



Inflation

MEGA LECTURE

AS Economics

Inflation

Inflation is defined as **persistent increase** in general price level.

If overall price level of an economy is increasing it is said to be experiencing inflation.

Inflation

As we will discuss in this unit, all types and forms of inflation do not disrupt smooth functioning of economies and in fact **low and stable** rate of inflation is often considered desirable because it helps countries to achieve their macroeconomic objective of high rate of economic growth.

Causes of Inflation

The 3 most common causes of inflation are listed as follows:

1. Demand-Pull Inflation

2. Cost-Push Inflation

3. Inflation being
Monetary Phenomenon

Inflation being Monetary Phenomenon

U.S economist, Milton Friedman, claimed that inflation is a monetary phenomenon and is caused by excess printing of currency notes

To illustrate this concept he developed an economic model called **Quantity Theory of Money.**

Inflation being Monetary Phenomenon

Development of this theory was based upon researcher's observation that periods of more money printing are often correlated with periods of high inflation rates.

Inflation being Monetary Phenomenon

Money being a medium of exchange facilitates economic transactions. Therefore currency notes are only needed to make necessary transactions. Hence changes in money supply should *in line* with changes in countries' stock of goods and services or else countries face the threat of experiencing hyperinflation.

Inflation being Monetary Phenomenon

Excessive printing of money that is more than economy's real GDP growth will cause inflation.

Quantity Theory of Money

$$MV=PT$$

The above mentioned equation, known as Fisher Equation, depicts how excess printing of money will result in inflation.

M refers to Money Supply

- V refers to **Velocity of Circulation**

- how many times on average each currency note changes hands

- P refers to **general Price Level**

- T refers to **Number of Transactions** taking place in an economy

Quantity Theory of Money

Since both sides of the equation are estimating economies' total expenditure, hence equation holds true for different values of the four variables involved.

- According to Fisher, value of V and T are relatively stable during certain time period so any changes in economy's M is matched by proportionate change in P .

