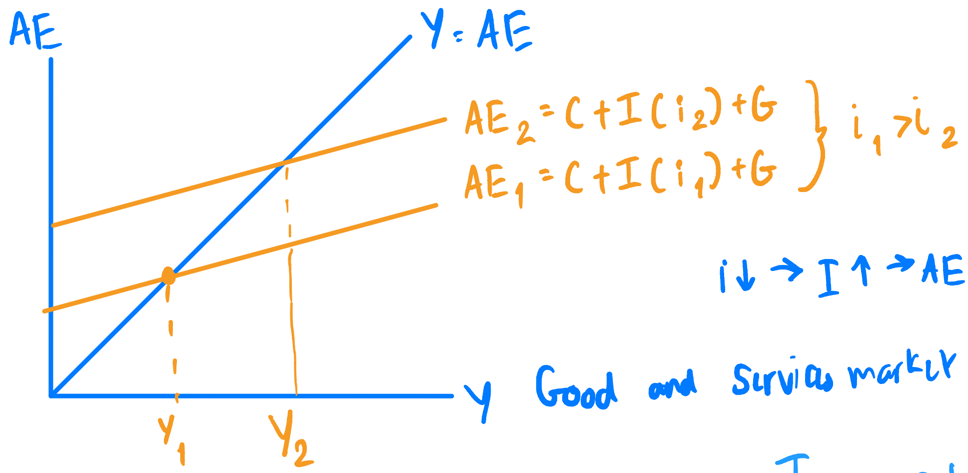
Exercise 7

AD-AS Model

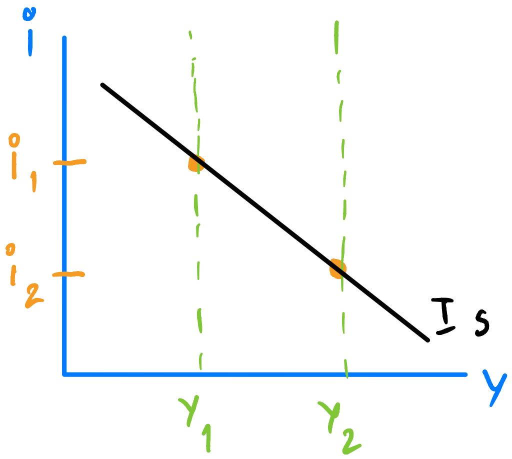
1. Explain why AD is downward-sloping (that is, how AD is derived), using the money market diagram and the IS-LM.



$i\downarrow \rightarrow I\uparrow \rightarrow AE\uparrow$

Good and Service market

IS relation:



