Inflation

Definitions:

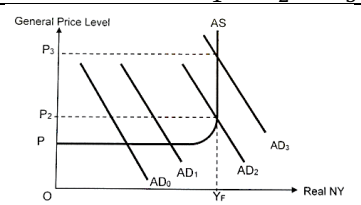
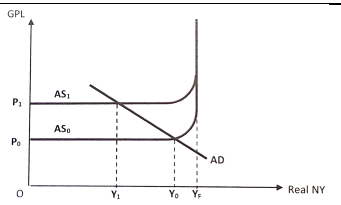
- The Consumer Price Index (CPI) is designed to measure the average price changes of a fixed basket of goods and services commonly purchased by resident households.
- Inflation refers to the **increase** in general price level.
- Disinflation refers to a **slowing** of the inflation rate.
- Deflation refers to **negative** inflation rate.
- Headline inflation is raw inflation figure as measured by CPI.
- Core inflation is a measure of inflation that **excludes** certain items known for their volatility (e.g. energy prices).
- Balance of trade for a country refers to the difference between the value of exports of goods and the value of imports of goods[1].
- Shoe leather cost refer to costs of engaging in more financial transactions to minimise the holding of cash.
- Menu cost refer to the costs of changing prices.

CPI:

- Index number
- Comparisons made in percentage terms
- For the same percentage change in price an item with a larger weight will have a bigger impact on overall CPI.
- Weights of different items will vary based on time period and geographical area in consideration.
- Inflation graph (sign and magnitude) will inform you of changes to GPL

Inflation:

$$Inflation\ rate = \frac{CPI_2 - CPI_1}{CPI_1} X\ 100\%$$

DD-pull inflation	Cost-push inflation
Caused by **rise in AD[2]** in turn caused by changes to C, I, G, X-M as a result of DD mgmt policies	Cause by **fall in SRAS**
Both lead to increase in cop	
DPI occurs when the increase in aD results in AD exceeding AS at the current pxes when the economy is at or nearing full employment … → persistent increase in AD from AD_1 to AD_2[3] then to AD_3[4] which is near Yf → increase competition for UnE resources such as raw materials, factory space, and labour in the eco → incresae GPL from P_1 to P_2 to P_3	CPI occurs when there is increase in cop not associated with excess DD … → higher cop → decrease in SRAS (leftward and upward shift in SRAS from $SRAS_0$ to $SRAS_1$ → increase in GPL from P_0 to P_1
	

[1] Measured in the same currency

[2] Depends on the **state of economy** (where AD cuts AS) and how **persistent/ excessive the increase in AD.** Example: Positive economic outlook→ people optimistic about economy → more confident of wage growth→ more likely to borrow money less inclined to save→ AD increases.

[3] Little change to GPL: Pr can produce more g/s by employing UnE resources

[4] Most of eco resources are already being utilised, shortage of skilled labour, skilled entrepreneurs and lack of raw materials

N.B. **Depreciation/ appreciation of exchange rate can lead to DD pull/ cost pull inflation**. Example: Depreciation of a currency increases P of M in DC and decreases P of X in FC, causing a rise in NX, assuming MLC satisfied, fuelling a rise in AD and DD pull inflation. At the same time, due to increase in P of M in DC, COP increase due to m/p inflation and, leading to cost-pull inflation.

Consequences:

1. Effect of rate of inflation on exchange rate (recap of e/r policy notes):

- Country has persistently higher rate of inflation than trading partners → **P of X increase faster than P of M into ctr**y → X from the ctry **less attractive** to buy
- Assuming **DD for ctry's X is relatively price elastic → decrease in X revenue** earned by the country
- Since P of M increase slower than domestically produced g/s, local residents will **increase DD for M → increase M expenditure**
- Together, decrease in NX → decrease DD for domestic currency (due to decrease DD for X) + increase in supply (due to increase DD for M) → **domestic currency deprecates**

N.B. EV: Protectionist measures and qly of X and M may affect

2. Reduces purchasing power and may lead to income inequality
Inflation → every dollar can now buy fewer g/s than before → real income fall for fixed income earners → able to buy less goods → fall in material SOL

3. Unintended redistributive effects
Unanticipated inflation → money paid is worth less than expected → borrowers are better off while lenders are worse off

4. Impact on economic indicators
Mild DD pull inflation →Strong DD and profits tend to rise → production cost tend to lag behind increase in product prices as rent, worker wgs bounded by fixed contracts → ①Increase revenue of entrepreneurial class as can quicky raise pxes to increase revenue in SR ② prospect of higher returns for firms → increase investment → increase AD → increase NY by multiplier effect → economic growth + increase DD for labour → decrease UnE

