

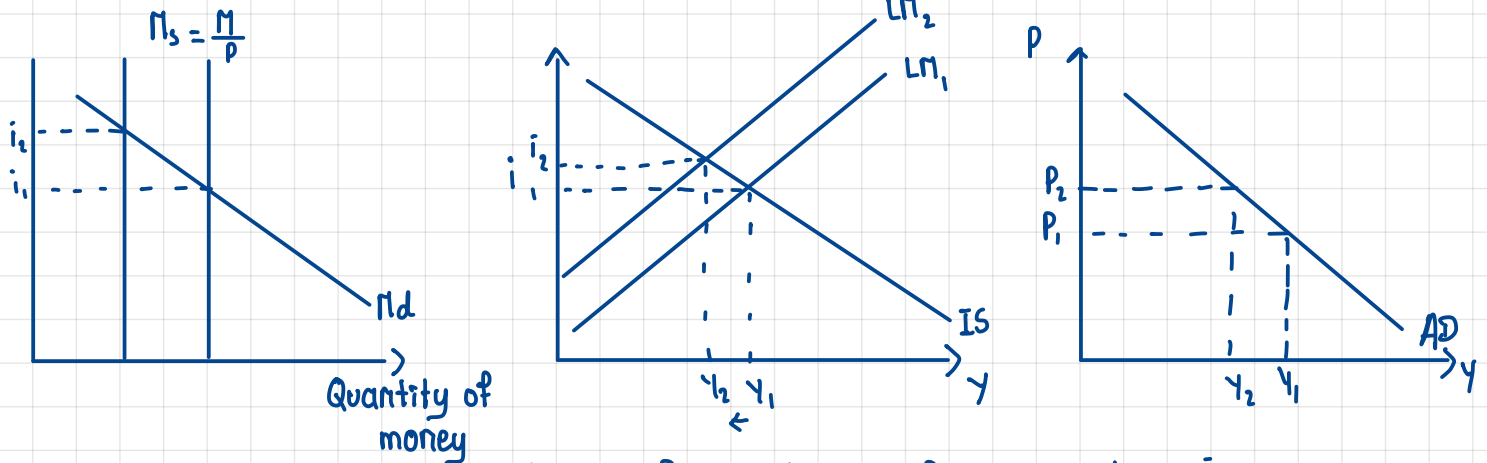
Exercise 8

Answer

Porchou

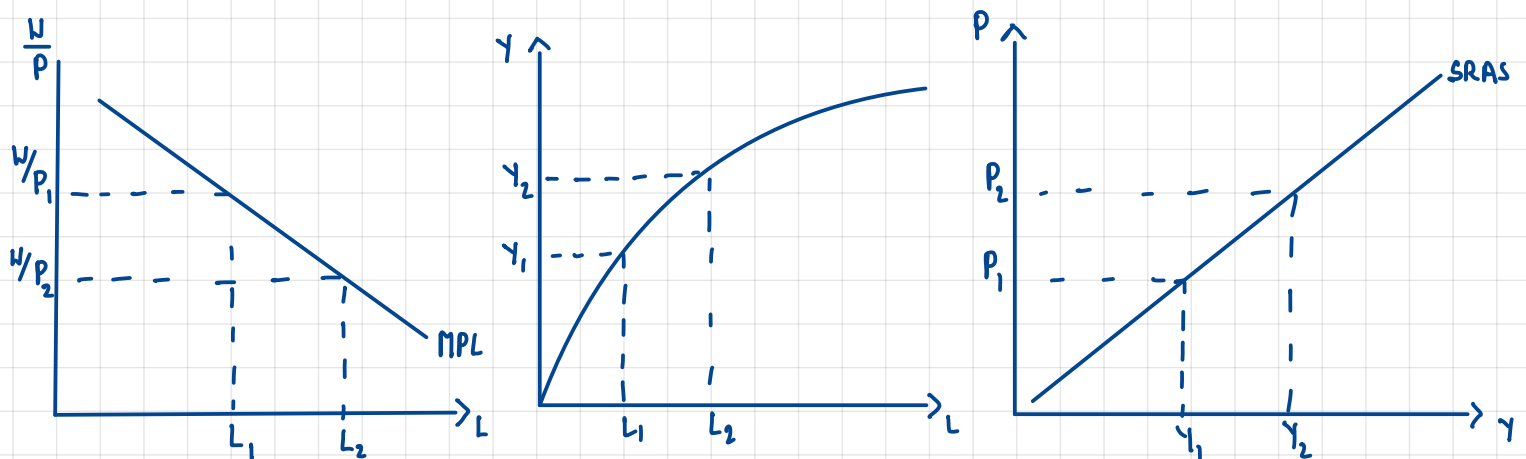
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1. AD is derived from money market diagram and IS-LM.



