

CHAPTER
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The Influence of Monetary and Fiscal Policy on Aggregate Demand

Wolpelt/Stoneham (2013, 100)

Aggregate Demand

- Recall, the *AD* curve slopes downward for three reasons:
 - The wealth effect
 - The interest-rate effect ← the most important of these effects for the U.S. economy
 - The exchange-rate effect
- Next:
A supply-demand model that helps explain the interest-rate effect and how monetary policy affects aggregate demand.

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The Theory of Liquidity Preference

- 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***.

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Introduction

- Earlier chapters covered:
 - the long-run effects of fiscal policy on interest rates, investment, economic growth
 - 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.

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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.

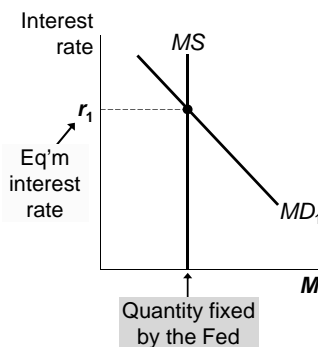
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Money Demand

- Suppose real income (***Y***) rises. Other things equal, what happens to money demand?
- 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.
- I.e., an increase in ***Y*** causes an increase in money demand, other things equal.

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How r Is Determined



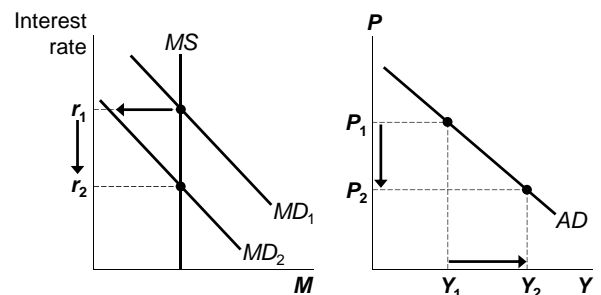
MS curve is vertical: Changes in r do not affect MS , which is fixed by the Fed.

MD curve is downward sloping: A fall in r increases money demand.

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How the Interest-Rate Effect Works

A fall in P reduces money demand, which lowers r .



A fall in r increases I and the quantity of g&s demanded.

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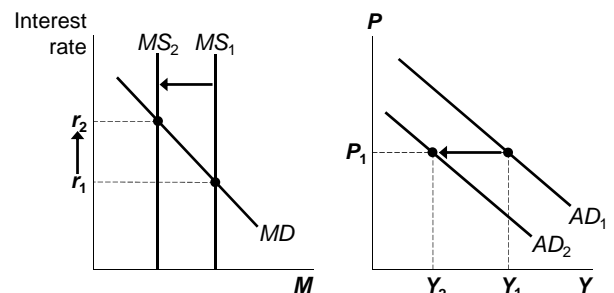
Monetary Policy and Aggregate Demand

- 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 .

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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 g&s demanded.

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Liquidity traps

- Monetary policy stimulates aggregate demand by reducing the interest rate.
- **Liquidity trap**: when the interest rate is zero
- In a liquidity trap, mon. 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.

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Fiscal Policy and Aggregate Demand

- (): the setting of the level of gov't spending and taxation by gov't 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 ...

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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.

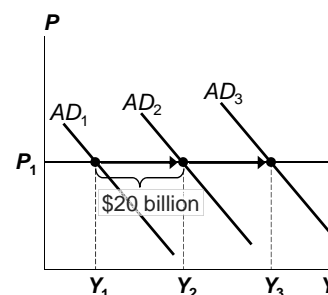
Multiplier effect: the additional shifts in AD that result when fiscal policy increases income and thereby increases consumer spending

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1. The Multiplier Effect

A \$20b increase in G initially shifts AD to the right by \$20b.

The increase in Y causes C to rise, which shifts AD further to the right.



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Marginal Propensity to Consume

- 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.

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A Formula for the Multiplier

Notation: ΔG is the change in G ,
 ΔY and ΔC are the ultimate changes in Y and C

$$Y = C + I + G + NX \quad \text{identity}$$

$$\Delta Y = \Delta C + \Delta G \quad I \text{ and } NX \text{ do not change}$$

$$\Delta Y = MPC \Delta Y + \Delta G \quad \text{because } \Delta C = MPC \Delta Y$$

$$\Delta Y = \frac{1}{1 - MPC} \Delta G \quad \text{solved for } \Delta Y$$

The multiplier

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A Formula for the Multiplier

The size of the multiplier depends on MPC .

- E.g., if $MPC = 0.5$ multiplier = 2
if $MPC = 0.75$ multiplier = 4
if $MPC = 0.9$ multiplier = 10

$$\Delta Y = \frac{1}{1 - MPC} \Delta G$$

The multiplier

A bigger MPC means changes in Y cause bigger changes in C , which in turn cause bigger changes in Y .

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Other Applications of the Multiplier Effect

- 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.
Example: Suppose a recession overseas reduces demand for U.S. net exports by \$10b. Initially, agg demand falls by \$10b. The fall in Y causes C to fall, which further reduces agg demand and income.

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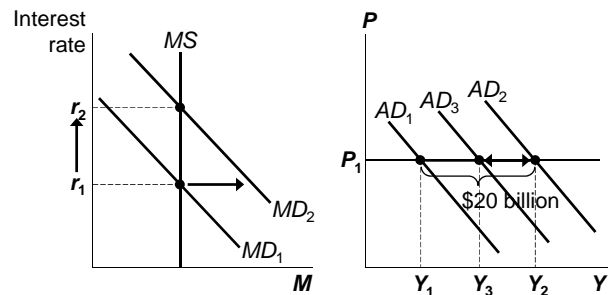
2. The Crowding-Out Effect

- 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**.

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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 .

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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.

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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.
- Recall one of the Ten Principles from Chapter 1: **People respond to incentives.**
- 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."

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Fiscal Policy and Aggregate Supply

- Govt purchases might affect agg supply.
 - Example:
 - Govt increases spending on roads.
 - Better roads may increase business productivity, which increases the quantity of g&s 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.

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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 gov't should take to stabilize the economy.

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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.

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The Case for Active Stabilization Policy

- 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.

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Keynesians in the White House

1961:

John F Kennedy pushed for a tax cut to stimulate agg demand. Several of his economic advisors were followers of Keynes.



2009:

Barack Obama pushed for spending increases and tax cuts to increase agg demand in the face of a deep recession.

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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 mon 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.

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The Case Against Active Stabilization Policy

- 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.

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Automatic Stabilizers

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

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Automatic Stabilizers: 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.

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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.

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