonds)

Bond – A way for the government to raise fun by asking for a 'loan' from individuals. After a predetermined amount of time, the government repays the loan with interest.

Buying bonds takes money out of circulation and into the hands of the government while selling bonds increases the money supply.

5. Regulates the banking system (Required Reserve Ratio)

The central bank also ensures that commercial banks don't take on too much risk. To enforce this, the central bank uses the **Required Reserve Ratio (RRR).**

The **RRR** is a percentage or portion of deposits that must be kept readily available in reserves.

The Goals of Monetary Policy

Goals of Monetary Policy

Low and Stable Inflation

With the use of an inflation target range, inflation is managed and creates a sense of certainty within an economy. Inflation should be low and stable.

Low Unemployment

Consumption is the dominant component of GDP. Individuals who are unemployed do not contribute to a country's GDP and will limit consumption.

Goals of Monetary Policy

Long Term Growth and Stability

Through careful monitoring of inflation, unemployment, and the business cycle, Real GDP has the ability to grow with stability.

Reducing Business Cycle Fluctuations

Business Cycle fluctuations can heavily impact an economy. Central Bank's have the ability to limit the severity of these fluctuations by using Monetary Policy.

External Balance

External Balance is achieved when imports = exports. Changes to the Money Supply and Interest Rates have the ability to affect external balance and trade.

Money Creation (HL Only)

Creation of Money

Commercial banks have the ability to create money through loans and credit. Banks are only required to keep the **RRR.** The remaining amount of deposits may be loaned out.

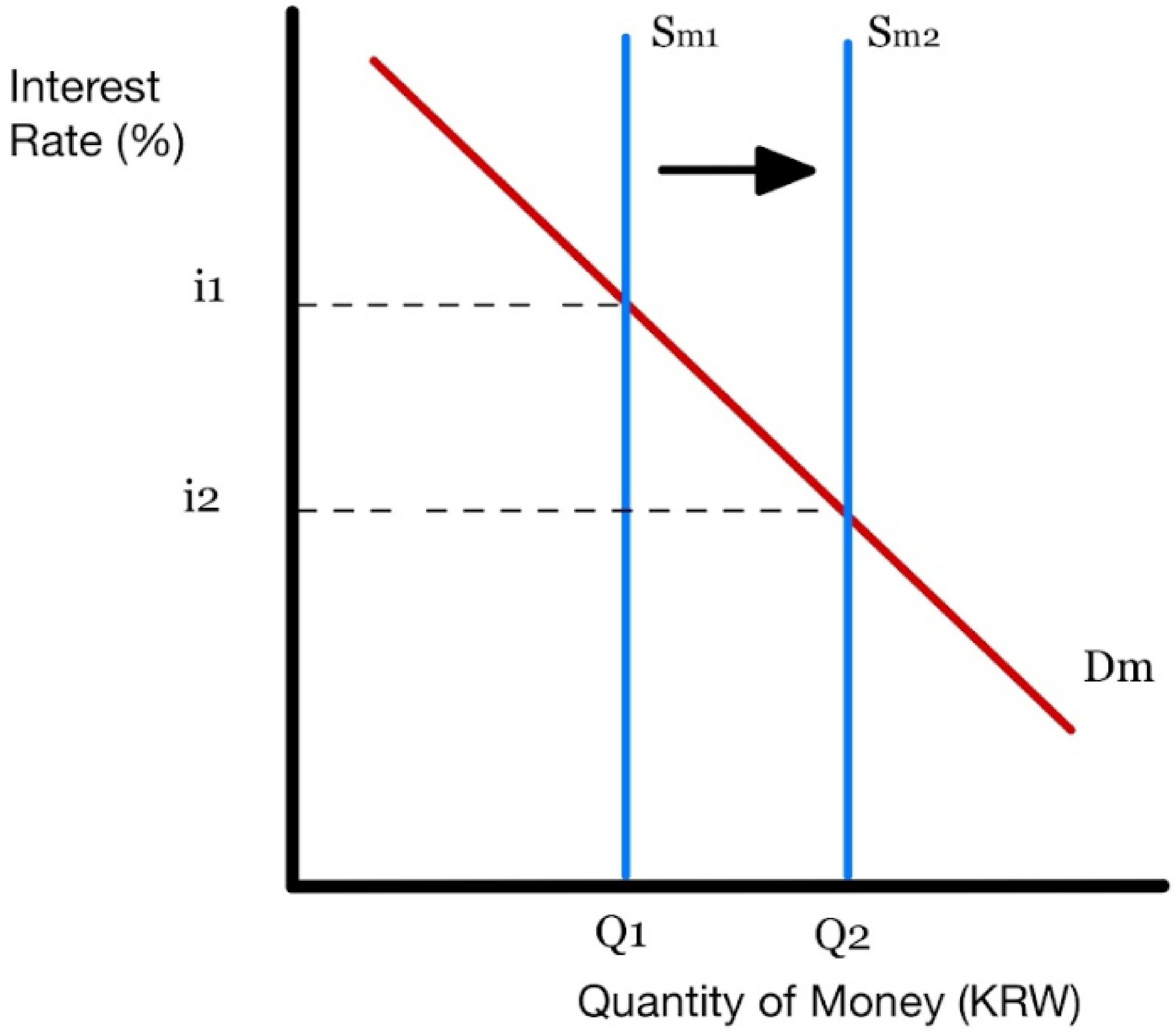
Example

1. JinWoo deposits 100,000 Korean Won at his bank.
2. The Required Reserve Ratio (RRR) is set by the central bank at 10%.
3. The bank must keep 10,000 Won on hand but can loan out the remainder of 90,000 KRW.
4. YuJin, a restaurant owner takes the 90,000 Won loan to buy supplies for their restaurant.

By doing this, a commercial bank has turned 100,000 KRW in circulation to 190,000 KRW by using **credit creation**.

This process is a chain reaction. JinWoo deposits money and makes credit available. Then YuJin deposits the money from her loan and the rest is credit available. Then someone else receives a loan from YuJin's deposit.

Korean Money Supply Increase



Creation of Money

You may need to quickly determine how much money is created with more numbers. To do this, we use the **credit multiplier.**

Credit Multiplier = the reciprocal of the Reserve Requirement. (10% from our previous example)

Credit Multiplier $= \frac{RRR}{100} = \frac{100}{RRR} = x$ → $\frac{10}{100} = \frac{100}{10} = 10$

Total Deposits = Initial Deposit × Credit Multiplier → 100,000 KRW × 10 = 1 Million KRW

Total Credit Creation = Initial Credit Creation × Credit Multiplier → Initial Credit Creation from our example was 90% of 100,000 KRW. 90,000 KRW × 10 = 900,000 KRW

Please keep in mind these calculations are not required. They are simply here to add to understanding about the process of credit creation.

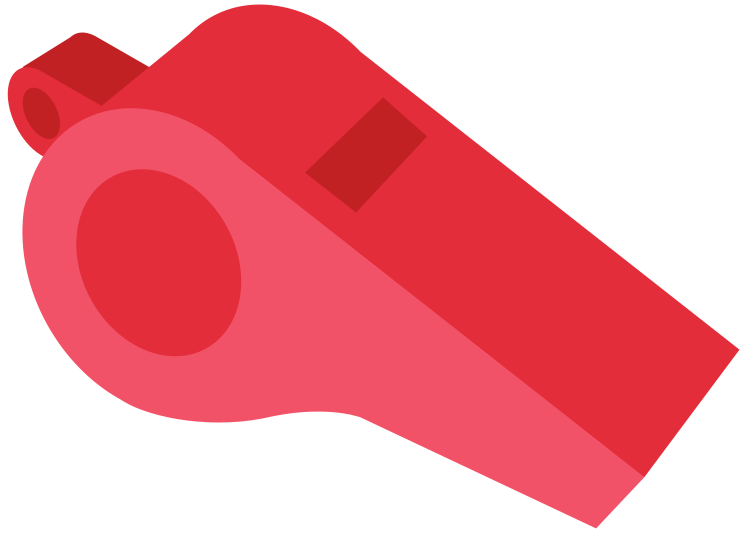
Practice

Please keep in mind these calculations are not required. They are simply here to add to understanding about the process of credit creation.