$i\downarrow \rightarrow I\uparrow \rightarrow AE \rightarrow Y\uparrow$

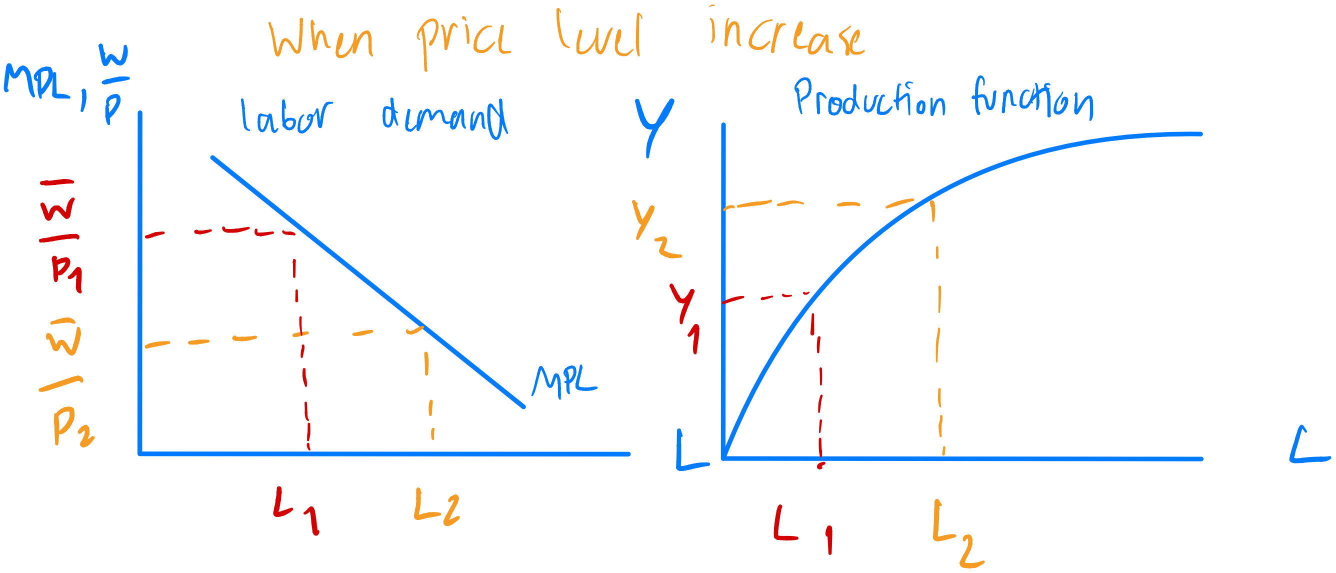
(negative relationship b/w i = y)

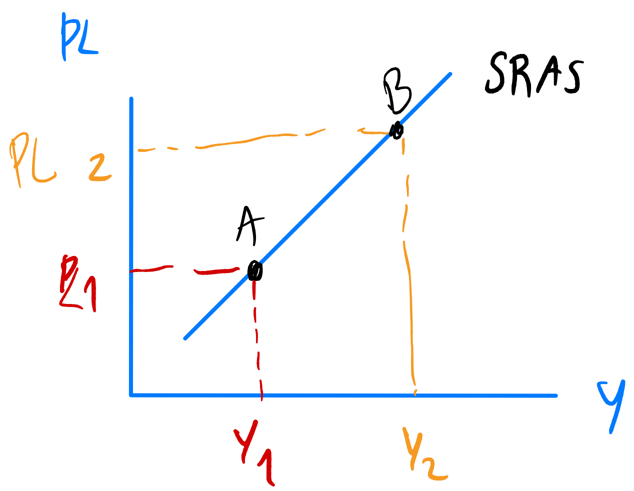
I depends on i

equilibrium condition: C + I + G

negative relationship because when price level (i) the output (Y) decrease

2. What is Sticky Wage Theory? Explain why SRAS is upward-sloping (that is, how SRAS is derived), using the sticky wage theory, labor demand diagram, and production function.





So when Price level increase = output increase = made a movement in the SRAS from A to B

In the short-run model the nominal wage is sticky due to the labor contact So when the price level increase it make the real wage decrease → firm hire more labor then firm produce more output

3. Explain why LRAS is vertical.

In LRAS wage is no loger sticky

When price ↑ = nominal wage ↑

Therefore the real wage and hence demand for labor unchange

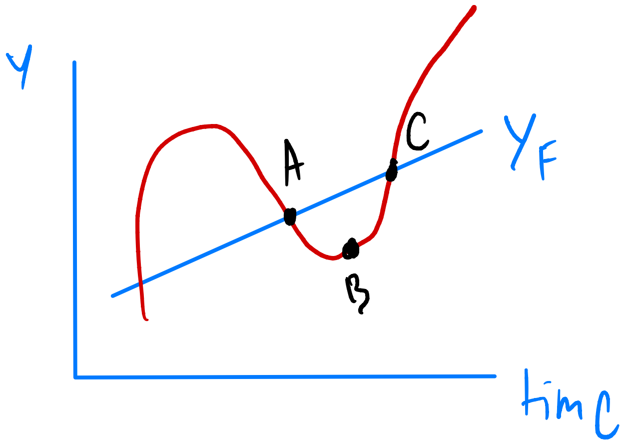
Moreover the price level does not affect the output

