Macroeconomic Objectives

Macroeconomics is concerned with issues, objectives and policies that affect the whole economy.

The four major objectives are:

1. Full employment
2. **Price-level stability**
3. Economic growth
4. Sustainable level of debt

3.3 Macroeconomic Objectives

Low and Stable Inflation

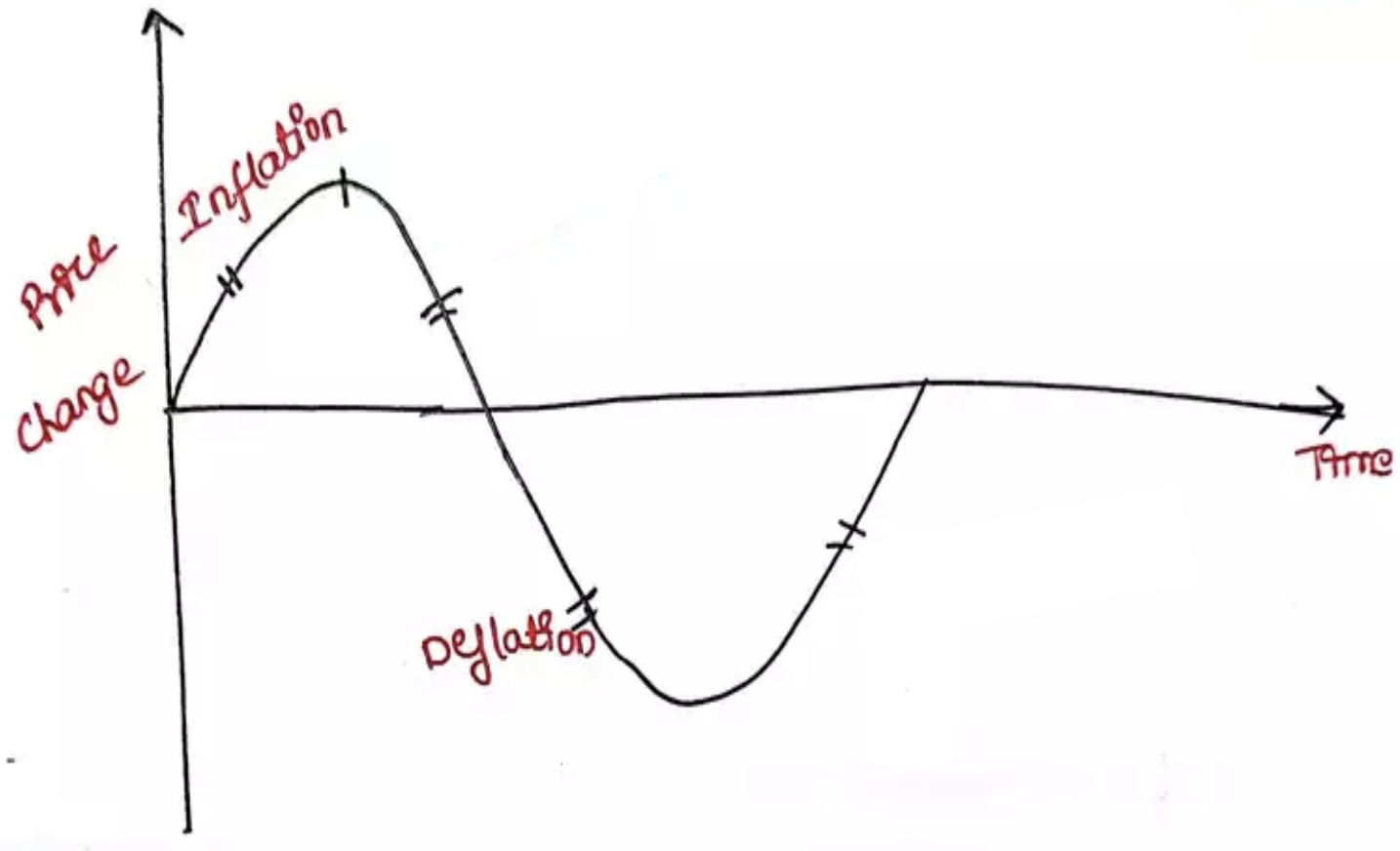
Inflation is defined as a sustained increase in the general price level.

General price level refer to an **average** of prices of goods and services in the entire economy.

Deflation is defined as a sustained decrease in the general price level.

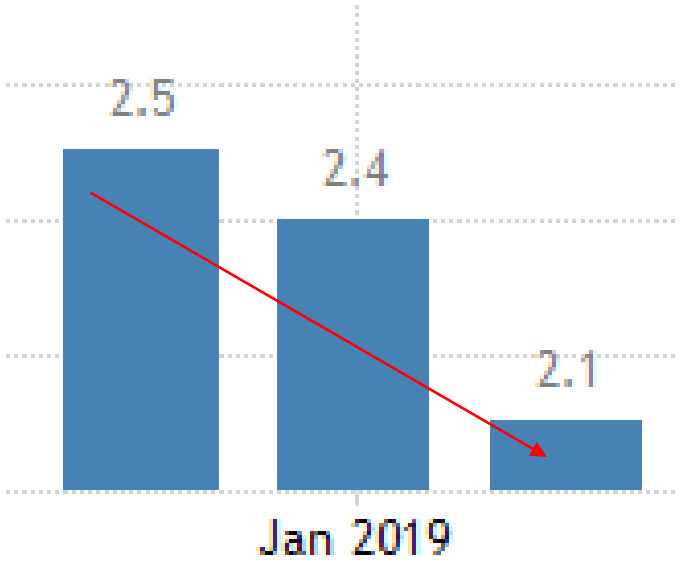
Inflation is **far more common** than deflation.

Low and Stable Inflation



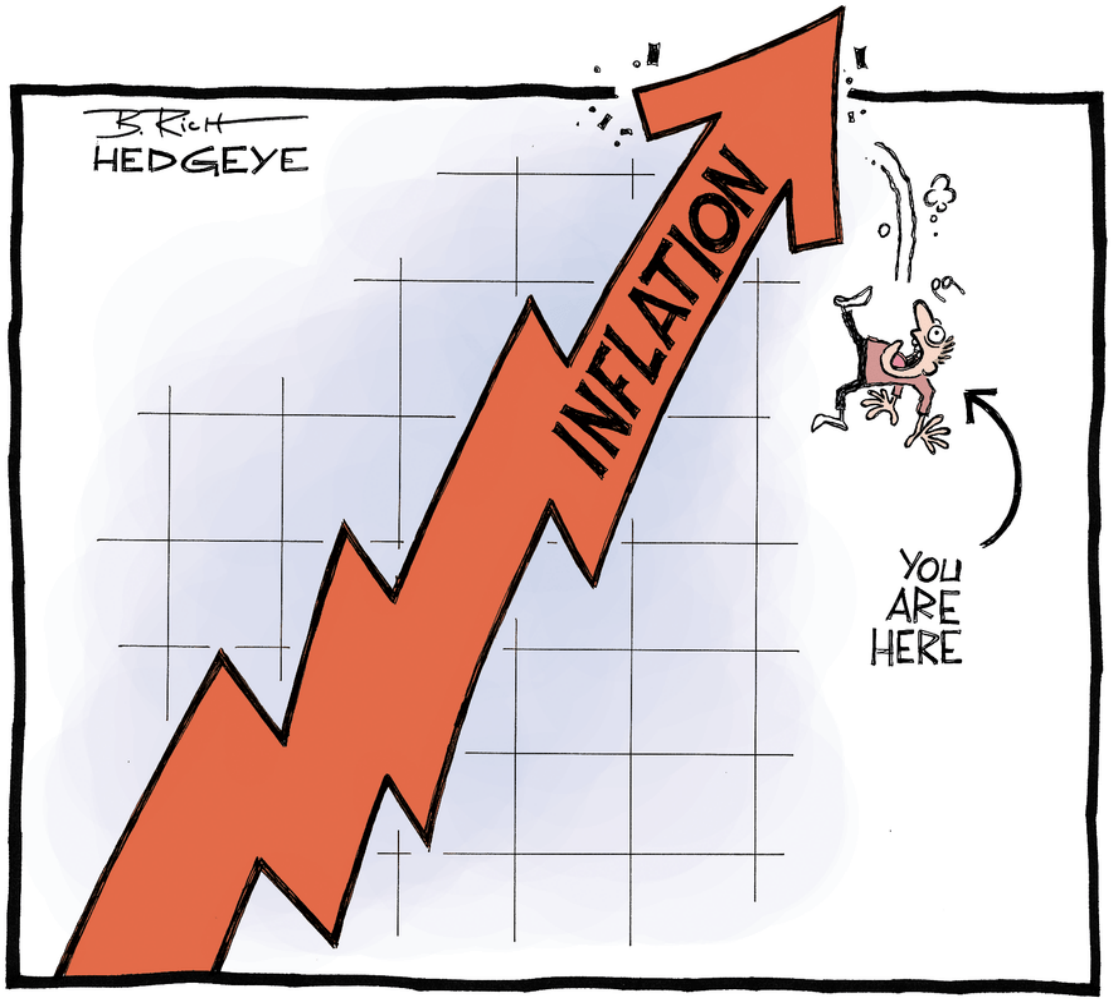
Disinflation occurs when inflation occurs at a lower rate.

