



Aggregate Demand and Supply

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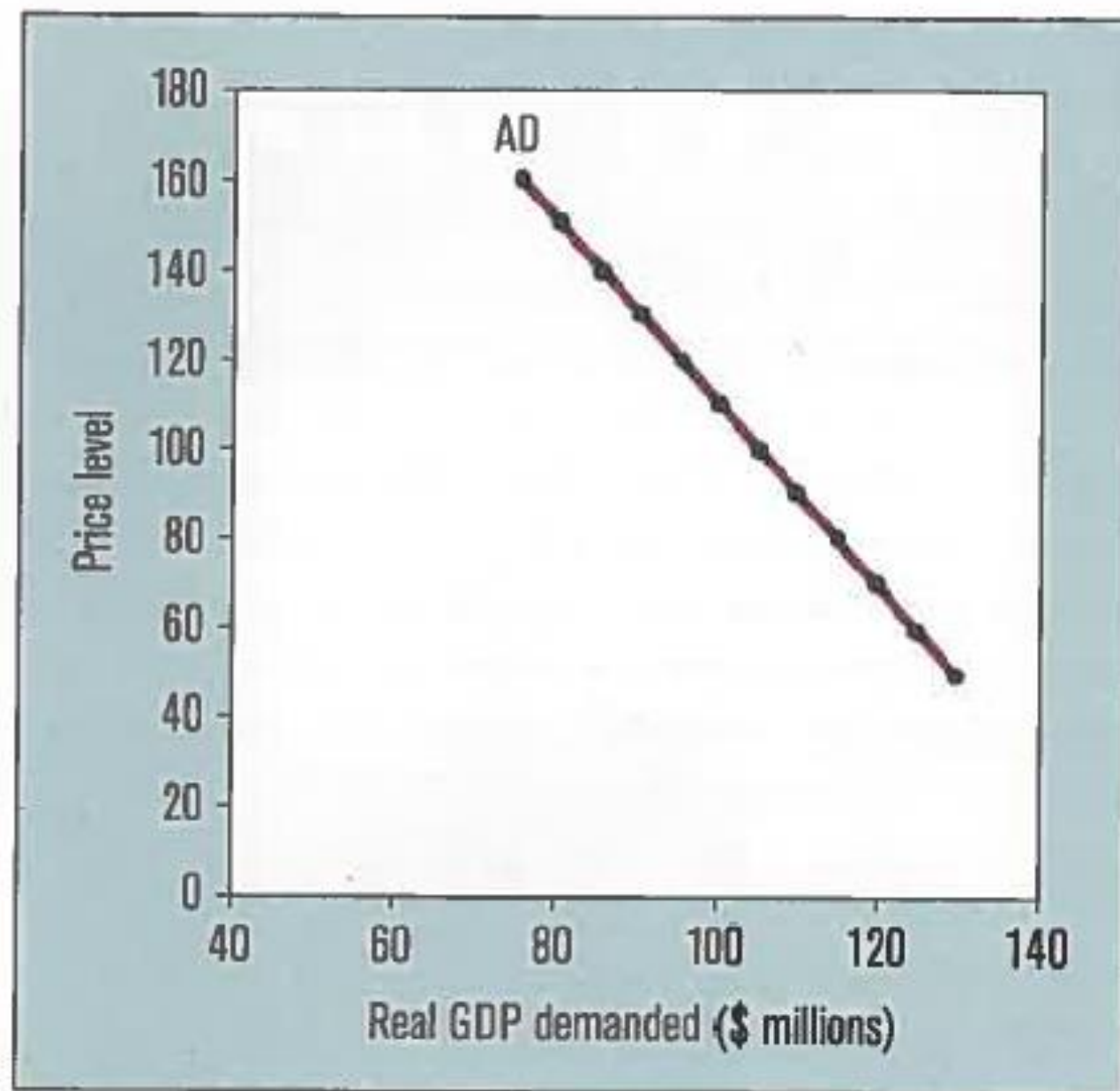
- ▶ If we could add up all demand, at all the various price levels, for all markets, we should be able to determine the total demand schedule for the economy.
- ▶ If we could add up all of what producers are willing to supply, at all the various price levels, for all markets, we should be able to determine the total supply schedule for the economy.

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- ▶ When we combine all markets for individual goods and services in society, we are looking at the *Aggregate*, or Total for the entire economy.

Aggregate Demand (AD)

- ▶ Total demand for all goods and services produced in a society.
- ▶ The AD schedule and curve look very similar to demand schedule and curve studied in microeconomics.
- ▶ As price levels rise, the real total output (Aggregate Quantity Demanded) falls

