Canadian inflation, unemployment, and Business cycle

Inflation

A sustained increase in the general level of prices

or

A continual increase in the price level.

inflation occurs when many prices increase simultaneously

A one-time increase in the price level is not inflation

Price Level

The average price of goods and servi-ces in an economy.

when the price level is rising, the money is losing value.

The main task of the Bank of Canada is to keep inflation under control.

Example 3

$$\text{Inflation Rate} = \frac{P_{2009} - P_{2008}}{P_{2008}} \times 100$$

$$= \frac{126 - 120}{120} \times 100$$

$$= \frac{6}{120} \times 100$$

$$= 5\%$$

The annual percentage change in the price level

Deflation

A decrease in the overall price level

Deflation happens when many prices decrease simulta-neously.

Long-run sources of inflation

In the long run, inflation is a monetary problem

It happens if the quantity of money grows faster than potential GDP.

In the long run, inflation is caused by money growth

Short-run sources of inflation

- Demand-pull inflation
- Cost-push inflation

A. Demand-pull inflation

It can arise from increasing aggregate demand

sources of increases of aggregate demand

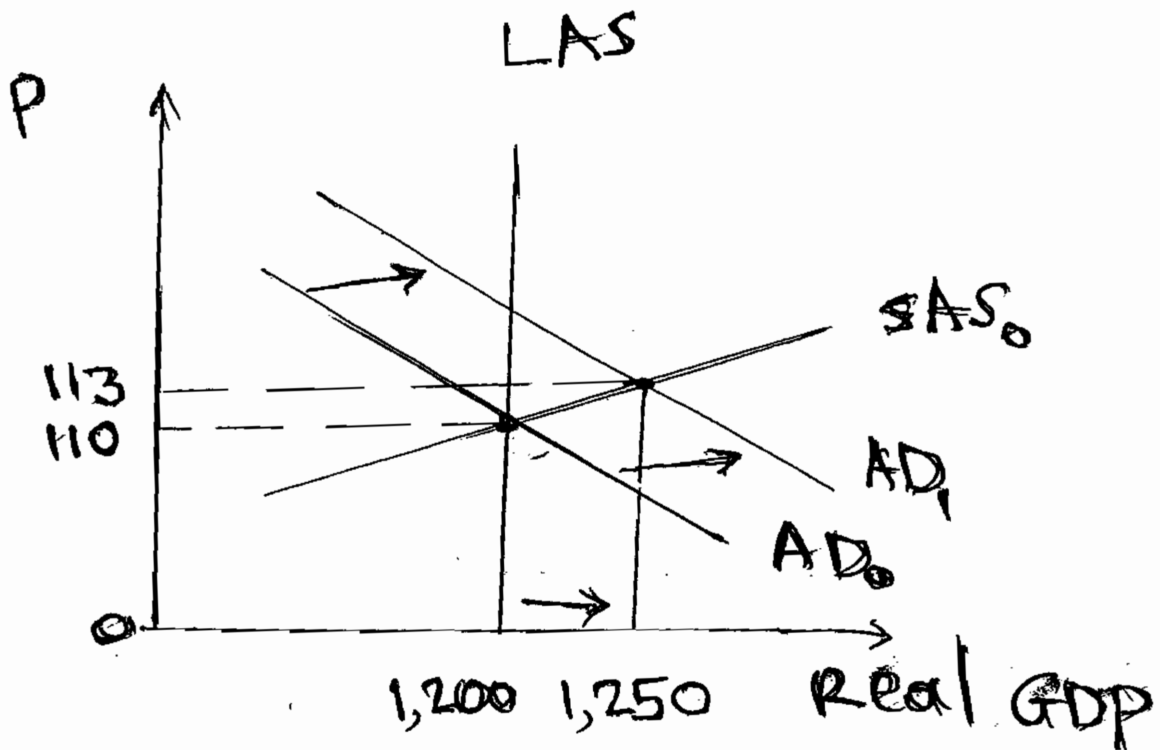
1. increases in the quantity of money

2. Increases in government expenditures

3. Increases in exports

4. An increase in investment

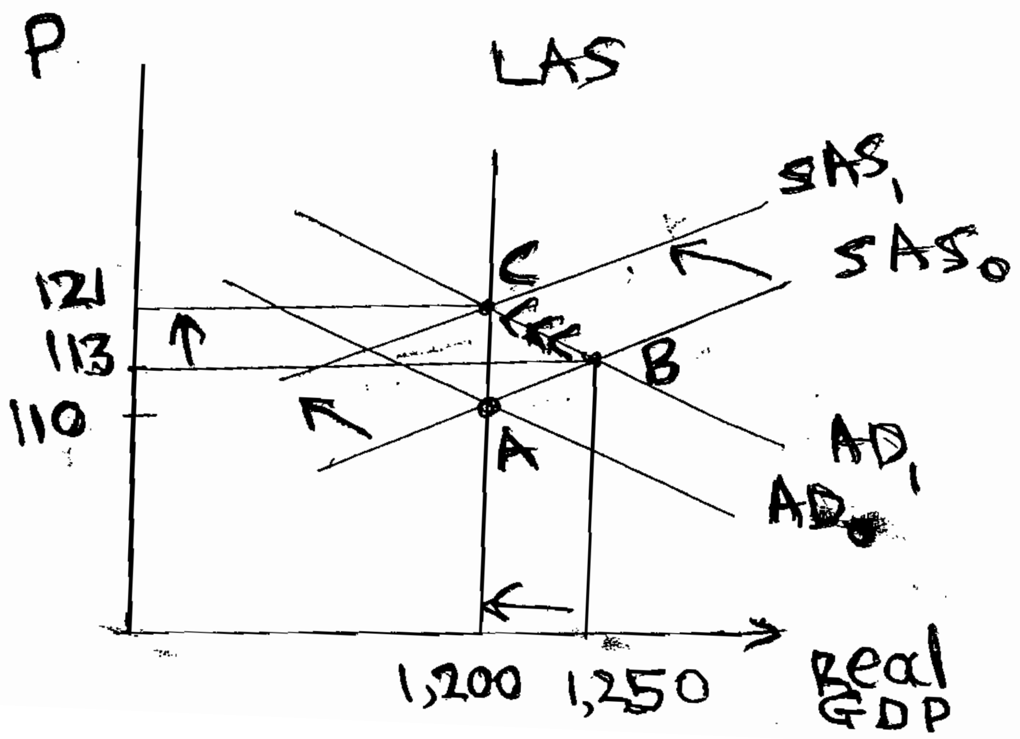
1 An increase in the money supply shifts AD curve out and to the right



Real GDP increases above potential GDP
unemployment falls below its natural rate

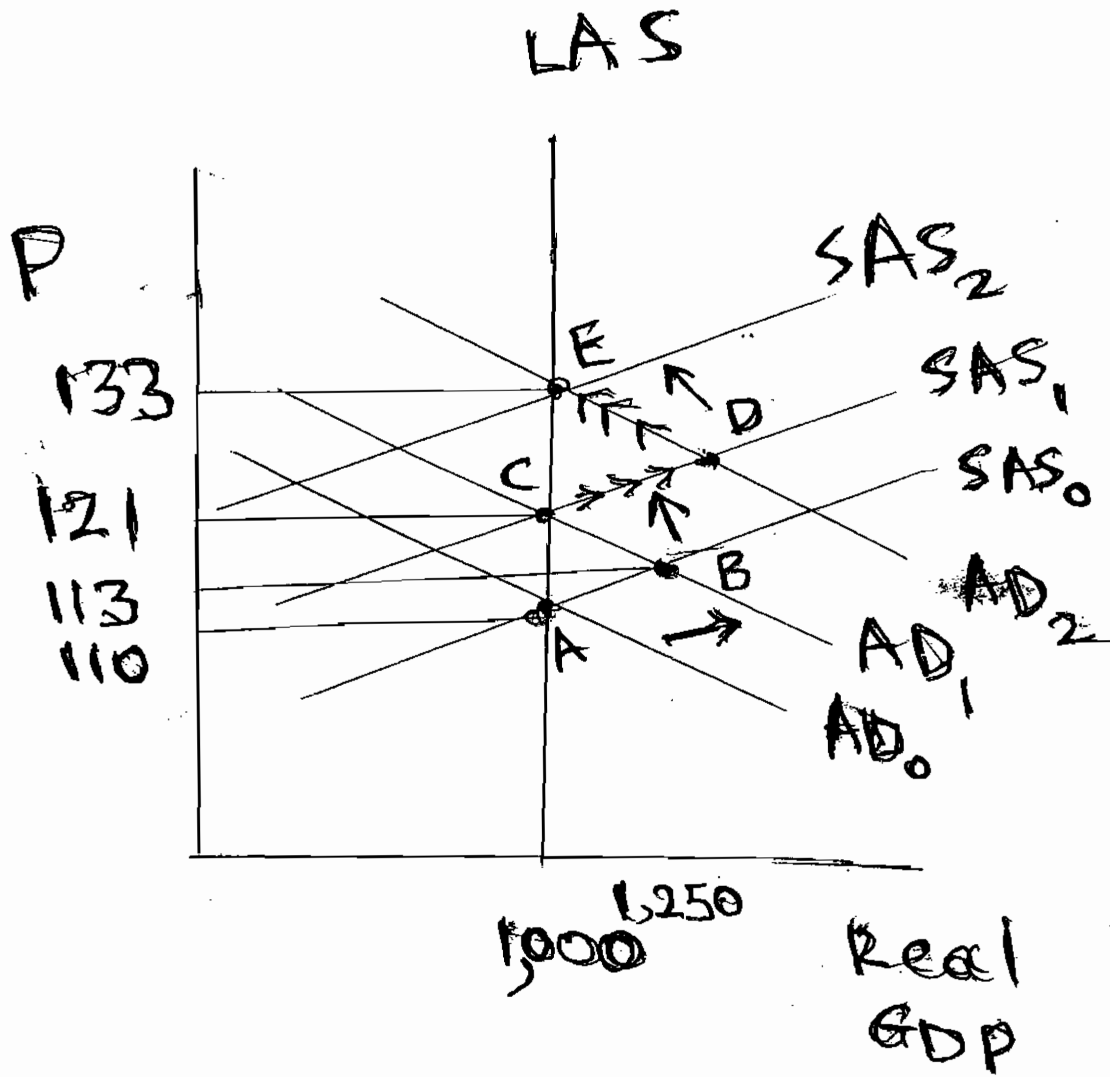
The economy operates above the full-employment equilibrium

