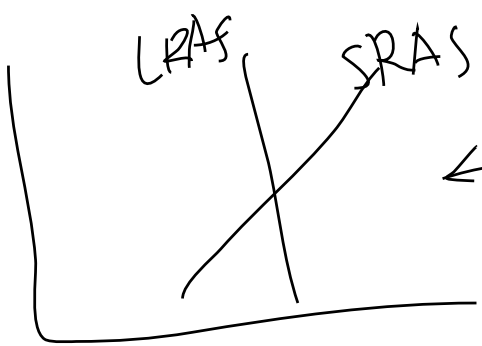
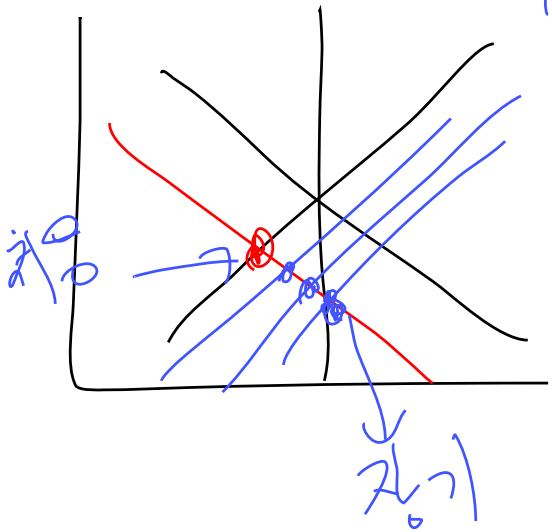


$Y = Y_0 + a(P - P_E) \quad / a > 0$

$\rightarrow \quad C + I + G + NX$

24. The Influence of Monetary and Fiscal Policy on Aggregate Demand

Seoul National University



Questions in this chapter

- In this chapter, look for the answers to these questions:
- How does the interest-rate effect help explain the slope of the aggregate-demand curve?
- How can the central bank use monetary policy to shift the AD curve?
- In what two ways does fiscal policy affect aggregate demand?
- What are the arguments for and against using policy to try to stabilize the economy?

Introduction

- Earlier chapters covered:
  - the long-run effects of fiscal policy on interest rates, investment, economic growth (not yet!)
  - the long-run effects of monetary policy on the price level and inflation rate
- This chapter focuses on the short-run effects of fiscal and monetary policy, which work through aggregate demand.

Aggregate Demand

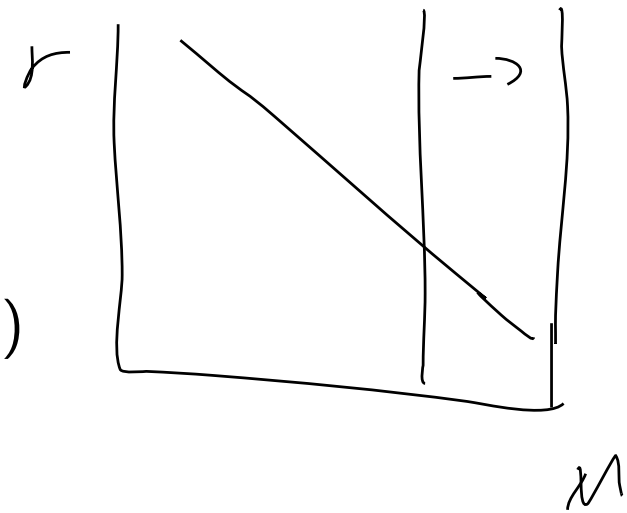
- Recall, the AD curve slopes downward for three reasons:
  - The wealth effect
  - The interest-rate effect
  - The exchange-rate effect

- Next: A supply-demand model that helps explain the interest-rate effect and how monetary policy affects aggregate demand.

The Theory of Liquidity Preference

- A simple theory of the interest rate (denoted r)
- r adjusts to balance supply and demand for money
- Money supply: assume fixed by central bank, does not depend on interest rate
- Money demand reflects how much wealth people want to hold in liquid form.
- For simplicity, suppose household wealth includes only two assets:
  - Money – liquid but pays no interest
  - Bonds – pay interest but not as liquid
- A household's "money demand" reflects its preference for *liquidity*. The variables that influence money demand: Y, r, and P.