Example: *Decrease in the rate of inflation* in Hong Kong



3.3 Macroeconomic Objectives

Low and Stable Inflation

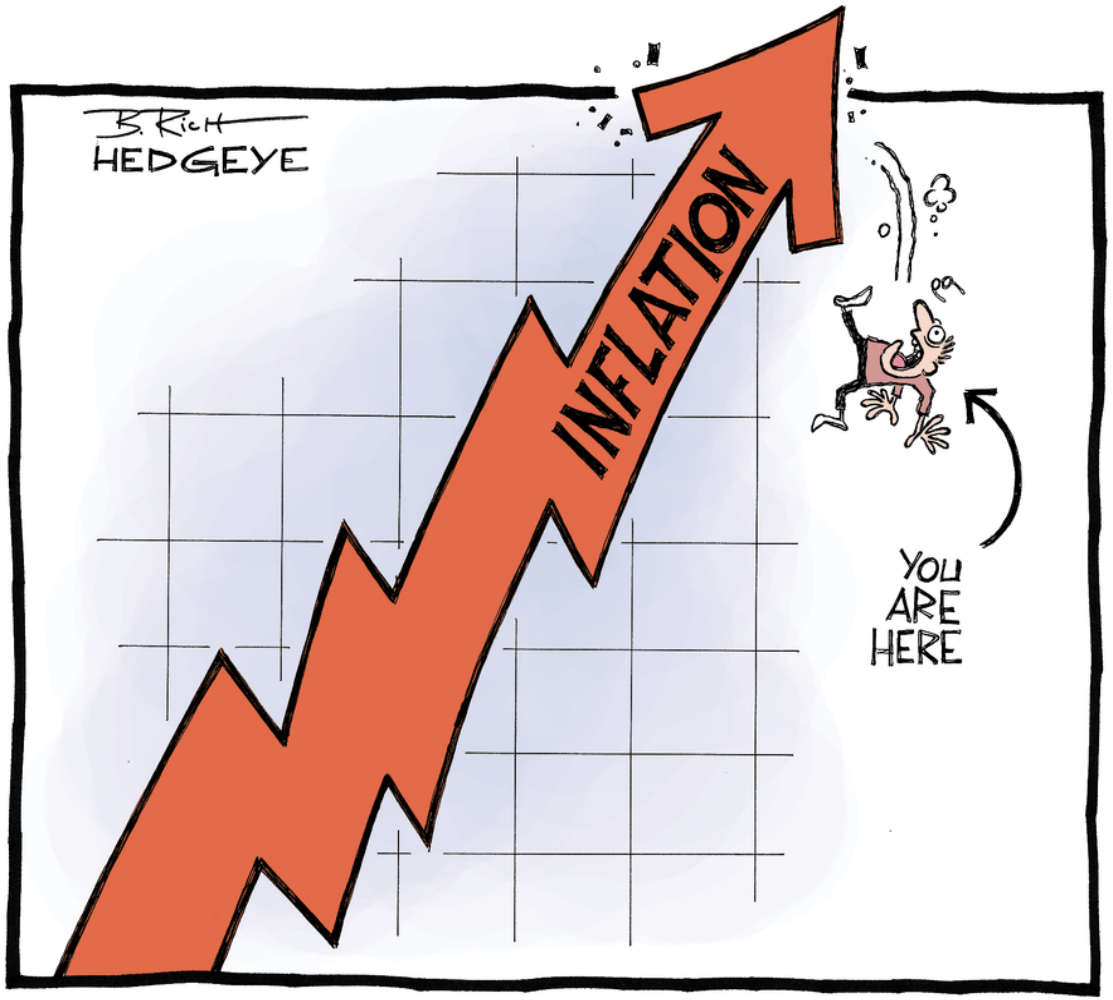


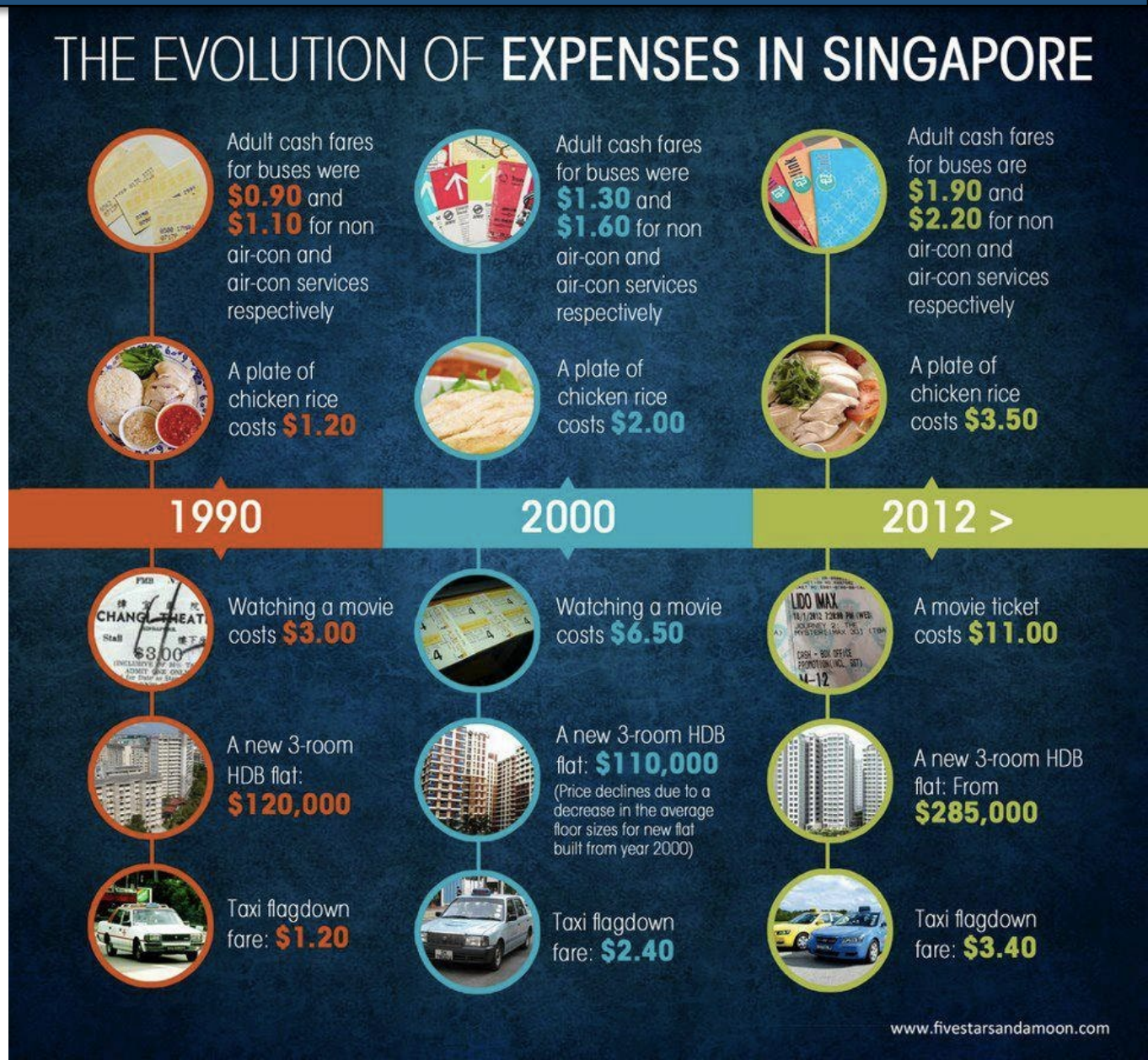
1965 VS. 2012

	1965 Price*	2012 Price
Gallon of milk	$6.84	$3.30
Issue of New York Times	.72	2.50
Coffee	5.41	5.50
Share of GE	1.58	20.20
Tuition, room, and board at four-year university	1,051.00	22,450.00
Newsweek cover price	2.52	4.99
Ounce of gold	252.70	1,659.42
Gas	2.25	3.83
Chicken ($/lb.)	2.81	1.33

3.3 Macroeconomic Objectives

Low and Stable Inflation





Measuring Inflation

Positive % Change = Inflation
Negative % Change = Deflation

Consumer Price Index (CPI)

Consumer Price Index (CPI) is a measure of the cost of living for the typical household, and compares the value of a basket of goods and services in one year with the value of the same basket in a base year.

A *'basket of goods'* refers to a fixed set of consumer products and services valued on an annual basis and used to track inflation (or deflation) in a specific market or country.

It is measured as a **percentage change**.

3.3 Macroeconomic Objectives

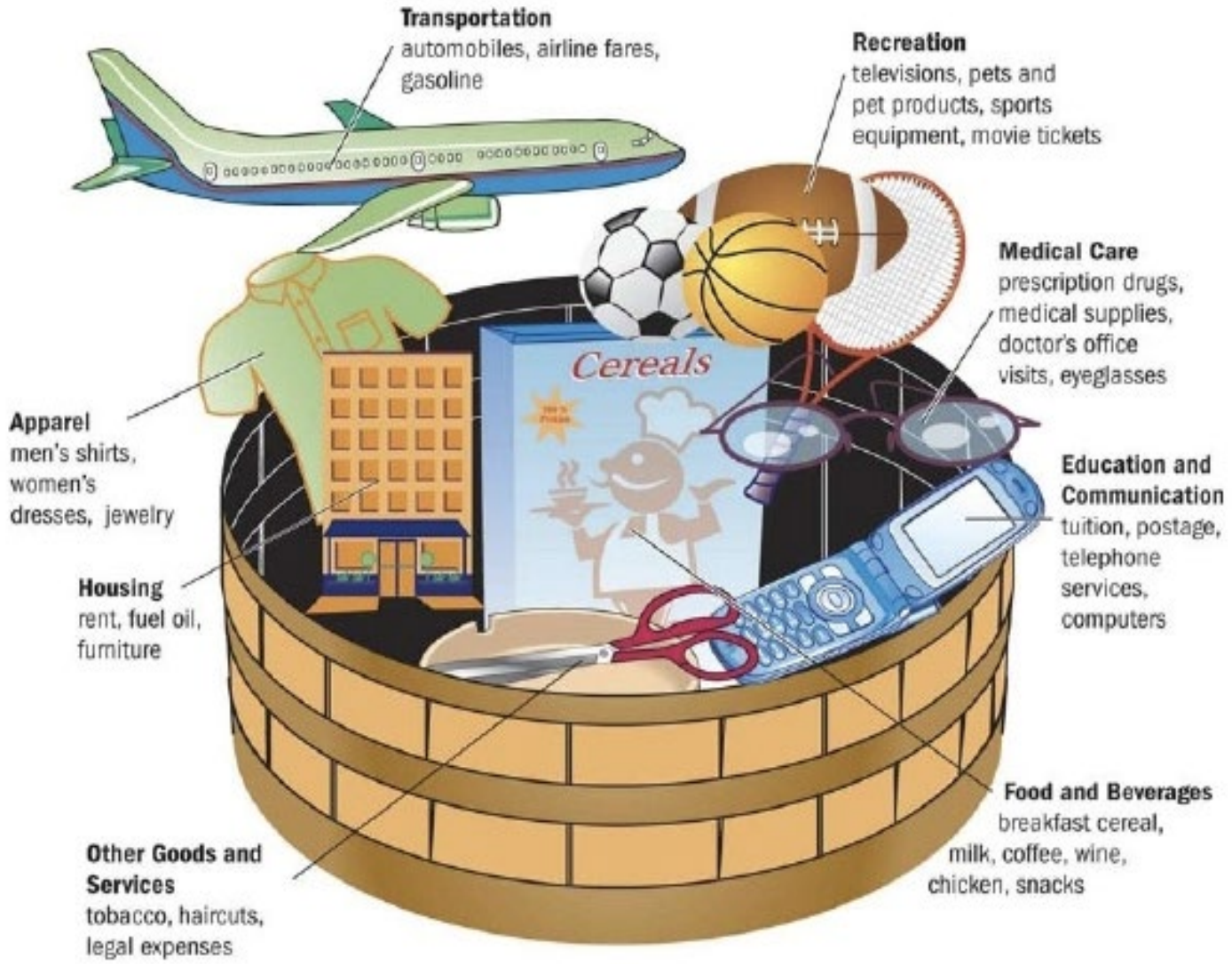
Measuring Inflation

Consumer Price Index (CPI)

The basket of goods and services is constructed by a statistical service in each country.

The value of the basket is done by **Price x Quantity of Product**

$$\text{Consumer Price Index Formula} = \frac{\text{Cost of Market Basket in a Given Year}}{\text{Cost of Market Basket at Base}} \times 100$$



Measuring Inflation

Constructing a weighted price index

A **weighted price index** is a price index that 'weights' the various goods and services according to their relative importance in consumer spending.

price index for a specific year

$$= \frac{\text{value of basket in a specific year}}{\text{value of same basket in base year}} \times 100$$

Measuring Inflation

Constructing a weighted price index

1 Good and services	2 Quantity (number of units) in basket (weights)	3 Prices of basket goods and services in base year (2017)	4 Value of basket goods and services in base year (2017)	5 Prices of basket goods and services in 2018	6 Value of basket goods and services in 2018	7 Prices of basket goods and services in 2019	8 Value of basket goods and services in 2019
Burgers	37	$3	$111	$4		$5	
Movie tickets	25	$15	$375	$14		$16	
Haircuts	15	$18	$270	$20		$21	
Total value of basket			$756				

Measuring Inflation

Constructing a weighted price index

A **weighted price index** is a price index that 'weighs' the various goods and services according to their relative importance in consumer spending.

price index for a specific year

$$= \frac{\text{value of basket in a specific year}}{\text{value of same basket in base year}} \times 100$$

Year	Value of Basket (Nominal)
2017	756
2018	798
2019	900

Using the values shown…

Calculate the price index if 2017 is used as the base year.