The money wage rate begins to rise and the short-run aggregate supply curve shifts left



If there is another increase in the mo-ney supply, aggre-gate demand in-creases and the AD curve shifts to AD_2 (to the right).

There is a perpe-tual demand-pull inflation



The money wage rate rises and

SAS₁ ⟶ SAS₂

This process generates inflation

The cause of demand-pull inflation

A government budget deficit that it is financed by selling bonds

The Bank of Canada buys these bonds. It pays for them by printing new money.
The money supply increases

Demand-pull inflation in Canada

Canada experienced a demand-pull inflation in 1974. Between 1973 and 1974 inflation reached double digits.

B. Cost-push inflation

It results from an increase in costs that decreases aggregate supply

Sources of cost increases

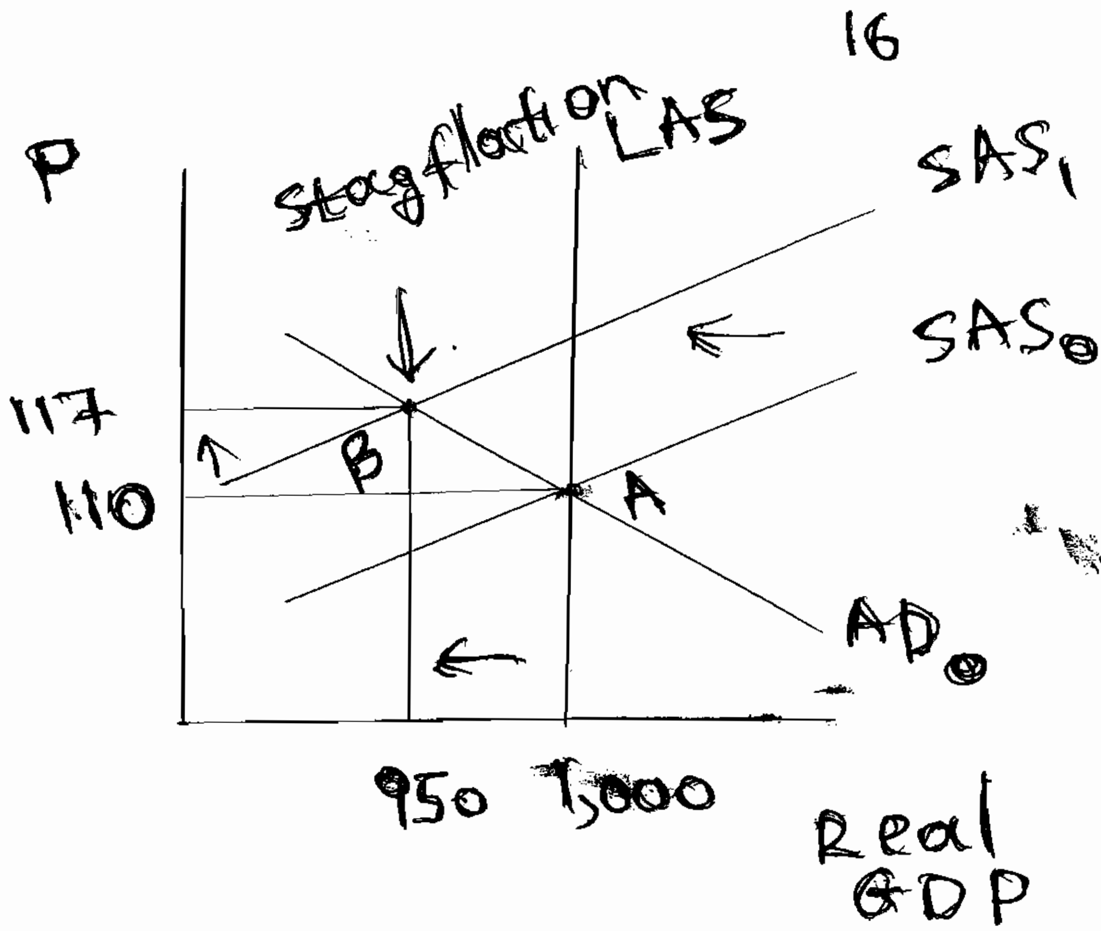
1. An increase in the money wage rate
2. An increase in the money price of raw materials

1 Consider a rise in the world price of oil

This action decreases short-run aggregate supply.

