

# Fiscal Policy

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# Context

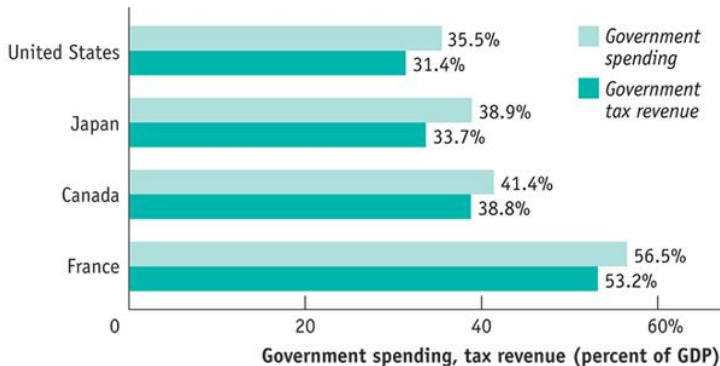
- ① Government can use various policy tools to reduce the impact of demand shocks. Fiscal policy is one such tool.
- ② What is fiscal policy and why is it an essential tool in managing economic fluctuations?
- ③ What is an expansionary and a contractionary fiscal policy and when to use it
- ④ What is a fiscal policy multiplier

# Fiscal policy: the basics

- Fiscal policy is all about how government gets its revenue (mostly taxes) and how it spends it in order to help economy run smoothly.
- Specifically, it is the use of taxes, government transfers, or government purchases of goods and services to shift the aggregate demand curve

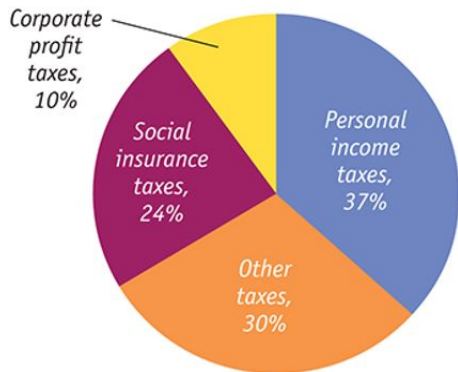
# Fiscal policy: the basics

Let's look at the governments revenue and spending in some of the top economies in 2016.

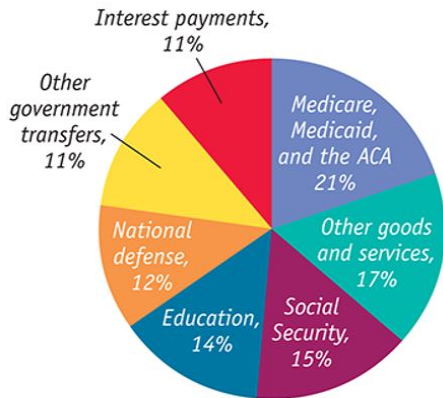


# Fiscal policy: the basics

How did the US government get its revenue and spend in 2016?



(b) Sources of tax revenue



(c) Government spending

# Fiscal policy: the basics

Some terminologies to get used to:

- Government transfers
  - ▶ payments by the government to households for which no good or service is provided in return. Some examples include social security payments, unemployment insurance, medicare, medicaid etc.
- Social insurance programs:
  - ▶ government programs (transfer payments) intended to protect families against economic hardship. Example, Social security, medicare, medicaid, food stamp.

# Fiscal policy: the basics

Government affects the AD curve via fiscal policy. Let's see how it works.

- Recall that

$$AD = GDP = C + I + G + X - IM$$

- The government directly controls  $G$  and indirectly affects  $C$  and  $I$ .
  - ▶ How? Household incomes are affected by taxes and transfers, and business investment is affected by taxes and regulations.

# Expansionary fiscal policy

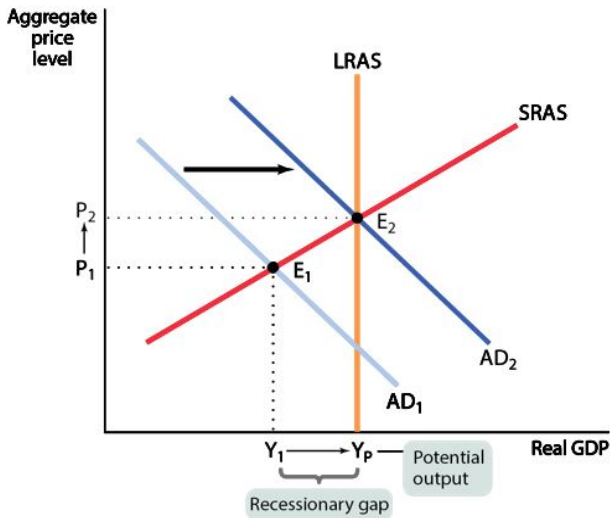
Expansionary fiscal policy increases (expands) AD (shifts the AD curve to the right). It is like extra gas to the economy.

