Crowding Out | SmartBoard Lesson Plan

Lesson Author

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Standards and Benchmarks (see page 11)

Lesson Description

In this lesson, students learn that the loanable funds market is a virtual clearing house matching borrowers and savers. They participate in an activity to demonstrate crowding out in the loanable funds market. They use demand and supply analysis to graphically represent the results of crowding out.

Grade Level

High school and college

Concepts

Crowding out

Government securities

Market for loanable funds

Objectives

Students will be able to

- define market for loanable funds and government securities,
- explain the interaction in the market for loanable funds, and
- explain the consequences of government involvement in the market for loanable funds.

Materials

- Smart Notebook file "Crowding Out"
- Handout 1, one copy to use for display

- Handout 2, cut apart, with one card for each of 9 students in the class
- Handout 3, cut apart, with one card for each of 15 remaining students
- Masking tape

Preparation

This lesson is designed for a class of 24 students. Before the lesson, tape Handout 1—Market for Loanable Funds—to the wall and use masking tape to outline a box approximately 6′ x 6′ on the floor under the sign. Put a piece of masking tape down the center of the box to create two 3′ x 6′ spaces. The space may be made smaller or larger, depending on class size. One-half of the outline on the floor should be large enough to hold all of the students holding a "business" card from Handout 3, with only a little room to spare (for approximately 4 of the 9 students holding a "government borrowing" card from Handout 2).

If you have fewer than 24 students, adjust the number of cards. If you have more than 24 students, make the space larger and pair students (i.e., two students share one card).

Procedure

1. Distribute a card from Handout 2 to each of 9 students in the class and distribute a card from Handout 3 to each of 15 remaining students.

2. Point out the "Market for Loanable Funds." Explain that the market for loanable funds is a virtual clearinghouse matching savers and borrowers. Savers go to the market for loanable funds to lend money. Stand in one of the 3′ x 6′ boxes and explain that you represent all savers in the economy who want to lend money in the loanable funds market.

3. Explain that businesses go to the market for loanable funds to get money they need for growth. Invite the students representing businesses to come forward. Have them enter the empty 3′ x 6′ box. As each student enters the market, instruct them to read aloud their business name, the amount of the loan sought, and the purpose of the loan.

4. Explain that businesses have come to the loanable funds market to interact with savers for the purpose of borrowing money. However, businesses are not alone in coming to this market. Individuals borrow money, and so does government. Invite the 9 students representing the U.S. Federal Government to the market. As each student enters the market, instruct them to read the purpose for the loan to government. As it begins to get tight in the market, instruct the students representing the government to push a business out of the market as they make room for themselves.

5. Explain to the students that the U.S. Government is willing to pay whatever rate of interest it takes to attract loanable funds away from businesses. This action crowds businesses out of the market for loanable funds. Ask students to return to their seats.

6. Display Slide 1. Explain that when individuals want to buy houses or when businesses want to buy new equipment, they usually borrow at least part of the money needed to make the purchase. The money that banks and other financial institutions have available to lend to these borrowers can be collectively called "loanable funds."

7. Display Slide 2. Explain that there is a market for loanable funds, where the forces of supply and demand establish an interest rate—not that there is just one interest rate; there are many. The interest rates on car loans, mortgages, savings accounts, and business loans are all different.

8. Click on Slides 3, 4, and 5 in quick succession. Ask the following questions:
   - What happened to the equilibrium interest rate in each frame? (*It increased.*)
   - What caused the rate to rise? (*The demand for loanable funds was increasing.*)

9. Explain that students should think of the interest rate in the loanable funds market as a rate around which all other interest rates are clustered. The cluster of rates moves together—up and down—according to what happens in this market.

10. Display Slide 6 and explain that there are two sides to the loanable funds market: the borrowers and the savers. The borrowers DEMAND loanable funds for investment—that is, for buying capital such as buildings, machines, and tools or for consumer goods such as boats and automobiles. If the interest rate is low, they will demand more loanable funds than they would if the interest rate is high. Have students answer the two questions on this slide. Click on the cell to reveal the answer.

11. Display Slide 7 and explain that the lenders are represented by the SUPPLY side of the market. The suppliers of loanable funds are the savers. Savers hope to earn interest on their savings. When they save money in banks or with other financial institutions, the money they have saved is lent to people who want to borrow. So, the goal for savers is to work through financial intermediaries, which will make loans so that the savers can earn interest. Savers will save more money at higher interest rates than they will at lower interest rates. Have students answer the two questions on this slide. Click on the cell to reveal the answer.

12. Display Slide 8 and explain that this market for loanable funds is in equilibrium. The Qs (quantity supplied) of loanable funds is equal to the Qd (quantity demanded) for loanable funds. DPS is the demand for loanable funds on the part of the private sector (individuals and businesses). There is no government borrowing in this picture. Therefore, the subscript describing "D" is PS, meaning "private sector."

13. Display Slide 9 and explain that when the U.S. Government enters the market, the demand for loanable funds increases. Now the private sector and the government are both seeking loanable funds. The consequence of government borrowing is the change in demand from DPS to DPS + G, meaning private sector plus government.