The short-run aggregate supply curve shifts to the left

→ SAS_1

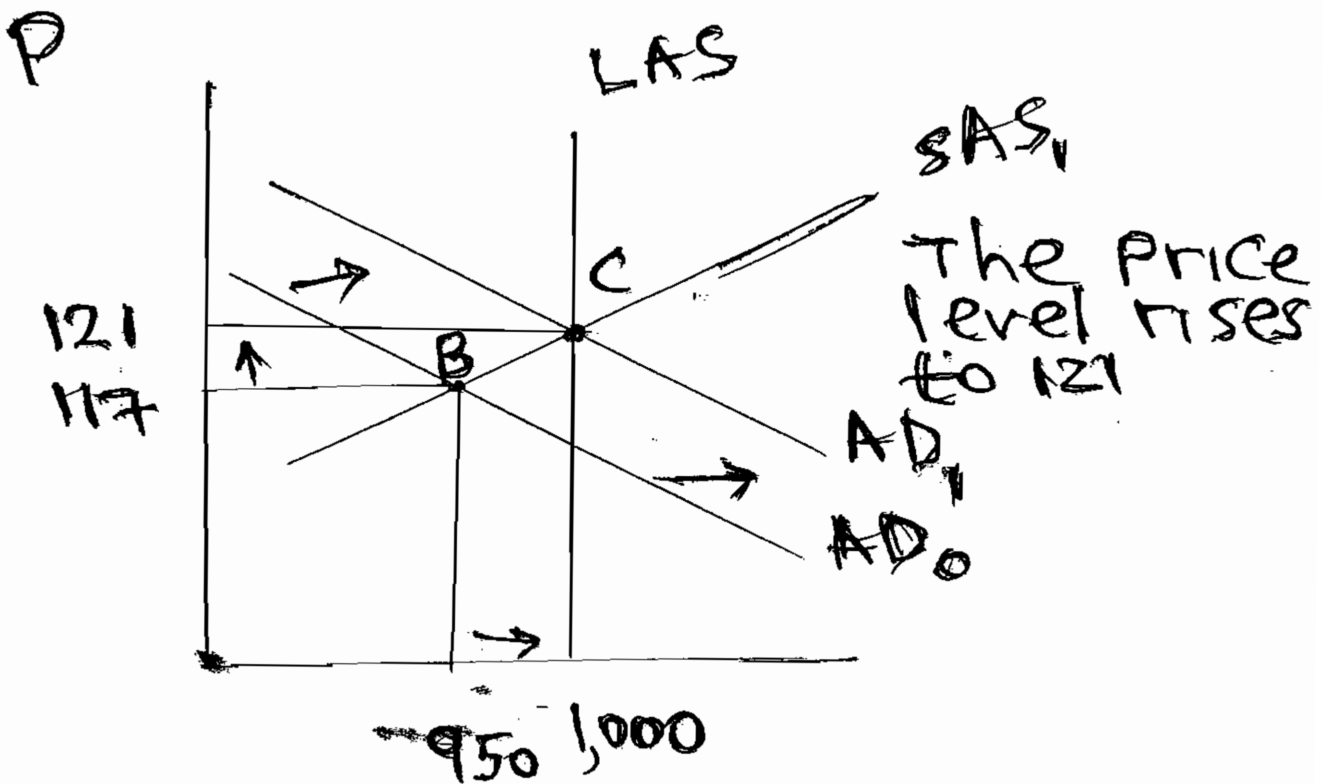


The economy experience both unemployment and a rise in the price level.