Year	CPI
2017	
2018	
2019	

Measuring Inflation

Calculating inflation using CPI

When the price level is presented as a price index, the **rate of inflation** is equal to the index number of any year minus the index number of the base year – which is always 100.

$$\%\ \text{change in } A = \frac{\text{final value of A} - \text{initial value of A}}{\text{initial value of A}} \times 100$$

Year	CPI
2017	100
2018	105.5
2019	119

Using the values shown…

Calculate the rate of inflation:

- 2017 – 2018
- 2017 – 2019
- 2018 – 2019

Measuring Inflation

Limitations

- Different rates of inflation for different income earners
- Different rates of inflation depending on regional or cultural factors
- Changes in consumption patterns due to substitutions when relative prices change
- **Changes in consumption patterns due to increasing use of discount store and sales**

  Consumers purchase products at a lower price compared to ones used for CPI

Measuring Inflation

Limitations

- Different rates of inflation for different income earners
- Different rates of inflation depending on regional or cultural factors
- Changes in consumption patterns due to substitutions when relative prices change
- Changes in consumption patterns due to increasing use of discount store and sales
- **Changes in consumption patterns due to introduction of new products**

Measuring Inflation

Limitations

- Changes in product quality
- International comparisons
- **Comparability over time**

  Countries around the world periodically revise their CPI baskets and change the base year to deal with the limitations

"When your price is very high, people assume that your product must be very good!"

Types of Inflation

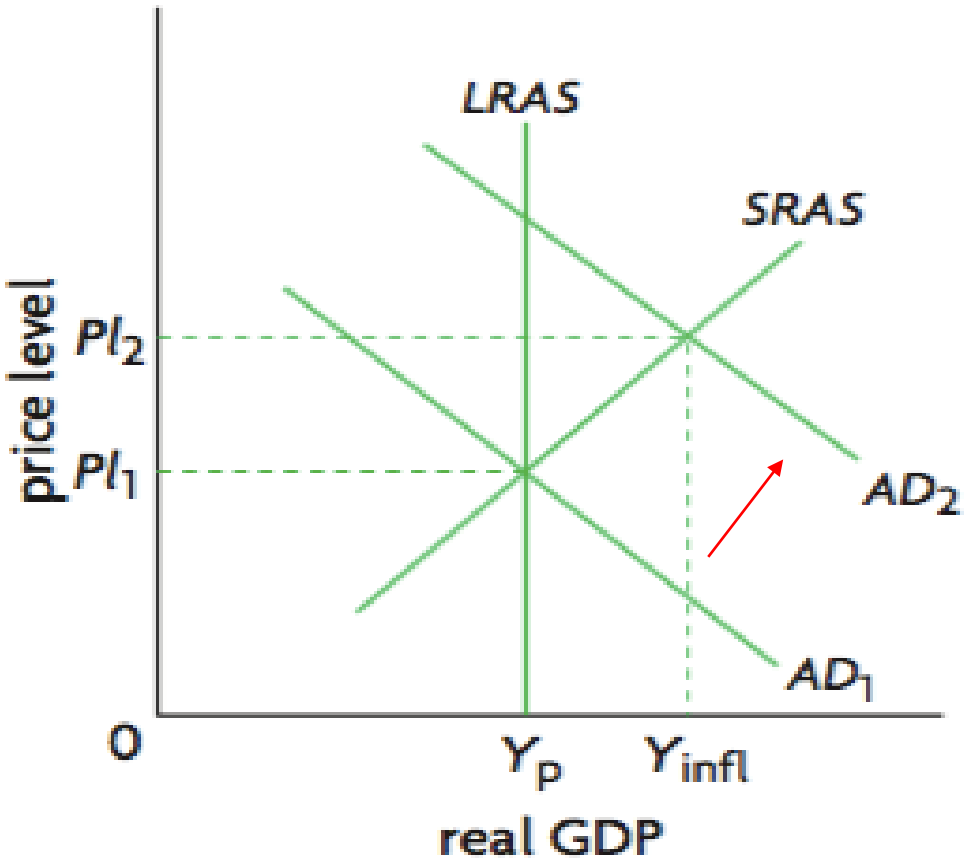
Demand-pull Inflation

Demand-pull inflation involves an excess of aggregate demand over aggregate supply at the full employment level of output, and is caused by an increase in aggregate demand.

Increase in AD results in an increase in **real GDP (Yp to Yinfl)** while price level rises from **Pl1 to Pl2**.

This is associated with an **inflationary gap**.

The Monetarist/New Classical Model



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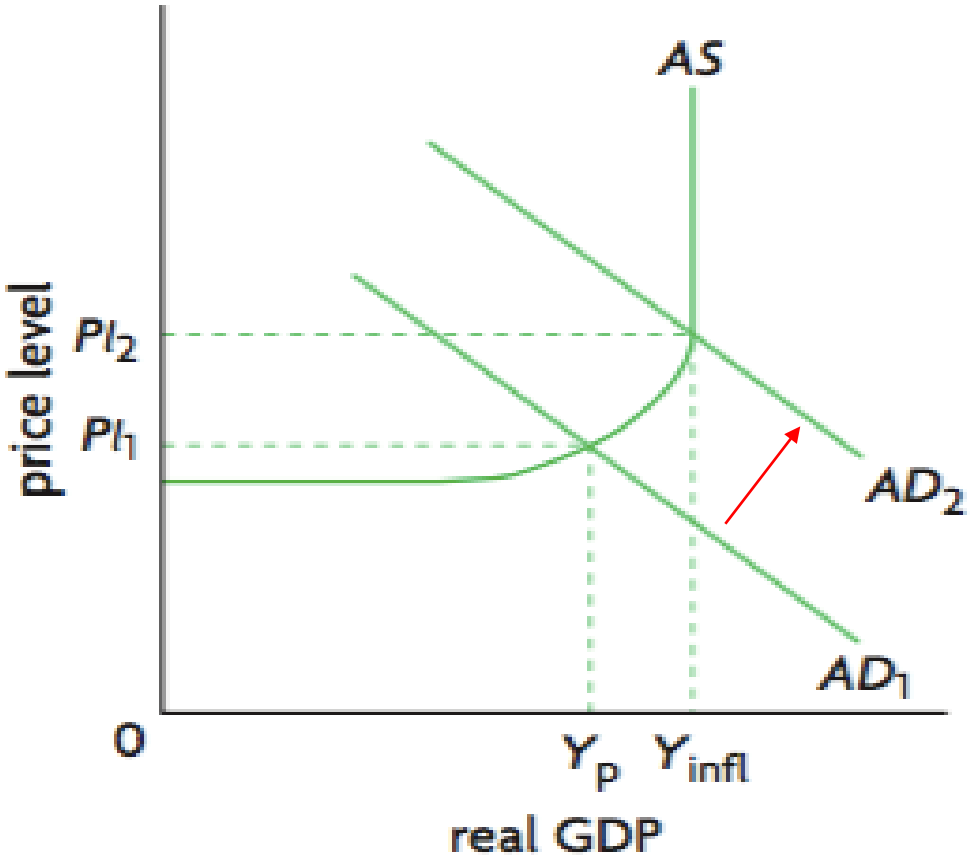
The Keynesian Model



Types of Inflation

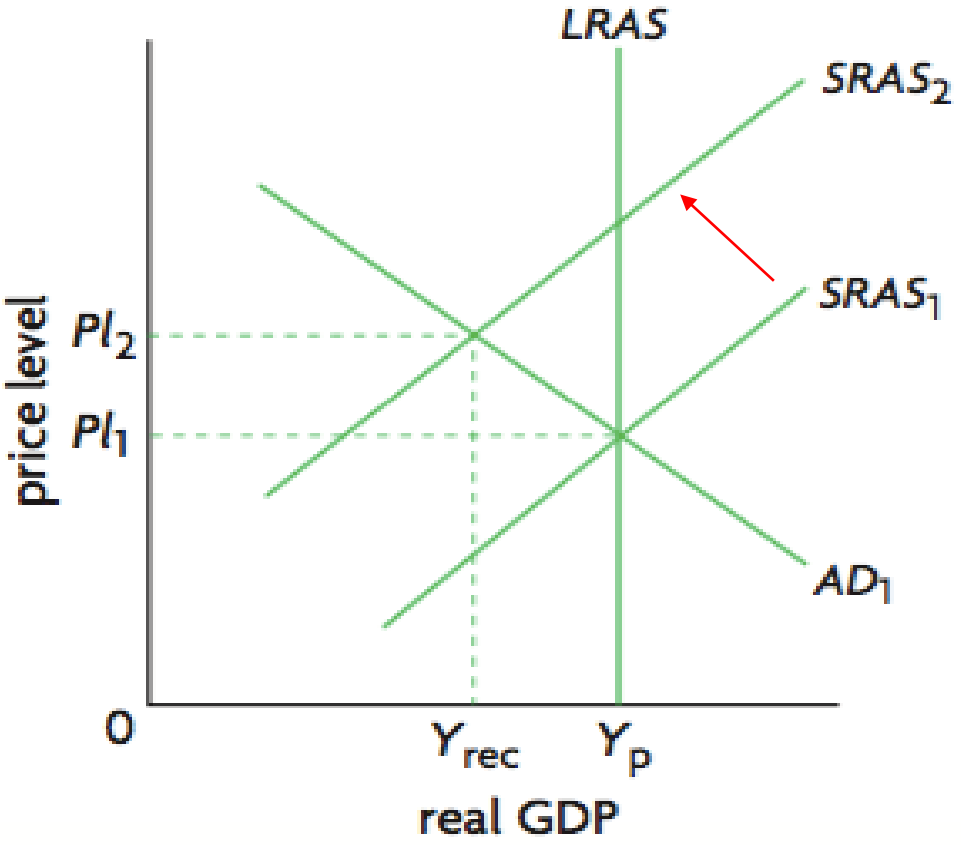
Cost-push Inflation

Cost-push inflation is caused by a fall in aggregate supply, in turn resulting from increases in wages or costs of inputs.

Only exists in the **new classical model.**

For cost-push inflation to occur, demand for goods must be static or **inelastic**.

The Monetarist/New Classical Model



Types of Inflation

Cost-push Inflation

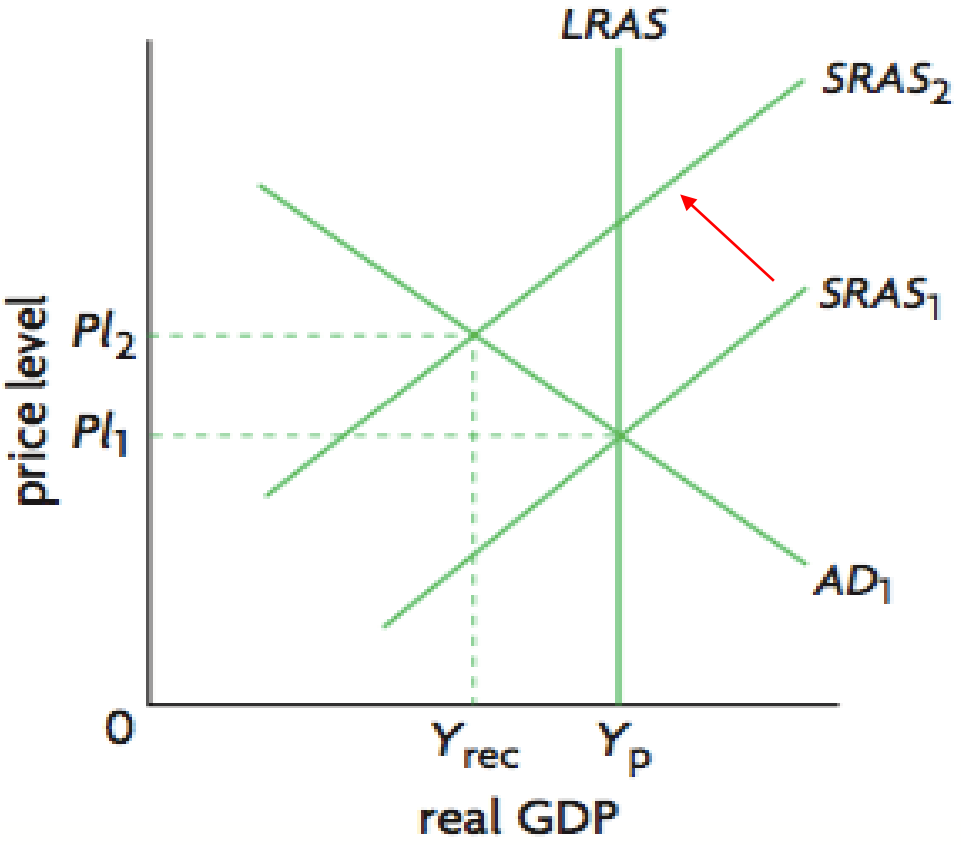
Cost-push inflation is caused by a fall in aggregate supply, in turn resulting from increases in wages or costs of inputs.