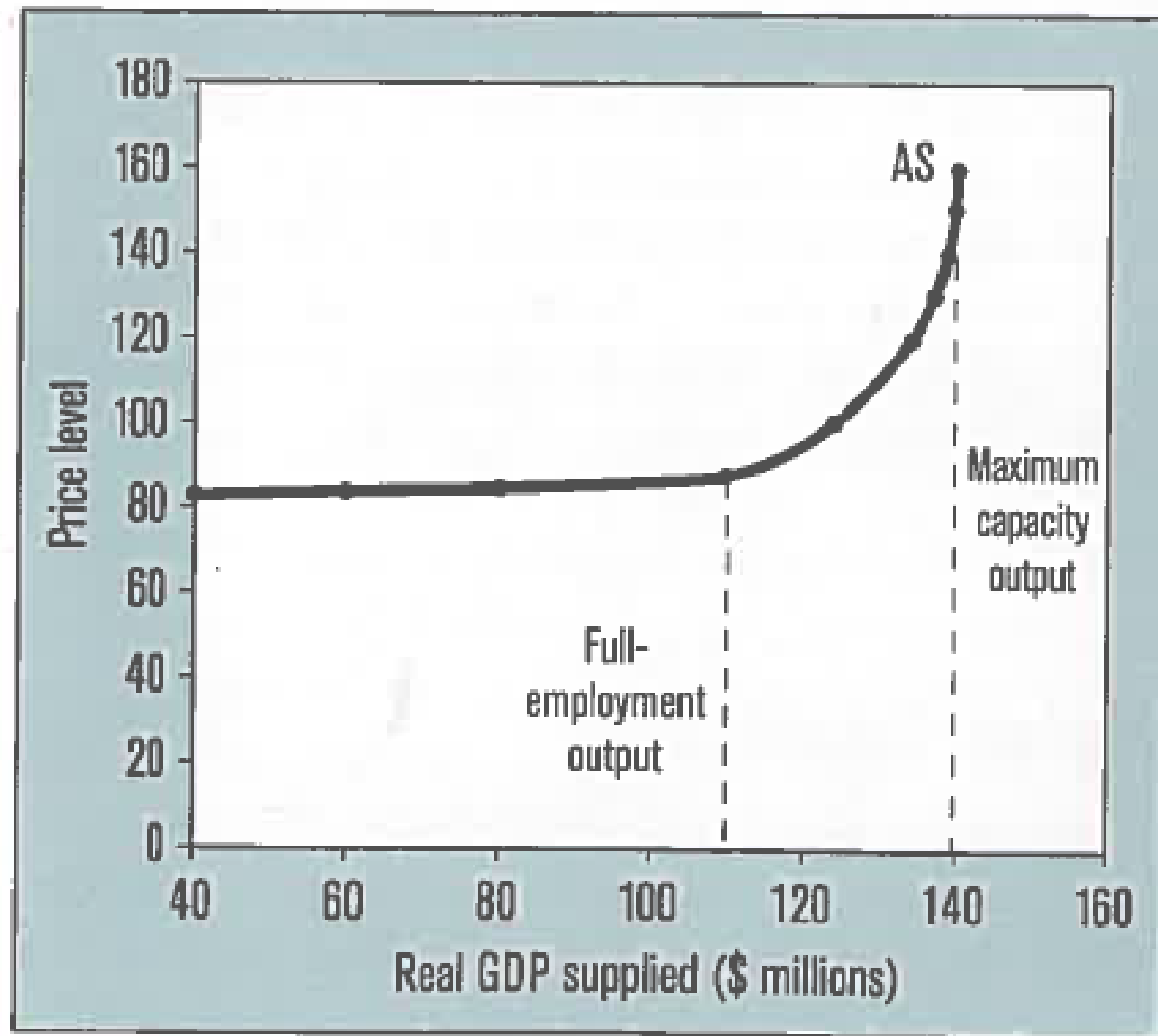
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- ▶ AD at each price level is equal to the GDP that would occur at the that price level
 - ▶ $GDP = C + I + G + (X - M)$
 - ▶ For real economic growth to occur, the real GDP must grow.
 - ▶ Aggregate Quantity Demanded must increase at each price level.
 - ▶ This means that one or more variables in the GDP formula must increase.



Aggregate Supply (AS)

- ▶ Total supply of all goods and services produced in a society.
- ▶ While similar to the supply curve studied in microeconomics, the AS curve does feature some important differences.

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- ▶ At low outputs, the curve is very elastic because most of society's resources are sitting idle.
 - ▶ At higher outputs, prices tend to rise much more rapidly.
 - ▶ The curves become perfectly inelastic (vertical).
 - ▶ In theory, the economy is producing at a point along the PPC.
 - ▶ It cannot physically produce more output without improvements in technology or discovery of new physical inputs.



Equilibrium Output and Price Level

- ▶ The point at which the AD and AS curves intersect is the equilibrium level of price and output for the economy.
- ▶ This is known as **Full – Employment Equilibrium**
 - ▶ The two curves intersect at a point along the AS curve where prices start to rise more rapidly but the curve is not yet vertical.