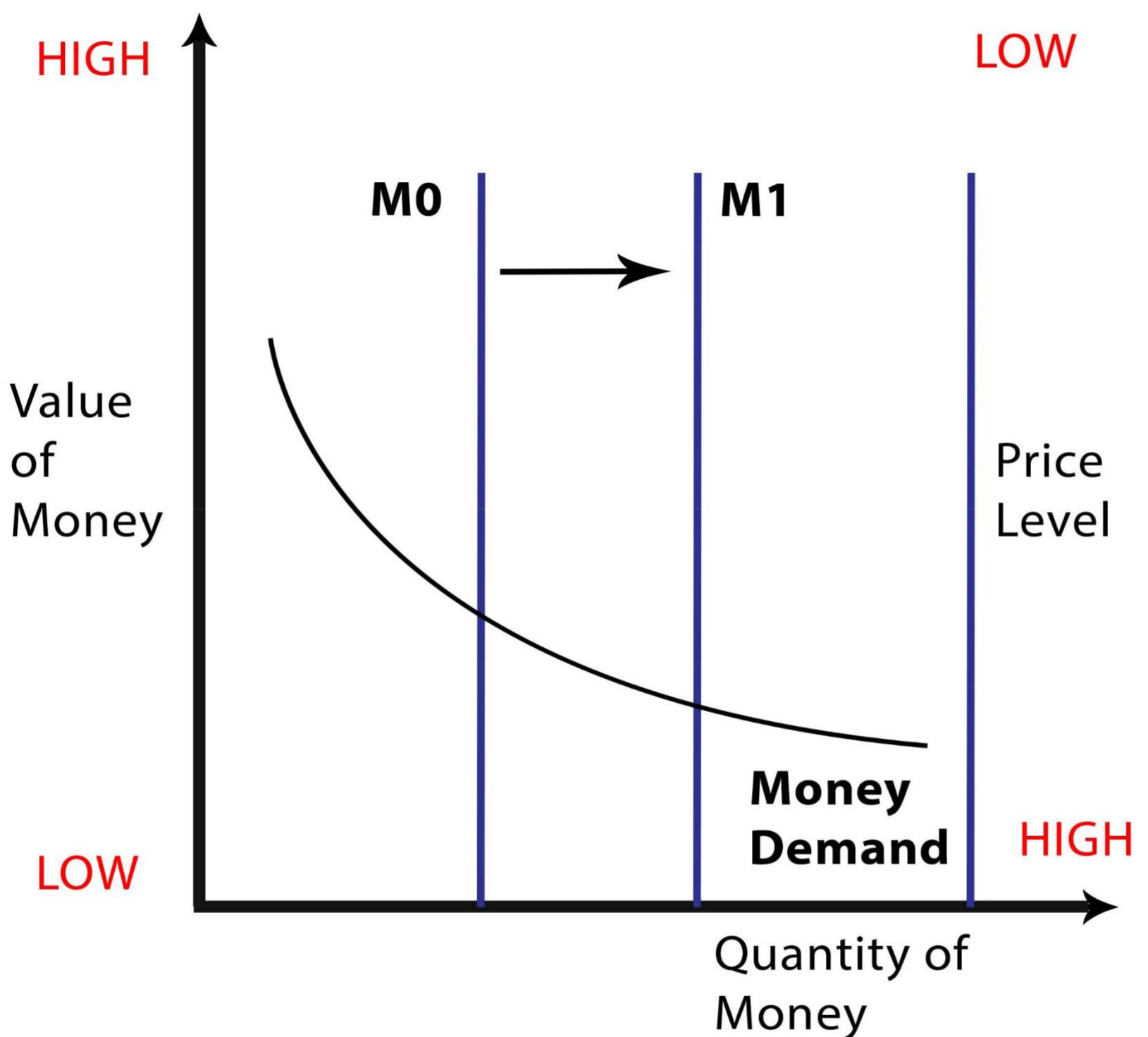
Quantity Theory of Money

- For instance if there is **5%** increase in Money Supply on the left hand side, M , then there has to be 5% increase in Price Level, P , to balance the equation given V and T have constant values.

Quantity Theory of Money

- However if increase in M is due to increase in the country's real GDP which is captured by T then obviously the economy **won't** experience any inflation.

Quantity Theory of Money



Quantity Theory of Money

- As shown in the last diagram, changes in money supply that are not followed by changes in economy's real output results in higher price level meaning a decrease in currency's value – in terms of **purchasing power**.
- This shows that with higher price level shown on right Y-axis each unit of currency will buy **lesser units** of goods shown on left Y-axis.

Quantity Theory of Money

- And, lastly as shown in the diagram, value of money is *inversely* related to general price level.

Inflation being Monetary Phenomenon

- Therefore knowing **Fisher equation** we can better understand what happened in Germany when German central bank recklessly printed money to finance their military expenditure during World War I.

Inflation being Monetary Phenomenon

- At times, rate of inflation is so high that due to **rapid erosion** of citizens' trust in the local currency there is a fear that it might revert to barter trade. This was the case with German economy after World War.

Cost Push Inflation

- Any increase in cost of production would make producers transfer the **burden** of higher costs to consumers in terms of higher prices. If the increase in cost of production is huge then so will be the increase in prices. This is known as Cost Push Inflation.