Money Demand



$$M^d = P \cdot L(Y, r)$$

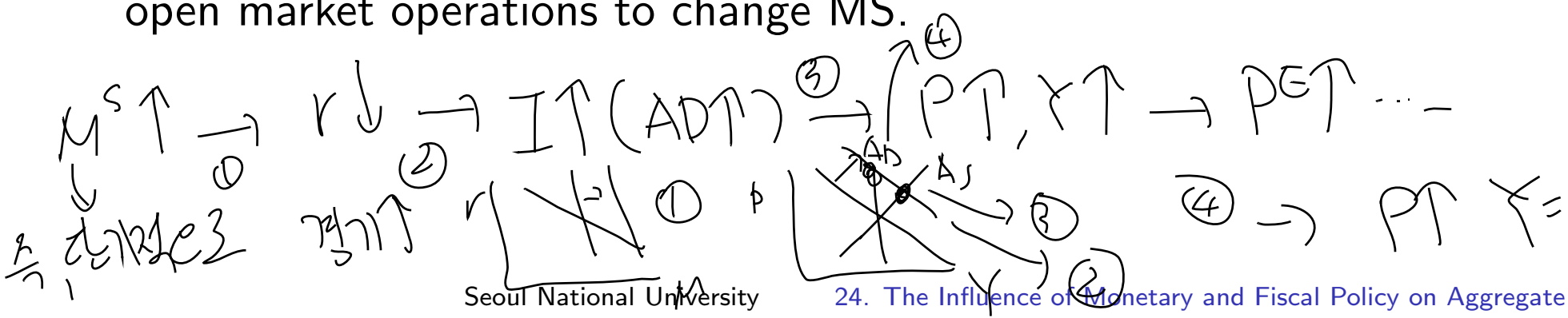
- If Y rises:
  - Households want to buy more g & s, so they need more money.
  - To get this money, they attempt to sell some of their bonds.
  - $Y \uparrow \Rightarrow M^d \uparrow$, other things equal.
- If r rises:
  - r is the opportunity cost of holding money.
  - HHs attempt to buy bonds to take advantage of the higher int rate.
  - $r \uparrow \Rightarrow M^d \downarrow$, other things equal.
- If P rises:
  - If Y is unchanged, people will want to buy the same amount g & s.
  - They will need more money to do so. .
  - $P \uparrow \Rightarrow M^d \uparrow$, other things equal.

How r Is Determined

- MS curve is vertical: Changes in r do not affect MS, which is fixed by the Fed.
- MD curve is downward sloping: A fall in r increases money demand.
- A fall in P reduces money demand, which lowers r.
- A fall in r increases I and the quantity of goods & services demanded.

Monetary Policy and Aggregate Demand

- To achieve macroeconomic goals, the Fed can use monetary policy to shift the AD curve.
- The Fed's policy instrument is MS.
- The news often reports that the Fed targets the interest rate.
  - More precisely, the federal funds rate, which banks charge each other on short-term loans
- To change the interest rate and shift the AD curve, the Fed conducts open market operations to change MS.



The Effects of Reducing the Money Supply

- The Fed can raise r by reducing the money supply.
- An increase in r reduces the quantity of goods & services demanded.

- Congress tries to balance the budget by cutting govt spending.
  This event would reduce agg demand and output. To stabilize output, the Fed should increase MS and reduce r to increase agg demand.
- A stock market boom increases household wealth.
  This event would increase agg demand, raising output above its natural rate. To stabilize output, the Fed should reduce MS and increase r to reduce agg demand.
- War breaks out in the Middle East, causing oil prices to soar.
  This event would reduce agg supply, causing output to fall. To stabilize output, the Fed should increase MS and reduce r to increase agg demand.

Liquidity Traps

- Monetary policy stimulates aggregate demand by reducing the interest rate.
- Liquidity trap: when the interest rate is zero
- In a liquidity trap, monetary policy may not work, since nominal interest rates cannot be reduced further.
- However, central bank can make real interest rates negative by raising inflation expectations.
- Also, central bank can conduct open-market ops using other assets—like mortgages and corporate debt—thereby lowering rates on these kinds of loans. The Fed pursued this option in 2008–2009.

Fiscal Policy and Aggregate Demand

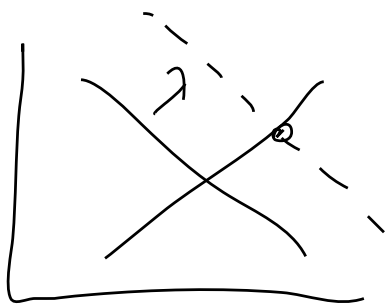
① 케인즈-E G↑ → C↑
② C-D-E G↑ → ··· → I↓
③ -t G↑ → C↓
(리카도 제공을 무시했다)

- Fiscal policy: the setting of the level of govt spending and taxation by govt policymakers
- Expansionary fiscal policy
  - an increase in G and/or decrease in T, shifts AD right
- Contractionary fiscal policy
  - a decrease in G and/or increase in T, shifts AD left
- Fiscal policy has two effects on AD...

1. The Multiplier Effect

- If the govt buys \$20b of planes from Boeing, Boeing's revenue increases by \$20b.
- This is distributed to Boeing's workers (as wages) and owners (as profits or stock dividends).
- These people are also consumers and will spend a portion of the extra income.
- This extra consumption causes further increases in aggregate demand.
- How big is the multiplier effect? It depends on how much consumers respond to increases in income.
- Marginal propensity to consume (MPC): the fraction of extra income that households consume rather than save E.g., if MPC $= 0.8$ and income rises \$100, C rises \$80.