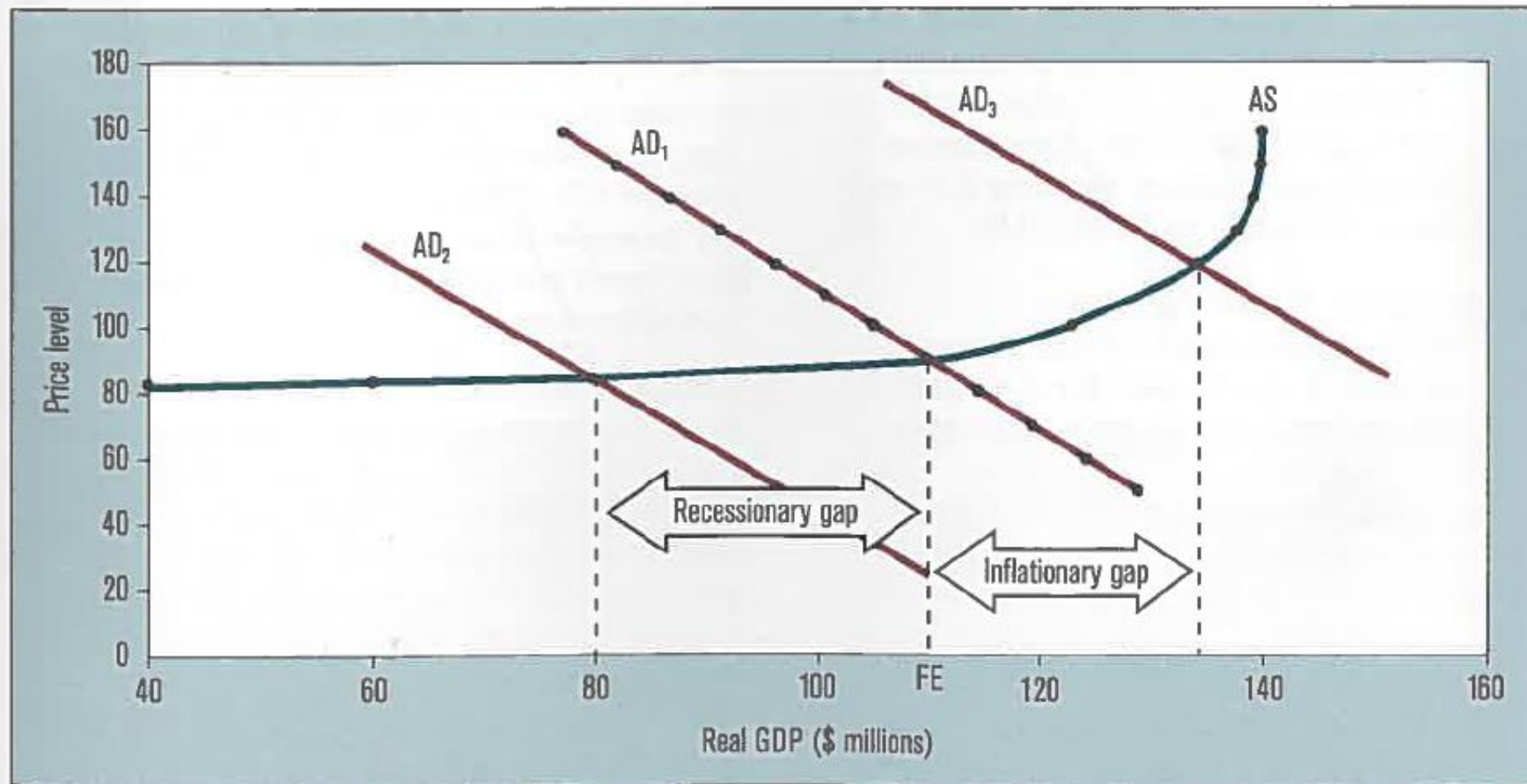


Figure 10.5 Full-employment equilibrium occurs when the aggregate demand (AD_1) intersects aggregate supply (AS) at full-employment output (FE). If aggregate demand (AD_2) intersects below full-employment output, a recessionary gap exists with low employment levels, low output levels, and low inflation. If aggregate demand (AD_3) intersects above full-employment output, an inflationary gap exists with high employment levels, higher output levels, and higher inflation.

Recessionary Gap

- ▶ Occurs when AD intersects AS to the left of (below) full – employment equilibrium.
- ▶ GDP is lower and price levels are rising very slowly.
- ▶ Low output level leads to high unemployment levels.
- ▶ Characterized by:
 - ▶ High unemployment
 - ▶ Low inflation
 - ▶ Low GDP growth

Inflationary Gap

- ▶ Occurs when AD intersects AS to the right of (above) full – employment equilibrium.
- ▶ GDP is very high and price levels are rising rapidly.
- ▶ High employment levels.
- ▶ Characterized by:
 - ▶ High employment
 - ▶ High inflation
 - ▶ High GDP growth

Changes in Aggregate Demand

- ▶ Shifts in the Aggregate Demand Curve can be attributed directly to changes in the variables the make up GDP.

Changes in Consumption

- ▶ Consumer income – consumption, taxes, savings and spending on imports
- ▶ Consumption is the most important variable as it makes up 60% of GDP.
- ▶ Consumption is the amount that is leftover after the other 3 components are considered.

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- ▶ When consumption increases, there will be an increase in AD.
 - ▶ May be the result of:
 - ▶ Increase in income
 - ▶ Decrease in taxes, savings or spending on imports.
 - ▶ Right shift in the AD because at each price level, a higher level of GDP is demanded.

Changes in Investment

- ▶ Overall level of investment spending is related to the expectation for future profits.
- ▶ Movements closely tied to the interest rate
 - ▶ If interest rates go up, potential for profit goes down and investment goes down.
- ▶ AD shift to right – investment will increase, business profits are expected to increase and economic climate looks strong.

Changes in Government Spending

- ▶ If government increases its spending or transfer payments, AD will shift to the right.
- ▶ If government decreases its spending, AD will shift to the left.
- ▶ These changes are at the heart of fiscal policy.

Changes in Export Demand

- ▶ There are 3 major factors influence demand for Canadian produced exports:
 1. Domestic rate of inflation
 - ▶ Inflation affects only domestic goods and services.
 - ▶ An increase in the price of CDN goods and services make them more expensive than foreign goods and services.
 - ▶ A rapid rise in inflation will then reduce export demand.