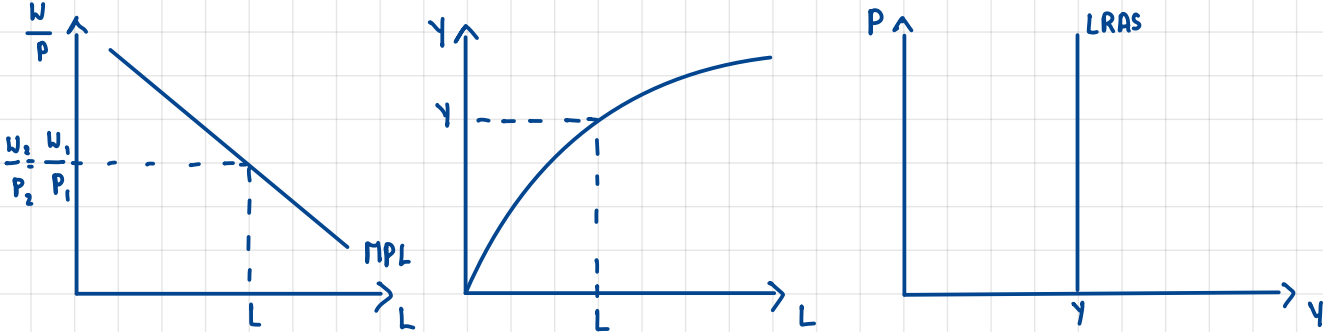
. When $P \uparrow$, M_s goes down which shift M_s to the left. When $M_s \downarrow$, i goes up. When i goes up, investment decreases which decreases the output in economy. Therefore, it creates AD downward sloping which P and Y has negative relationship.

2. Sticky wage theory refers to when the wage is sticky, maybe due to employee contract, in the economy. By sticky wage theory, even price \uparrow , wage is constant, so real wage \downarrow which motivates firms to employ more labor. So when real wage is cheap labor demand increase. And, when labor increases, output will raise as well. That's, when $P \uparrow$, Real wage \downarrow , Labor \uparrow , $Y \uparrow$.



3. The LRAS is the vertical line because price does not have any effect on production in long-run

In long-run, wage is flexible, so when price \uparrow , nominal wage \uparrow too which make real wage remains the same. Firm will not demand any more or less of labor; hence, output does not change as well. That's, even price changes, output does not, so LRAS is vertical.

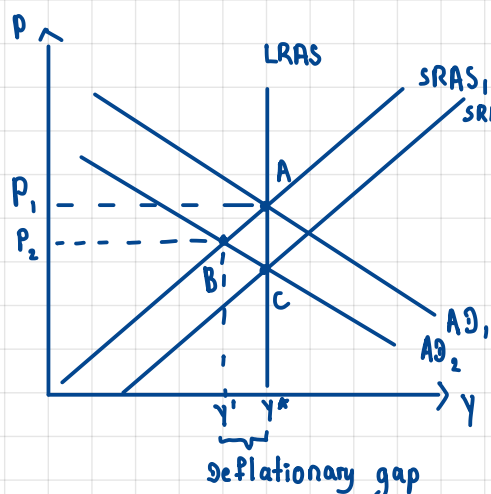


4.