Only exists in the **new classical model.**

Which type of inflation is more severe for the economy?

Cost-push inflation - results in a fall in real GDP and inflation.

The Monetarist/New Classical Model



Real World Example

Demand-pull Inflation: Zimbabwe

The country experienced a 79.6 billion percent inflation rate from the late 1990s, peaking in late 2008 at a 98% daily inflation rate.

The country was **printing money** at an extraordinary rate to fund government wars, projects, and salaries. In tandem, there was a **shortage of goods** across the nation and, to make matters worse, the country had already been hit by an ongoing food shortage.

In some ways, demand was already significantly higher than supply, and the addition of printing exorbitant amounts of money only made matters worse.

Real World Example

Cost-push Inflation: Oil Crisis 1970

The price of oil is controlled by an intergovernmental body known as **OPEC (the Organization of Petroleum Exporting Countries)**. In the Seventies, OPEC imposed higher prices on the oil market; however, demand had not decreased.

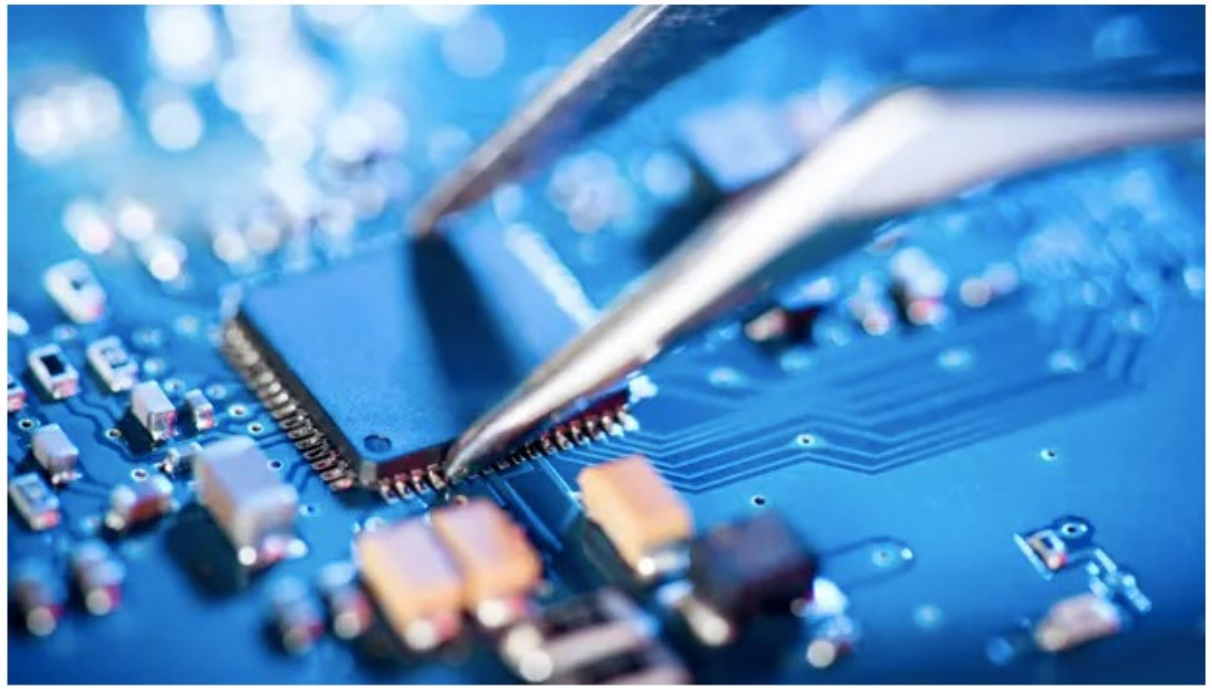
While the increased oil prices produced strong profit margins for producers in the short run, it increased production costs in all sectors of the economy that relied on oil.

This impacted many elements of the economy are touched by the oil market, from transportation to construction to plastics, resulting in inflationary pressure on the prices of goods and services as a result of OPEC's decision.

3.3 Macroeconomic Objectives

Global shortage in computer chips 'reaches crisis point'

Consumer price rises loom while dearth of semiconductors slow production from Samsung to Ford



▲ Ford recently cancelled shifts at two car plants and said profits could be hit by $1bn to $2.5bn due to chip shortages. Photograph: Krystian Nawrocki/Getty Images

Consumers are facing price rises and shortages of products from TVs and mobile phones to cars and games consoles as a global shortage in semiconductors grows.

Consumers are facing price rises and shortages of products from TVs and mobile phones to cars and games consoles as a global shortage in semiconductors grows.

The shortage in chips, the "brain" within every electronic device in the world, has been steadily worsening since last year.

Initially the problem was only a temporary delay in supplies as factories shut down when the coronavirus pandemic first hit.

However, although production is back to normal, a new surge in demand driven by changing habits fuelled by the pandemic means that it is now reaching crisis point.

The chip shortage looks set to persist for some time yet. It can take up to two years to get complex semiconductor production factories up and running, and manufacturers are in the process of significantly raising prices for the second time in less than a year.

"There is no sign of supply catching up, or demand decreasing, while prices are rising across the chain," says Campling. "This will cross over to people in the street. Expect cars to cost more, phones to cost more. This year's iPhone is not going to be cheaper than last year."

3.3 Macroeconomic Objectives

Inflation and Real Income

Purchasing power is the quantity of products that can be bought with money.

Imagine you have $60 to spend on drinks. This represents your **nominal income**.

When the price is $20 per drink, you can buy 3 drinks.

What happens when…

The price increases to $30 per drink?

3.3 Macroeconomic Objectives

Inflation and Real Income

Purchasing power is the quantity of products that can be bought with money.

Real income is the same as purchasing power; **it refers to what your money can buy.**

- It decreases as price rise
- It increases as prices fall

% Change in Real Income = % Change in Nominal Income - % Change in the Price Level

3.3 Macroeconomic Objectives

Inflation and Real Income

Purchasing power is the quantity of products that can be bought with money.

Inflation leads to a fall in real income **only** if nominal income is constant or rises more slowly than the price level.

How would you be affected if…

Inflation and nominal income rises by 5%

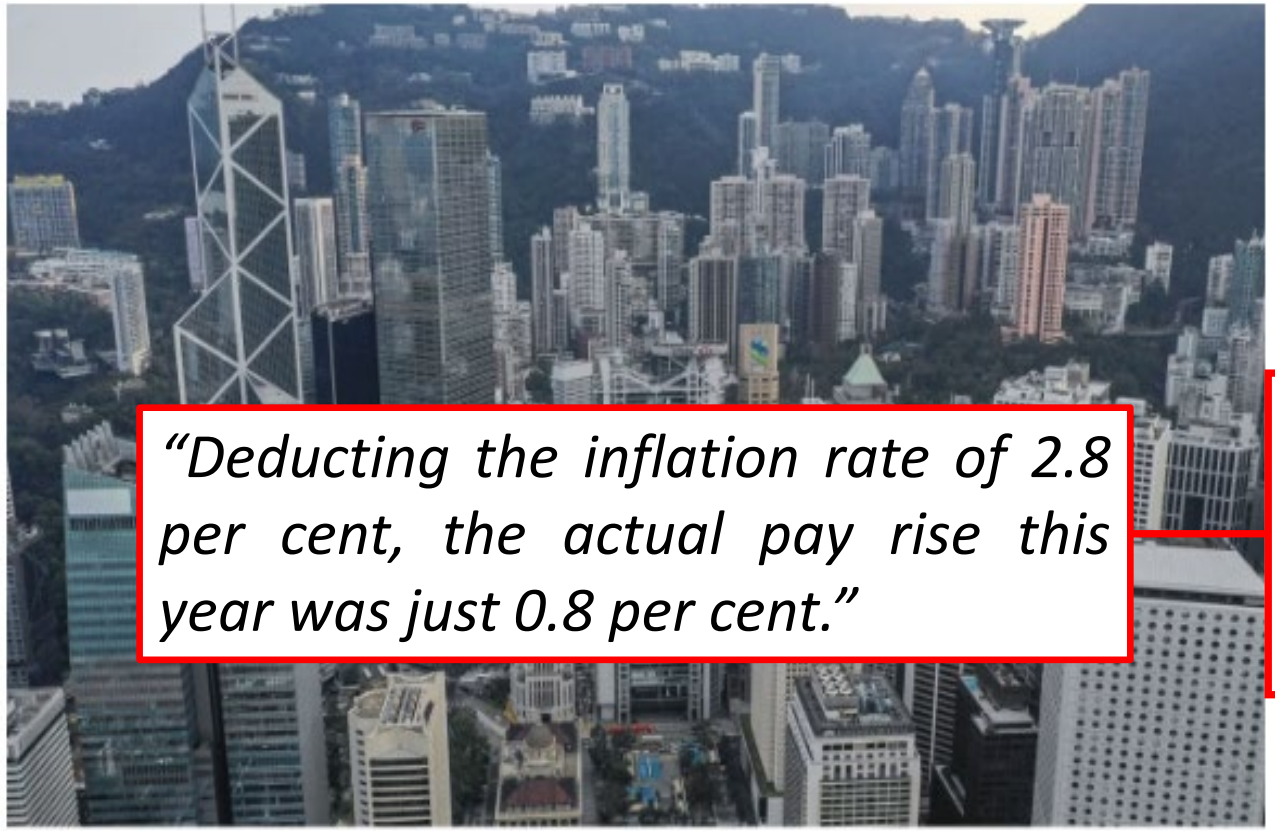
Purchasing power remains unchanged

3.3 Macroeconomic Objectives

Hong Kong workers set for average pay rise of 3 per cent in 2020 despite ongoing protests, survey finds

- Hong Kong Institute of Human Resource Management gave upbeat outlook after it polled 94 companies in August and September
- Survey showed 51 per cent of firms indicated they would give their staff a pay rise while 48 per cent said they did not have any plans yet

source: www.scmp.com



"Deducting the inflation rate of 2.8 per cent, the actual pay rise this year was just 0.8 per cent."

Hong Kong workers can expect an average pay rise of 3 per cent next year despite the ongoing social unrest as more than half of the city's bosses are still willing to increase wages, a survey has found.

The Hong Kong Institute of Human Resource Management gave the upbeat outlook for the city's workforce on Thursday after it polled 94 companies – which employ some 145,000 staff from 15 sectors including hotel, retail, trading and banking – from August to September.

The survey showed 51 per cent of the firms indicated they would give their staff a pay rise while 48 per cent said they did not have any plan yet.

Institute vice-president Lawrence Hung Yu-yun said based on the poll findings and the group's economic assessment, there would be an estimated average pay rise for the city's employees of 3 per cent next year.

The survey also showed the average pay rise for staff this year was 3.6 per cent, up 0.4 per cent from 2018. Among the polled firms, 95 per cent gave a pay rise this year covering 85 per cent of staff.

However, Hung said deducting the inflation rate of 2.8 per cent, the actual pay rise this year was just 0.8 per cent.