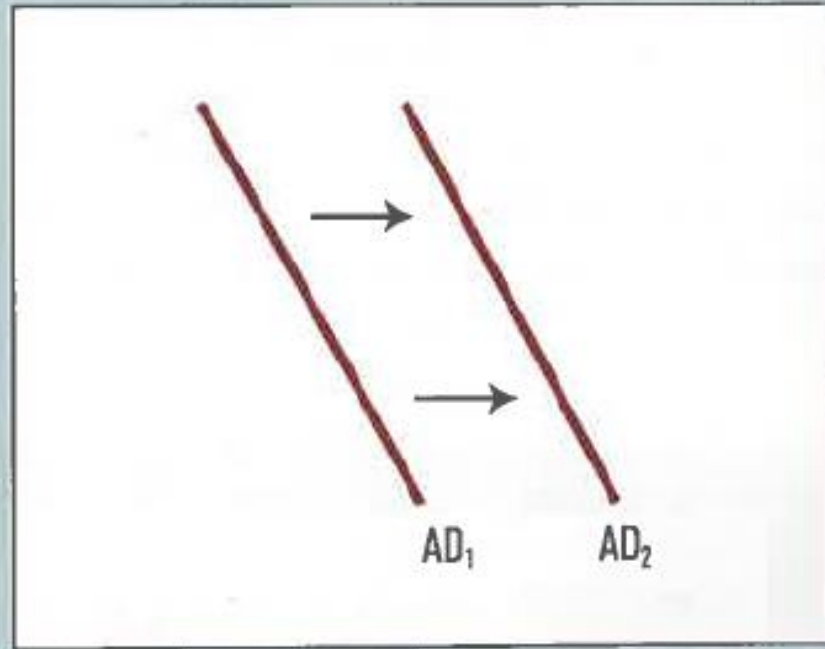
2. Relative levels of income in other countries

- ▶ If income levels rise for consumers in countries that are trading partners, their demand for goods will increase.
- ▶ Canadian exports will rise.

3. Value of the Canadian dollar

- ▶ Increase in the value of the Cdn dollar will increase the cost of Canadian products for those buying them in other countries.
- ▶ Makes them less attractive to foreign buyers.

Price level



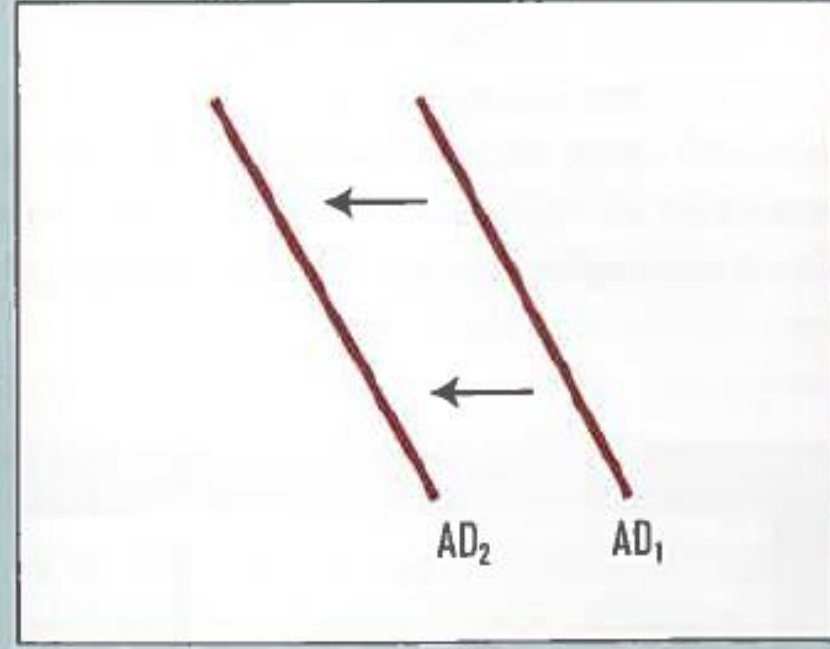
Real GDP

(a) An increase in aggregate demand

Caused by any one or all of these:

- increase in consumption
- decrease in taxes
- decrease in savings
- decrease in import spending
- increase in investment
- increase in government spending
- increase in exports

Price level



Real GDP

(b) A decrease in aggregate demand

Caused by any one or all of these:

