1. What shifts AD to the left: A rise in taxes or a cut in taxes? Does this push $\Delta v/v$ up or push it down?

A tax increase shifts the AD curve to the left; this pushes $\Delta v/v$ down.

2. Let’s see what the “three difficulties with using fiscal policy” look like in real life. Categorize each of the three stories below as either
   - crowding out
   - a drop in the bucket
   - a matter of timing

a. During a recession, the State of New York hires 1,000 new trash collectors. The state legislature in Albany takes six months to pass a law to hire the new trash collectors, and because of government rules and paperwork, the government actually hires the workers 18 months after the recession has begun. A matter of timing

b. During a recession, the State of New York hires 1,000 new trash collectors. Five hundred of the new trash collectors, however, were just people who quit their jobs as restaurant employees in order to take the better-paying trash collector jobs. Crowding out

c. During a recession, the State of New York hires 1,000 new trash collectors. However, during the course of the recession, 300,000 additional people in New York lose their jobs. A drop in the bucket

3. When people “buy government bonds,” are they borrowing money or saving money? Saving money

4. It’s often very difficult to get the timing of fiscal policy right. In this chapter, we listed five relevant lags.

a. If each of the lags lasts three months, is the total lag longer or shorter than the typical recession since World War II? For data on the length of recessions, go to http://www.nber.org/cycles.html Look at the bottom of the column titled “Contraction.”

The 15 months of lags is longer than the average recession. The average recession since 1945 has lasted 10 months (as of the date of this book’s publication), while five lags would eat up 15 months.

b. Of the five lags, the last one only involves watching how things turned out. If there are only four important lags, and they last three months each, will the average recession last longer than the average fiscal policy lag? Again, the recession will be shorter than the fiscal policy lags.
5. You’re flipping through the newspaper, reading about shocks that have hit the U.S. economy and reading what Congress is planning to do about the shocks. (Remember that “shocks” can be either good or bad.) Is Congress even getting the direction of its response right? And if it is getting the basic direction correct, is it fighting against a Solow growth shock, where a fiscal response may not be very effective? While these policy choices will each have effects on long-run growth and on income distribution, in this chapter you should only focus on the big picture effect on aggregate demand.

Fit each of the following cases into one of three categories:

- Wrong direction
- Correct direction for an AD shock
- Correct direction for a Solow growth shock, but expect a big change in inflation

a. Many banks have failed, and the money supply has fallen. In response, Congress decides to raise income taxes to pay down the federal debt. (Historical note: This policy response was similar to FDR’s campaign platform when he ran for president in 1932.)

b. Many banks have failed, and the money supply has fallen. In response, Congress decides to cut back on government purchases to save money.

c. A wave of investor euphoria (“irrational exuberance”) about the Internet has increased spending growth. Congress raises income taxes on the richest Americans in response.

d. Oil prices double over the course of a year, from $2 per gallon to $4 per gallon. In response, Congress sends $300 checks to every American family so that people can better afford to pay for gas.

e. Oil prices double over the course of a year, from $2 per gallon to $4 per gallon. In response, Congress raises taxes on companies that refine and deliver petroleum products.

f. The Federal Reserve has followed a slow-money-growth policy, despite the wishes of Congress. In response, Congress cuts taxes and increases government purchases.

a. Wrong direction
b. Wrong direction
c. Correct direction for an AD shock
d. Correct direction for a Solow growth shock, but expect a big increase in inflation
e. Wrong direction
f. Correct direction for an AD shock
7. Which of the following is an “automatic stabilizer” in the U.S. economy? There may be more than one:
   a. Consumers usually spend some of their savings and eat food from the pantry during recessions.
   b. Business owners usually purchase more capital equipment whenever profits fall.
   c. Governments automatically transfer cash to the unemployed when the economy is weak.
   d. When Americans have less demand for U.S. manufactured products, foreigners might pick up some of the slack, buying these unsold U.S.-made goods.
   7. All of the above would be automatic stabilizers, if they occurred. Note that in reality part b doesn’t happen: Investment usually falls when profits fall. And in practice, d is a weak mechanism. So a and c are strong, real-world stabilizers.
   8. Why was the Great Depression an especially appropriate time to use fiscal policy rather than just monetary policy alone?
   8. The recession was so deep and there were many unemployed machines and workers. Therefore, there was less risk of “crowding out” of machines and workers that would have been used anyway.
   9. If the U.S.-debt-to-GDP ratio were