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

Variable/Event	AD	SRAS	LRAS
$P \uparrow$	move down	move up	no effect
$G \downarrow$	shift downward	no effect	no effect
$T \downarrow$	shift upward	no effect	no effect
Autonomous $C \uparrow$	shift upward	no effect	no effect
Autonomous $I \downarrow$	shift downward	no effect	no effect
$M \downarrow$	shift downward	no effect	no effect
$i \uparrow$	shift downward	no effect	no effect
Temporary epidemic (assuming AD unchanged)	No effect	shift to the left	no effect
Permanent increase in population growth rate (assuming AD unchanged)	No effect	shift to the right	shift to the right
(AD no change) $W \uparrow$	no effect	shift to the left	No effect
Bad seasonal weather	no effect	shift to the left	No effect
Permanent loss in agricultural land due to climate change	no effect	shift to the left	shift to the left
Discovery of new technology	no effect	shift to the right	shift to the right
Short-term worker training	no effect	shift to the left	No effect
Permanent education reform	no effect	shift to the right	shift to the right

5. The economy faces negative AD shock, so AD will shift downward from original equilibrium A to point B. At B, there is deflationary gap which output is produced under full-employment. This means



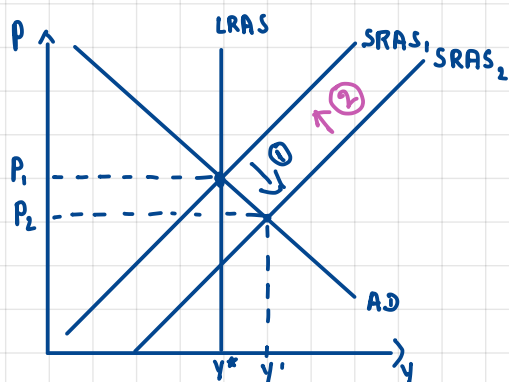
that there might be an amount of unemployment.

If government wants to fix deflationary gap, policy that should be used is expansionary fiscal policies which are increasing G or decreasing T that encourages consumption. For example, if $G \uparrow \Rightarrow Y \uparrow$ and AD will shift upward back to equilibrium point B.

- If there is no government intervene, economy will adjust. Firstly, when AD shift downward, SRAS

will have to move down to decrease, so it can attract consumer. However, when price goes down real wage goes up because immediately in SR, nominal wage is sticky. Firm that gain less profit than before will fire some labor. Later in LR, wage is no longer sticky, so when $P \downarrow$, nominal wage \downarrow , firm can hire people that create more output again (from y' back to y^*). (shift SRAS to the right).

6. When the economy faces a temporary positive AS shock, it will shift SRAS to the right. The example can be good weather that benefits the inputs of supply-side.

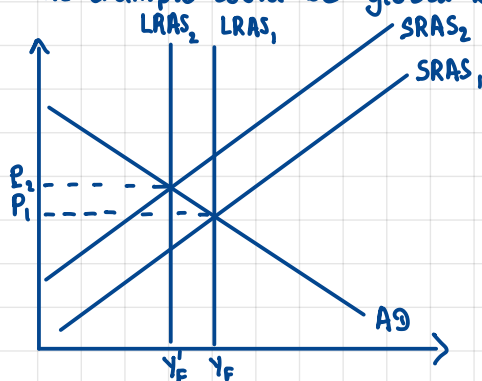


If there is no government intervention, the economy will do self-correcting mechanism. When SRAS is shifted to the right, there's an increase in output and a decrease in price. In SR, when price decrease, and wage is sticky, producer will produce more resulting in more output. However, in LR, wage is flexible, and it'll

rise as price increase, so firm will reduce its production as the cost of input is now high, which make output go back to the original one (y_F), and SRAS return to the original one too ($SRAS_2 \rightarrow SRAS_1$).