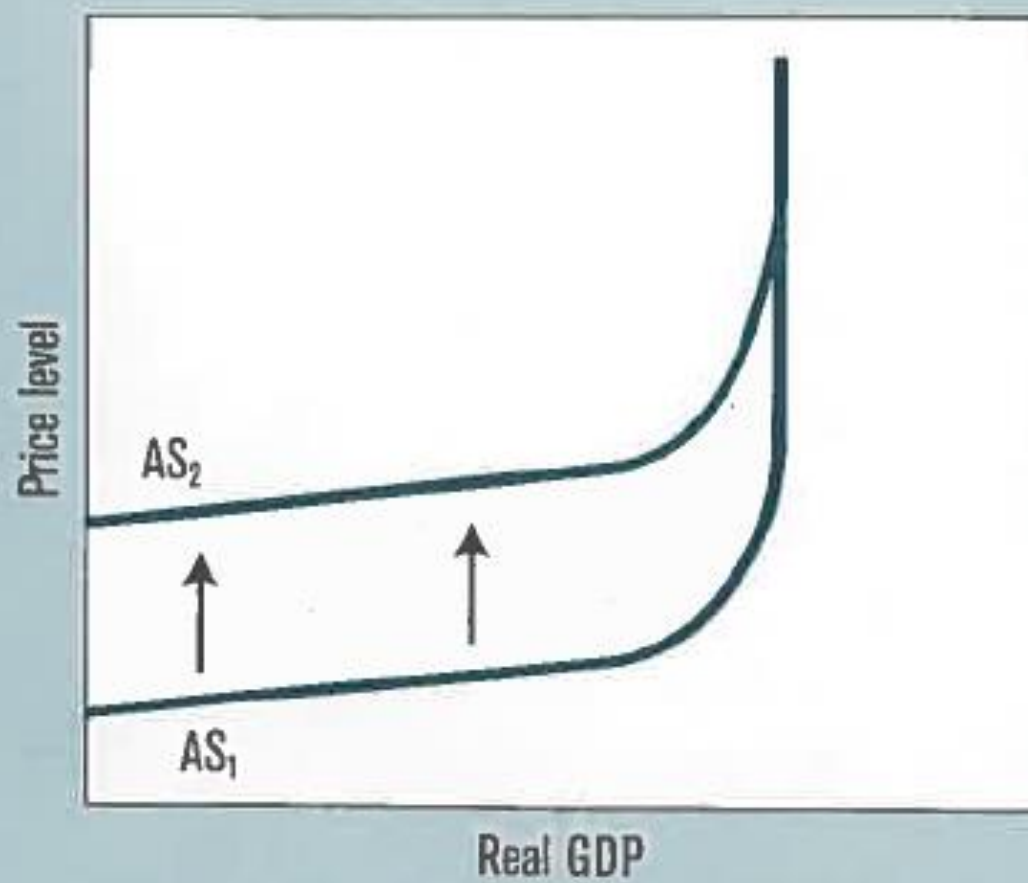
- decrease in consumption
- increase in taxes
- increase in savings
- increase in import spending
- decrease in investment
- decrease in government spending
- decrease in exports

Changes in Aggregate Supply

- ▶ There are three basic reasons why the AS curve might shift.

Changes in Price of Inputs

- ▶ If prices for land, labour or capital increase, firms will be able to produce less at each price level.
 - ▶ AS curve will shift upward and to the left at all points to the left of its perfectly inelastic section.
 - ▶ The perfectly inelastic section will not move because, while prices are higher, the same amount of inputs are available and the maximum real GDP possible is the same as it was before the price increases.



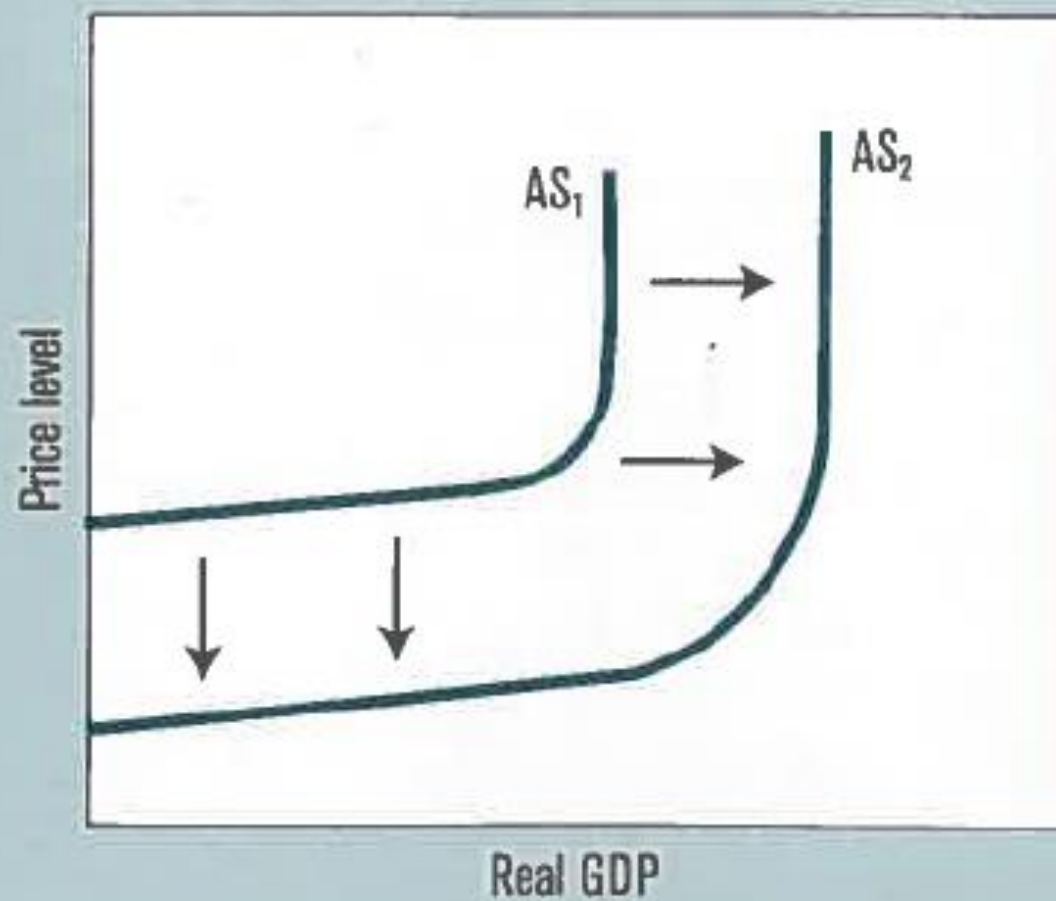
(a) Effect of an increase in price of inputs

Changes in the Amount of Inputs Available

- ▶ If new resources are discovered, more capital goods are made available, or the workforce grows, there are more outputs available for use.
- ▶ Just as these would shift the PPC outward, they would increase maximum capacity of the economy.
- ▶ The availability of more resources also reduces competition, pushing down costs of basic inputs.
 - ▶ AS curve will shift the relatively elastic portion (horizontal) downward and vertical portion to the right.