A situation called <u>Stagflation</u>

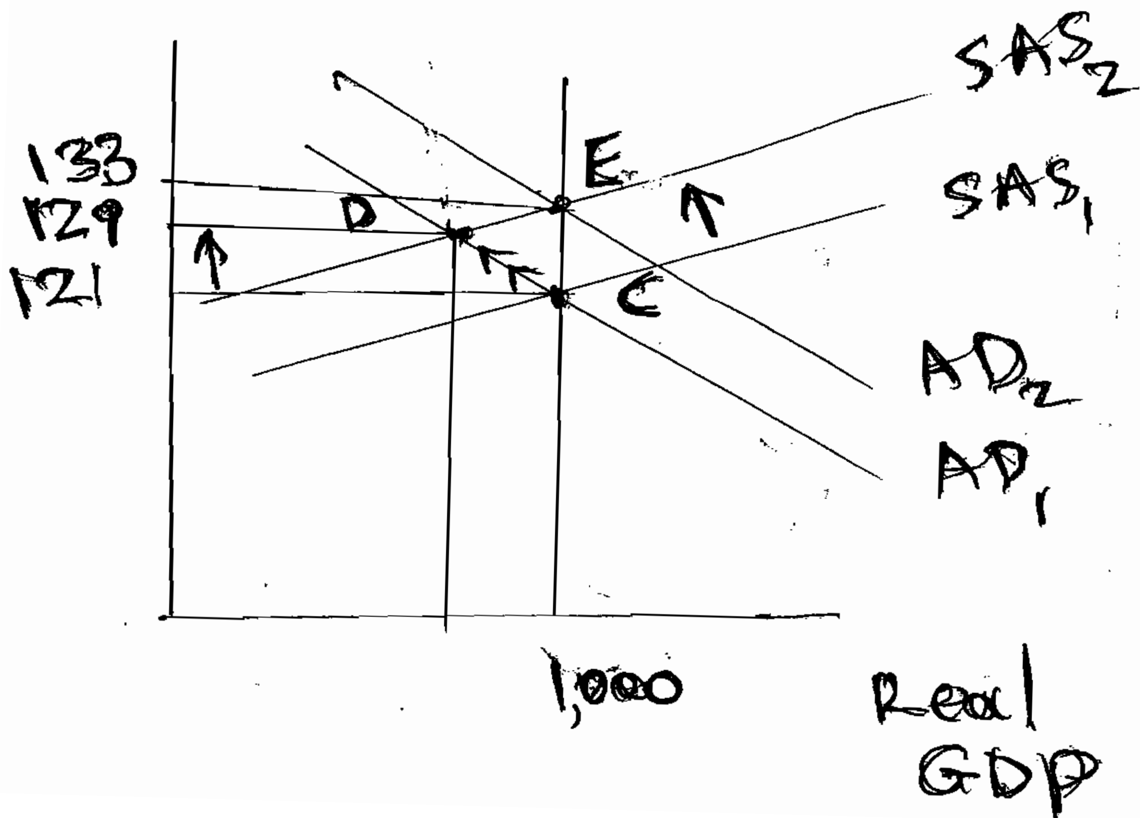
Inflation will ensue if the Bank of Canada increases the money supply to restore full employment

$AD_0 \longrightarrow AD_1$



The oil producers may increase the price of oil again to keep real oil revenues constant

$SAS_1 \rightarrow SAS_2$



The Bank of Cana-
da may increase
the money supply
in order to redu-
ce the unemploy-
ment

$AD_1 \longrightarrow AD_2$ (point E)

Canada experienced cost-push inflation in 1974 when OPEC raised the price of oil four-fold

OPEC raised the pri-ce of oil again in 1979 and 1980.

inflation proceeded at a rapid rate.

Effects of Inflation

we distinguish between

1. Anticipated infla-tion
2. Unanticipated in-flation

Inflation is costly when it is unexpe-cted

unanticipated infla-tion redistributes income and wealth between

1. Employers and workers
2. Borrowers and lenders

Forecasting inflation

The value of money decreases and people are running around to find alternative stores of value

people devote considerable resources trying to forecast inflation

people divert resources from producing goods and services and it reduces potential GDP (shifting LAS curve leftward)

Rational expectation forecast

The forecast of inflation that is based on all the relevant information available

Interest rates and inflation

The higher the expected inflation, the higher is the nominal interest rate

As the expected inflation rises, lenders demand a higher interest rate

The nominal interest rate

The percentage re-turn on an asset such as a bond ex-pressed in terms of money

The opportunity cost of holding money

The real interest rate

The percentage return on an asset expressed in terms of what money can buy

It is the nominal interest rate adjusted for inflation

$$\text{Real Interest Rate} = \frac{\text{Nominal interest Rate} - \text{Inflation rate}}{1 + \text{Inflation Rate}}$$

$$= \frac{10\% - 4\%}{1+4\%} = \frac{0.06}{1.04}$$

$$= 0.0577 \text{ OR } 5.77\%$$

As an approximation,

$$r = i - \pi$$
$$= 10\% - 4\% = 6\%$$

r = real interest rate
π = inflation rate
i = nominal interest rate

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Because of in-
flation the value
of money falls