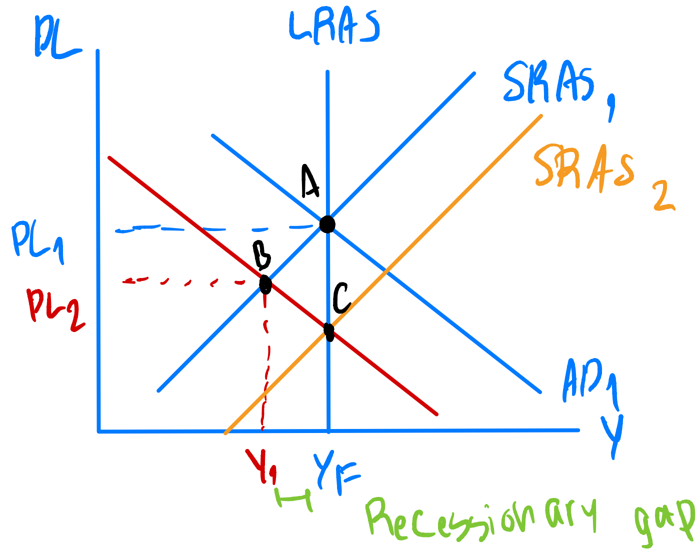
So the LRAS is vertical

4. **Cetaris Paribus** (other things equal), how will each variable/event affect each curve – shift (to which direction?) or movement?

Variable/Event	**AD**	**SRAS**	**LRAS**
P↑	movement	movement	no effect
G↓	left	No effect	No effect
T↓	Right	No effect	No effect
Autonomous C↑	Right	No effect	No effect
Autonomous I↓	Left	No effect	No effect
M↓	movement	down	No effect
i↑	Left	up	no effect
Temporary epidemic (assuming AD unchanged)	No effect	Left	no effect
Permanent increase in population growth rate (assuming AD unchanged)	No effect	No effect	Right
W↑	No effect	left	No effect
Bad seasonal weather	No effect	left	No effect
Permanent loss in agricultural land due to climate change	No effect	left	left
Discovery of new technology	No effect	Right	Right
Short-term worker training	No effect	Right	No effect
Permanent education reform	No effect	Right	Right

5. Suppose the economy faces a negative AD shock (e.g. loss in consumers' confidence).
   - What output gap do we have? Draw the AD-AS diagram to show the output gap at the new short-run equilibrium.



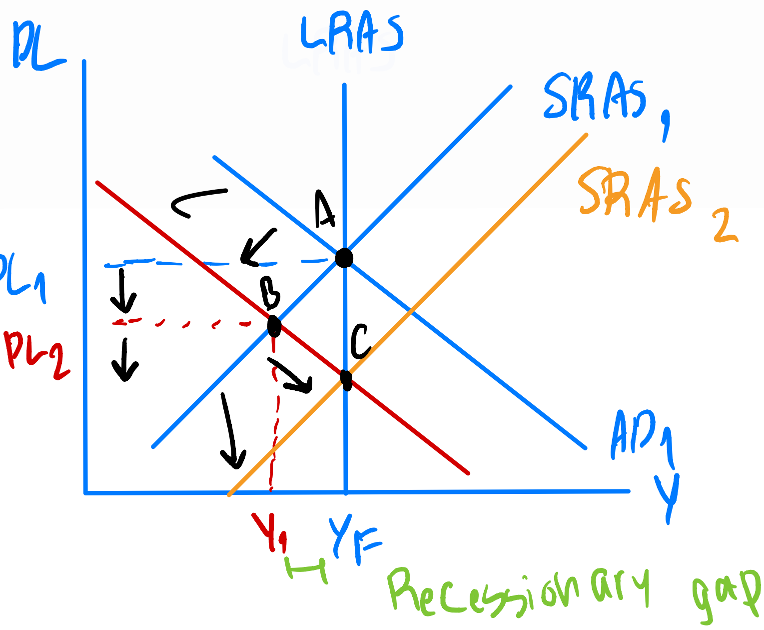


   - If the government wants to correct such output gap, what policies can it implement? Give examples.