Lisa makes a deposit of 1,000 Euros at a bank where the Required Reserve Ratio is 5%.

Calculate the following:

- Credit Multiplier
- Total Deposits
- Total Credit Creation

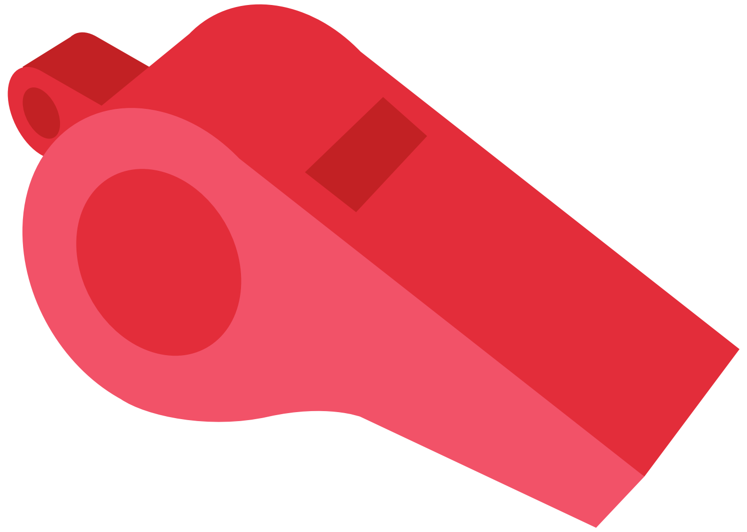


Practice

Lisa makes a deposit of 1,000 Euros at a bank where the Required Reserve Ratio is 5%.

Calculate the following:

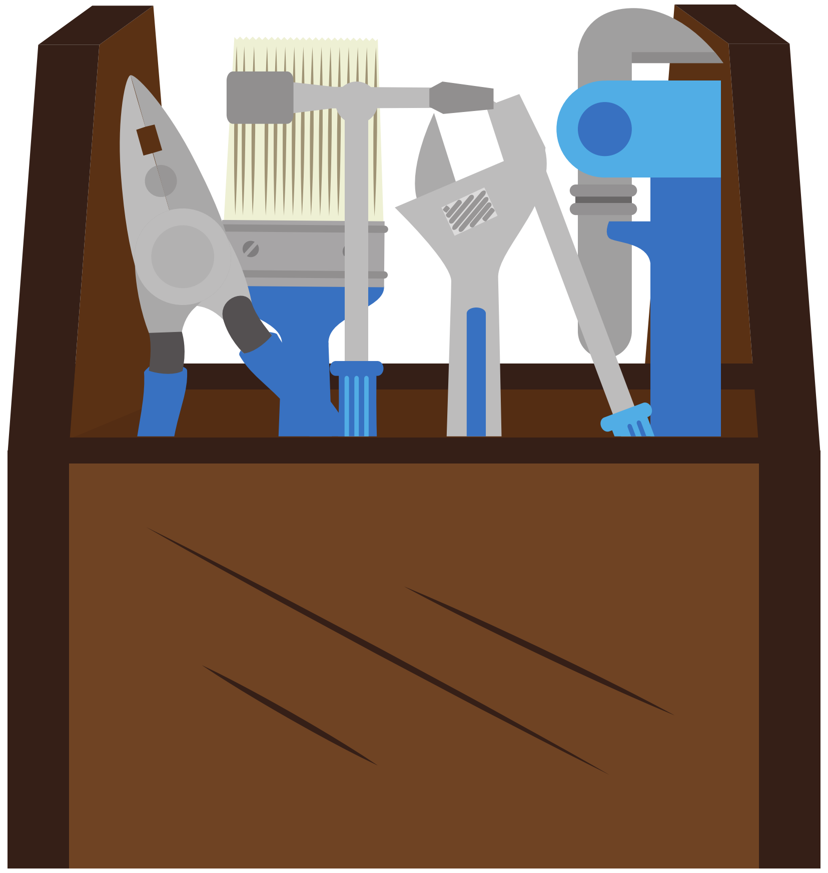
- Credit Multiplier = 20
- Total Deposits = 20, 000 Euros
- Total Credit Creation = 19, 000 Euros



Review

Money Multiplier/Credit Multiplier Video

Tools of Monetary Policy (HL Only)



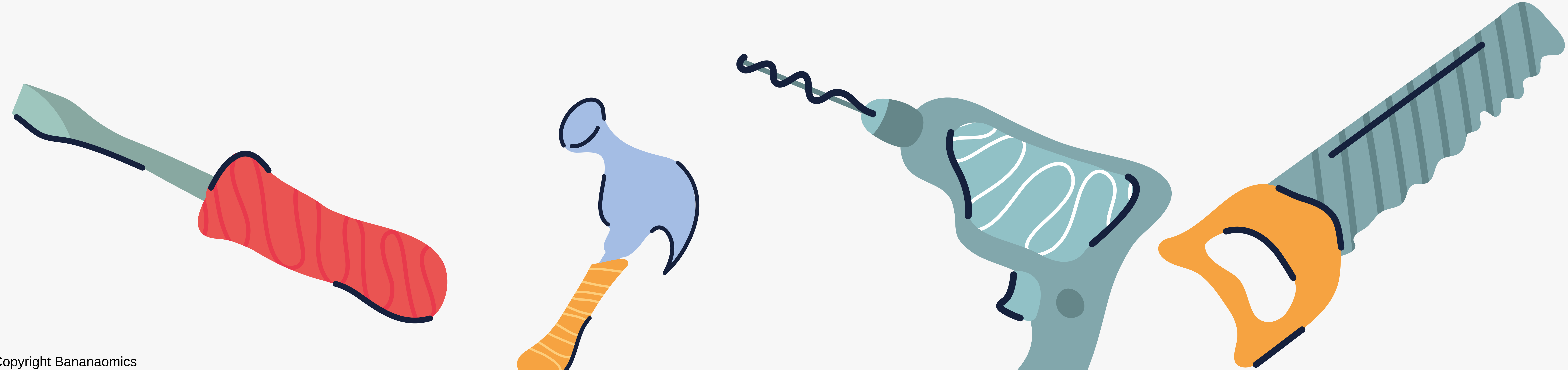
Monetary Policy Toolbox

Open Market Operations

Minimum Required Reserve Ratio

Minimum Lending Rate / Interest Rate

Quantitative Easing



Monetary Policy Tools

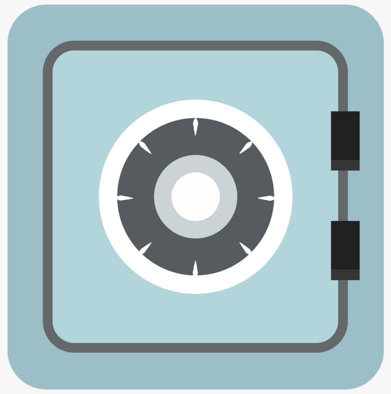
Open Market Operations

The interaction between a government and an investor where the government provides an IOU (I owe you) to individuals with interest.   The process of buying and selling bonds can impact the money supply.

Reserve Requirements

We should already be famililar with this. If the RRR increases, less money goes into circulation leading to a decrease in the money supply and vice versa.

A fall in the RRR is an **expansionary policy** as the goal is to increase money in circulation and stimulate the economy. An increase in the RRR is an **contractionary policy** as the goal is to decrease money in circulation and reduce loanable funds.



Monetary Policy Tools

Minimum Lending Rate

The minimum lending rate is the rate at which the central bank charges commercial banks to borrow money. This rate impacts commercial banks interest rates and has the ability to encourage or discourage borrowing money.