The real interest
rate on money
equals minus
the inflation rate

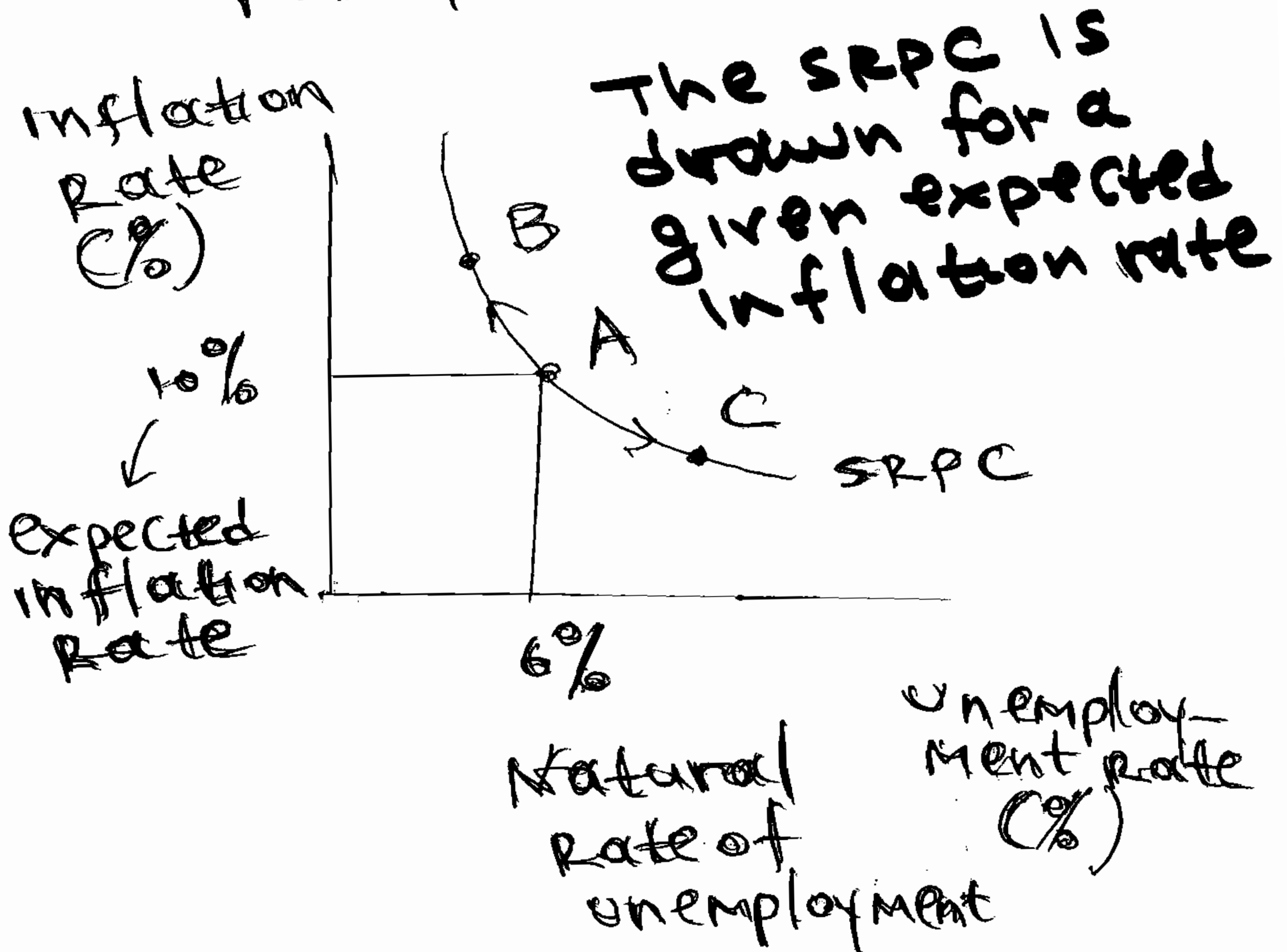
The Phillips Curve

A relationship between inflation and unemployment

The short-run Phillips curve (SRPC)

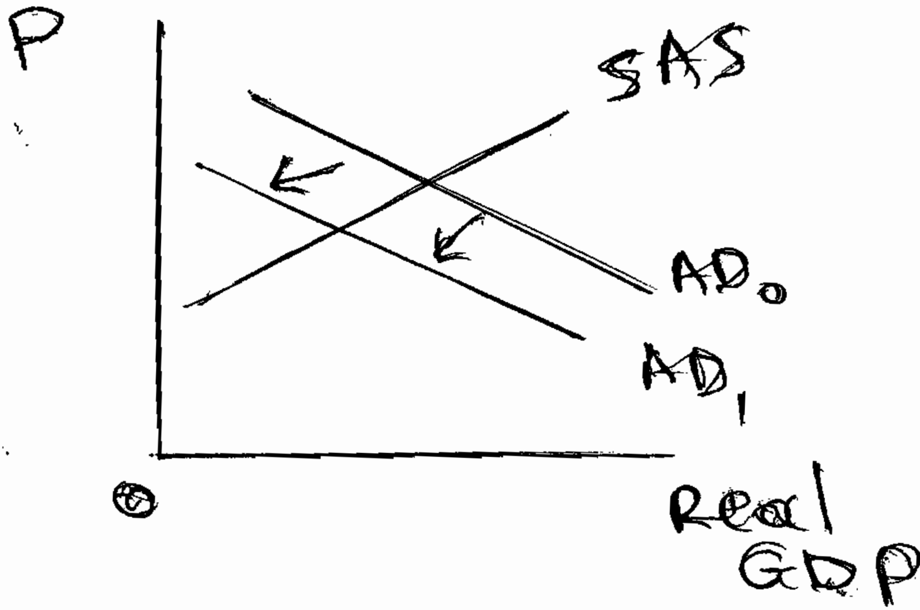
The relationship between inflation and unemployment, when inflation expectations and the natural rate of unemployment are constant.

