Study Guide

Chapter 9 Fiscal Policy and the Multiplier Effect

1. **Fiscal policy** – changes in government spending (G) and taxes (T).

Fiscal policy 1: increase G. (↑G → ↑**AD** → ↑real GDP and ↓U)
Fiscal policy 2: decrease G. (↓G → ↓**AD** → ↓real GDP and ↓inflation)
Fiscal policy 3: cut tax. (↓T → ↑income → ↑C → ↑**AD** → ↑real GDP and ↓U)
Fiscal policy 4: raise tax. (↑T → ↓income → ↓C → ↓**AD** → ↓real GDP and ↓inflation)

Fiscal policy 1 and 3 are *expansionary fiscal policies;* and
Fiscal policy 2 and 4 are *contractionary fiscal policies.*

Which fiscal policy should the government apply?

Case 1. Recession
The economy is operating below its potential with GDP gap > 0 and unemployment rate above 5.5%.
Fiscal policy 1 and/or 3 should be applied.

Refer to Figure 9-1. If the economy is at B, increasing government spending and/or cut taxes would both push AD up (AD shifts to the right). The economy will be back to full employment A.

Figure 9-1. Recession at B

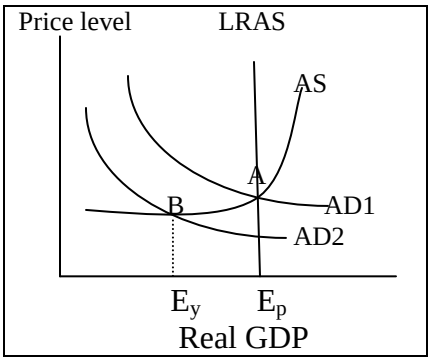
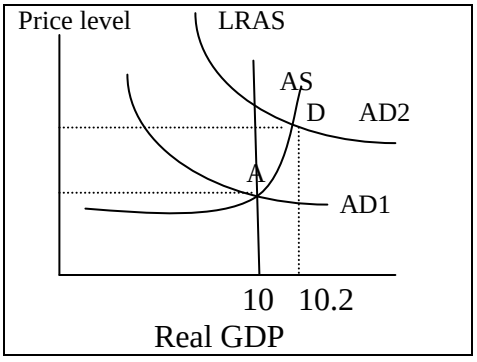


Figure 9-2. Overheat at D



Case 2. Overheat
This economy is operating beyond its potential with negative GDP gap and high inflation.
Which fiscal policy should be used?

Refer to Figure 9-2. If the economy is at D, the government should lower government spending and/or increase taxes. These contractionary fiscal policies would lower the aggregate demand (thus AD shifts to the left, from AD2 to AD1). The economy will be back to A, full employment.

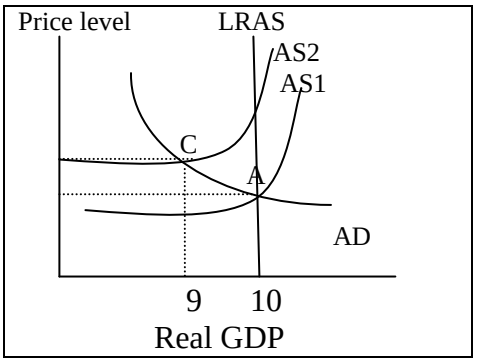
Case 3. Stagflation

This economy is operating below its potential with positive GDP gap, high unemployment and high inflation. Which fiscal policy should be used?

If the government ↑G and/or ↓T, AD will increase and shift to the right. This can lower unemployment, but would cause a even **higher inflation!**

So if the government does the opposite, ↓G and/or ↑T, AD will decrease. It can lower inflation but will create even **higher unemployment!**

Figure 9-3. Stagflation at C.



Conclusion:

(1) In economic theory, there is no effective fiscal policy that can cure stagflation.

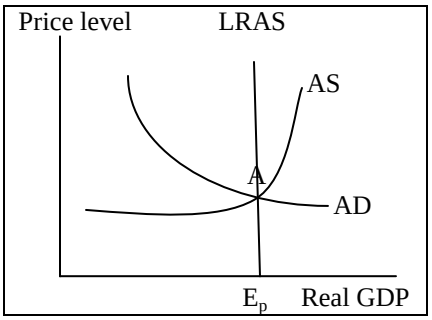
(2) In practice, the Reagan Administration used *Supply-side policy* to fight stagflation. Supply-side policy is to ↑G and ↓T (the same as expansionary fiscal policy). The result of the policy is the huge budget deficits and the national debt.

Case 4. Full employment

The economy operates at the full employment level.
GDP growth rate is about 3%.
Inflation rate is about 2-3%.
Unemployment rate is about 5.5%.
Which fiscal policy should be used?

This economy is efficient. No government intervention is necessary.

Figure 9-4. Full employment at A



2. The multiplier effect

1). Marginal Propensity to Consume (MPC) – the fraction of additional income that is spent.
If you receive $100 extra money, and you spend $70 of it, your MPC = $70/$100 = 0.7.
If a country's income increased by $100 billion, and the households spend $93 billion out of the $100 billion, the MPC for the country is $93b/$100b = 0.93.

2). Multiplier Effect
An effect in which a change in fiscal policy produces a **greater** change in GDP than the initial amount.