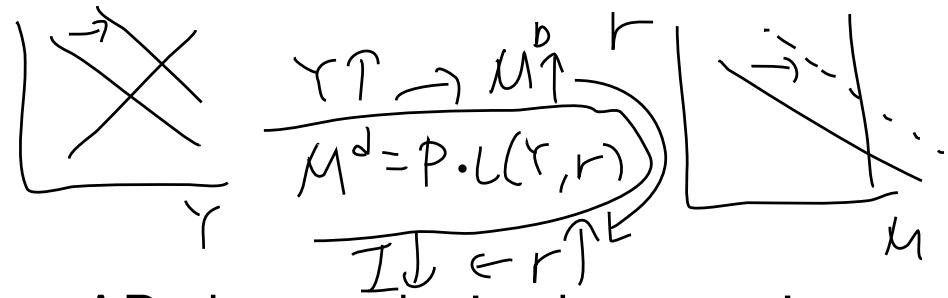
A Formula for the Multiplier



$$
\begin{aligned}
Y &= C + I + G + NX \\
\Delta Y &= \Delta C + \Delta G \qquad I \text{ and } NX \text{ do not change} \\
\Delta Y &= \text{MPC} \cdot \Delta Y + \Delta G \\
\Delta Y &= \frac{1}{1 - \text{MPC}} \Delta G
\end{aligned}
$$

- If MPC=0, multiplier=1 (no effect through C)
- If MPC=0.9, multiplier=10 (bigger change in Y)
- The multiplier effect: Each \$1 increase in G can generate more than a \$1 increase in agg demand.
- Also true for the other components of GDP.

2. The Crowding-Out Effect



- Fiscal policy has another effect on AD that works in the opposite direction.
- A fiscal expansion raises r,
  which reduces investment,
  which reduces the net increase in agg demand.
- So, the size of the AD shift may be smaller than the initial fiscal expansion.
- This is called the crowding-out effect.
- How the Crowding-Out Effect Works
  - A \$20b increase in G initially shifts AD right by \$20b
  - But higher Y increases MD and r, which reduces AD.

Changes in Taxes

- A tax cut increases households' take-home pay.
- Households respond by spending a portion of this extra income, shifting AD to the right.
- The size of the shift is affected by the multiplier and crowding-out effects.
- Another factor: whether households perceive the tax cut to be temporary or permanent.
  - A permanent tax cut causes a bigger increase in C—and a bigger shift in the AD curve-than a temporary tax cut.

Fiscal Policy and Aggregate Supply

- Most economists believe the short-run effects of fiscal policy mainly work through **agg demand**.
- But fiscal policy might also affect **agg supply**.
- A cut in the tax rate gives workers incentive to work more, so it might increase the quantity of g & s supplied and shift AS to the right.
- People who believe this effect is large are called "Supply-siders."
- Govt purchases might affect agg supply. Example:
  - Govt increases spending on roads.
  - Better roads may increase business productivity, which increases the quantity of goods & services supplied, shifts AS to the right.
- This effect is probably more relevant in the long run: it takes time to build the new roads and put them into use.

Using Policy to Stabilize the Economy

- Since the Employment Act of 1946, economic stabilization has been a goal of U.S. policy.

- Economists debate how active a role the govt should take to stabilize the economy.

The Case for Active Stabilization Policy

- Keynes: "Animal spirits" cause waves of pessimism and optimism among households and firms, leading to shifts in aggregate demand and fluctuations in output and employment.
- Also, other factors cause fluctuations, e.g.,
  - booms and recessions abroad
  - stock market booms and crashes
- If policymakers do nothing, these fluctuations are destabilizing to businesses, workers, consumers.
- Proponents of active stabilization policy believe the govt should use policy to reduce these fluctuations:
  - When GDP falls below its natural rate, use expansionary monetary or fiscal policy to prevent or reduce a recession.
  - When GDP rises above its natural rate, use contractionary policy to prevent or reduce an inflationary boom.

The Case Against Active Stabilization Policy

- Monetary policy affects economy with a long lag:
  - Firms make investment plans in advance, so I takes time to respond to changes in r.
  - Most economists believe it takes at least 6 months for monetary policy to affect output and employment.
- Fiscal policy also works with a long lag:
  - Changes in G and T require acts of Congress.
  - The legislative process can take months or years.
- Due to these long lags, critics of active policy argue that such policies may destabilize the economy rather than help it:
  By the time the policies affect agg demand, the economy's condition may have changed.
- These critics contend that policymakers should focus on long-run goals like economic growth and low inflation.

Automatic Stabilizers

- Automatic stabilizers: changes in fiscal policy that stimulate agg demand when economy goes into recession, without policymakers having to take any deliberate action

- Examples:
  - The tax system – In recession, taxes fall automatically, which stimulates agg demand.
  - Govt spending – In recession, more people apply for public assistance (welfare, unemployment insurance). Govt spending on these programs automatically rises, which stimulates agg demand.

CONCLUSION

- Policymakers need to consider all the effects of their actions. For example,
  - When Congress cuts taxes, it should consider the short-run effects on agg demand and employment, and the long-run effects on saving and growth.
  - When the Fed reduces the rate of money growth, it must take into account not only the long-run effects on inflation but the short-run effects on output and employment.