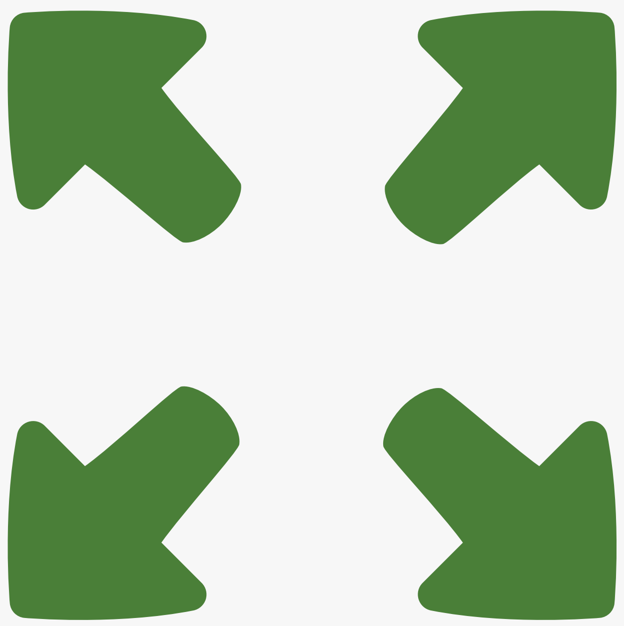
Quantitative Easing

When the central bank injects or creates more digital money. Typically, central banks buy bonds with this newly created money which introduces money into the economy. The goal of quantitative easing is to encourage spending and investment in an economy. The opposite to quantitative easing and quantitative tightening where the central bank destroys digitally created money.

Monetary Policy Tools

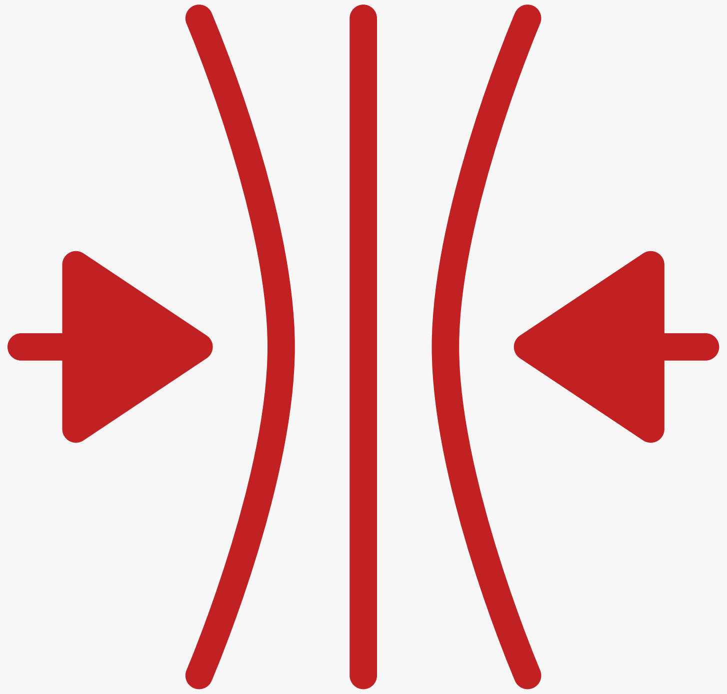
Expansionary Monetary Policy

- Buying Bonds
- Lowering Reserve Requirement (RRR)
- Lowering Lending Rates
- Quantitative Easing



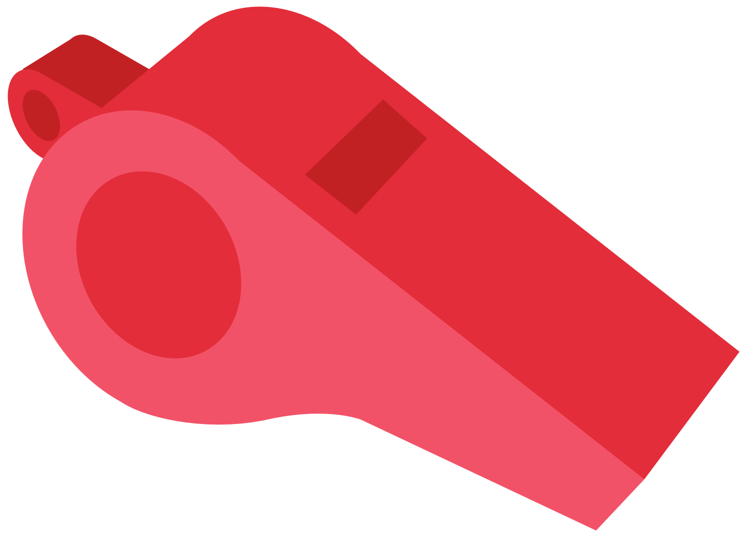
Contractionary Monetary Policy

- Selling Bonds
- Raising the Reserve Requirement (RRR)
- Raising Interest Rates
- Quantitative Tightening



Practice

Draw a large business cycle. On the business cycle, label the location where expansionary and contractionary monetary policy would be used. Outline the details of each policy.



Demand and Supply of Money (HL Only)

Money Supply and Interest Rate

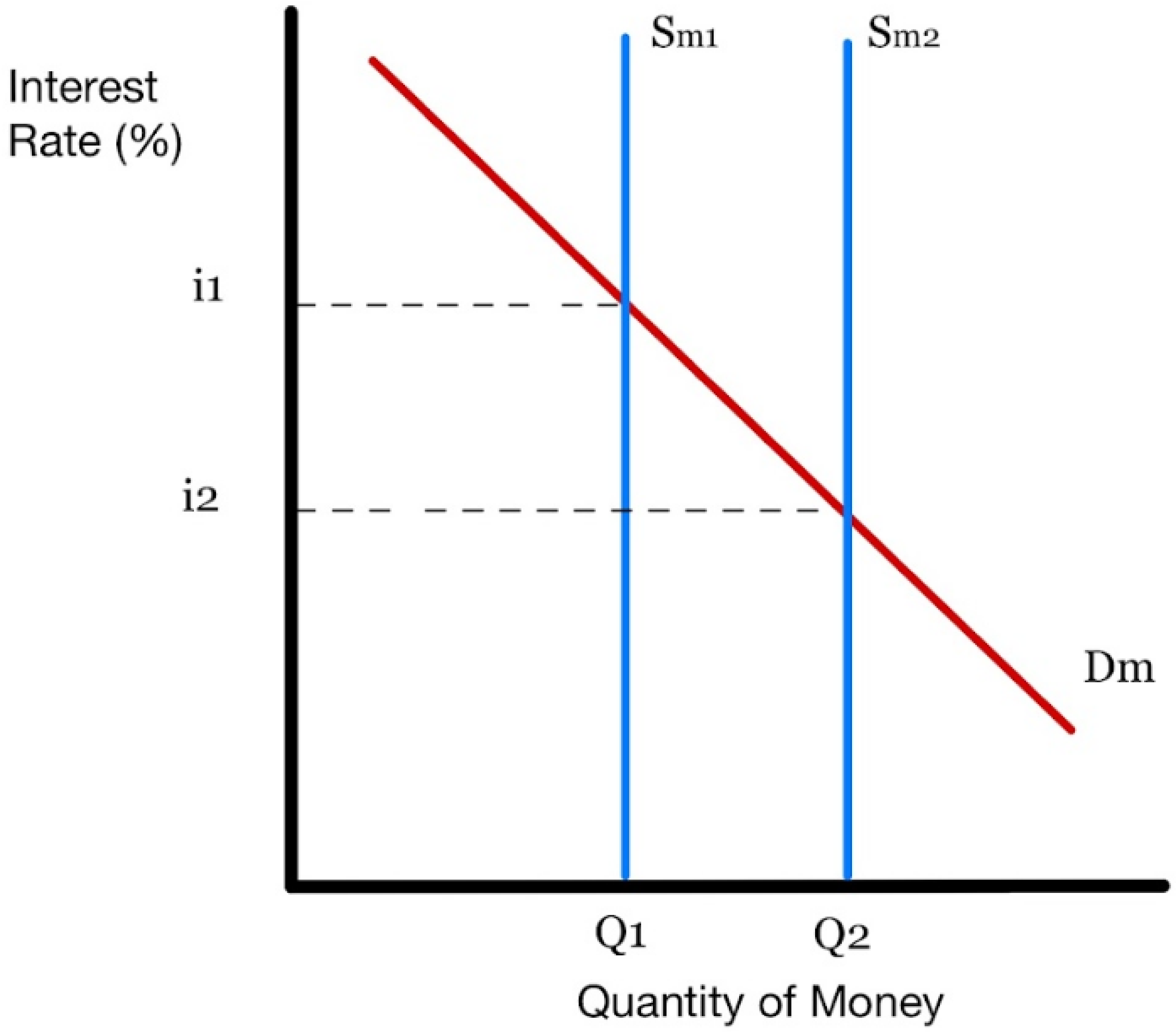
Interest Rate

The cost of borrowing money.