Formula 1: **Government spending multiplier** $\mathbf{G^M} = \frac{1}{1-MPC}$

Formula 2: **Change in GDP** = Government spending × $\mathbf{G^M}$

Example 1. An economy has an average MPC being 0.8. If the government increases spending by $1000, what is G^M? How much would GDP increase?

Answer: If MPC = 0.8, $\mathbf{G^M} = \frac{1}{1-MPC} = \frac{1}{1-0.8} = \frac{1}{0.2} = 5$;

Change in GDP = Government spending × $\mathbf{G^M}$
= $1,000 x 5
= $5,000

The government spending multiplier is 5 and GDP would increase by $5000.

Example 2. If MPC is 0.7 and a government decreases the spending by $500 million, what is G^M? How much would GDP decrease?

$G^M = \frac{1}{1-MPC} = \frac{1}{1-0.7} = \frac{1}{0.3} = 3.33.$

Change in GDP = - $500 × 3.33 = - $1665 million
The government spending multiplier is 3.33 and GDP would decrease by $1665 million.

Formula 3: **Tax Multiplier** ($\mathbf{T^M}$) = $-\frac{MPC}{1-MPC}$

Formula 4: **Change in GDP** = Changes in Tax × Tax multiplier

Example 3. If MPC is 0.8 and a government cuts tax by $1000, what is T^M? How much would GDP increase?

$T^M = -\frac{MPC}{1-MPC} = -\frac{0.8}{1-0.8} = -\frac{0.8}{0.2} = -4$

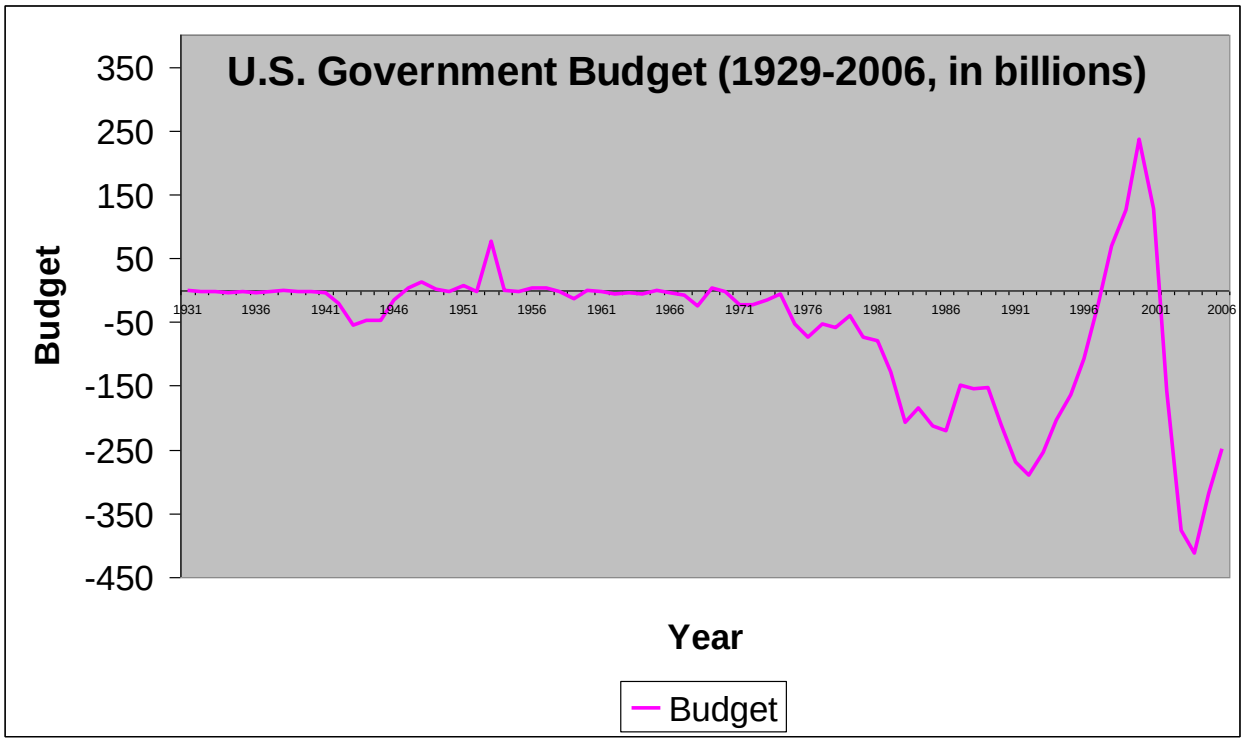
Change in GDP = (- $1000) × (-4) = $4000
The tax multiplier is - 4 and GDP would increase by $4000.

3. Deficit finance and the public debt

Concepts: **Budget deficits** – Government spending exceeds tax revenue.
Budget surplus – Government spending is less than tax revenue.

Keynesian Argument:
During recession, expansionary fiscal policy ($\uparrow$ G and/or $\downarrow$ T) tends to create budget deficits.
During overheat, contractionary fiscal policy ($\downarrow$ G and/or $\uparrow$ T) tends to create budget surplus.
Therefore, over a course of business fluctuation with recession and overheat, the budget deficit and budget surplus would be offset each other and thus lead to a **balanced budget** in the long run.

4. Record of US budget deficit



Before the 80's, the US budget has been balanced except WWII.

The 80's Supply-side policy created massive budget deficits. The size of the budget deficit declined since 1994 and eventually became budget surplus from 1997 to 2001. After 2001, the government has been running budget deficits and the deficit of 2004 broke the history record.