Cost Push Inflation

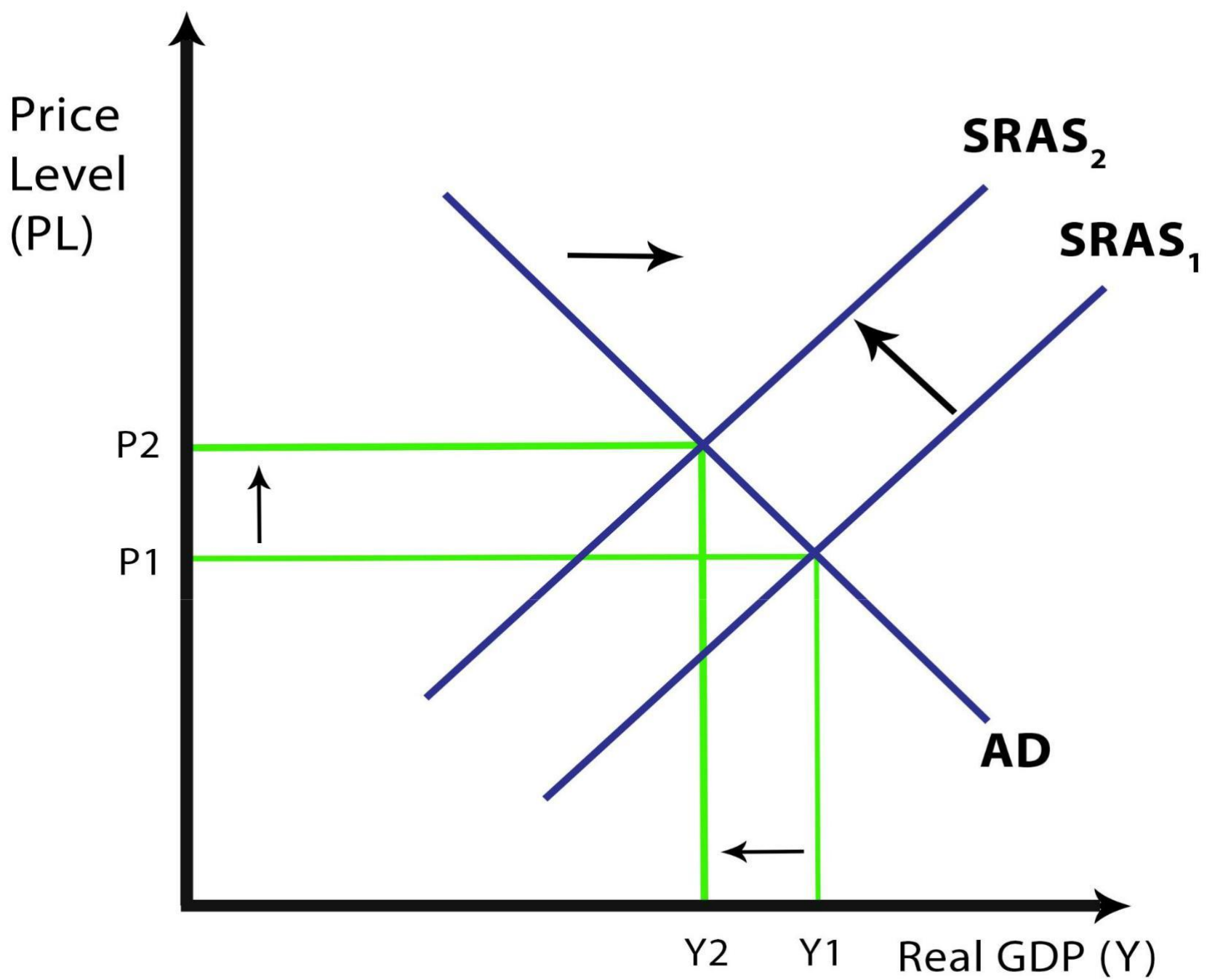
Sometimes this increase in costs is due to more expensive imports which are an input in the production process. This is known as **Imported Inflation**.

Moreover, economies' too much **reliance** on imported raw materials especially when their exchange rates are depreciating can significantly contribute to Cost Push Inflation.

Cost Push Inflation

- Hence policy makers should be mindful of changes in prices of their major imports and should ideally look for cheaper local substitutes if possible.
- Moreover, trade unions that press companies for higher wages can be another **major cause** of Cost Push Inflation.

Cost Push Inflation



Cost Push Inflation

As can be seen from the graph, higher cost of production shifted aggregate supply leftwards causing the general price level to rise from P_1 to P_2 .

Demand Pull Inflation

Demand pull inflation is when there is increase in **aggregate demand** which causes the general price level to rise.