Cost pull inflation → no excess DD → unable to pass cost to consumer → decrease profits of firms →①SR: incentivise firms to cut back production and hire less labour to keep cost low → lower economic growth + higher unemployment ② LR: if subnormal profit → shut down and leave industry

High DD pull/ cost pull inflation → inflation is less predictable → unanticipated inflation occurs more regularly → uncertainty with regards to COP, price, value of currency, rates of return on investment → more risky to undertake investment → decrease investment → decrease economic growth in LR

Firms and HH expect shortage to worsen and prices to rise further → may divert investment out of productive investment → undertake less productive investment like speculation, investing in real estate, purchasing gold as hedge for inflation instead of investing in capital goods + hoarding → spurs further DD → higher prices + inflationary pressure → vicious cycle

5. Resource (mis)allocation

   Increase in price signals to producers to produce more → with high inflation → GPL increases rapidly → producers unable to distinguish the price increase due to increase in DD for the good from the rise in GPL → likelihood for misallocation is higher

6. Worsening of BOT ($P_xQ_x - P_mQ_m$)

   Higher rate of inflation → exchange rate decreases (E/r P)
   For ctry with higher rate of inflation → P of M in DC decrease, P of X in FC increase → assume DD for X and M is price elastic → fall in X revenue, whereas DD m/p increase → increase M expd → worsen BOT

7. Transaction Cost

   [Shoe leather cost]
   High inflation → minimise holdings of cash by holding equities, bonds or other assets that offer higher rates of return → these transactions require time, effort and money → shoe leather cost
   High inflation → HH and firms make additional effort to seek out best deals with the lowest price → these transactions require time and effort → shoe leather cost

   [Menu cost]
   High inflation → benefit of updating prices of g/s outweigh the cost → firms want to update prises → take time → menu cost

Controlling Inflation:

- Polices chosen must address **cause** of inflation.
- While contractionary DD side policies can be used to tackle cost push inflation, it will lead to increased UnE. Hence, better to tackle cost push inflation with SR SSP (SRAS).
- LR SSP may contribute to worsening infln in SR, as they increase AD contributing to DD pull infln. (e.g. lower PIT to attract foreign talent)

Policy	Means	Useful for controlling	Limitations
CMP	↓AD	DD pull infln	Small, open economies → ease of flow of capital → difficult to control Ms & i/r → ineffective MP
E/r P	↓AD	DD pull infln Cost pull infn	Loss in export competitiveness as P of X in FC increase can only be mitigated by decrease COP of m/p raw material and intermediate g/s
CFP	↓AD	DD pull infln	Substantial time lag (implementation lag) → CFP might only produce results long after infn over → might be counterproductive Cutting spending on projects/ raising taxes thus disincentivising work → affect future EG adversely (FP)

SR SSP	↑ SRAS: restrict increase in wages (Y) and pxes	DD pull infln Cost pull infn	Income policies are more effective in SR → aft infn subside and policies relaxed → unions bargin for higher wges to make up for losses → fuel cost push infln again Price control supress infln, don't address root cause → shortages and black market activities
LR SSP	↑LRAS	Cost pull infn	Cost Time lag More money channelled twd retraining workers may not mean workers become more productive
Macro Prudntial			Reduce instability across financial system (e.g. buyer stamp duty)

Deflation

Causes			
$\uparrow AS$	$\uparrow AS > \uparrow AD$	$\downarrow AD$	$\downarrow AD > \uparrow AS$
Favourable: Supply side improvement → increase productivity → lower prices accompanied by higher o/p and perhaps lower UnE		Associated with prolonged economic recession	

Consequences of Deflation:

1. **Deflationary spiral and fall in SOL**

When prices are falling…

①Cr spend more to take advantage of lower prices

②Expectation of deflation set in → delay purchase in anticipation of further price decrease → depressed demand → force businesses to lower prices → lower o/p → retrench workers → increase in UnE → more people with no Y → reduce demand for g/s further → **deflationary spiral**[5] → difficult to pull the economy out of deflation

③ Further consequences **(fall in SOL**)

Able to consume less g/s → fall in mat SOL

Stress of not having Y to meet basic needs → fall in non-mat SOL

[5] A deflationary spiral is developed when C and I keeps dropping, which leads to a fall in AD which will cause a fall in NY through the reverse multiplier process.