Changes in Efficiency

- ▶ Improvements in technology make the workforce more productive.
- ▶ As the workforce becomes more efficient, it can produce more output with the same resources.
 - ▶ AS curve will shift the relatively elastic portion (horizontal) downward and vertical portion to the right.



(b) Effect of an improvement in technology or the availability of more inputs

The Business Cycle

- ▶ Covers periods of alternating economic growth and recession as measured by changes in real GDP.
- ▶ The duration of time of a business cycle and its size (loss or gain of real GDP) vary from one cycle to the next.
- ▶ Occurs because of fluctuations that economies experience over time.
 - ▶ Result from changes in economic growth and patterns of consumption

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- ▶ Economists use business cycles to forecast the coming economic climate.
 - ▶ Will help them advise political and business leaders on how to deal with possible adverse future economic events.
 - ▶ Advise political leaders on the application of fiscal or monetary policy tools.



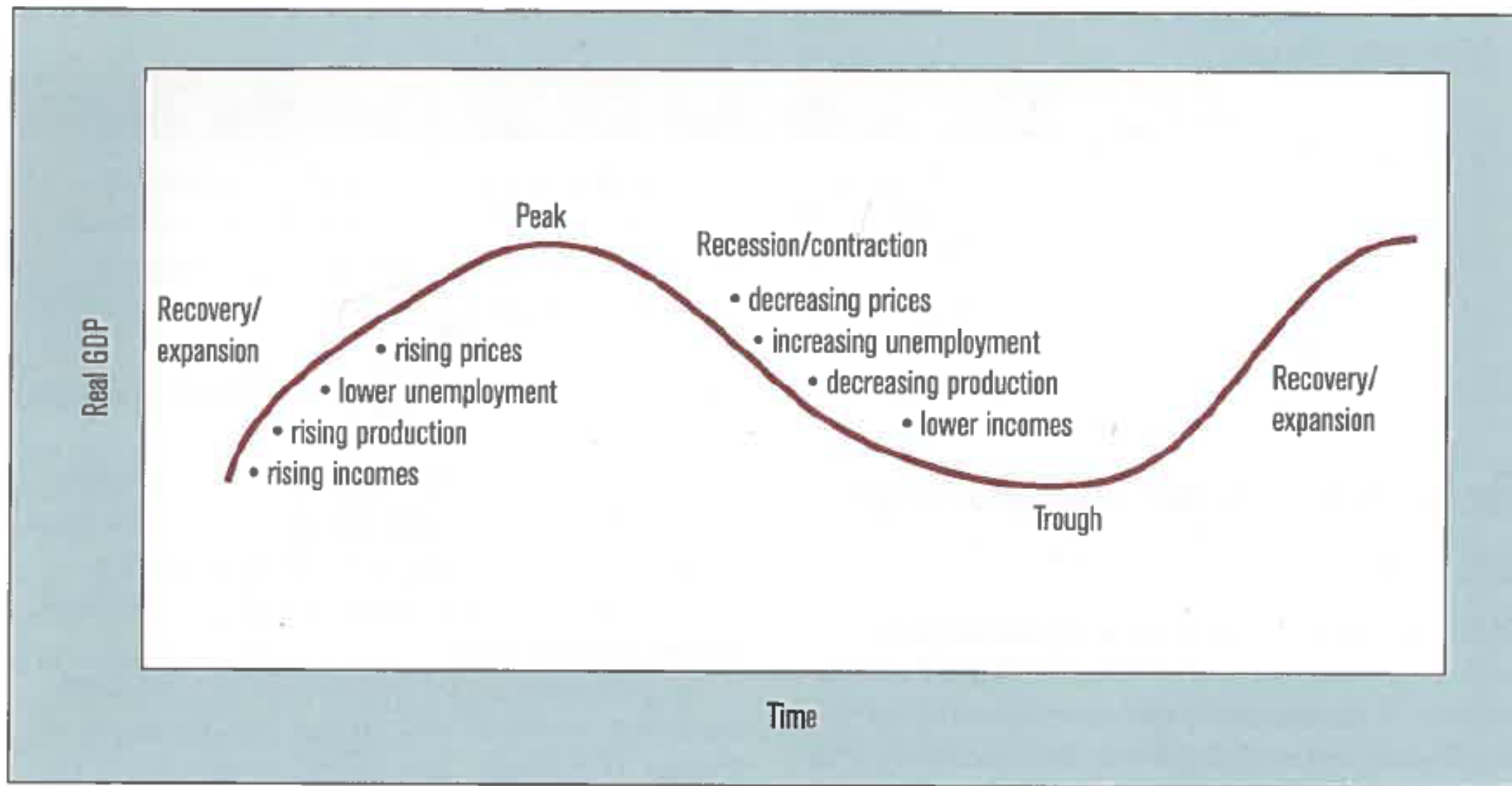
Recession:

- ▶ A contraction of the economy lasting longer than two business quarters (6 months)
- ▶ Increased levels of unemployment, low or negative levels of real GDP growth and low levels of inflation or even deflation (falling prices).