The poll indicated those from the public utility, finance and banking sectors received the highest pay rise of an average of 4 to 4.4 per cent.

Consequences of Inflation

Redistribution Effects

Inflation redistributes income away from certain groups towards other groups.

This occurs where certain groups lose some purchasing power and become worse off, while other groups gain purchasing power and become better off.

Groups who lose from inflation include:

- Fixed income earners
- Holders of cash
- Savers
- Lenders (Creditors)

Nominal income remains unchanged for all these different groups.

i.e. Interest is not received

Consequences of Inflation

Redistribution Effects

Inflation redistributes income away from certain groups towards other groups.

This occurs where certain groups lose some purchasing power and become worse off, while other groups gain purchasing power and become better off.

Groups who gain from inflation include:

- Borrowers
- Employers of fixed income earners

Consequences of Inflation

Other consequences includes:

- Uncertainty
- Menu costs
- Money illusion
- International competitiveness
- Effects on economic growth

3.3 Macroeconomic Objectives

Consequences of Inflation

Other consequences includes:

- Uncertainty
- Menu costs
- Money illusion
- International competitiveness
- Effects on economic growth

Costs incurred by firms when they have to print new menus, catalogues, advertisements etc

Consequences of Inflation

Other consequences includes:

- Uncertainty
- Menu costs
- Money illusion
- International competitiveness
- Effects on economic growth

Consumers may make wrong spending decisions

Consequences of Inflation

Other consequences includes:

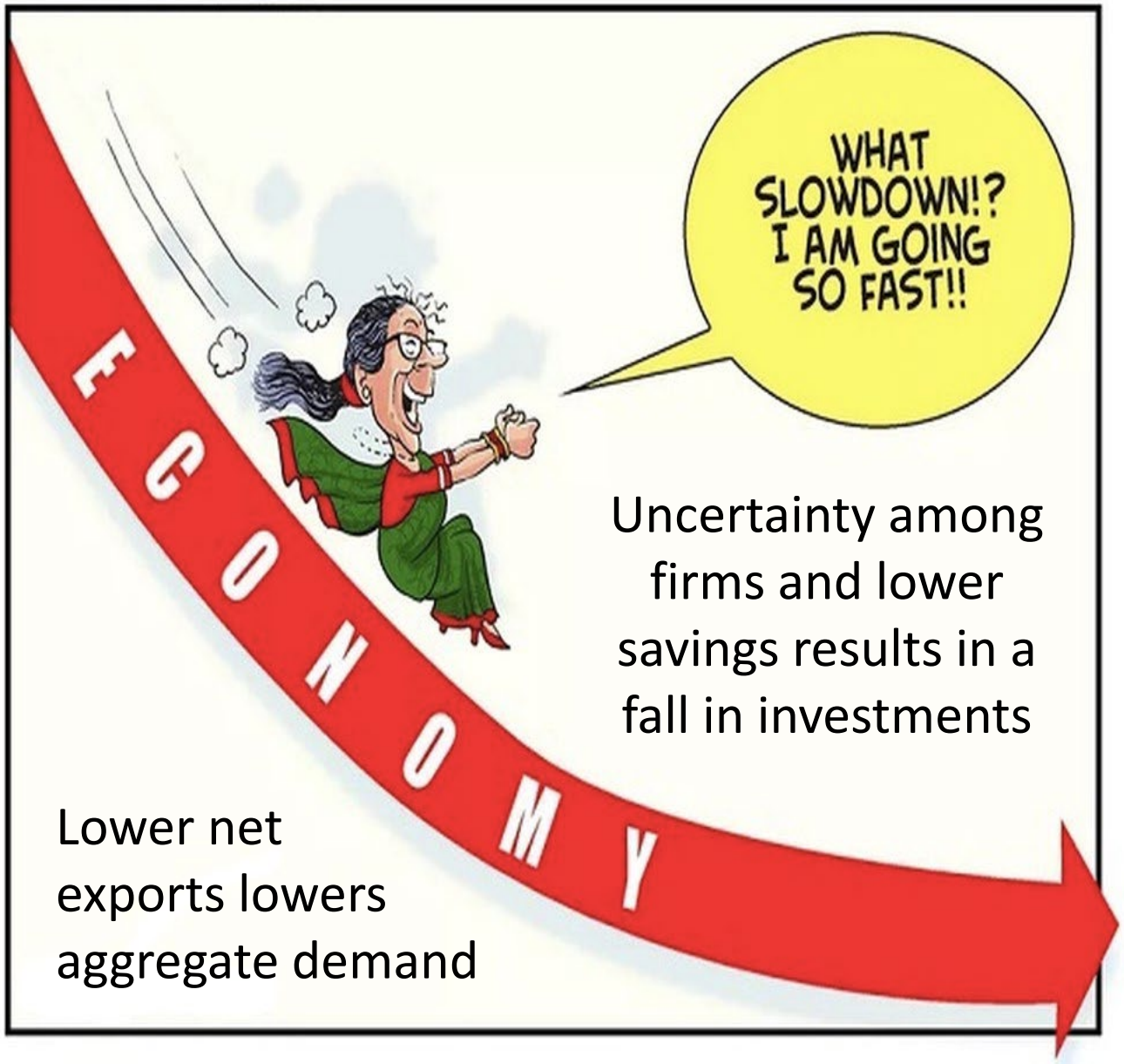
- Uncertainty
- Menu costs
- Money illusion
- International competitiveness
- Effects on economic growth

Problems with balance of payments

Consequences of Inflation

Other consequences includes:

- Uncertainty
- Menu costs
- Money illusion
- International competitiveness
- Effects on economic growth



Consequences of Inflation

Other consequences includes:

- Effects on resource allocation
- Social and personal costs that are unequally distributed
- Hyperinflation

Signals and incentives become distorted - market failure arises.

Consequences of Inflation

Other consequences includes:

- Effects on resource allocation
- Social and personal costs that are unequally distributed
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Consequences of Inflation

Other consequences includes:

- Effects on resource allocation
- Social and personal costs that are unequally distributed
- Hyperinflation

Hyperinflation occurs when the price level increases by more than 50% per month.

Usually results from very significant increases in the supply of money such as when government resort to printing money.

In small groups…

Find real world examples of **hyperinflation** taking place

- Germany in 1924
- Zimbabwe in 2007
- Venezuela in 2018

Consequences of Inflation

Other consequences includes:

- Effects on resource allocation
- Social and personal costs that are unequally distributed
- Hyperinflation

Hyperinflation occurs when the price level increases by more than 50% per month.

It can lead to:

- Demand-pull and cost-push inflation
- Inflationary spiral
- Stop in investments in production
- Resort to bartering
- Political unrest

Low and Stable Inflation

Most governments prefer a low and stable inflation – not zero inflation.

Why is this the case?

Zero inflation comes dangerously close to deflation.

There is no particular rate of inflation that is ideal, **but many governments aim for the range of about 2 – 3% per year**.

3.3 Macroeconomic Objectives

Deflation

Deflation does not usually occur due to several factors:

- Wages of workers do not ordinarily fall
- Large oligopolistic firms may fear price wars
- Firms want to avoid incurring menu costs

It is generally **feared more** than inflation.

Deflation

Causes

- Decreases in aggregate demand
- Increases in aggregate supply

3.3 Macroeconomic Objectives

Deflation

Consequences

- Redistribution effects

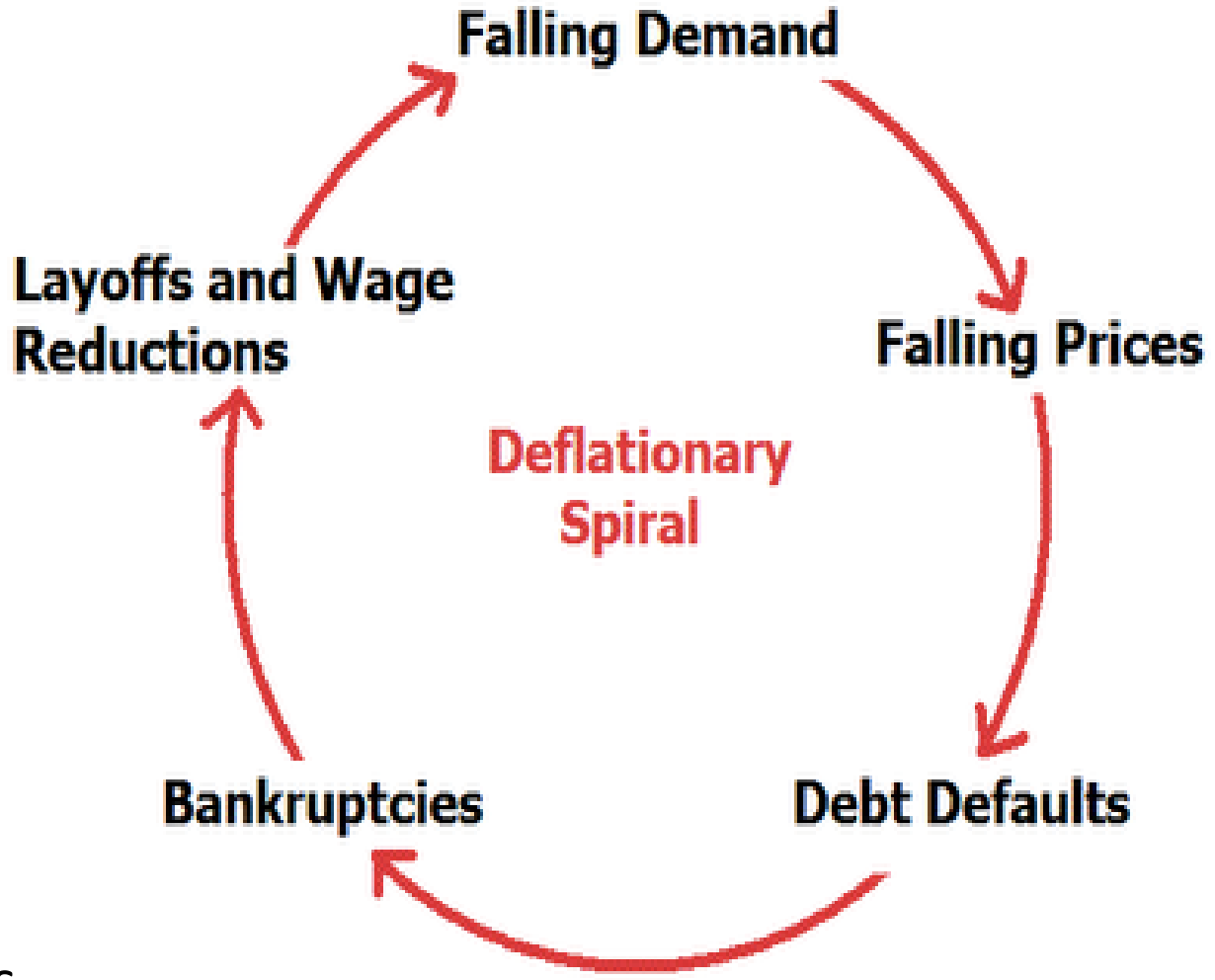
Who are the winners and losers?