How can government do this? Using three major tools

- 1 an increase in government purchases of goods and services
- 2 a cut in taxes
- 3 an increase in government transfers



# Expansionary fiscal policy can close a Recessionary Gap



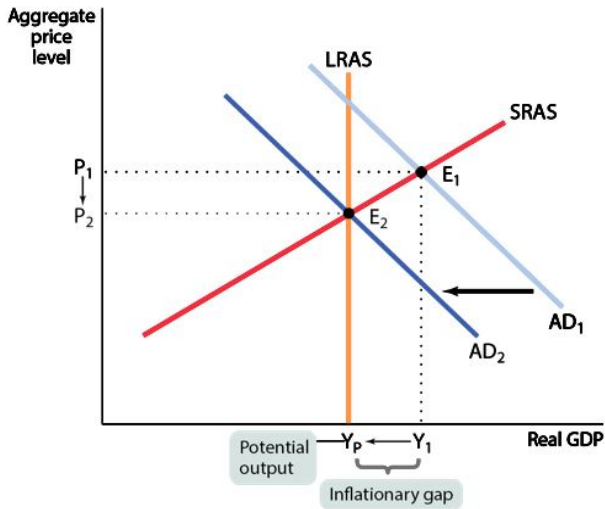
# Contractionary fiscal policy

Contractionary fiscal policy reduces (contracts) AD (shifts the AD curve to the left). It is like brake to the economy.

How can government do this? The same three tool; just in the reverse gear.

- 1 a reduction in government purchases of goods and services
- 2 an increase in taxes
- 3 a reduction in government transfers

# Contractionary fiscal policy can close an Inflationary Gap



## Practice Question 1:

Suppose that there's a recessionary gap, and the country wishes to produce its potential output. Which of the following policy initiatives might help it reach this goal?

- The government initiates policies that encourage private investment spending.
- The government increases taxes on consumers and corporations
- The government cuts spending programs.

## Practice Question 2:

Suppose that there's an inflationary gap, and the country wishes to produce its potential output. Which of the following policy initiatives might help it reach this goal?

- The government initiates policies that encourage private investment spending.
- The government increases taxes on consumers and corporations
- The government authorizes new spending programs.

# Tale of two fiscal expansions: Obama (2009) vs Trump (2017)

How well the fiscal policy works depends on **timing**. The nature of the Obama era expansionary fiscal policy of 2009 and that of the Trump era of 2017 were similar. But the economists who supported Obama era fiscal expansion opposed the Trump era fiscal expansion. Why?

- The Obama era fiscal expansion came at the time where economy was suffering from a Recessionary gap. The timing of expansion was thus right.
- Trump era fiscal expansion of 2017 came when the economy was almost at full employment. The timing was thus not right for fiscal expansion in 2017.

# In-class group assignment

Work in groups of 2-3 and do the following:

- Your job is to read the difference between the two expansionary fiscal policies and answer the following questions
  - ▶ How are these two policies similar?
  - ▶ What is the major difference between them?
  - ▶ Use AD-AS model to show how they had different impact on the economy

# Lags in fiscal policy

It takes time for the government to use fiscal policy. Why? because it takes time to:

- realize the recessionary or inflationary gap by collecting and analyzing economic data.
- develop a plan.
- implement the action plan (spending the money).



## Extra credit Assignment– 5 points (due in class on 5/3)

The government, through the CARES Act, announced a fiscal stimulus package worth \$2 trillion to fight the economic impact of COVID-19 pandemic in 2020. One of the components of the package was to provide many American families with direct cash transfers worth \$1,200 per adult and \$500 per child.

Your job is to analyze this fiscal expansion by answering the following questions:

- What type of fiscal policy is it? Which fiscal policy tool did the government use in this case? What impact is it intended to have? Show it in the graph. Provide economic reason behind why you are right.
- When the policy was implemented/passed the economy was not in recession yet—there was no recessionary gap. Does that mean the timing of this policy was wrong? If no, why not?
- What kind of lags did the fiscal expansion face? Provide specific examples of each of the lags. Were some lags longer than others? Why?

## Practice question 3

Contractionary fiscal policy:

- is most helpful for restoring an economy to the potential output level of production when there is a recessionary gap.
- shifts the AD curve to the right, restoring the equilibrium level of output to the potential output level for the economy.
- often causes inflation or an increase in the aggregate price level.
- if effective, shifts AD to the left, resulting in a reduction in the aggregate output and the aggregate price level for a given short-run aggregate supply curve (SRAS).

## Practice question 4

Holding everything else constant, which of the following statements is true?