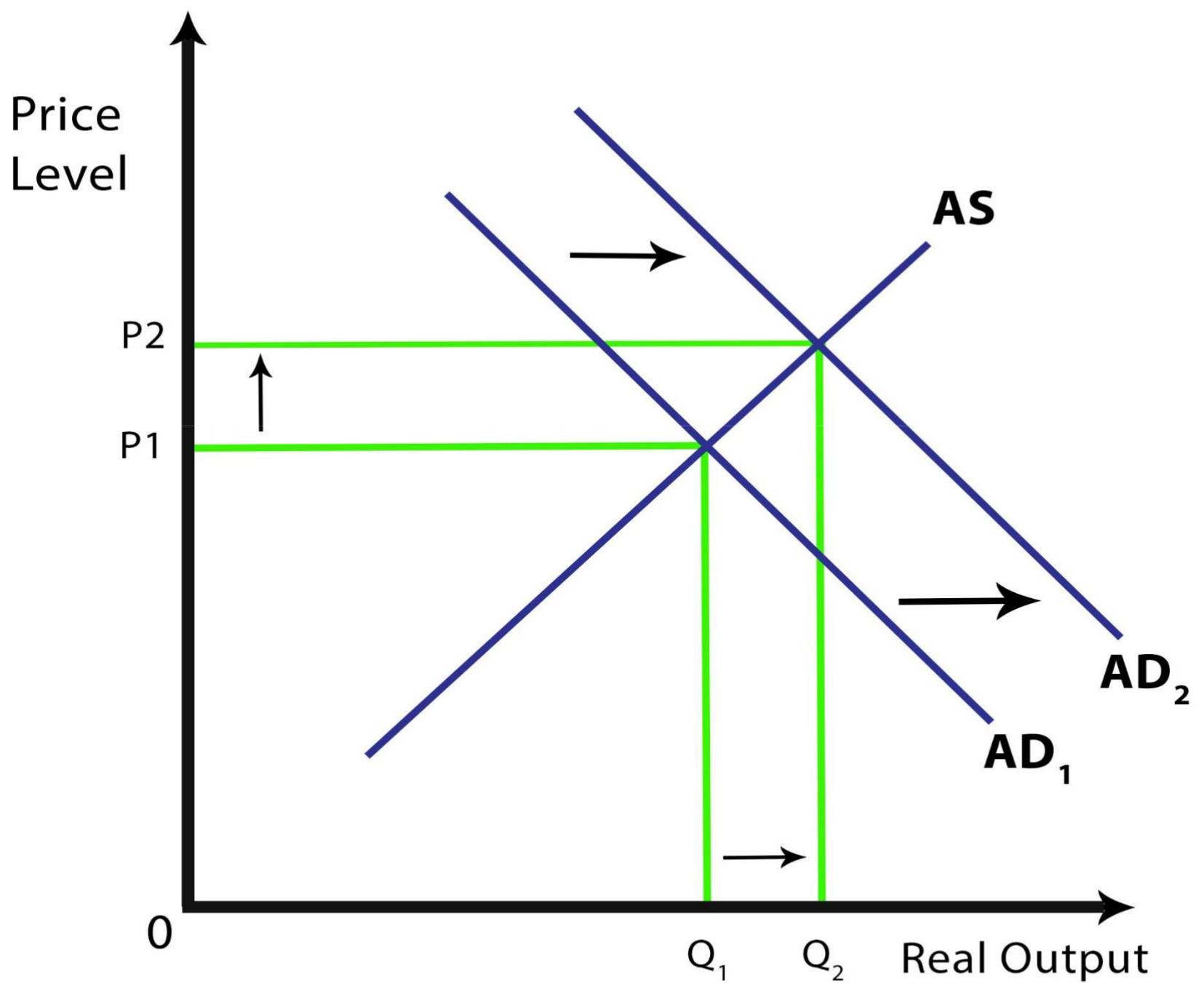
Any **increase** in any of the components of aggregate demand will cause the economy to experience Demand Pull Inflation.

Demand Pull Inflation

For instance **increased government spending** on major projects like infrastructure, increase in net exports due to depreciation of exchange rate, higher private investment due to investors more optimistic expectations about the future etc.

