

## Exercise 7

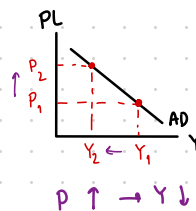
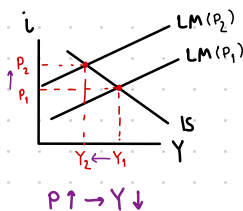
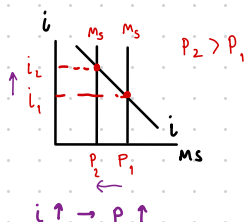
### AD-AS Model

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

AD has downward-sloping because AD tells us the negative relationship between price level and outcome also from this factors;

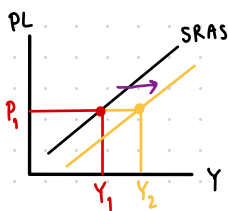
1. wealth effect
2. interest rate effect
3. international trade effect

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

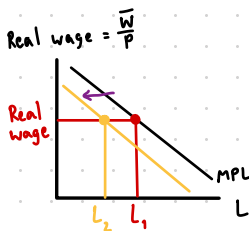


2. What is Sticky Wage Theory? Explain why SRAS is upward-sloping (that is, how SRAS is derived), using the sticky wage theory, labor demand diagram, and production function.

- Sticky Wage Theory is wages that are fixed due to labor contracts & unemployment
- SRAS is upward-sloping because sticky price theory, sticky wage theory, and misperception theory.

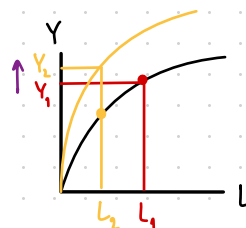


$$T \uparrow, P_0 = P_1 \rightarrow Y \uparrow$$



$$T \uparrow \rightarrow L \downarrow$$

Labor Demand diagram



$$T \uparrow \rightarrow Y \uparrow$$

Production Function

3. Explain why LRAS is vertical.

Because output is at the full employment level and LRAS does not depend on Price.

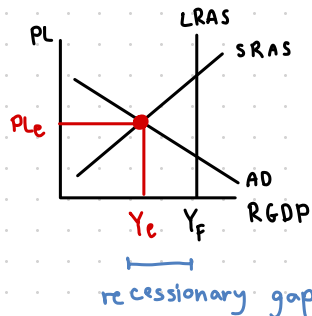
4. **Ceteris Paribus** (other things equal), how will each variable/event affect each curve – shift (to which direction?) or movement?

Variable/Event	AD	SRAS	LRAS
$P \uparrow$	shift $\leftarrow$	movement	unchange
$G \downarrow$	shift $\rightarrow$	movement	unchange
$T \downarrow$	shift $\rightarrow$	movement	unchange
Autonomous $C \uparrow$	shift $\rightarrow$	movement	unchange
Autonomous $I \downarrow$	shift $\leftarrow$	movement	unchange
$M \downarrow$	shift $\leftarrow$	movement	unchange
$i \uparrow$	shift $\leftarrow$	movement	unchange
Temporary epidemic (assuming AD unchanged)	No effect	-	shift $\leftarrow$
Permanent increase in population growth rate (assuming AD unchanged)	No effect	Shift $\leftarrow$	-
$W \uparrow$	-	Shift $\leftarrow$	unchange
Bad seasonal weather	-	-	shift $\leftarrow$
Permanent loss in agricultural land due to climate change	-	Shift $\leftarrow$	-
Discovery of new technology	-	Shift $\leftarrow$	-
Short-term worker training	-	-	shift $\leftarrow$
Permanent education reform	-	Shift $\leftarrow$	-

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.

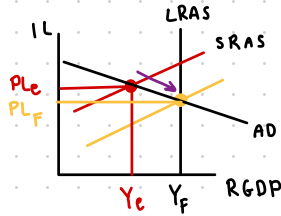
We have recessionary gap.



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

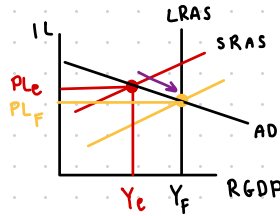
The Government can use fiscal or monetary policy to return the economy back to LRE or supply-side policy. For example, reduces labor forces

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



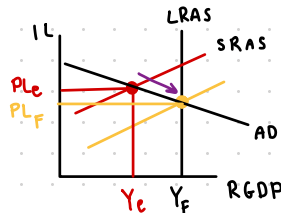
6. Suppose the economy faces a temporary, positive AS shock.
  - Give one example of a temporary, positive AS shock.
  - If there is no government intervention, explain with the AD-AS diagram how the economy will return to the long-run equilibrium.

- For example, good weather, good news.



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.

- For example, permanent change in birth, mortality rate, discovery very large natural resources, global warming.



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  $Y$ ?)

True because in long run, wage is no longer sticky. So, when price increase, nominal wage also increases then demand for labor still unchanged = output remains the same.

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?)

The government can change in supply-side policies so the output will not be the same.

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?

The trade-off is no longer exist in long run because most of the inflation are from demand-pull in AD and cost-push in SRAS only.

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?)

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W↑			
Bad seasonal weather			
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Short-term worker training			
Permanent education reform			

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