- an economy can eliminate an inflationary gap by increasing government spending
- expansionary fiscal policy refers to an increase in taxes
- when potential output is greater than actual aggregate output, the economy faces a recessionary gap
- when SRAS intersects AD to the right of the long-run aggregate supply (LRAS) curve, the economy faces a recessionary gap

# The Multiplier

The idea of multiplier was introduced by British Economist J.M. Keynes. **The multiplier magnifies new spending into greater levels of income and output because each round of spending becomes income for someone else. In other words, spending "multiplies" into higher GDP.**



# Marginal Propensity to Consume (MPC)

Fiscal policy multiplier depends on **Marginal Propensity to Consume (MPC)**.

MPC tells us by how much the consumer spending increases when their disposable income rises by \$1. In short,

$$MPC = \frac{\Delta \text{Consumer spending}}{\Delta \text{Disposable income}}$$

$\Delta$  here means a "change in".

# Marginal Propensity to Consume (MPC)

Consider this example:

Suppose consumption spending increases from 6 to 12 billions when disposable income increases from 10 to 20 billions. What is the MPC?

$$MPC = \frac{\Delta \text{Consumer spending}}{\Delta \text{Disposable income}} = \frac{12 - 6}{20 - 10} = \frac{6}{10} = 0.6.$$

Since what is not spent is saved, we can get the Marginal Propensity to Save (MPS) once we know MPC. Because

$$MPS = 1 - MPC$$

In this example,  $MPS = 1 - MPC = 1 - 0.6 = 0.4$ .

## Back to the Multiplier...

With  $MPC$  with us, we can now define multiplier.

$$Multiplier = \frac{1}{1 - MPC}$$

OR,

$$Multiplier = \frac{1}{MPS}$$

If  $MPC = 0.5$ , what is the multiplier?

# The Multiplier

- With the value of multiplier with us, we can now precisely compute the potential impact of fiscal policy!
- In other words, say that if government increases spending by \$1, then real GDP will increase by  $\$1 \times \text{multiplier}$ .

## Question:

Assume  $MPC = 0.5$ . If the government spending increases by \$50 billion, by how much will the real GDP increase?



# Multiplier effects of changes in government transfers and taxes

Note that the multiplier we just talked about is based on the assumption of no taxes and no international trade. We can of course add taxes and trade. But then things will get complicated.

Consider this:

- Will a \$50 billion tax cut (or increase in transfers) have the same effect as a \$50 billion increase in government purchases?
- No. Example: If the  $MPS = 0.5$  a change in tax or transfers has smaller effect on AD than an equivalent change in government purchases from the outset.

$$\text{Multiplier for taxes and transfers} = \frac{MPC}{1-MPC}$$

# Multiplier in action...

Hypothetical Effects of a Fiscal Policy When  $MPC = 0.5$

| Effect on real GDP                  | \$50 billion rise in government purchases of goods and services | \$50 billion rise in government transfer payments    |
|-------------------------------------|---|--|
| First round                         | \$50 billion  | \$25 billion   |
| Second round                        | \$25 billion  | \$12.5 billion                                       |
| Third round                         | \$12.5 billion  | \$6.25 billion                                       |
| .                                   | .   | .  |
| .                                   | .   | .  |
| .                                   | .   | .  |
| Total effect                        | \$100 billion   | \$50 billion   |
| Total effect in terms of multiplier | $\Delta Y = \Delta G \times 1/(1 - MPC)$                        | $\Delta Y = \Delta TR \times MPC \times 1/(1 - MPC)$ |

# Taxes and the Multiplier

- The size of the shift of the aggregate demand curve depends on the type of fiscal policy.
- Changes in government purchases (change in  $G$ ) have a more powerful effect on the economy than equal-sized changes in taxes or transfers.
- Because with taxes or transfers, the first round impact is as big as the  $MPC$ , which is usually less than 1.

**The multiplier determines who should get tax cuts or government transfers. For example, an increase in unemployment benefits will boost aggregate demand more than a decrease in the tax on dividends.** Because the unemployed workers have a higher  $MPC$  than the dividend earners.

# Types of fiscal policy

## ① Automatic Stabilizers

- ▶ government spending and taxation rules that cause fiscal policy to be automatically expansionary when the economy contracts and automatically contractionary when the economy expands (for example, unemployment insurance)

## ② Discretionary fiscal policy

- ▶ arises from deliberate actions by policy makers rather than rules (for example, the Obama stimulus 2009, the Trump Stimulus 2017, COVID-19 stimulus).

## Question 5:

Holding everything else constant, the multiplier effect for taxes or transfers:

- is the same as the multiplier effect for changes in autonomous aggregate spending.
- is smaller than the multiplier effect for changes in autonomous aggregate spending.
- is larger than the multiplier effect for changes in autonomous aggregate spending.
- may be smaller than, larger than, or equal to the multiplier effect for changes in autonomous aggregate spending.