Demand Pull Inflation

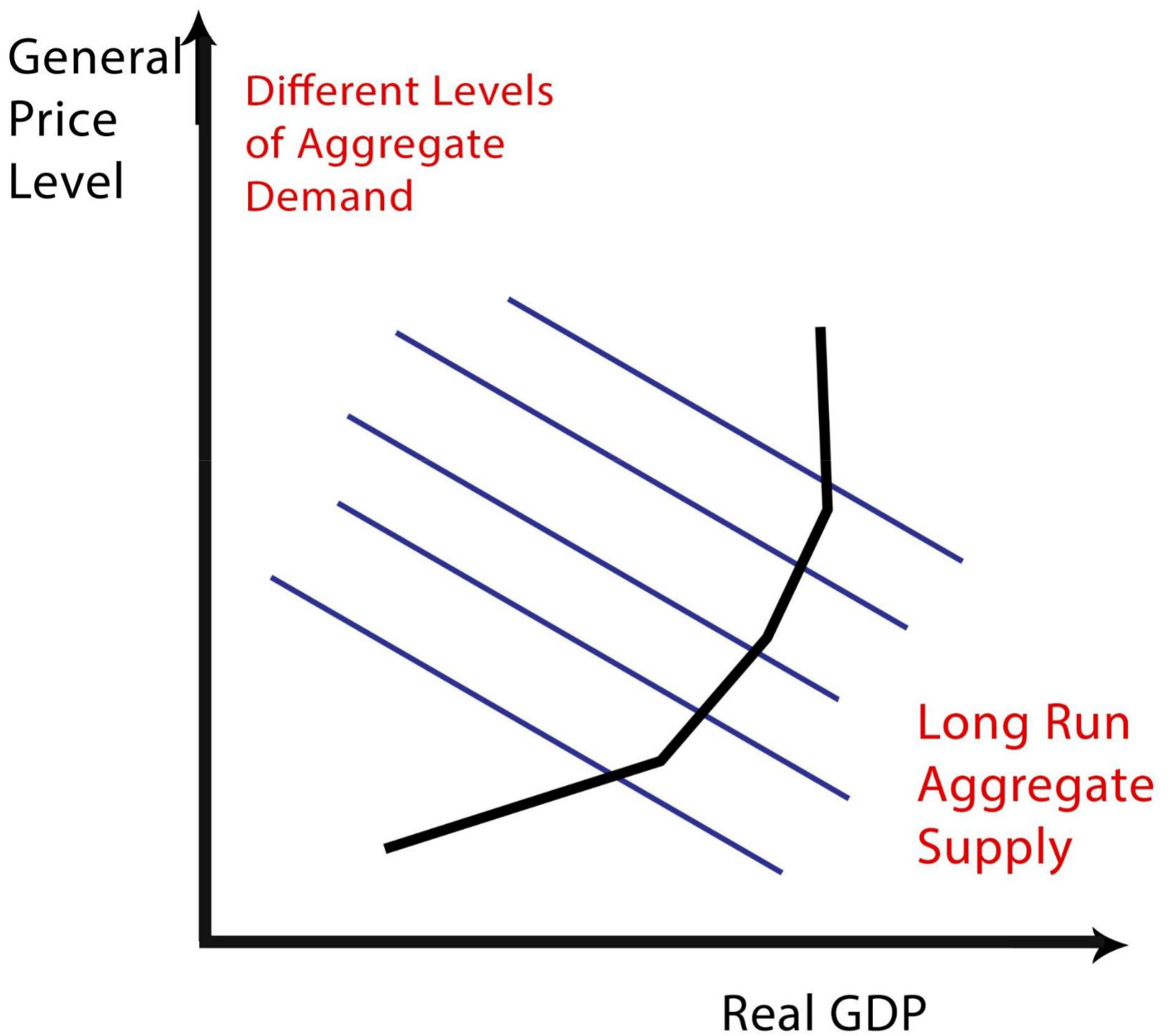
Aggregate Demand Increases



Demand Pull Inflation

As can be seen from the graph, increase in aggregate demand increased General Price Level (shown on Y-axis) from **P1 to P2** showing Demand Pull Inflation.

Demand Pull Inflation



Demand Pull Inflation in Short Run & Long Run

As can be seen from the previous graph, the increase in General Price Level is more in **Long Run** when the aggregate supply becomes more **inelastic** (becomes steep) as compared to Short Run when it is not very steep