Money Supply Graph

Y-Axis = The price of money. (interest rate)

X-Axis = The quantity of money



Money Supply and Interest Rate

The Supply for Money

The total amount of money in circulation. The supply of money is influenced by monetary policy.

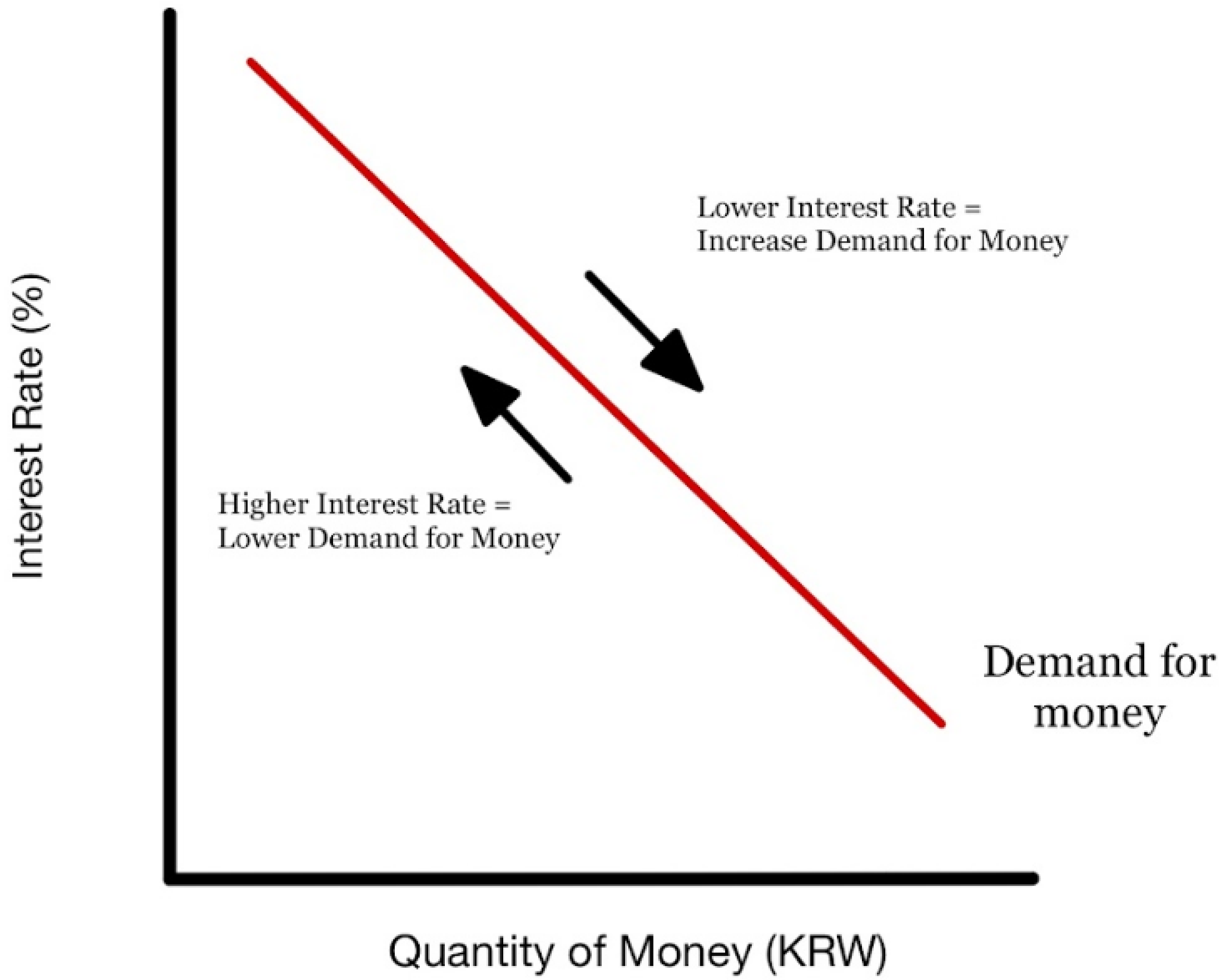
The Demand for Money

The willingness and ability of firms and consumers to use money at a given interest rate. The curve is downward sloping.

What influences the demand for money?

1. Transactions Motive: Individuals demand money for physical goods and services.
2. Precautionary Motive: Individuals demand money as a precaution for unexpected costs. (medical bills)
3. Speculative Motive: Individuals demand money because they want to hold it due to low confidence regarding the future.

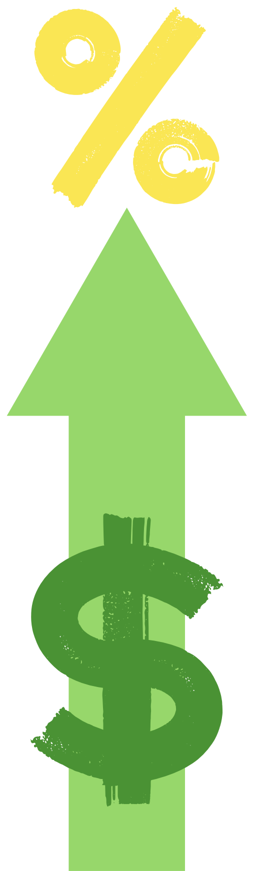
Money Supply and Interest Rate



Interest Rates and The Central Banks

How does raising interest rates control inflation? | The Economist

Nominal vs Real Interest Rates



Nominal vs Real

Nominal Interest Rate

The interest rate quoted by banks that does not include inflation adjustments.

Real Interest Rate

An interest rate with inflation taken into account.

Approximate Formula

$$\text{Real Interest Rate} = \text{nominal interest rate} - \text{inflation rate}$$

Formula for larger numbers

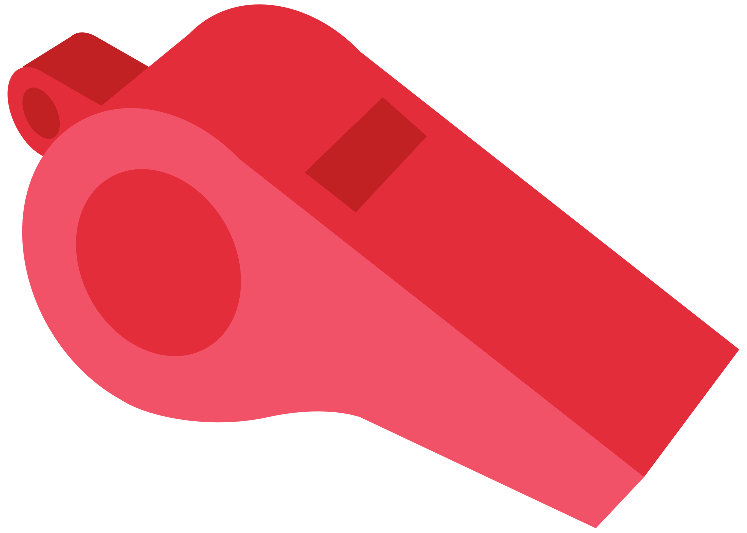
$$\text{Real Interest Rate} = \frac{(1 + \text{nominal interest rate})}{(1 + \text{inflation rate})} = 1 + \text{real interest rate}$$

Practice

Nominal Interest Rate: 30%

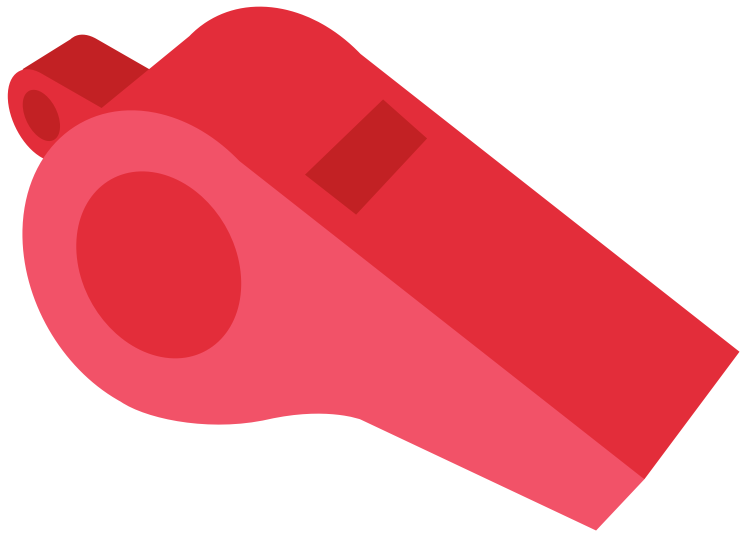
Inflation Rate: 5%

Use the approximate method to calculate the real interest rate.