expansionary monetary policy

lower i   reduce taxes

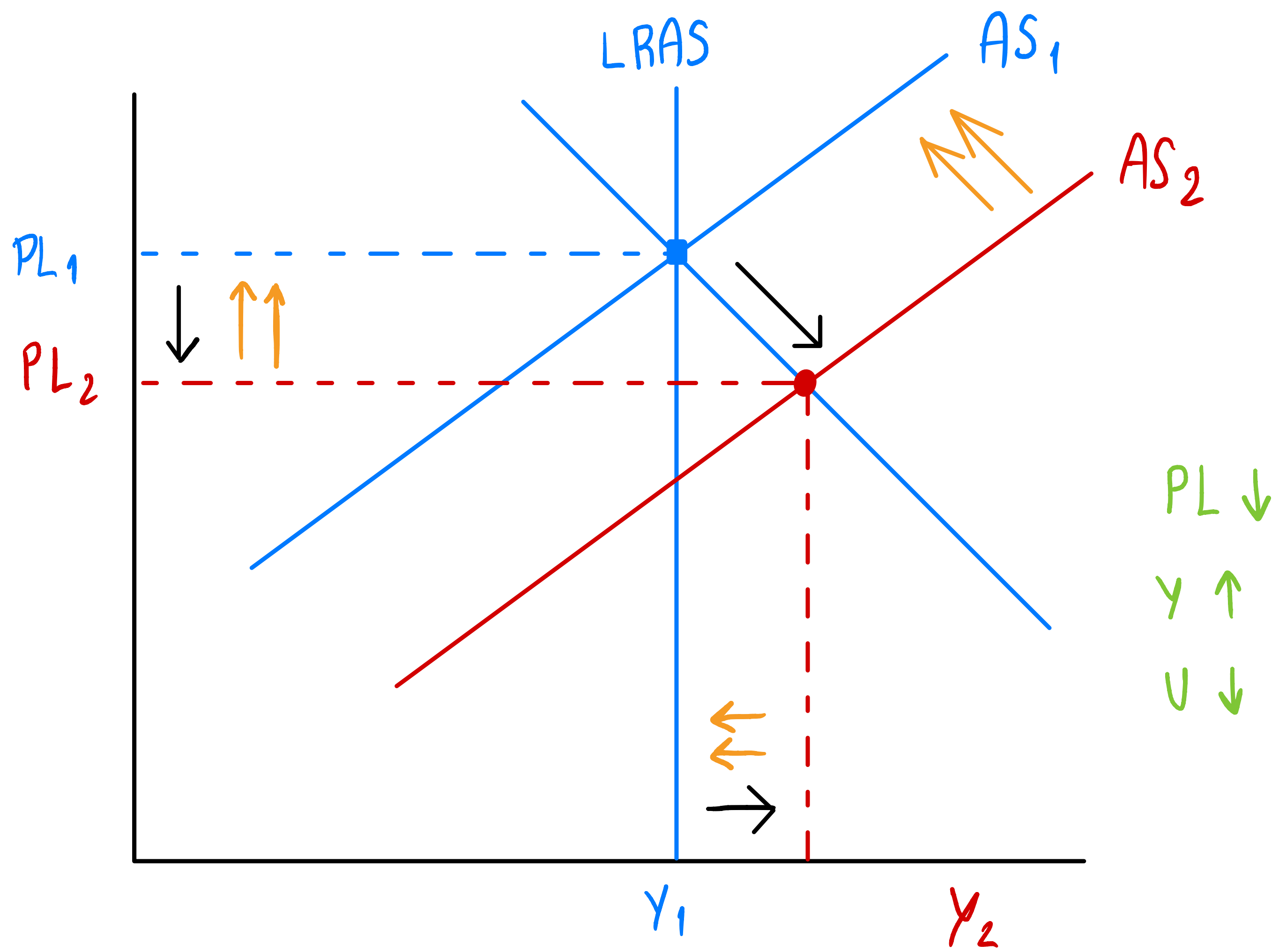
   - If there is no government intervention, explain with the AD-AS diagram how the economy will return to the long-run equilibrium.



