



MACROECONOMICS UNIT 3

AD-AS and Fiscal Policy



BIG PICTURE IDEAS

- Changes in an economy can be represented on a graph using **aggregate** demand, **short**-run aggregate supply, and **long**-run aggregate supply.
- An economy can have either a **negative** output gap (or recessionary gap), a **positive** output gap (or inflationary gap), or it can be at full **employment** at the natural rate of unemployment.
- An initial change in spending is amplified in the economy due to the **multiplier** effect. The amount of the change depends on how much people spend, the marginal propensity to **consume**.
- An unhealthy economy will eventually self-**adjust** even without government intervention. This is because wages and resource prices are **flexible** in the long run.
- The government uses **fiscal** policy, which includes changes in government spending and **taxes**, to stabilize the economy and achieve full employment.

■ Topic 3.1- Aggregate Demand (AD)

- What is the difference between a market demand curve and the aggregate demand curve? **A market demand shows the demand for one good/service at different prices. Aggregate demand shows the demand for all goods and services at different price levels**
- What three concepts explain why aggregate demand is downward sloping? **Real wealth effect, Interest rate effect, and Exchange rate effect**
- What are the shifters of aggregate demand? **Anything that changes consumer spending, business investment, government spending, and/or net exports**

■ Topic 3.3- Short-run Aggregate Supply

- Explain the difference between the short run and the long run. **In the short run, wages and resource prices are not flexible. It takes time for them to change. In the long run, wages and resource prices are flexible. Wages and resource prices have time to adjust to a change in price level**
- Why is short-run aggregate supply upward sloping? **Wages and resource prices are not flexible in the short-run ("sticky wages")**
- What are the shifters of short-run aggregate supply? **Anything that affects producers and production. Availability and price of resources, actions of the government (business taxes, subsidies, regulation), and expected inflation.**

■ Topic 3.2- Multipliers

- The **multiplier** effect is the idea that an initial change in spending (or taxes) results in a larger change in spending.
- Define marginal propensity to consume (MPC). **How much people consume rather than save when there is a change in income**
- Define marginal propensity to save (MPS). **How much people save rather than consume when there is a change in income**
- What is the equation for the simple spending multiplier? **1/MPS**
- What is the equation for the tax multiplier? **-MPC/MPS (or -1/MPS - 1)**

True or False:

- The MPC plus the MPS equals 1. **True**
- The spending multiplier increases when the MPC increases. **True**
- A \$10 billion increase in government spending results in the same total change as a \$10 billion tax cut. **False**
- Transfer payments don't get multiplied since they don't count in GDP. **False**

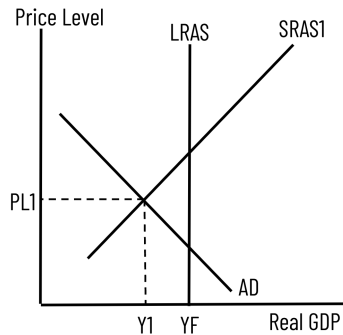
16. Fill in the table below:

Initial Change	Initial Amount	MPC	Maximum Change
↓ G	\$30 billion	.5	↓\$60 billion
↑ C	\$20 billion	.9	↑\$200 billion
↓ Taxes	\$10 billion	.8	↑\$40 billion
↑ I	\$20 billion	.75	↑\$80 billion
↓ C	\$10 billion	.9	↓\$100 billion
↑ X	\$10 billion	.8	↑\$50 billion
↑ Transfer Payments	\$20 billion	.9	↑\$180 billion

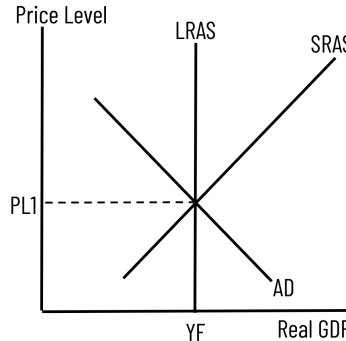


■ Topic 3.5- Equilibrium in the AD-AS Model

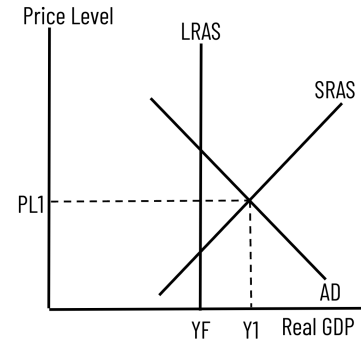
17. Draw a negative output gap



18. Draw an economy at full employment



19. Draw a positive output gap



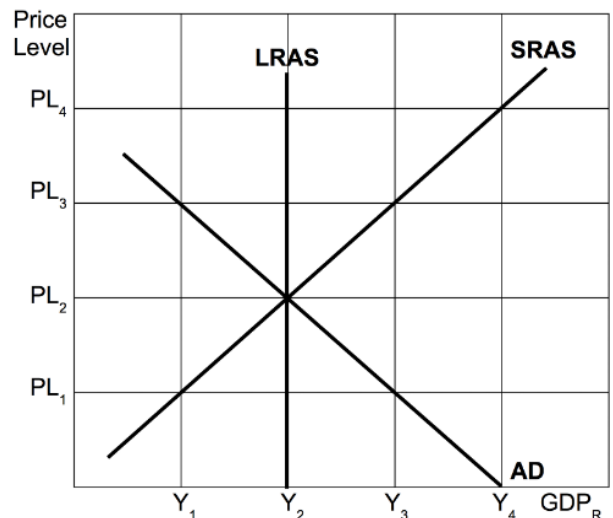
■ Topic 3.6- Changes in the AD-AS Model in the Short Run

For each scenario, identify the initial change (↑, ↓, or no change) in aggregate demand or aggregate supply, price level, and real GDP.