Practice

30% - 5% = Real Intrest Rate of 25%.

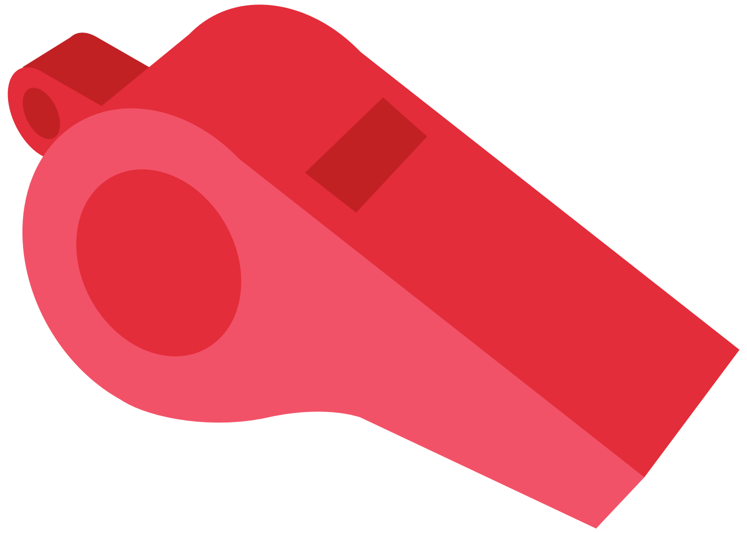


Practice

Real Interest Rate: 10%

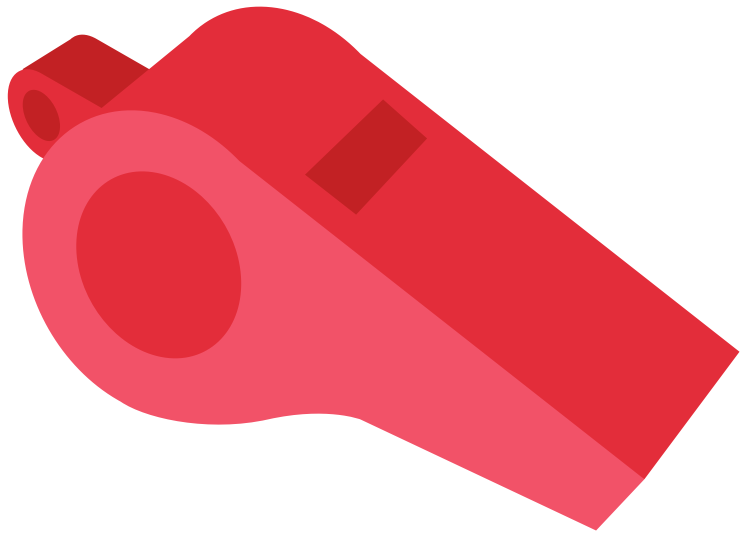
Inflation Rate: 10%

Use the approximate method to calculate the NOMINAL interest rate.



Practice

10% + 10% = Nominal Intrest Rate of 20%.