GAIN	LOSE
Fixed income earners	Borrowers
Holders of cash	Employers
Savers	
Creditors	

Deflation

Consequences

- Redistribution effects
- Uncertainty
- Menu costs
- Risk of **deflationary spiral** with high and increasing cyclical unemployment
- Risk of **bankruptcies** and a financial crisis



3.3 Macroeconomic Objectives

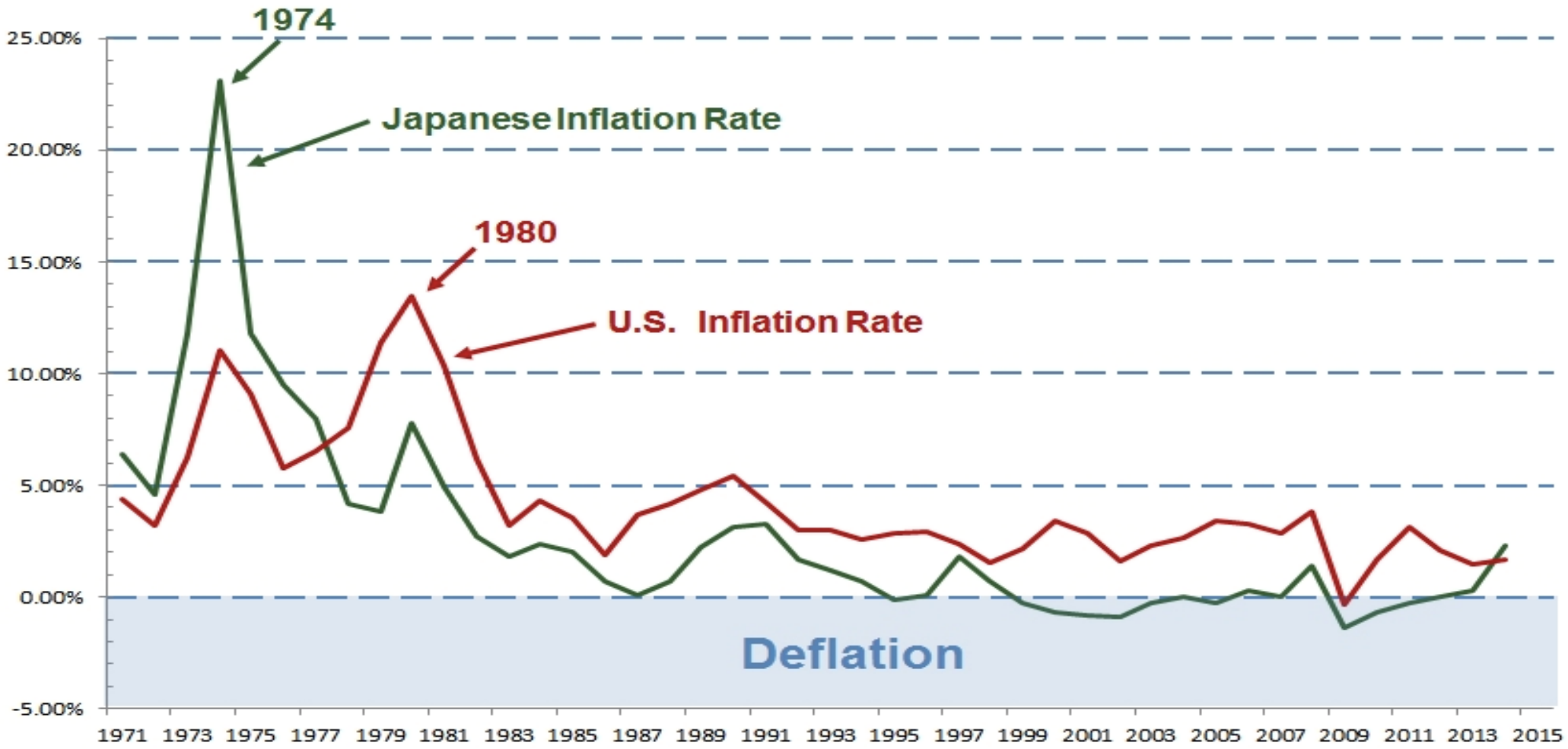
Deflation

Consequences

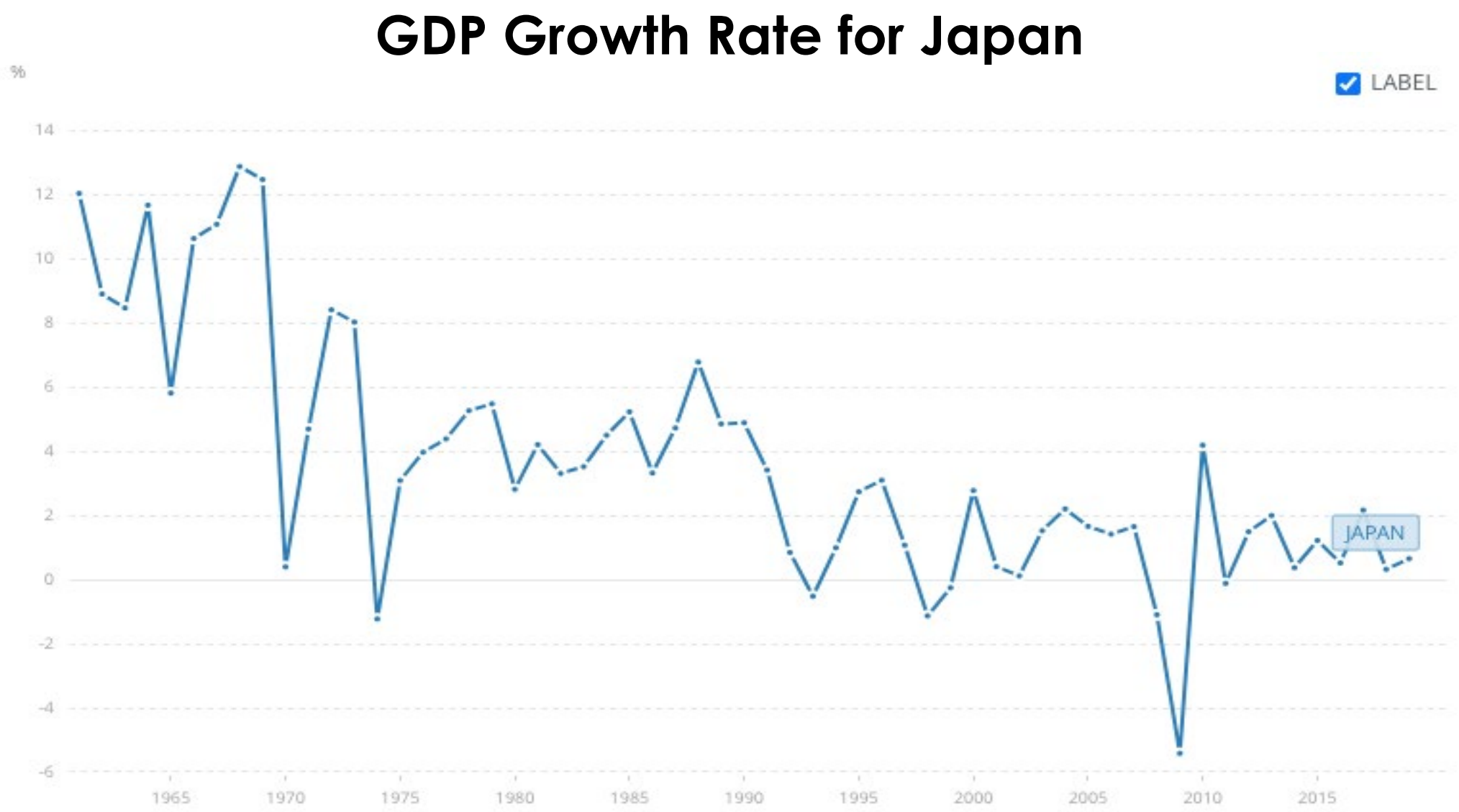
- Redistribution effects
- Uncertainty
- Menu costs
- Risk of **deflationary spiral** with high and increasing cyclical unemployment
- Risk of **bankruptcies** and a financial crisis

3.3 Macroeconomic Objectives

Inflation Rate for Japan and the US



3.3 Macroeconomic Objectives



3.3 Macroeconomic Objectives

Deflation

Consequences

- Inefficient resource allocation
- Policy ineffectiveness

Positive consequence?

- Increase in net exports (X – M)
- Upward pressure on AD and real GDP

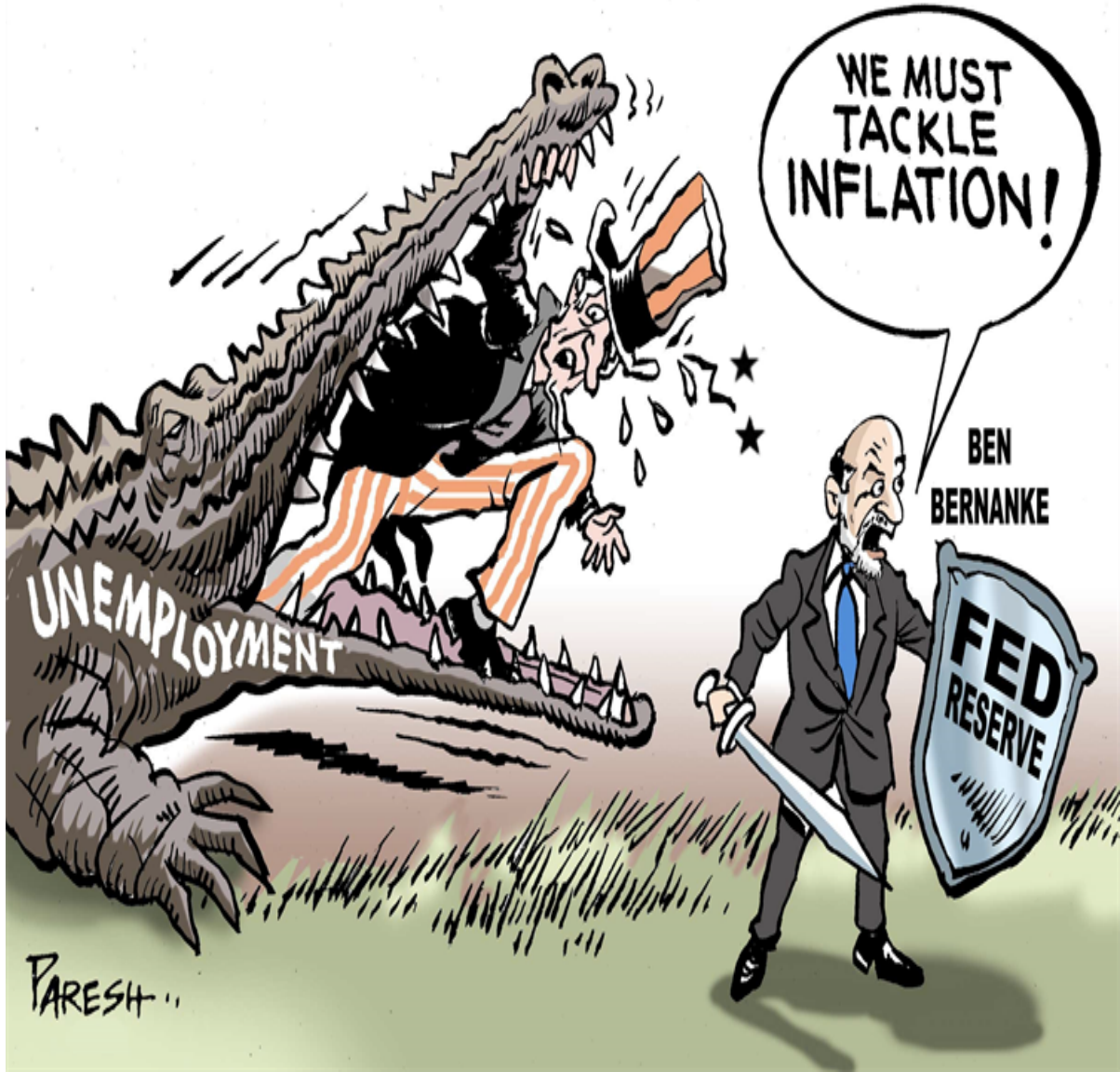
3.3 Macroeconomic Objectives

Unemployment and Inflation

Both unemployment and inflation have personal, social and economic costs.