Scenario	AD	SRAS	PL	RGDP
20. The effect on production from a significant increase in the worldwide price of oil	None	↓	↑	↓
21. The effect on investment from an increase in interest rates	↓	None	↓	↓
22. Decrease in infrastructure spending due to fear of rising inflation	↓	None	↓	↓
23. A rise in business productivity due to new artificial intelligence technologies	None	↑	↓	↑
24. Depreciation of a country's currency causing exports to increase	↑	None	↑	↑

Use the graph to the right to complete the following (Assume that each event takes place independently).

- 25. What is the short-run equilibrium price level and output? **PL₂, Y₂**
- 26. Identify the short-run equilibrium price level and output if consumption increased? **PL₃, Y₃ (or PL₄, Y₄)**
- 27. Identify the short-run equilibrium price level and output after a negative supply shock? **PL₃, Y₁**
- 28. What happens to output and unemployment if investment falls? **Output ↓
Unemployment ↑**
- 29. Explain the difference between demand-pull and costs-push inflation.
Demand-pull inflation is caused by an increase in aggregate demand and cost-push inflation is caused by a decrease in aggregate supply



- 30. An unexpected decrease in the availability of a key resource is an example of a negative **supply** shock.
- 31. **Stagflation** is when SRAS decreases and there is high unemployment and high inflation.
- 32. What is deflation? **A decrease in the general price level. The opposite of inflation.**
- 33. What is disinflation? **A decrease in the rate of inflation. Prices are increasing but not as fast.**
- 34. What is autonomous consumption? **The minimum amount of consumer spending when people have no income.**
- 35. What is disposable income? **The amount of money households have to spend or save after taxes.**

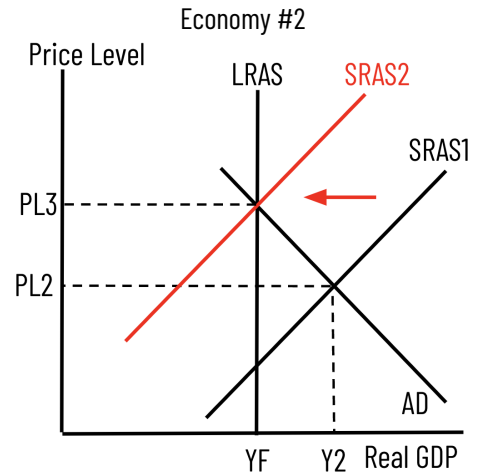
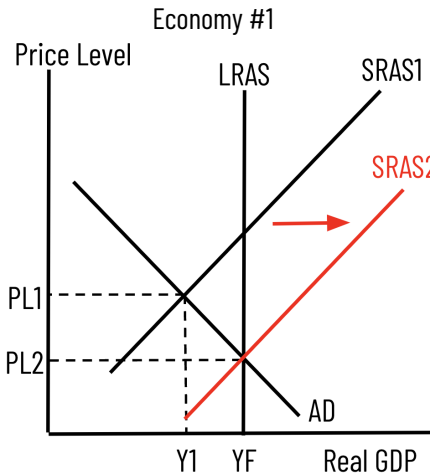


■ Topic 3.7- Long-run Self-Adjustment

36. Describe how the economy self-adjusts in the long run when there is a negative output gap. **A decrease in wages and resource prices causes production costs to fall and SRAS to shift to the right**

37. Describe how the economy self-adjusts in the long run when there is a positive output gap. **An increase in expected inflation causes wages to increase and SRAS to shift to the left**

38. Assuming wages and resource prices are flexible, show how each economy below will self-adjust in the long run.



True or False

39. An economy will take longer to self-adjust if wages and resource prices are flexible. **False**

40. When an economy experiences economic growth, the LRAS will shift to the right and output will increase. **True**

41. If an economy experiences economic growth the natural rate of unemployment will decrease. **False. The NRU will stay the same**

■ Topic 3.8- Fiscal Policy

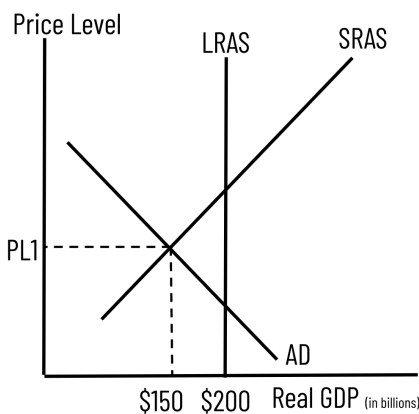
42. Identify two examples of expansionary fiscal policy. **Increase in government spending, decrease in taxes, or increase in transfer payments.**

43. Identify two examples of contractionary fiscal policy. **Decrease in government spending, increase in taxes, or decrease in transfer payments.**

44. Explain why an increase in government spending will lead to more total spending than a decrease in taxes by the same amount.