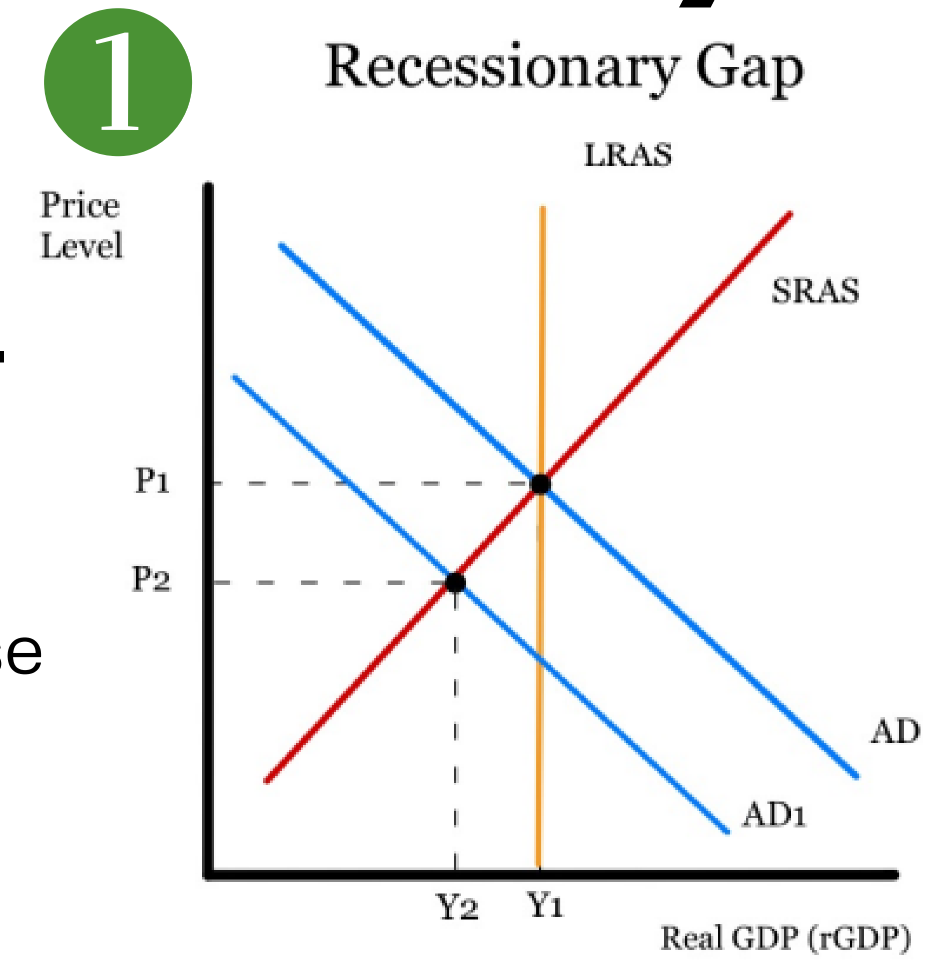


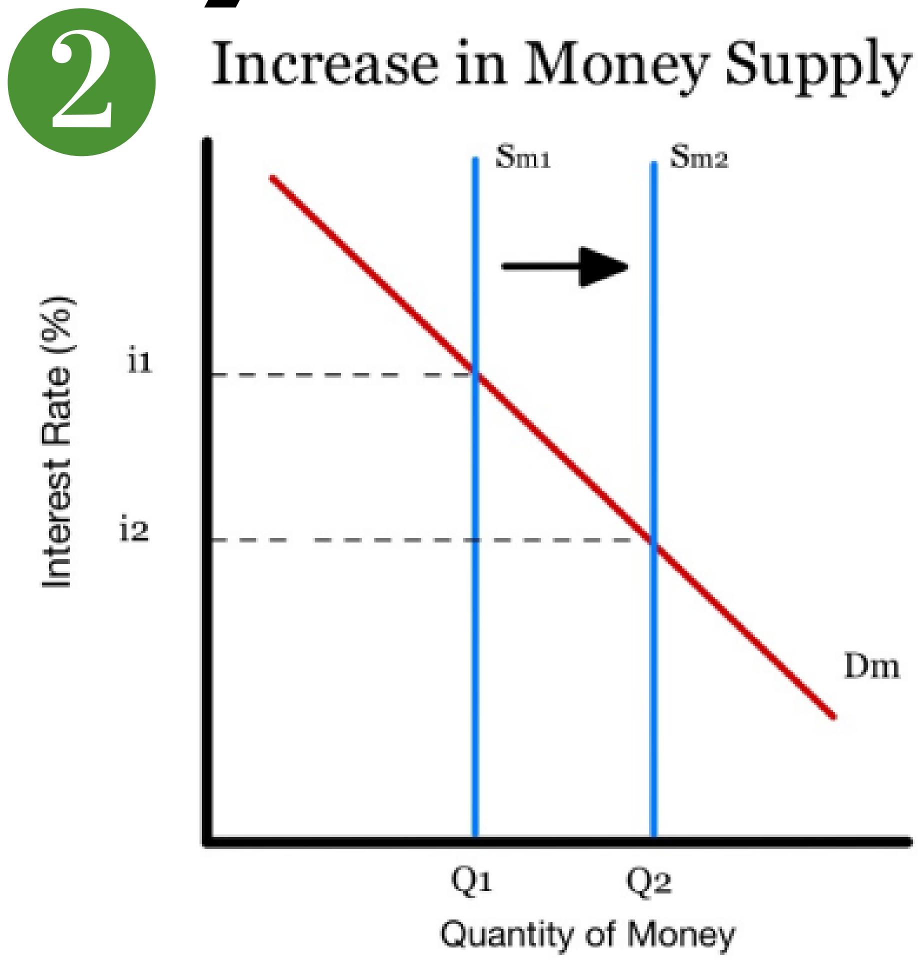
Expansionary and Contractionary Monetary Policy

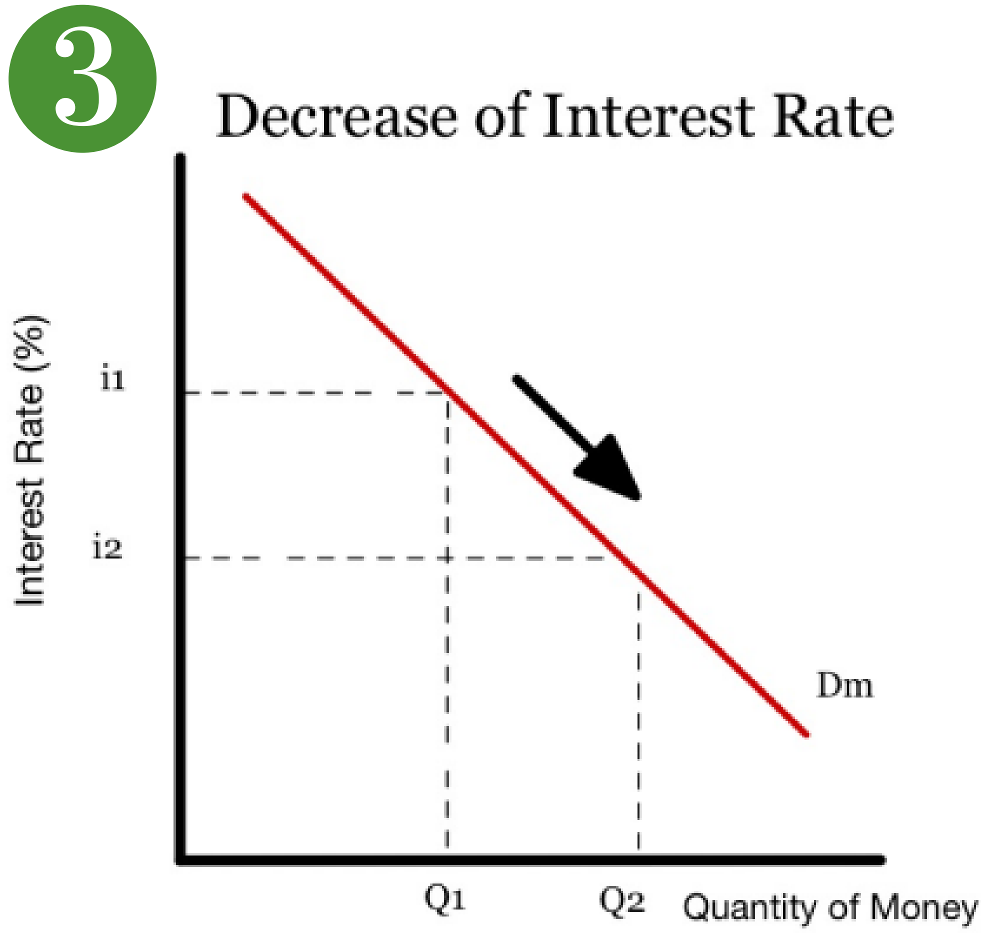
Expansionary Monetary Policy

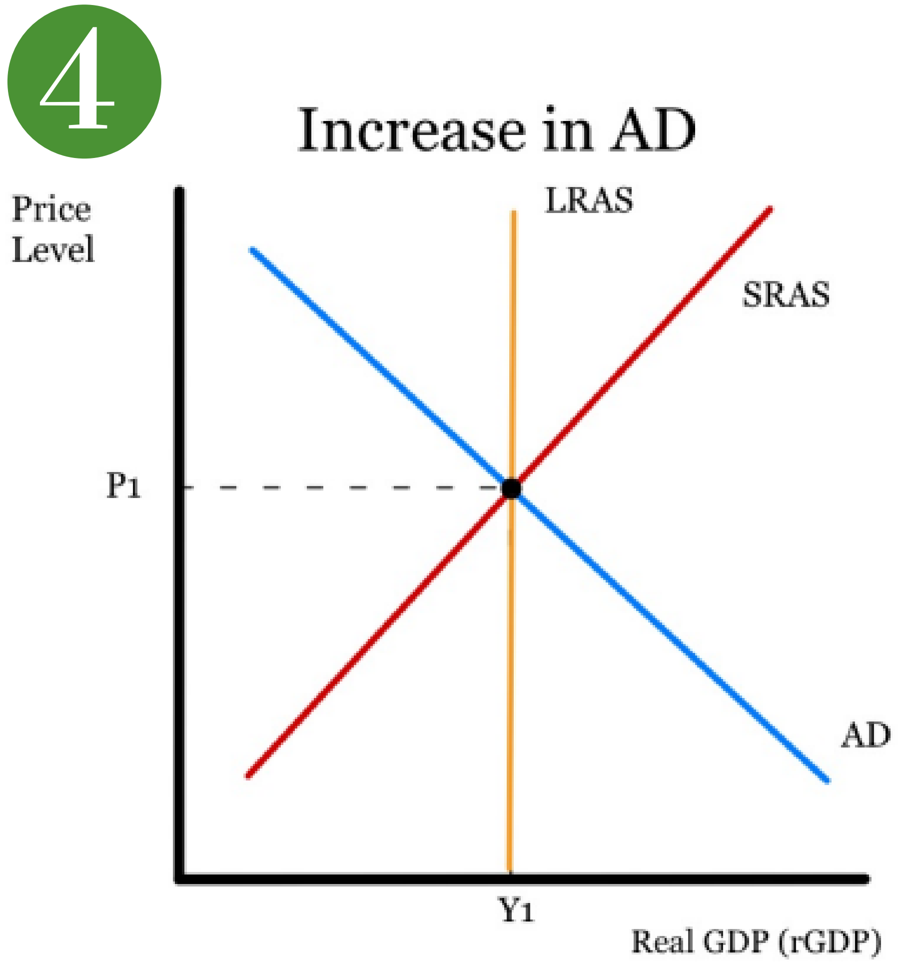
During a recession . . .