Studies have shown that unemployment has a stronger negative impact on well-being.

Between 1975-2013 in Europe, it was found that an increase of 1% in unemployment lowers well-being nearly six times more than a 1% increase in inflation.



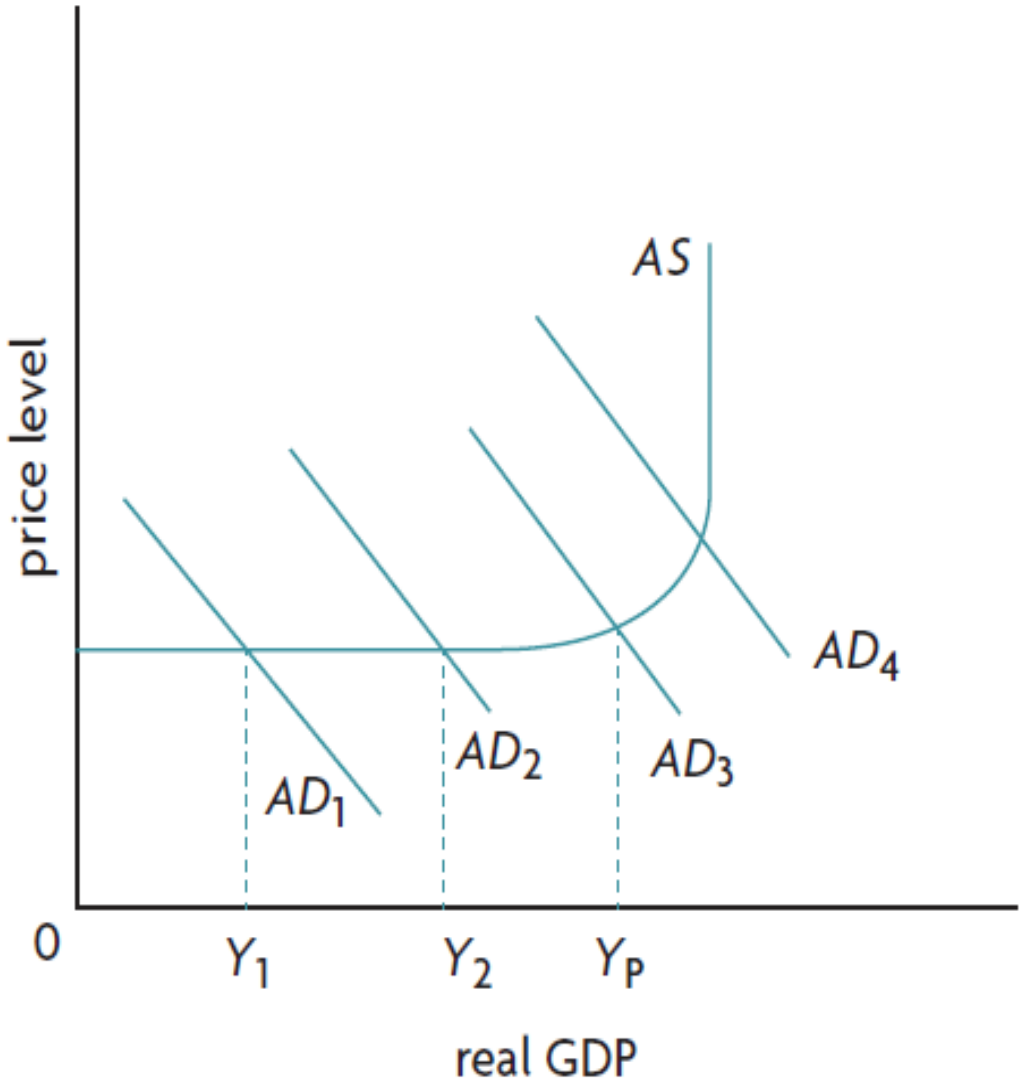
3.3 Macroeconomic Objectives

Unemployment and Inflation

As AD increases and and the economy approaches **Yp**, the price level begins to rise while cyclical unemployment falls.

If AD increases beyond **Yp**, the **natural rate of unemployment falls** but an inflationary gap is created (up to Ymax).

Both a low rate of inflation and a low unemployment rate **is difficult to be achieved** at the same time.



Philips Curve

The **Philips curve** is concerned with the relationship between unemployment and inflation.

It suggests that if there is a constant negative relationship between the two variables, then every economy faces a trade-off between **inflation** and **unemployment**.

It can choose either:

- Relatively low inflation and higher unemployment
- Lower unemployment and a higher inflation rate

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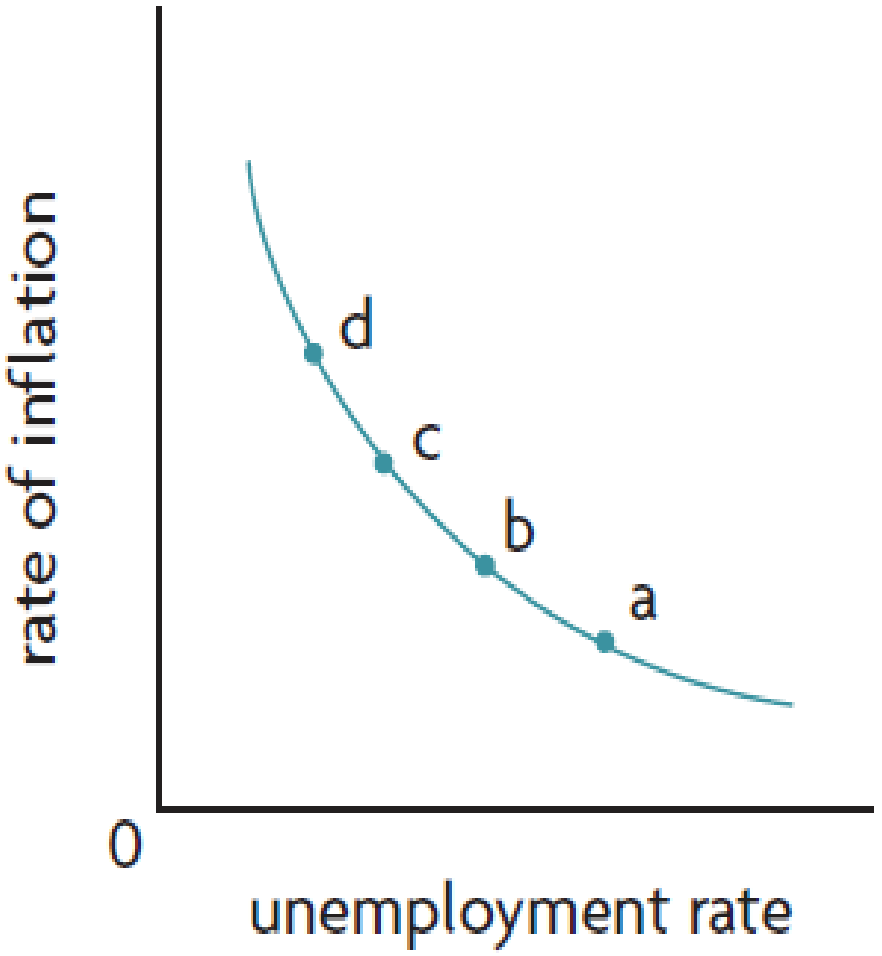
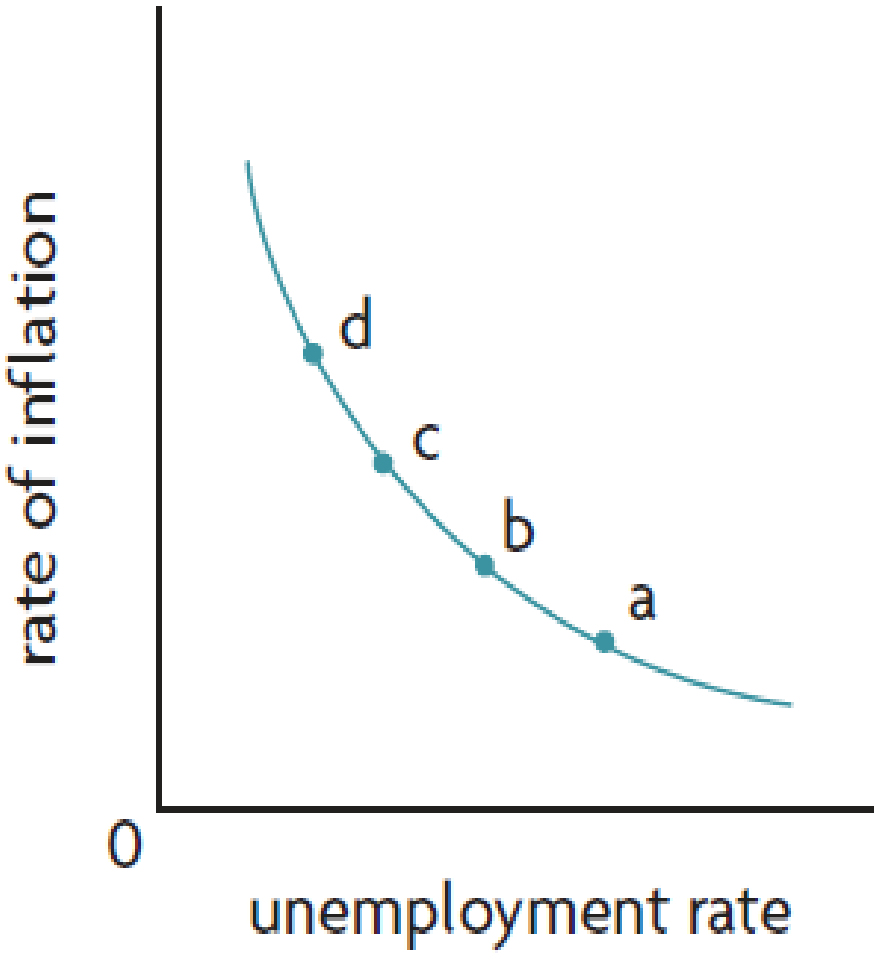
The shape of the Phillips curve



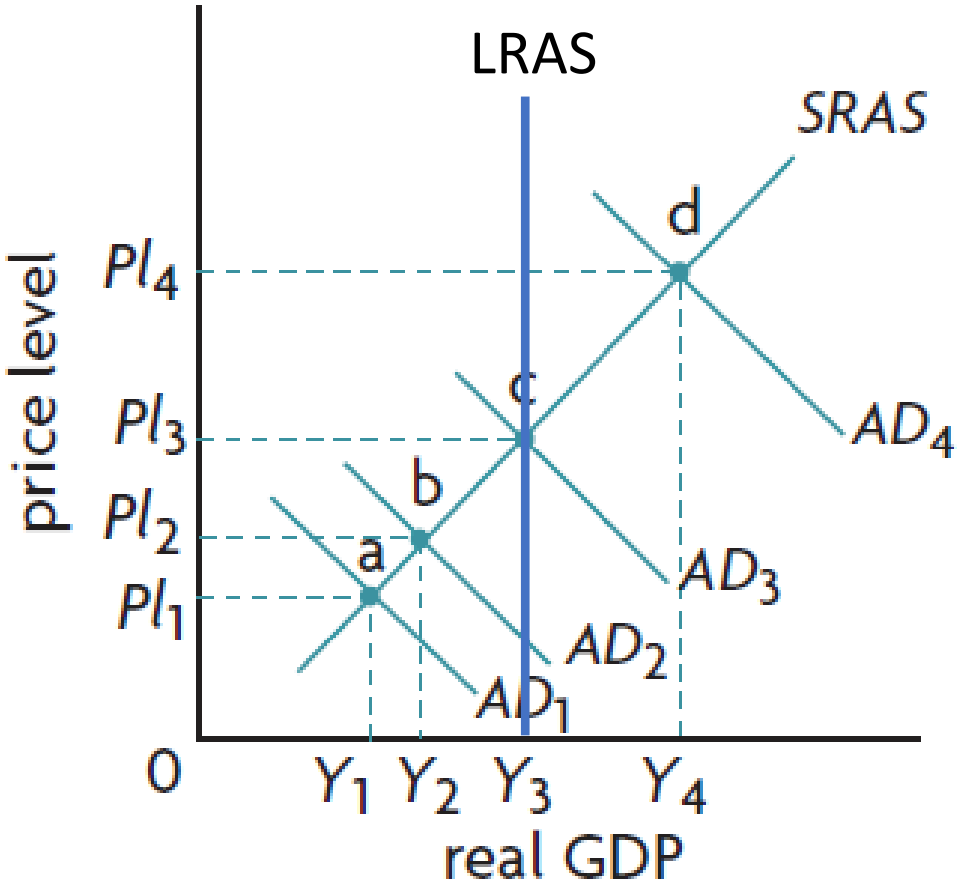
3.3 Macroeconomic Objectives

HL Content only

The shape of the Phillips curve



The reasoning behind the Phillips curve in terms of the *AD-AS* model



Philips Curve

Stagflation

In the 1970s and 1980s, a number of supply shocks led to a period of **stagflation**.