A Short-Run Phillips Curve



The higher the unemployment rate (at point C), the lower is the inflation rate.

@a)



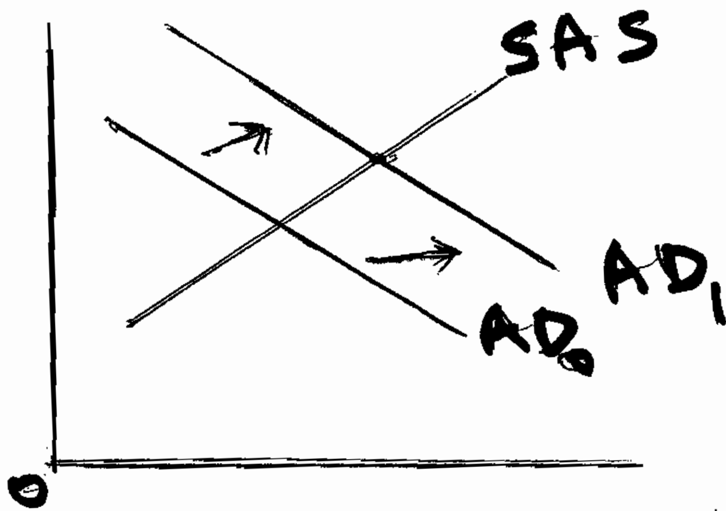
It represents an economy where it is moving down a short-run Phillips curve

An unantipated decrease in aggregate demand increases unemployment and lowers inflation

inflation falls below its expected rate, unemployment rises above its natural rate

There is a movement down the SRPC from point A to point C.

(b)



Real GDP

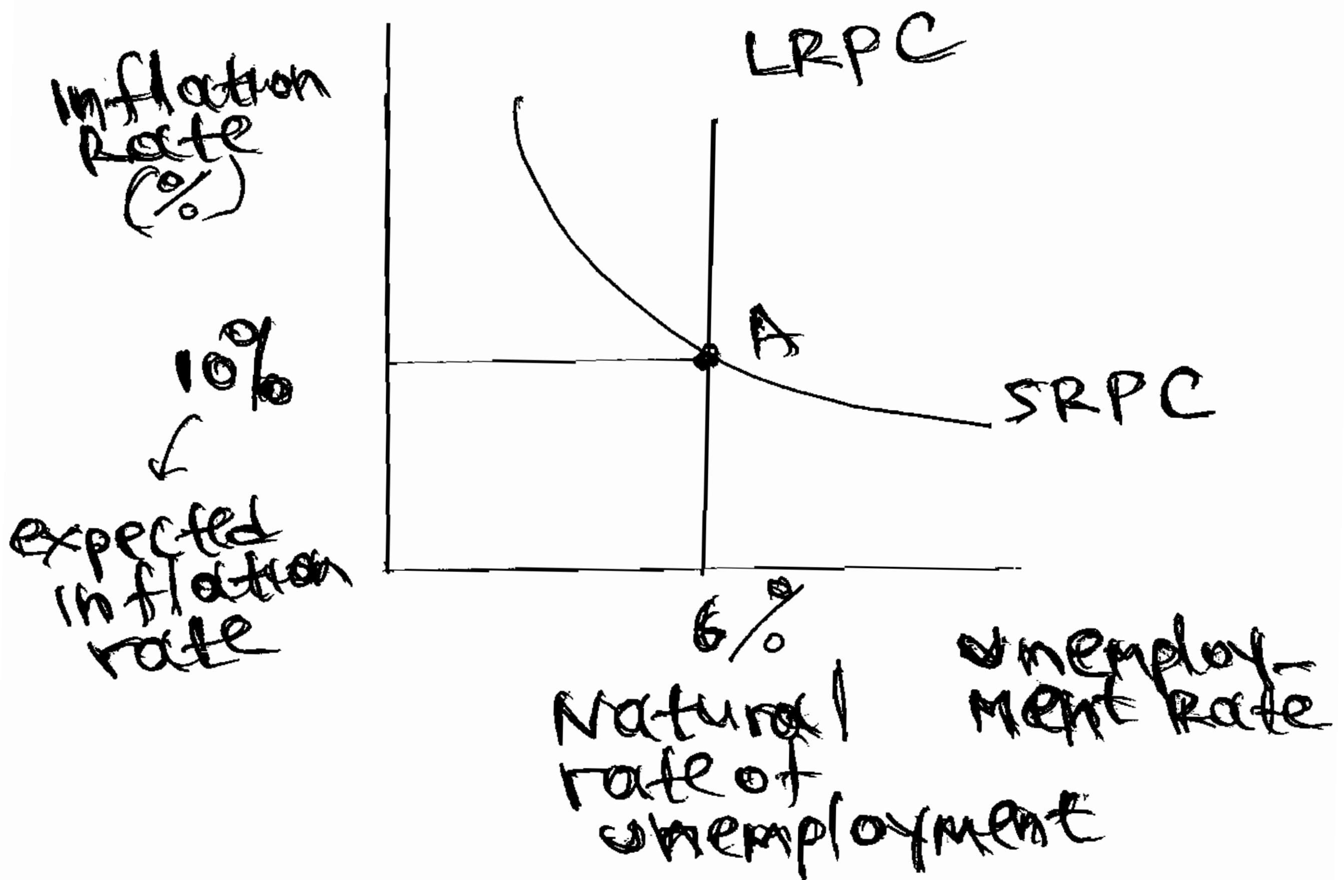
This graph represents an economy where it is moving up a short-run phillips curve.