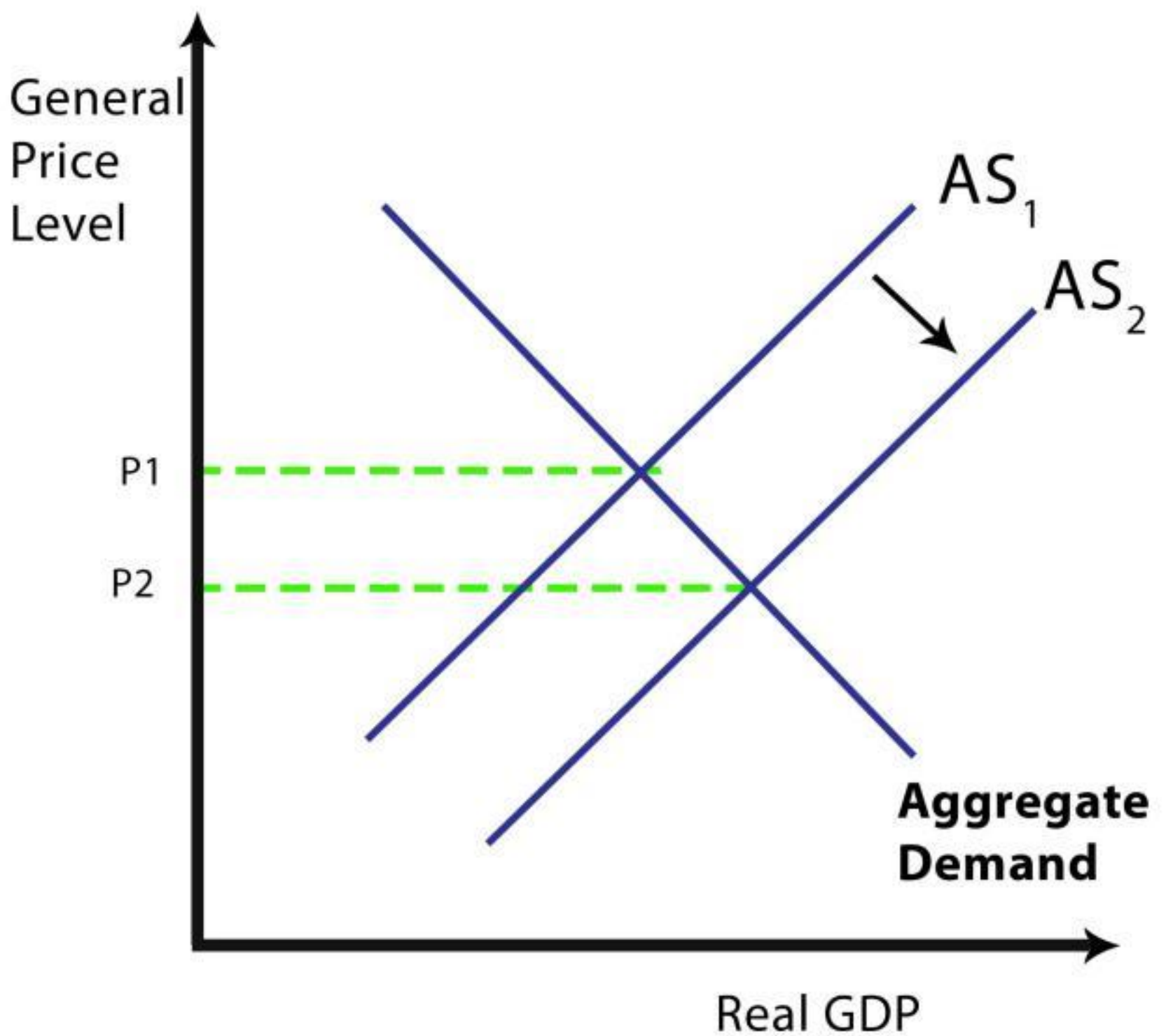
Solution -Demand Pull Inflation

- Higher production potential will help economies fight demand pull inflation.
- Strategies aimed at **enhancing** economies' production potential are known as Supply-Side Policies.

Solution -Demand Pull Inflation

- Improvement in factor endowments will cause economy's aggregate supply to **shift rightwards** and so will counter the rise in general price level

Supply Side Policies



Economic and Social Costs of Inflation

- As stated earlier, apart from **erosion** of citizens' purchasing power, inflation also disrupts economy's smooth functioning.
- Where low and stable rate of inflation encourages investment, high and unstable rates of inflation discourage investment because producers are **uncertain** about future economic prospects and also because they are rightly afraid that high inflation rate will significantly reduce consumer spending.

Economic and Social Costs of Inflation

- Moreover during times of rapid inflation, prices lose their effectiveness to accurately **signal producers changes** in products' profit margins.

Economic and Social Costs of Inflation

- This is because producers might confuse increase in prices due to inflation with increase in relative prices which are indicator of higher profit levels. This inflationary noise can result in misallocation of economy's resources.