There will be a self-correcting Mechanism In Long Run nominal wage is not fixed worker are willing to accept lower wage which result in cost of production decrease Then firm hire more and produce more output

6. Suppose the economy faces a <u>temporary, positive</u> AS shock.
   - Give one example of a temporary, positive AS shock.
   - If there is no government intervention, explain <u>with the AD-AS diagram</u> how the economy will return to the long-run equilibrium.

decreases in oil prices



First : A temporary positive AS Shock AS downward

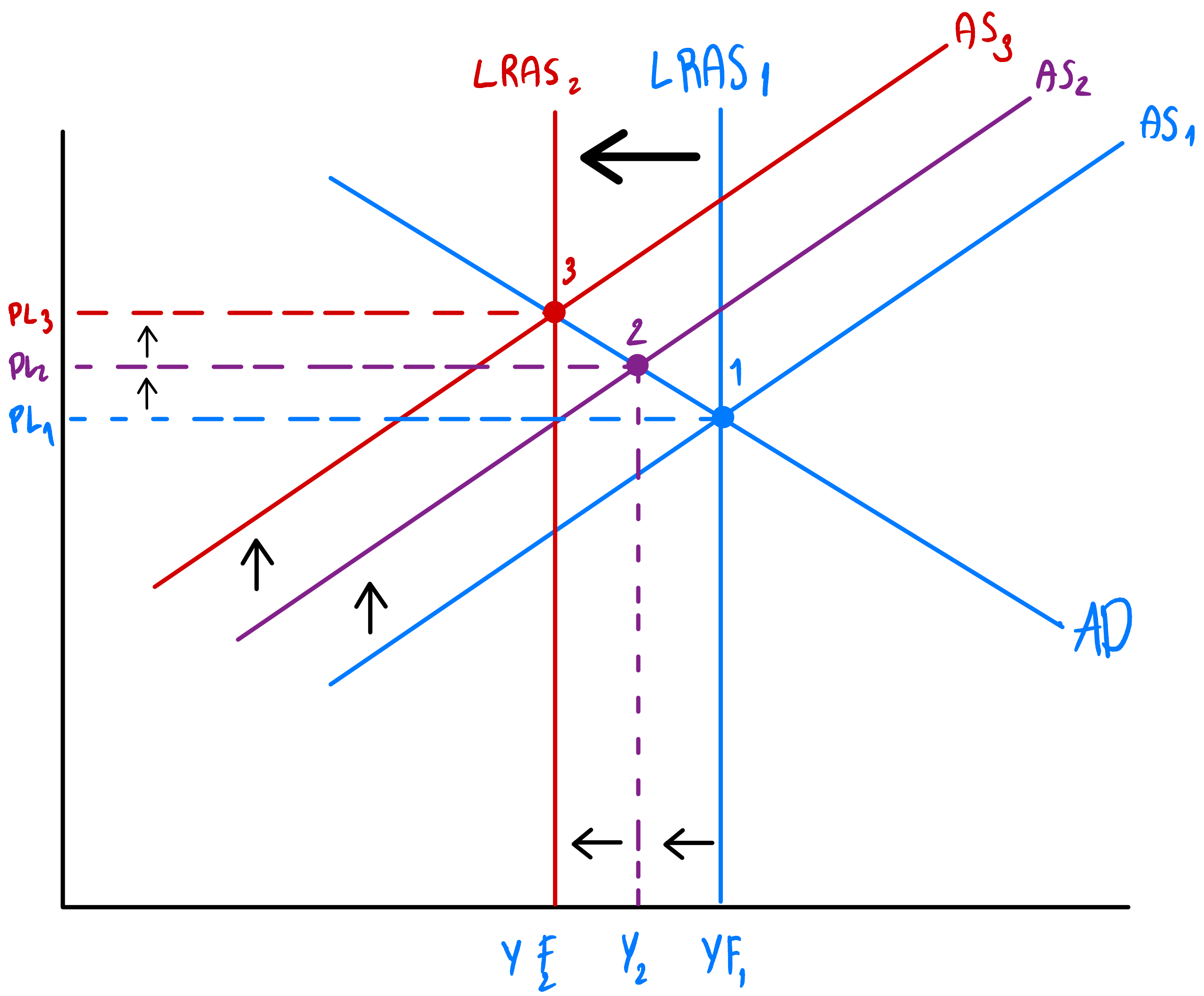
Second : decreasing in price level and increasing in output

