

Exercise 7
AD-AS Model

#6404641042
Saniya Teeraku/

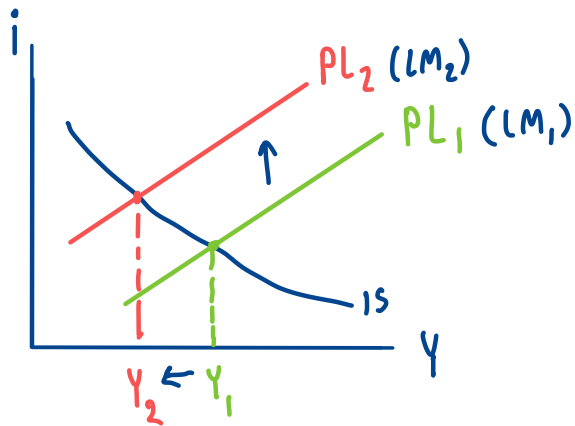
1. Explain why AD is downward-sloping (that is, how AD is derived), using the money market diagram and the IS-LM. ↓
2. What is Sticky Wage Theory? Explain why SRAS is upward-sloping (that is, how SRAS is derived), using the sticky wage theory, labor demand diagram, and production function. ↓
3. Explain why LRAS is vertical. ↓
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↑	↓	↑	—
G↓	↓	↓	↓
T↓	↓	↑	↓
Autonomous C↑	↑	↑	—
Autonomous I↓	↓	↑	↓
M↓	↓	↓	—
i↑	↓	↑	—
Temporary epidemic (assuming AD unchanged)	No effect	↓	↓
Permanent increase in population growth rate (assuming AD unchanged)	No effect	—	↑
W↑	↓	↓	
Bad seasonal weather	↓	↓	↓
Permanent loss in agricultural land due to climate change	↓	↓	↓
Discovery of new technology	↑	↑	↑
Short-term worker training	↓	↑	↑
Permanent education reform	↑	↓	↑

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.

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

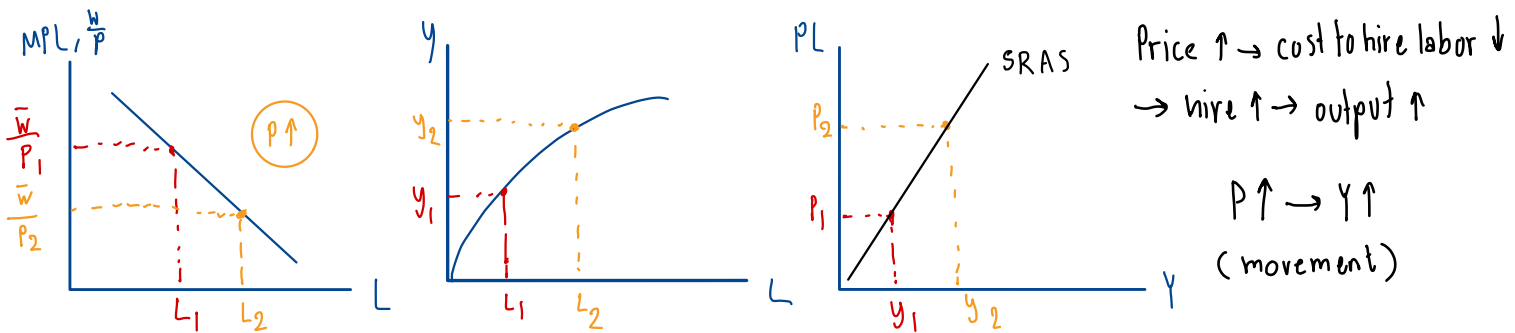
- bc. When Price level increased, the AD is decreased



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.

- AS price increases, real wage falls, including firm to hire more labor and increase output ($P \uparrow \rightarrow W/P \downarrow \rightarrow L.D. \uparrow \rightarrow L \uparrow \rightarrow Y \uparrow$). SRAS shows the positive relationship between Price and Output.