An unanticipated increase in aggregate demand lowers unemployment and increases inflation

If inflation rises above its expected rate, unemployment falls below its natural rate

A movement up along the SRPC from point A to point B.

The Long-run Phillips Curve



The LRPC is vertical at the natural rate of unemployment

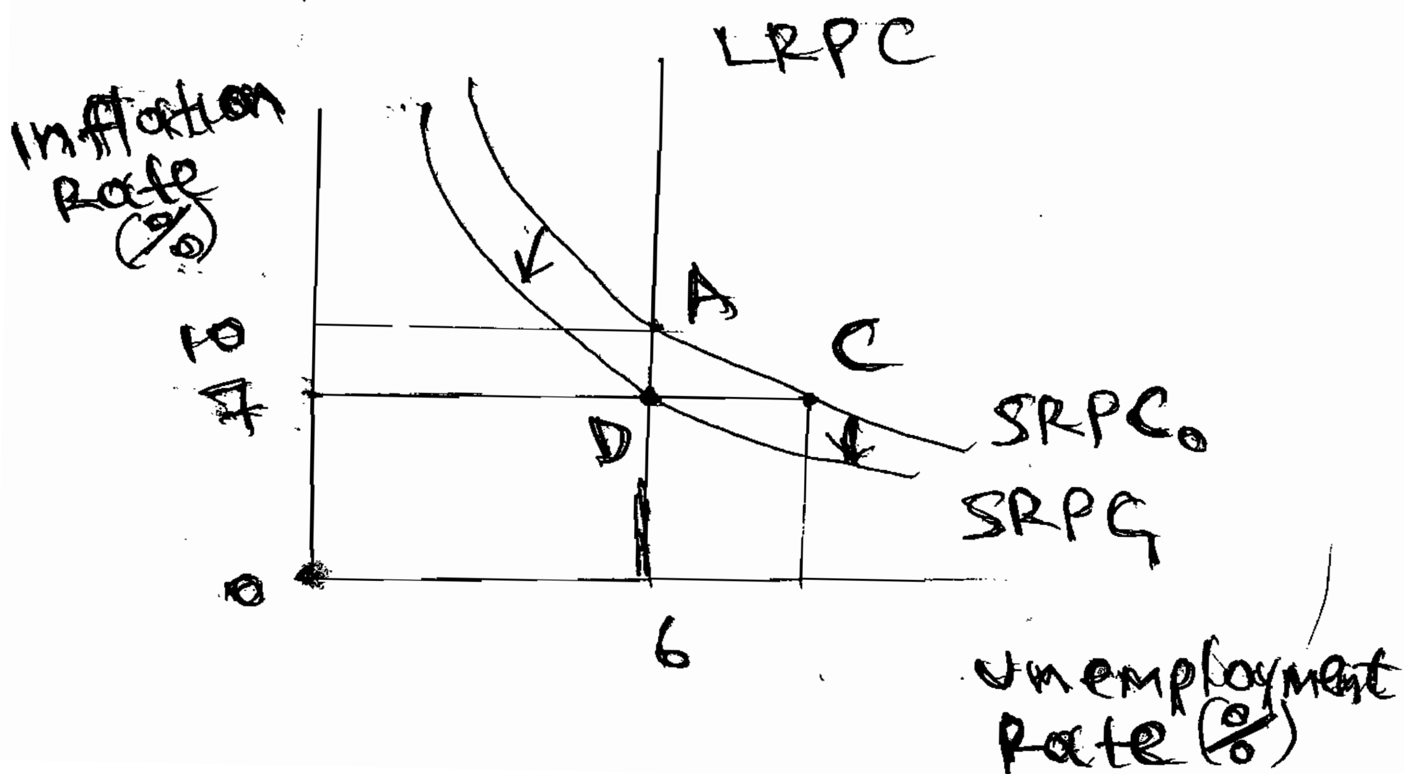
The LRPC shows that there is no trade-off between inflation and unemployment in the long-run.

In the long-run real GDP equals potential GDP and unemployment rate is at its natural rate.

when actual infla-
tion rate equals
the expected infla-
tion rate, the unem-
ployment rate
equals the natural
rate of unemploy-
ment

Shifts in the short-run phillips curve

A decrease in the expected rate of inflation shifts the SRPC downward



Changes in the natural rate of unemployment

Changes in the natural rate of unemployment shift both the short-run and long-run Phillips curves