1. Recessionary Gap
2. Money Supply Increase
3. Lower Interest Rate
4. Return to Equilibrium





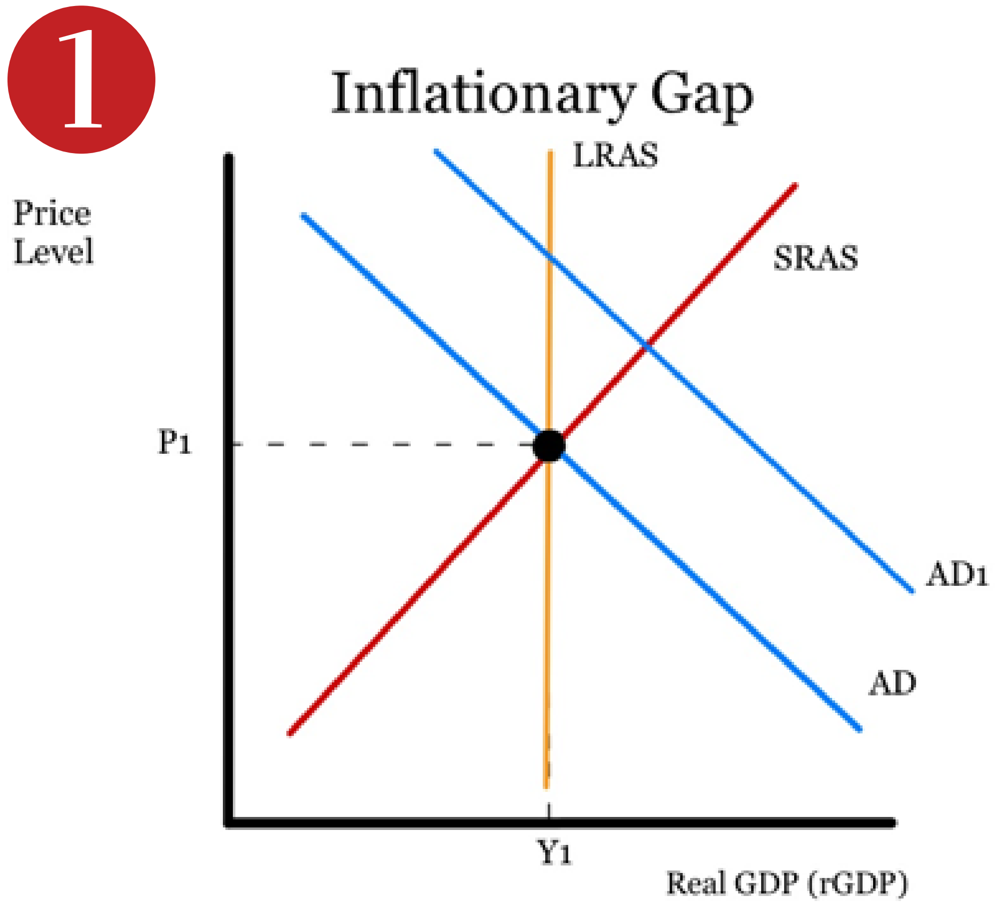


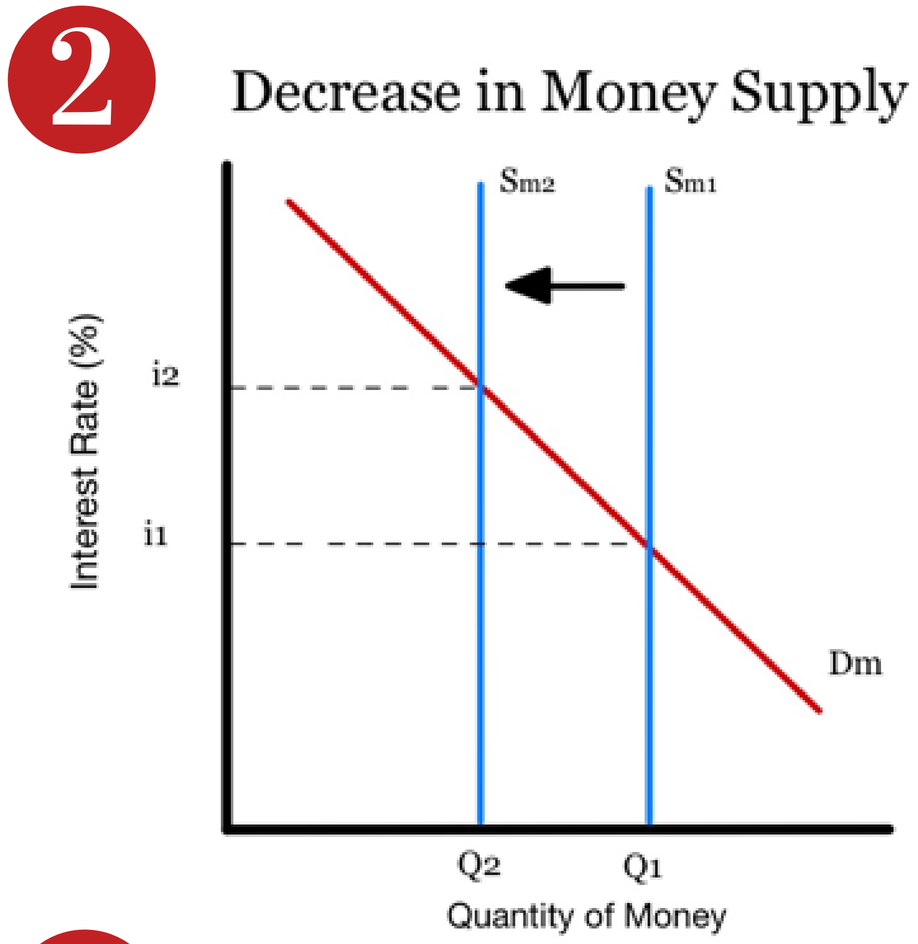


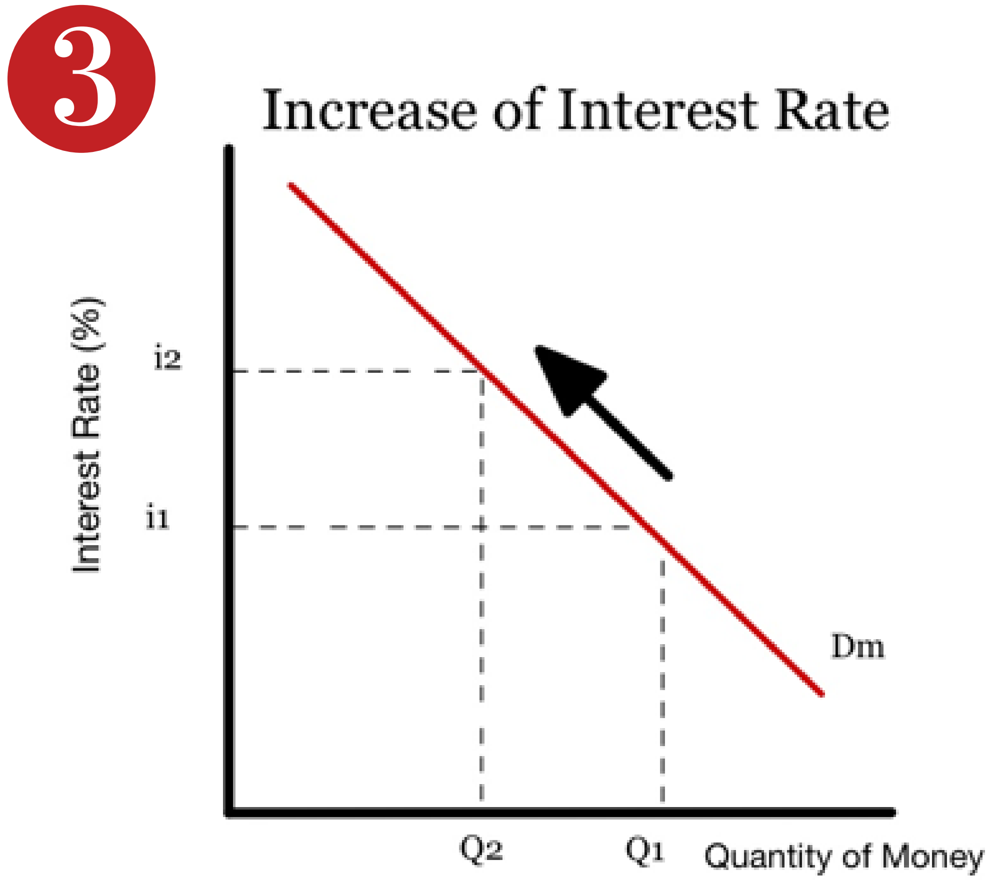
Contractionary Monetary Policy

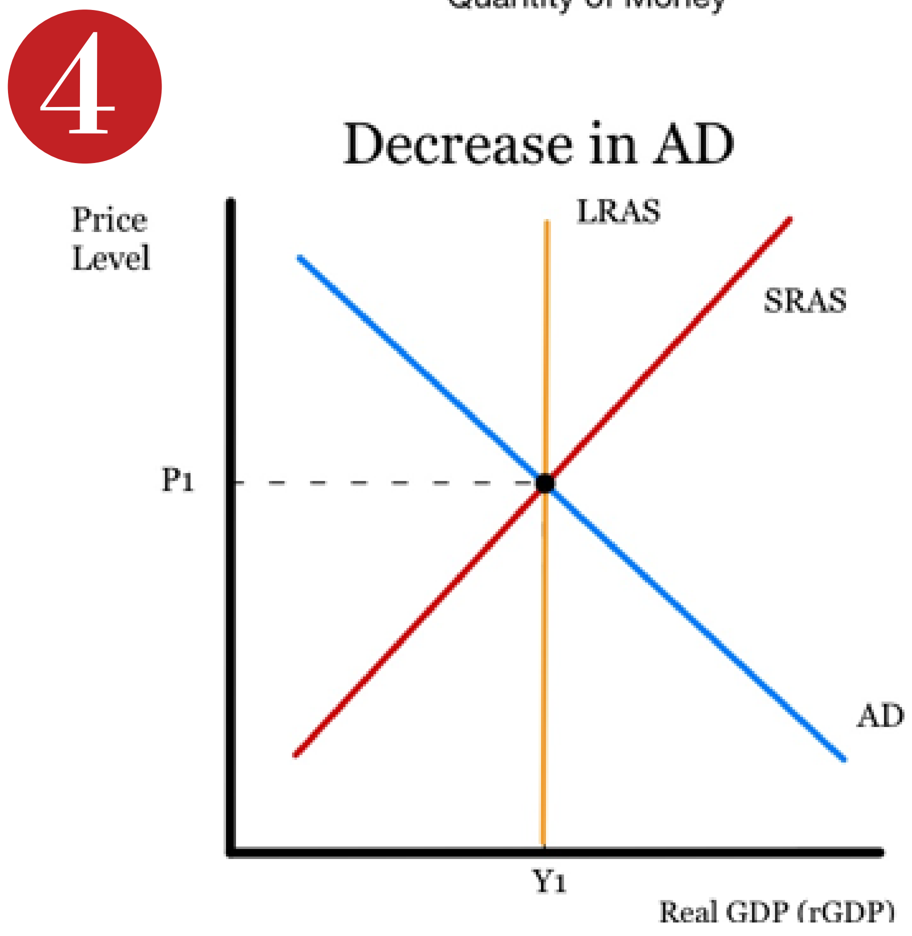
During an expansion . . .

1. Inflationary Gap
2. Money Supply Decrease
3. Rising Interest Rates
4. Return to Equilibrium









Effectiveness of Monetary Policy

Challenges with Monetary Policy

Low consumer and business confidence

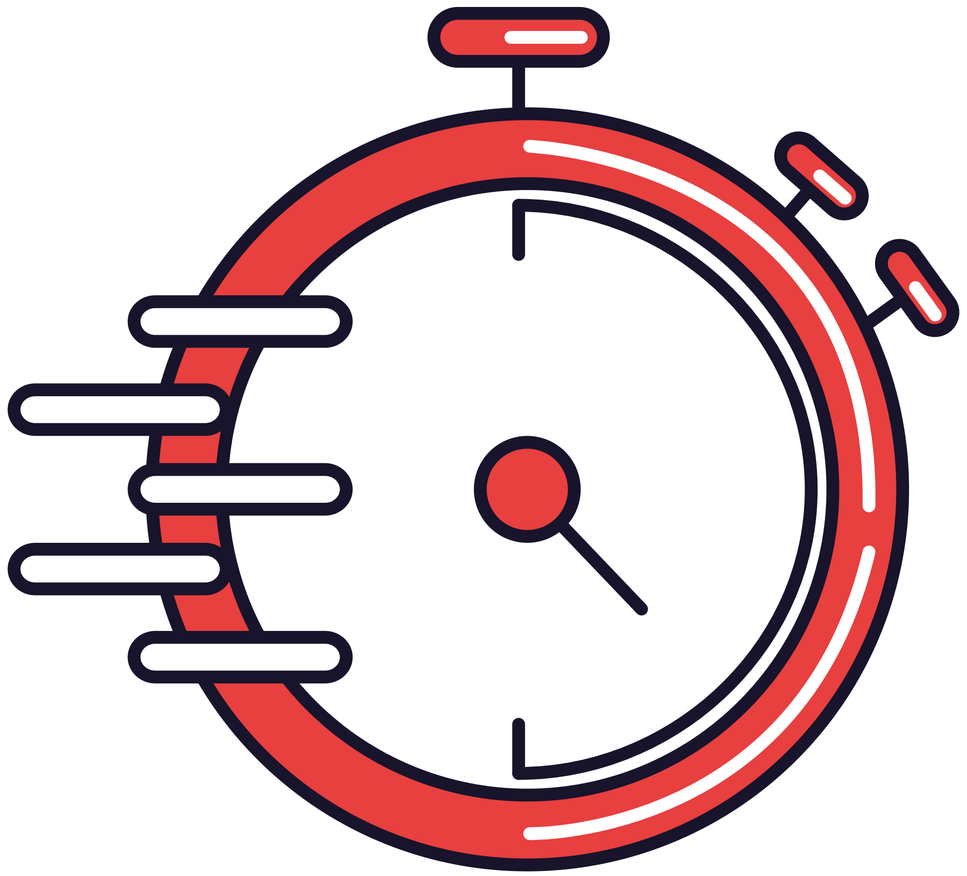
Limited impact of interest rates when already low

Conflict with other government objectives

Strengths of Monetary Policy

Short Time Lags

Flexible and Reversable



Practice Question

Paper 1 Part A

SPEC/3/ECONO/HP1/ENG/TZ0/XX/M

Explain two tools open to a central bank to conduct expansionary monetary policy

Paper 1 Part A

*Answers **may** include:*

- Definition: expansionary monetary policy.
- Explanation: of any **two** of the following instruments—open market operations, minimum reserve requirement, base rate changes and quantitative easing.
- Diagram: money market diagram to show interest rates falling or AD/AS diagram.

Paper 1 (SL/HL)

Part (a) 10-mark question

Marks 0–10	Level descriptor
0	The work does not reach a standard described by the descriptors below.
1–2	• The response indicates little understanding of the specific demands of the question. • Economic theory is stated but it is not relevant. • Economic terms are stated but they are not relevant.
3–4	• The response indicates some understanding of the specific demands of the question. • Relevant economic theory is described. • Some relevant economic terms are included.
5–6	• The response indicates understanding of the specific demands of the question, but these demands are only partially addressed. • Relevant economic theory is partly explained. • Some relevant economic terms are used appropriately. • Where appropriate, relevant diagram(s) are included.
7–8	• The specific demands of the question are understood and addressed. • Relevant economic theory is explained. • Relevant economic terms are used mostly appropriately. • Where appropriate, relevant diagram(s) are included and explained.
9–10	• The specific demands of the question are understood and addressed • Relevant economic theory is fully explained. • Relevant economic terms are used appropriately throughout the response. • Where appropriate, relevant diagram(s) are included and fully explained

Paper 1 Part A

N15/3/ECONO/HP1/ENG/TZ0/XX

Explain why, using the monetarist/new classical model, the economy will always return to the full employment level of output following a recession.