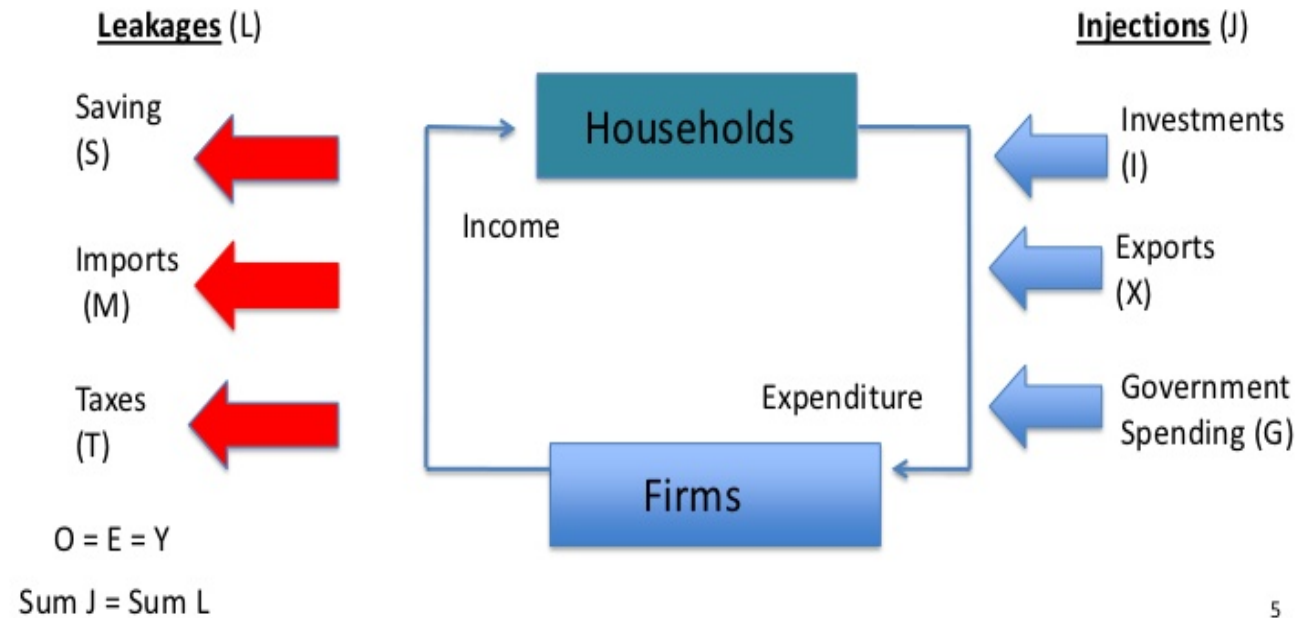


Depression:

- ▶ A prolonged recession characterized by falling GDP, very high unemployment and price deflation.



- ▶ The business cycle centers on the money payments that flow through the economy.
- ▶ The Circular flow of income sees the GDP as a total of all money payments in the economy.



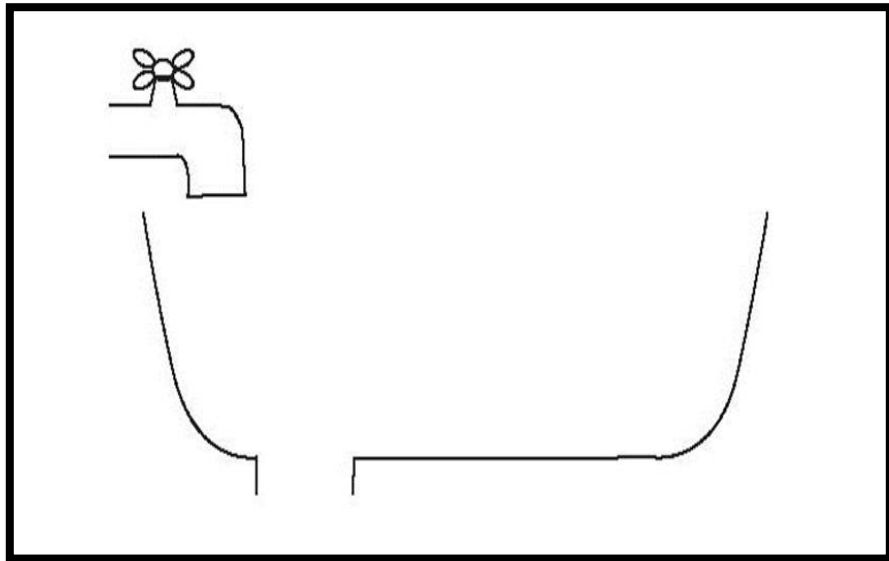
Leakages

- ▶ Any uses of income that cause money to be taken out of the income-expenditure stream of the economy.
- ▶ Three leakages:
 - ▶ Taxes (T)
 - ▶ Savings (S)
 - ▶ Imports (M)
- ▶ Often “Leaked” money ends up getting re-spent in the economy.
- ▶ Problem is where and how.

