

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

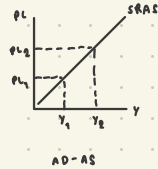
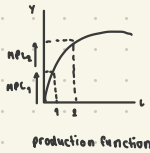
AD is downward sloping because it represents a negative relationship between price level and output.



: When price level is higher, money supply will decrease. Thus, causing a shift in the LM curve which then lower the output/income (Y).

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.

The sticky wage theory states that in a short-run, the price and wage is fixed.



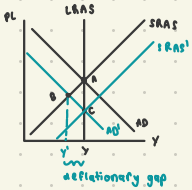
Variable/Event	AD	SRAS	LRAS
$P \uparrow$	movement	movement	no effect
$G \downarrow$	shift (down)	no effect	"
$T \downarrow$	shift (up)	"	"
Autonomous $C \uparrow$	shift (up)	"	"
Autonomous $I \downarrow$	shift (down)	"	"
$M \downarrow$	shift (left)	"	"
$i \uparrow$	shift (down)	"	"
Temporary epidemic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



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

negative AD shock = deflationary gap



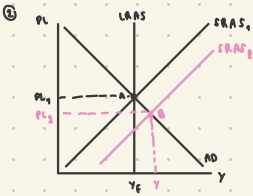
- to correct a deflationary gap, the government can conduct either the demand-side policy or supply-side policy to shift the AD curve back to the LRE. For instance, expansionary fiscal policy by increasing G/T.

- if there is no government intervention, in the long run where the nominal wage is flexible, the workers will be willing to work when given a lower wage. So, after the cost of production decreases, the firm will hire more. Thus, producing more at pt. C which is back at the LRE.

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.

eg. good weather

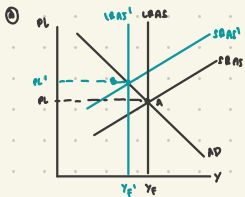


If there is no government intervention, the SRAS will slowly move back to its original place after some time passes. In this case, the weather will change, or worsen, causing the SRAS to shift left once again.

7. Suppose the economy faces a permanent negative AS shock.

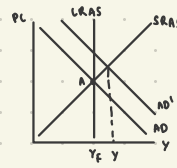
- Give one example of a permanent, negative AS shock.
- If there is no government intervention, explain with the AD-AS diagram how the economy will return to the long-run equilibrium.

eg. permanent decrease in birthrate



If there is no government intervention, there will then soon be a new equilibrium point after the output at full-employment falls and price level increase permanently.

8. In macroeconomics, **Monetary Policy** **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^F ?)



It is true because when we increase money supply, the AD curve will shift to the right increasing the output in the short run. However, in the long run, the SRAS will shift to the left, bringing the output back to the full-employment line but with higher price level.

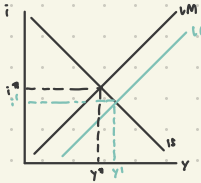
9. Based on Question 8 above, what can the government do to change output in the long run?
 (Hint: Monetary and Fiscal Policies are demand-side policies, but do we have other alternatives?)

The government can use the supply-side policies to shift the LRAS curve to the right to improve output produced. For example, improving the education system will make a better quality labor. Thus, creating more output growth.

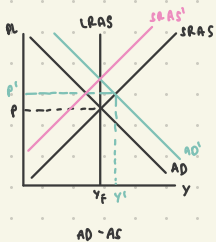
10. Economists usually have macroeconomic goals of low employment and low inflation. It is also believed that economists face the trade-off between these goals, especially in short run. Use relevant diagrams to explain the trade-off. Why does the trade-off no longer exist in long run?

Trade-off no longer exist in the long-run because the price and wage is a variable. So, inflation have very little effect and the workers are more willing to work when given lower rent.

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?)



- The expansionary monetary policy caused the LM curve to shift right since the money supply increase. Thus the interest rate fall and the output rises in the short run.
- And because the money supply increased, the AD curve will shift to the right, increasing the price level.



- However, in the long run, the SRAS will shift to the left, bringing the output back to the long-run equilibrium at full employment once again.