Third : output more than potential , price level increase ana as shift upward

Forth : return the economy to LR equilibrium at point AS1

7. Suppose the economy faces a permanent, negative AS shock.
   - Give one example of a permanent, negative AS shock.
   - If there is no government intervention, explain with the AD-AS diagram how the economy will return to the long-run equilibrium.

global warming



A permenent negative supply shock shif the LRAS curve leftward and AS curve upward the economy slowly return to the long-run equilibrium with lower permanent output and higher permanent price level

8. In macroeconomics, **Money Neutrality** is the idea that a change in the stock of money (M) does not affect real variables, like employment and real GDP. Is this true in the AD-AS model?
(**Hint**: When the central bank changes money supply, M, does this affect output in the long run, i.e. full-employment Y?)

Demand-pull inflation: positive AD shock raise price level and output positive output gap

lower unemployment

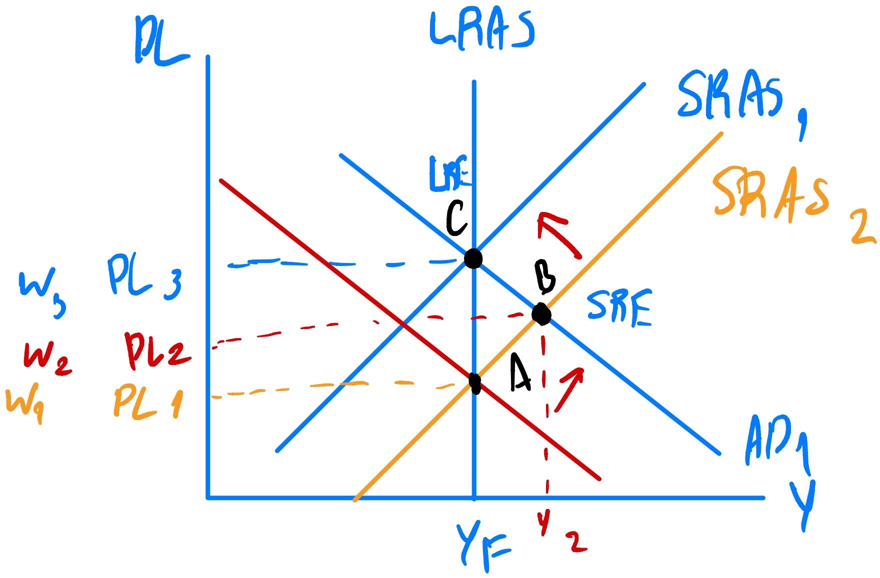
Cost-push inflation: negative SRAS shock raise price level but reduce output negative output gap

high unemployment

9. Based on Question 8 above, what can the government do to change output in the long run?
(**Hint**: Monetary and Fiscal Policies are demand-side policies, but do we have other alternatives?)