Inject

- ▶ Any expenditure that causes money to be put into the income-expenditure stream.
- ▶ Three injections:
 - ▶ Government spending (G)
 - ▶ Investment spending (I)
 - ▶ Exports (X)

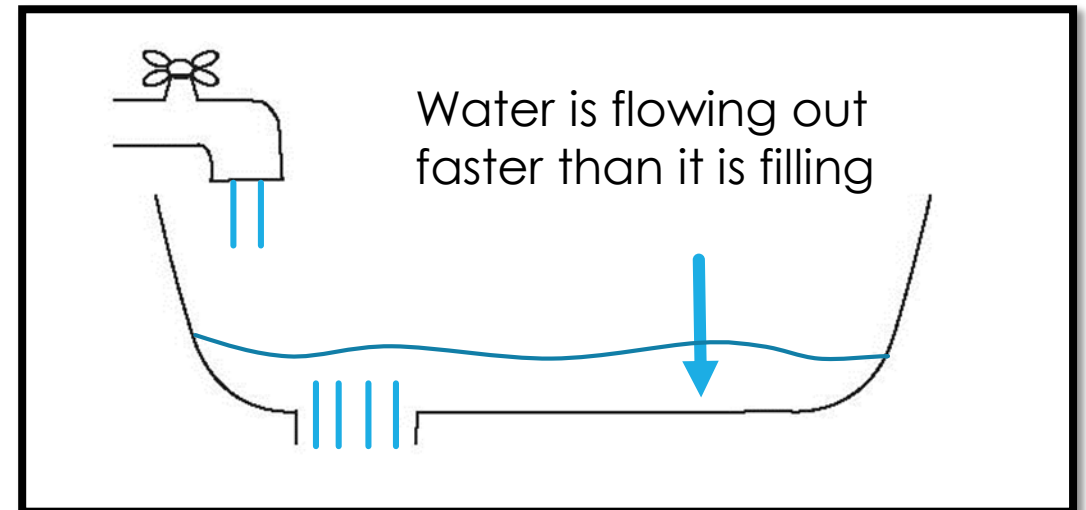
Bathtub Analogy



- ▶ Leakages = Amount of water going down the drain
- ▶ Injection = Amount of water coming into the tub

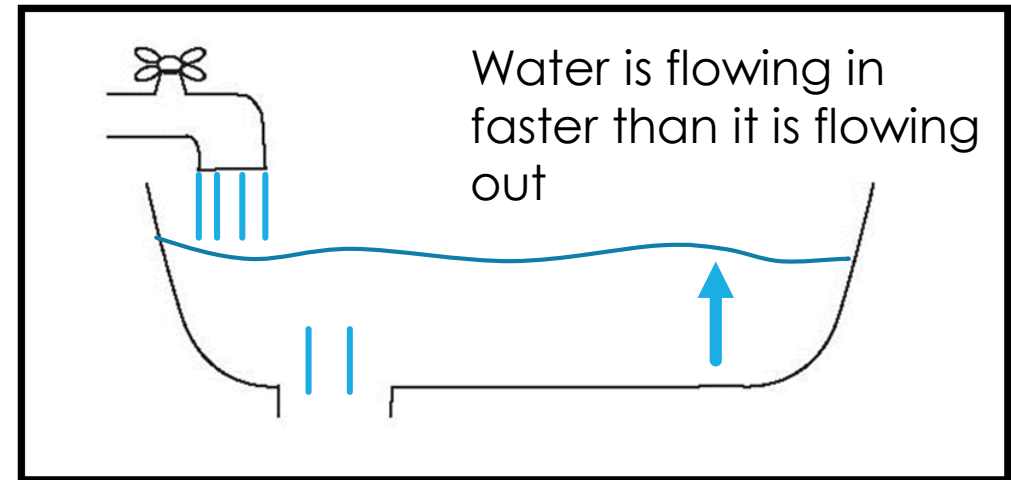
GDP Shrinking

- ▶ Leakages > Injections
 - ▶ Water draining out is greater than the amount of Water coming in
 - ▶ The bathtub empties



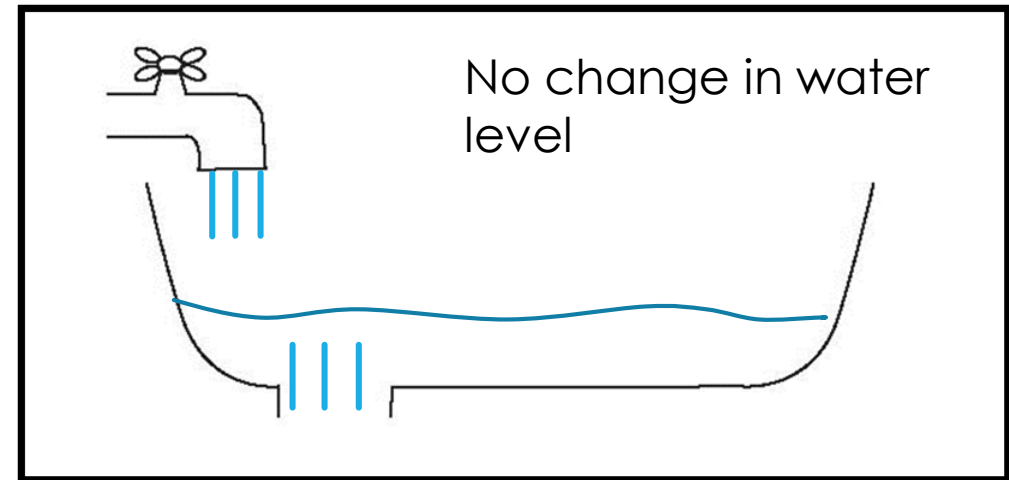
GDP Increasing

- ▶ Injections > Leakages
 - ▶ Water coming in is greater than the amount of Water draining out
 - ▶ The bathtub fills up



Equilibrium

- ▶ Injections = Leakages
 - ▶ Water coming in is equal to the amount of Water draining out
 - ▶ The amount of water in the tub remains the same.



Formula for Leakages and Injections

If $T + S + M > G + I + X$,
then AD will shrink until such time as
$$T + S + M = G + I + X$$

If $T + S + M < G + I + X$,
then AD will rise until such time as
$$T + S + M = G + I + X$$