7. The economy faces permanent, negative AS shock, it will shift both SRAS and LRAS to the left.

The example could be global warming or depletion of fossil fuel.



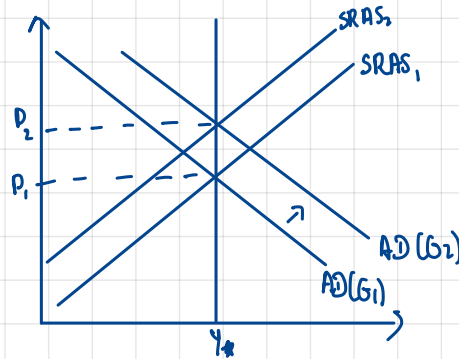
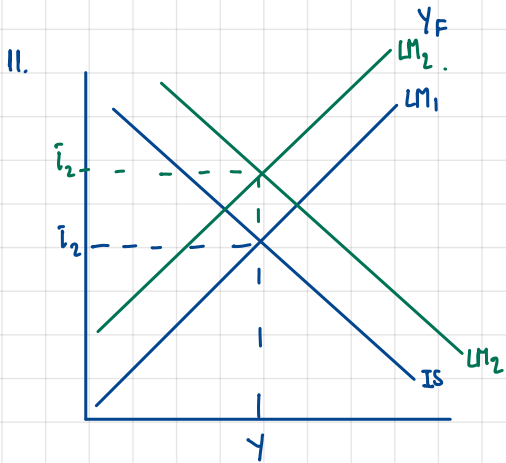
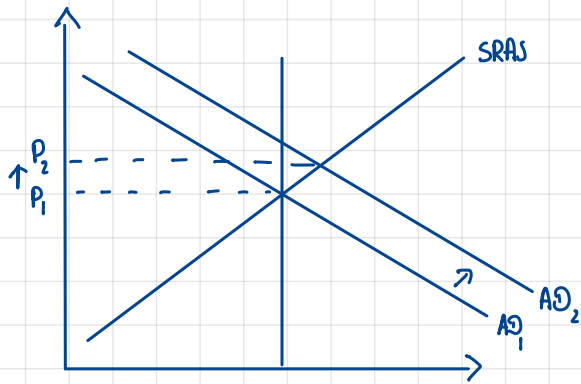
Without government intervention, at first permanent negative AS shock will shift SRAS to the left, resulting high price and lower output. Then LRAS shift to the left that create new equilibrium with permanent lower output and higher price.

8. The idea of money neutrality is true for AD-AS model. As AD-AS model analyzes the economy in both long-run and short-run, so in long-run, changes in money supply will not affect real variables, like employment or real GDP. This is because in LR, AD-AS will adjust itself back to equilibrium at full employment output. Therefore, the change in stock of money can only affects nominal variables like wage or price, but real variable remain the same.

9. To change output, government can implement supply-side policies. For instance, the development of education system will help in human resources which benefits LRAS (shift to the right). Thus, it can

results in permanent higher output.

10. When economists want to have low unemployment and low inflation, they face trade-off between these two goals. In short-run, AD shifts up, so there's low unemployment, but price also goes up that makes high inflation. However, in long-run, wage is flexible, so when inflation is high, firms choose to hire people at full employment only.



When $G \uparrow$:

- . For IS curve, it shifts to the right because AE shifts up.
- . For AD curve, it shifts to the right too which increases price.
- . For LM curve, when P goes up, it shifts to left as money supply decreases.

→ With new IS ($IS_1 \rightarrow IS_2$) and new LM ($LM_1 \rightarrow LM_2$), the new equilibrium in IS-LM curve occurs with higher i but the same Y .

- . With AD_2 in SR, there will be inflationary gap, but when in LR, firm will demand less labor which make SRAS shifts to the left. It makes AD-AS go back to equilibrium in LR.