2. Increase in real value of debt and reduced availability of credit

Real i/r = Nominal i/r – Inflation rate
Deflation = -ve inflation rate
Taken together, real i/r increases → borrowers have to pay back more money in real terms (i.e. real burden of debt increases) → cr and firms have to spend a bigger proportion of their disposable income on financing debt requirements

Firms earning less revenue → due to fall in demand
Consumers experience fall in Y/ increase in UnE (due to deflationary spiral)

If indebted consumers/ firms cannot repay debt → force to declare bankruptcy → hurt profitability of banks → if severe, banks fail → bank panics → paralyse banking sector → creditors who survive are less likely to make loans → might not be able to recover their full amount → deny viable and enterprising individuals and firms access to credit to fund their operation or expansion → dampen C and I → hamper EG

Glossary of EQs

(1) "The July 2007 inflation rate in Singapore hits 2.6%, highest in 12 years."
~~(a) Explain what causes inflation (10m)~~
(b) Discuss whether an increase in the rate of inflation is more likely to cause problems for the domestic or external sector of the SG economy (15m)

Structure:

- Impact on Domestic Sector: refer to consequences on page 2 and 3
- Impact on External Sector: Worsen SG BOT, fall in value of SGD

Evaluation:

- **Internal sector affected more greatly**: SG has little natural resources and small domestic sector → highly reliant on global mkt for X of finished pdt and M of raw materials → fall in NX due to rise in inflation rate is significant. Also, fall in external DD will have -ve spillover effects on SG → fall in NX → fall in AD and NY → fall in domestic pdtn and employment that hampers EG
- **Degree of adverse implications vary depending on causes, length of time, and degree of severity (i.e. within 2/3%):** greater length/ severity/ fall in output, employment and investment → govt have to adopt various measures to ensure damage to both sectors kept to minimum

(2) In its September 2013 Recent Economic Development Statement, MAS noted inflation was expected to rise moderately. Strong GDP growth in Q2 2013 was mainly due to increased output in the manufacturing and trade related service sectors with a slowing of growth in private consumption. There was expected to be continued strong wage pressure from persistent tightness in the labour market caused by shortage in labour supply, accompanied by steady expansion in DD for g/s to US, Japan and EU.

Rise in GPL: due to increase in AD/ fall in SRAS
Suggest that economy not at Yf, actual growth possible
Increase C at slower pace: note that taxes can't be increased to curb this as SG relies on low taxes to attract FDI and FT
Decrease labour supply, increase wages, increase cop

(a) Explain how the above-mentioned factors might have caused the rate of inflation to rise in Singapore (10m).

Structure: (Explanation on page 1)
N.B. Remember to make reference to the causes!

(b) Discuss whether exchange rate appreciation should remain the most important policy instrument in controlling the rate of inflation in the SG economy (15m)

N.B. As much as possible, ensure limitations are appropriate to qn: in this case it is to control inflation

Structure:

- Explain how exchange rate appreciation/ SSP [6] / macroprudential policies[7] each controls inflation in SG
- Explain 1 limitation of exchange rate appreciation/ SSP/ macroprudential policies each to control inflation in SG + EV

To link SSP with GPL:
e.g. govt send workers for training to equipt them with relevant skills/ increase use of automation → **increase pdtvy → decrease AC → decrease GPL**

Evaluation:

- SG's economy is small and open → X&M reliant → e/r appreciation is the <u>most important policy</u> to tackle both DD pull and cost push infln that arise from <u>external sources</u>
- E/r policy <u>may not be the most important policy</u> in the future → depends on future causes of inflation. Example: Changing demographics in SG (i.e. falling birth rate and ageing population) → tightness in labour market likely to persist → e/r policy cannot solve this problem
- Infln can be <u>multicausal</u> → require <u>policy mix</u> to address inflation at its causes. Example: Inflation stem from internal sources → require macroprudential policies to curb inflation at its cause → e.g. if increase in GPL due to increasing housing pxes → require housing policy to curb inflationary pressure
- <u>Measures targeted to cool the property market has mixed effectiveness</u> → steady increase in property pxes over the years. Given perception that SG properties are <u>regarded as good asset class by local and foreign investors</u> → cooling measures may only temporarily dampen demand for properties. Hence, due to limited land space, govt may have to consider measures like foreign quota to restraint foreign DD and further cuts to LTV to cool local demand.

[6] Do provide examples. E.g. SkillsFuture, WSS, PSG
[7] Examples (Property Cooling Measures): Additional Buyer Stamp Duty for subsequent purchases of flats. Loan to Value ratio that affects cash prospective home buyers must provide to purchase property. Land sales/ SS public housing.