- Sticky wage theory argues that employee pay is resistant to decline even under deteriorating economic conditions. This is because workers will fight against a reduction in pay, and so a firm will seek to reduce costs elsewhere, including via layoffs, if profitability falls.



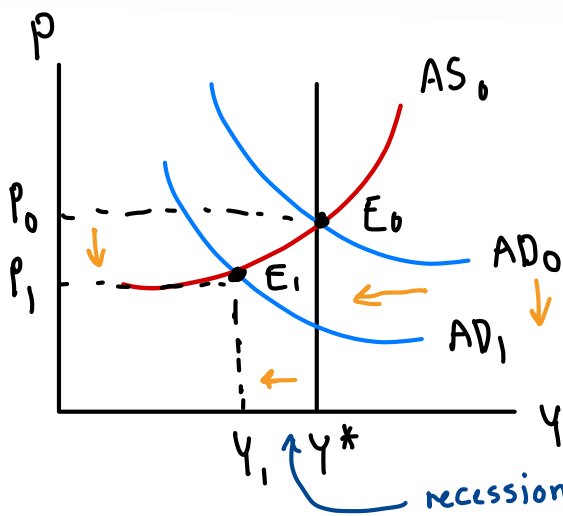
3. Explain why LRAS is vertical.

In the LR, the output does not relate to the price level.

output at full-employment level, and LRAS does not depend on price level.

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.



a negative demand shock first reduces P and Y , causing a **Recessionary output gap** to open as the economy moves from E_0 to E_1 .

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

Expansionary fiscal policy ; decreased taxes or increased spending ($T \downarrow, G \uparrow$)

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

- The amount of output supplied will be greater than AD. Prices will begin to fall to eliminate the surplus output. As prices fall the amount of aggregate demand increases and the economy returns to Equilibrium.

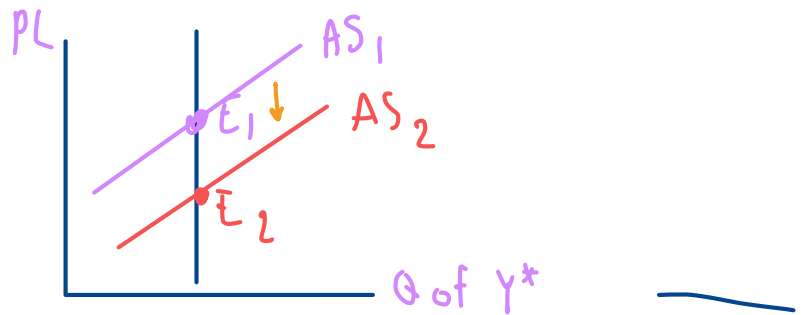
6. Suppose the economy faces a temporary, positive AS shock.

- 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.

- Tied to a technological advancement; Car manufacturing by Henry Ford.

A positive supply shock increases output causing prices to decrease.

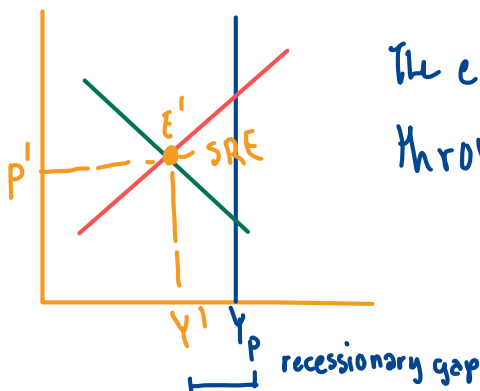
- There will be a surplus, need to decrease in supply and increased demand.



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.

- increase in the price of oil. output decrease, price increased



The economy can slowly adjust itself, through shifts in SRAS.

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 ?)

- A money supply increase will tend to raise the price level in the long run. A money supply increase may also increase national output. A money supply increase will raise the price level more and national output less the lower the unemployment rate of labor and capital is.
- **Money is neutral** because nominal money supply has no effect on output and the interest rate in the medium run. ... The interest rate is determined by the position of the IS curve and the natural level of output (which is determined by the position of the AS curve).

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?)

- economic growth

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?

- Because in the long run structural relationships dominate over cyclical relationships.

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?)