Most significant event was the actions of OPEC which restricted global supply of oil.

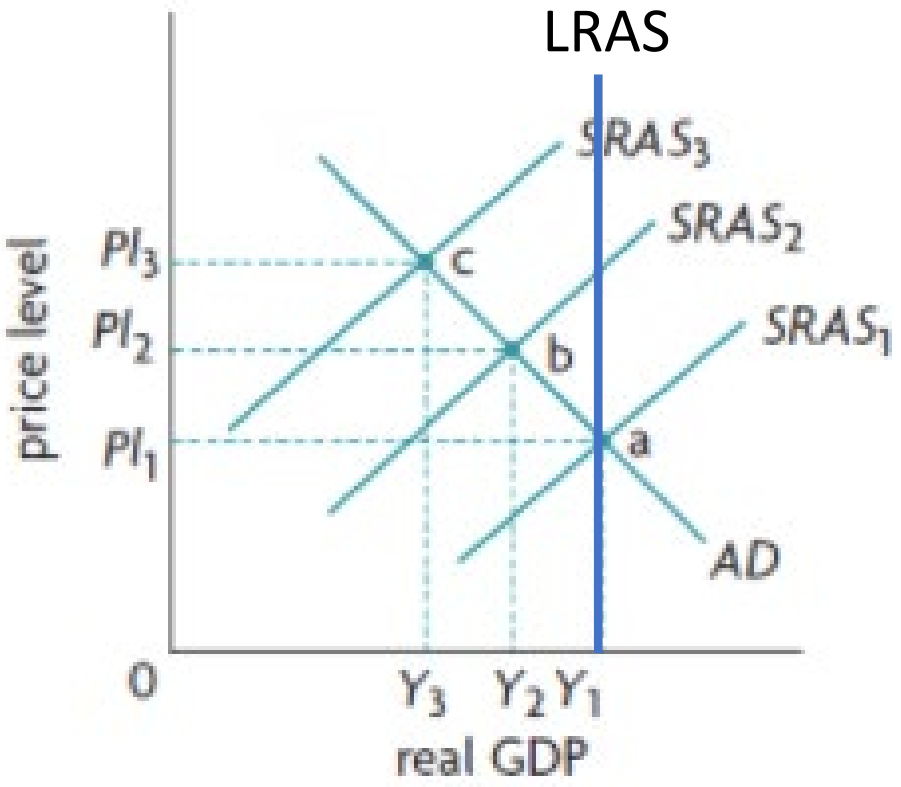
In pairs or small groups…
Discuss how stagflation would affect the **Philips curve**.

3.3 Macroeconomic Objectives

HL Content only

The shifting Phillips curve

The reasoning behind *SRAS* shifts in terms of the *AD-AS* model



Philips Curve

Global financial crisis 2007

Years after the GFC, unemployment fell low but inflation did not increase as predicted.

Reasonable explanation for this was global competition made it difficult for firms to raise prices and wages had not increased due to a factors such as…

- Decline of labour unions
- Technology
- Globalisation

Philips Curve

In the long-run

In the 1970s, Milton Friedman argued that there is only a temporary trade-off between inflation and unemployment.

The long-run Philips curve is vertical at the level of full employment.

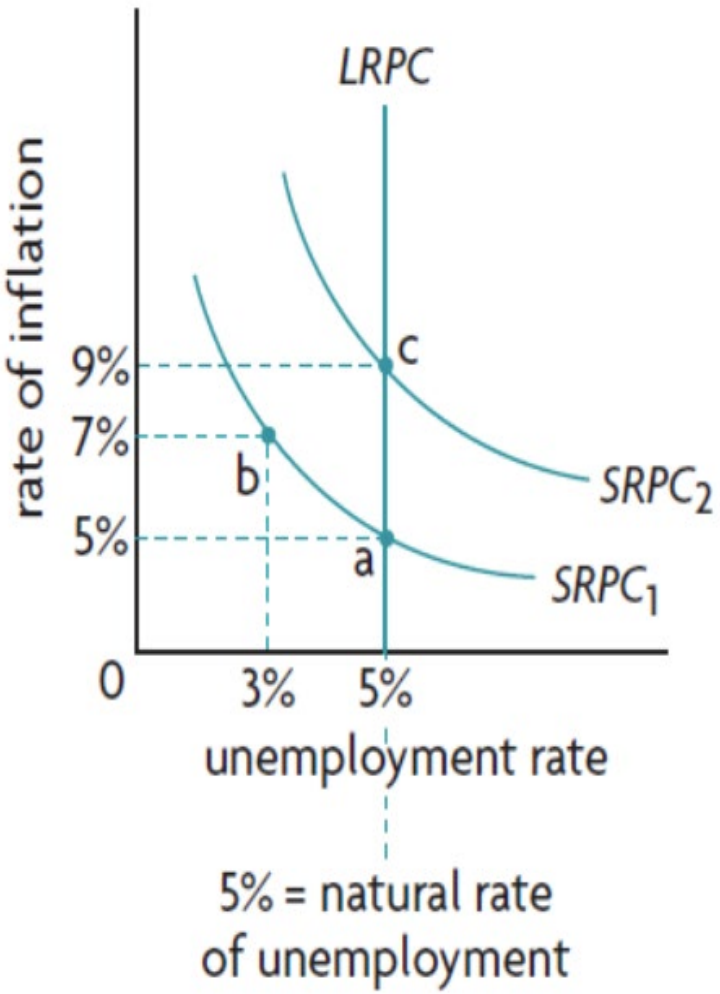
Philips Curve

In the short-run

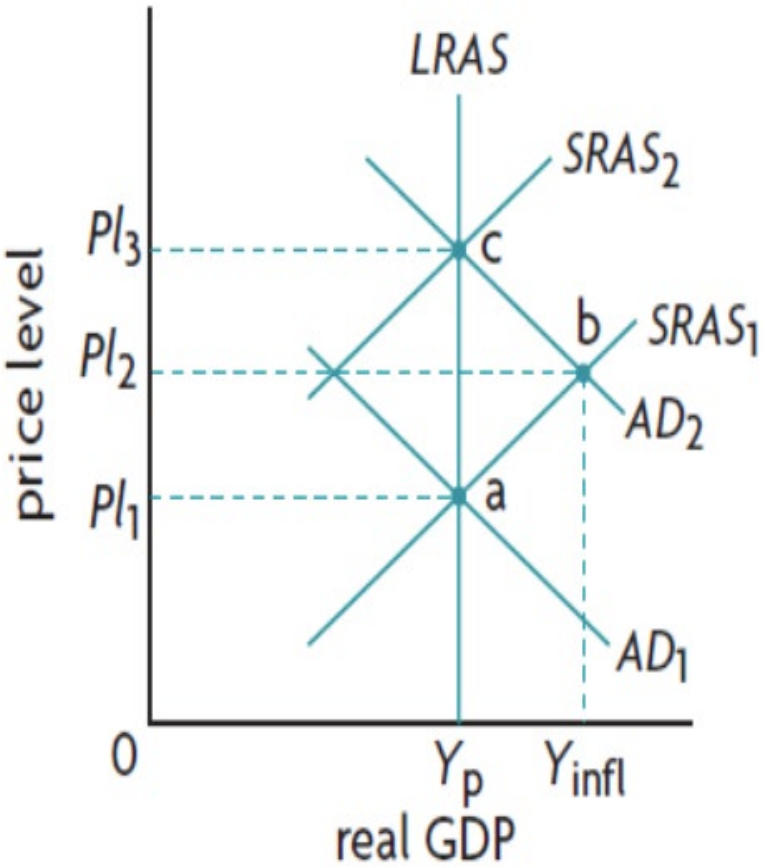
In the short-run, an increase in AD results in a movement along the Philips curve, causing a rise of inflation rate and lower unemployment.

The economy move to Point B.

The shape of the *LRPC* and *SRPC*



The reasoning behind the two curves in terms of the *AD-AS* model



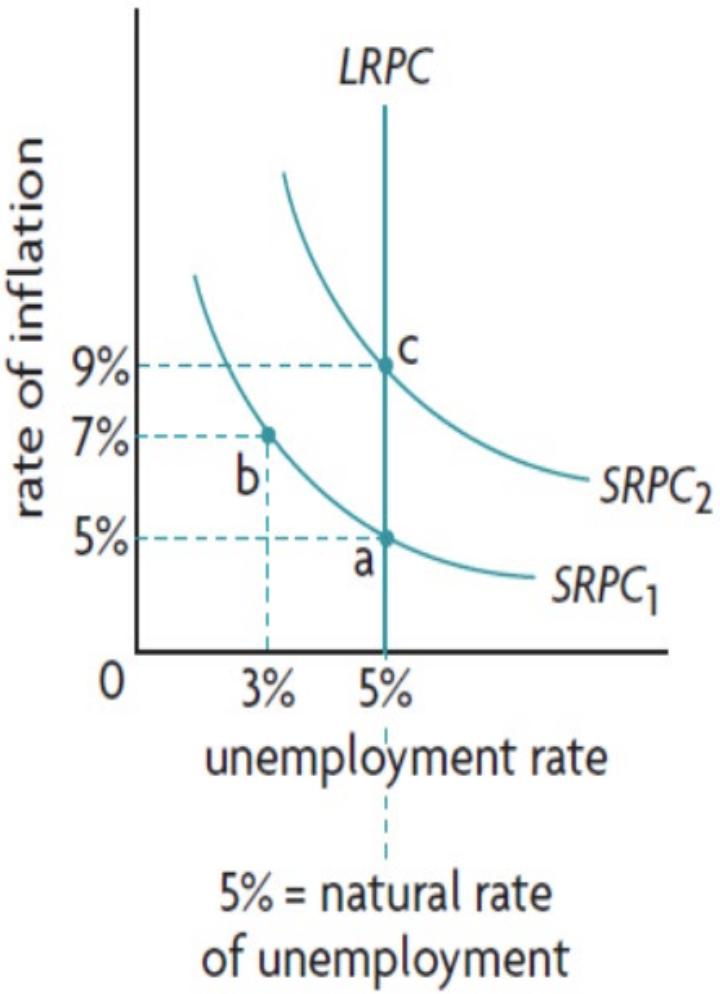
Philips Curve

In the long-run

In the long-run, wages will rise to meet the increases in price level, causing a leftward shift of SRAS.

This causes an outward shift of SRPC and the economy moves back to **full employment** at Point C.

The shape of the *LRPC* and *SRPC*



The reasoning behind the two curves in terms of the *AD-AS* model