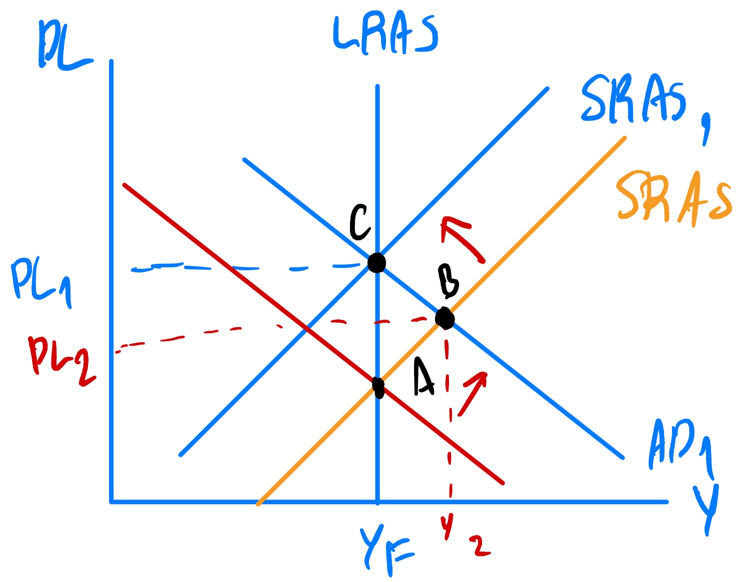
That happen because increase too much money supply so to fix that government should sell bond, increase tax, reduce government spending to take the money back to control.

10.Economists usually have macroeconomic goals of low employment and low inflation. It is also believed that economists face the trade-off between these goals, especially in short run. Use relevant diagrams to explain the trade-off. Why does the trade-off no longer exist in long run?

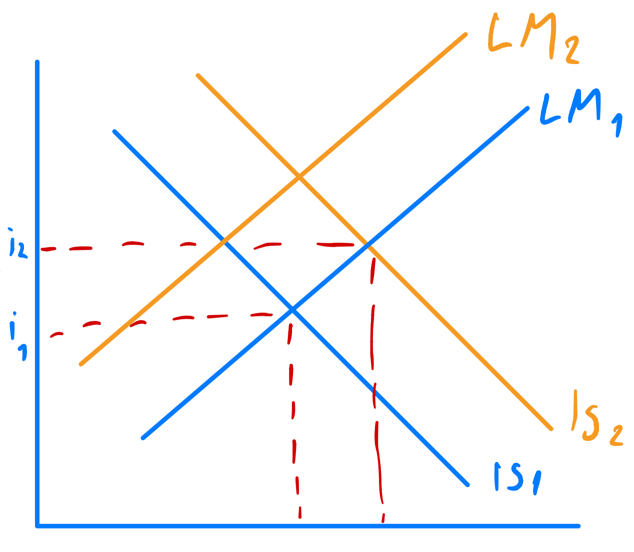


when AD is increase it will reach point B where it is the SRE, in this the employment is low unemployment rate but the price is high hence inflation. and In SR the wage is sticky due to the labor contact as the time pass higher cost of living the worker will ask for more wage the firm will reduce production hence less AS. It will reach point C which is new LRE so there is no inflation and trade off is no longer exist

11.*** The IS-LM is for short-run analysis, while the AD-AS is for long-run analysis. Now, let's link them together. Suppose the government implements expansionary fiscal policy. Use the IS-LM and AD-AS models to show the policy effect in both short run and long run.
(**Hint**: In long run, what happens to P in the AD-AS model? How will this change in P affect the IS-LM model?)



AD-AS



IS - LM

• govenment use expansionary fisical policy

IS curve shift right. It make the Ms curve shit left, make the LM curve shift right in the long-run

AD curve shift righward make point B

higher cost of living of living = highe wage = the production will decrease make point C make the new long-run equilibrium with higher price