Economic and Social Costs of Inflation

- Costs incurred by businesses to **constantly update** their brochures and information on their websites is known as Menu Costs.
- There are higher chances of firms making their **work force redundant** because firms wish to become more cost competitive during times of high inflation rates.

Economic and Social Costs of Inflation

- Since wages do not always increase in line with economies' inflation rates, employees' real wages fall which reduces their purchasing power and so will **adversely affect** their living standards.

Economic and Social Costs of Inflation

Accelerating rates of inflation that severely affects citizens' purchasing power often cause **unpopularity** of democratically elected governments.

- During times of high inflation consumers try searching for cheaper products. They also look for higher return yielding investments. Additional cost incurred in search of cheaper products and higher return yielding investments is known as **Shoe Leather Cost**.

Is inflation desirable for any economy?

- Though high and unanticipated inflation can be harmful, but economists have consensus that low and stable inflation rates **encourage economic growth.**
- Higher prices mean higher profits for producers hence low inflation rates encourage local producers to undertake more investment.

How unanticipated



inflation can be harmful?

- **Anticipated inflation** is defined as situation when actual rate of inflation is equal to or close to what people predicted it to be.
- For instance, if Pakistan has previously experienced inflation rates equaling **3-4 percent** then it is reasonable to assume that coming year the rate of inflation in Pakistan will be somewhat close to **4%**.

How unanticipated inflation can be harmful?

- As stated earlier, inability of producers to accurately predict economy's inflation rate will prevent them from appropriately pricing their final products.

How unanticipated inflation can be harmful?

- Banks might **reduce their lending** due to unanticipated inflation because lenders generally tend to lose when actual inflation rates are higher than anticipated. This reduction in lending can significantly reduce investment in the economy resulting in lower economic growth.

How to calculate Inflation

- Inflation is the **rise in general price level.**
- General Price level is the average prices of different goods / services that are produced in an economy.

General Price Level

Why do economists need to calculate economy's inflation rate?

- Individuals consume goods and services for their survival which includes products ranging from basic food items to education, health care, cars, houses etc.
- Increase in prices of these goods and services will increase economy's cost of living. Hence to record changes in economy's cost of living it is important to record changes in prices of these goods and services.

Consumer Price Index

- Maintaining stable and low rate of inflation is one of the economy's macroeconomic objectives.
- But before governments can devise appropriate strategies to tackle high rates of inflation they need to accurately calculate inflation.
- There are different indices that are used to calculate changes, **Consumer Price Index is the most common of these.**

Consumer Price Index

1. Identification of basket of

goods: basket of goods includes items that are consumed by a consumer and so affects their cost of living like wheat, bread etc, utilities (gas, electricity etc), housing and public transportation expenses.

Consumer Price Index

2. *Record 2 sets of prices:* to calculate the price change we need to record the start of period and end of period prices

Consumer Price Index

Products	Original Price per unit in \$	New Price Per unit in \$	Weights	Original Index Value	New Index Value
Food	125	122	0.30	$125 * 0.30 = 37.5$	$122 * 0.30 = 36.6$
Phone	100	110	0.20	$100 * 0.20 = 20$	$110 * 0.20 = 22$
Fuel	75	80	0.15	$75 * 0.15 = 11.25$	$80 * 0.15 = 12$
Rent	1500	1600	0.25	$1500 * 0.25 = 375$	$1600 * 0.25 = 400$
Cloth	250	260	0.10	$250 * 0.10 = 25$	$260 * 0.10 = 26$

Consumer Price Index

3. **Assign weights:** since not every item is equally important, economists assign weights to different products based on their relative importance in the basket of goods. For instance food being more important takes larger weights and vice versa.

4. Doing the calculation

$$\text{Rate of Inflation} = \left(\frac{\text{New Index Value}}{\text{Old Index Value}} - 1 \right) *$$

$$100$$

Consumer Price Index

- Original Index Value = 468.75
- New Index Value = 493.85

Rate of Inflation =

(New Index Value / Old Index

Value - 1) * 100

= (493.85 / 468.75 - 1) *

100

= 5.35 %

Consumer Price Index

- This shows that during this time period the economy experienced an inflation rate of 5.35% which meant that on very good in the **economy got expensive by 5.35%**.
- However this is just an average figure because you can see that price food fell from \$125 to \$122 but still there was an **overall increase** in the price level.