People save a portion of a tax cut causing the tax multiplier to be less than the spending multiplier.

Use the graph below to answer the questions. Assume wages and resource prices are flexible.



45. Does the economy have a recessionary gap or inflationary gap? **Recessionary gap. Actual GDP (\$150 billion) is less than full employment GDP (\$200 billion)**

46. What happens to price level and output in the long run if no policy action is taken? **Price level will decrease and output will increase as the SRAS shifts right**

47. Assume instead that the government decides to use fiscal policy. Identify two policies that could close the gap. **Increase in government spending, decrease in taxes, or increase in transfer payments.**

48. If the MPC is .5, what is the least amount of government spending that could close the gap? **\$25 billion increase in spending. The multiplier is 2 and the gap is \$50 billion.**

49. If the MPC is .5, what is the least amount the government could cut taxes to close the gap? **\$50 billion tax cut. The tax multiplier is 1.**

50. Assume instead that the MPC is .9. What is the least amount of government spending that could close the gap? **\$5 billion increase in spending. The multiplier is 10.**

51. Assume that an economy has a positive output gap of \$80 billion and MPS is .2. Identify the change in government spending that could close the gap? **\$16 billion decrease in spending. The multiplier is 5 and an increase of \$16 billion would close a \$50 billion gap.**



■ Topic 3.9- Automatic Stabilizers

52. What is the difference between discretionary fiscal policy and non-discretionary fiscal policy? **Discretionary fiscal policy is new laws while non-discretionary fiscal policy are permanent spending or taxation laws enacted to work counter cyclically to stabilize the economy**
53. Identify three different examples of automatic stabilizers.
Unemployment benefits, welfare, progressive income taxes, etc.
54. Why are there lags when the government uses discretionary fiscal policy? **Discretionary fiscal policy requires new laws that require time to be developed, voted on, and implemented**

■ Unit Review

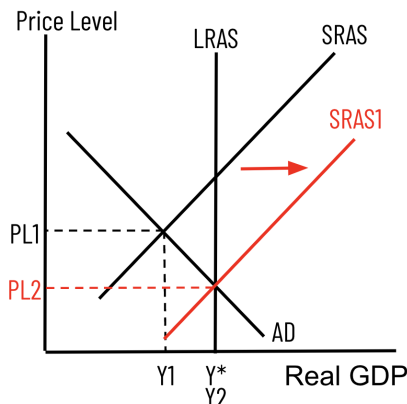
True or False:

55. An increase in consumer spending causes aggregate demand to shift right. **True**
56. Stagflation is the result of an increase in the short-run aggregate supply. **False**
57. An increase in expected inflation will decrease the SRAS. **True**
58. An increase in interest rates will increase investment & aggregate demand. **False**
59. The spending multiplier is always one less than the tax multiplier. **False**
60. Fiscal policy includes government spending and taxation. **True**
61. An increase in private savings decreases the effectiveness of fiscal policy. **True**
62. If the MPS is .2 the tax multiplier is -4. **True**
63. When the MPC increases, the spending multiplier decreases. **False**
64. Jacob Clifford's resources are super helpful.

Scenario	Change in AD or AS	↑ or ↓
65. Government uses expansionary fiscal policy	AD	↑
66. No policy when there is a recession	SRAS	↑
67. Government increases taxes on consumers	AD	↓
68. There is a decrease in exports	AD	↓
69. Positive output gap. Government takes no policy	SRAS	↓

■ Sample FRQ

70. Assume an economy is producing below full employment with a \$300 billion gap and that the marginal propensity to consume is .9.
- Draw a correctly labeled graph with aggregate demand, short-run aggregate supply, and long-run aggregate supply. Label the price level PL_1 , the output Y_1 , and the full employment output Y^* .
 - Assume the government implements fiscal policy.
 - Calculate the minimum change in government spending that could close the gap. Show your work.
 - Identify what will happen to the price level and output.
 - Would contractionary fiscal policy cause the natural rate of unemployment to increase, decrease, or stay the same in the long run?
 - Assume instead of using fiscal policy, the government takes no policy action. Label the new price level PL_2 and the output Y_2 .



- Graph**
1 Point- Correctly labeled AD and SRAS showing PL_1 and Y_1
1 Point- Correctly labeled vertical LRAS showing Y^*
- Fiscal Policy**
1 Point- \$30 billion increase. The multiplier is 10 or $1/.1$. An initial increase of \$30 billions times the multiplier can close a \$300 gap. Note- the answer must say increase to get the point)
1 Point- Price level will increase. Output will increase.
- Effect of Fiscal Policy**
1 Point- Natural rate of unemployment stays the same
- Self-Adjustment**
1 Point- Correctly labeled rightward shift in SRAS showing PL_2 and Y_2