14. Explain that the government borrows money from U.S. citizens and financial institutions and from foreign individuals, foreign financial institutions, and foreign governments by selling government securities. Government securities are bonds, notes, and other debt instruments sold by a government to finance its expenditures. U.S. Government securities are a very safe way for people to save money because the government will never default on its debt. The U.S. Government pays interest to its lenders.

15. Display Slide 10 and explain that before government borrowing increased the demand for loanable funds, individuals and businesses borrowed $800B at an 8% interest rate. After the increase in demand, individuals and businesses borrowed $700B at a 10% interest rate. This means that $100B of economic investment will not take place in the private sector. Ask the following questions:
    - What was the equilibrium interest rate before government entered the market? (*8%*)
    - How much government borrowing took place? (*$200B*)
    - How did government borrowing change the equilibrium rate of interest? (*It increased it to 10%.*)
    - What is the interest rate the private sector must now pay for loans? (*10%*)
    - How much less money will businesses borrow at the 10% interest rate? (*$100B*)

16. Ask the "owner" of Hotcakes Inc. the following:
    - Why does your business want to borrow money? (*Hotcakes Inc. wants to borrow $300,000 for location expansion.*)

17. Ask the class the following questions:
    - What kind of business is Hotcakes Inc.? (*It is probably a pancake restaurant.*)
    - What does it mean to expand locations? (*The company wants to add restaurants.*)
    - What type of capital resources (e.g., tools, machines, and buildings) would the company want to purchase for its restaurants? (*A leased storefront, tables and chairs, griddles, light fixtures, counters, pancake flippers*)
    - From whom would they lease the store? (*A local building owner*)
    - What kind of income would the building owner receive for leasing the building? (*Rent*)
    - Who would receive income from the sale of tables, chairs, griddles, light fixtures, and so on? (*The sellers of those capital resources*)
    - What types of human resources would Hotcakes Inc. need to operate new restaurants? (*Hosts, waiters, cooks, managers*)
    - What kind of income would the human resources receive for their work? (*Wages or salaries*)

18. Explain that Hotcakes Inc. will have many expenses if it expands. In addition to the expenses for capital and labor, it will also have the expense of paying back the loan. The company was willing to borrow money for expansion at an interest rate of 8%, but at 10%, the monthly payment will increase by more than $300. The owner is afraid that they might not receive enough revenue to be profitable if the company's loan payments are increased to 10% interest, so Hotcakes Inc. will withdraw its plans to expand. Just as business people were pushed or "crowded out" of the loanable funds market in class, Hotcakes Inc. has been crowded out of the market. Ask the following questions:
    - How was Hotcakes Inc.'s investment crowded out of the market for loanable funds? (*The interest rate increased as a result of increased demand for loanable funds by government. Hotcakes Inc. couldn't afford the increased interest rate.*)
    - What capital resources were not purchased by Hotcakes Inc.? (*A leased storefront, tables and chairs, griddles, light fixtures, counters, pancake flippers*)
    - What human resources were not hired by Hotcakes Inc.? (*Hosts, waiters, cooks, managers*)

19. Explain that the crowding out of investment in the private sector means that some private sector employment cannot increase. However, this is not a zero-sum game. Government spending can grow private sector employment.

20. Point out the government borrowing to finance purchases of bridges, roads, and fighter jets. Ask the following questions:
    - Can you name a local road and bridge construction company? (*Answers will vary.*)
    - Is this a private sector company? (*Yes*)
    - If this company won a bid to build 10 new overpasses on an interstate highway, would it have to hire more workers? (*Most likely*)
    - From what defense contractor might the government buy a fighter jet? (*Boeing, Lockheed Martin, Northrop Grumman, etc.*)
    - Is this a private sector company? (*Yes*)
    - Would this company have to hire additional workers if it won the bid to produce more fighter jets? (*Most likely*)
    - What is the difference between the private sector creating private sector jobs and the government creating private sector jobs? (*Private sector companies must pay their debts from revenues they receive from the sale of their products. The government requires that taxpayers pay off the debt incurred when it borrows to buy goods and services.*)

21. Instruct the students holding the U.S. Government expenditure cards for interest on the national debt, Medicaid expenses, unemployment benefits, cancer research, and park workers to come to the front of the room. They will each lead a group. Assign each of the remaining students to one of the five groups. Instruct each group to brainstorm ways that the government expenditure

might create private sector jobs, and ask students to list possible jobs. *(Accept any logical ideas. The following are possible answers:*
National debt group: *When interest is paid to U.S. citizens and financial institutions, that money is spent or saved and might contribute to job growth.*
Medicaid expenses group: *Money paid to cover medical expenses for poor people could contribute to more healthcare jobs.*
Unemployment benefits group: *The unemployed have money to spend on goods and services, which creates a demand for goods and services and could possibly create or, more likely, preserve jobs to produce goods and services.*
Cancer research group: *Money for research given to government research facilities, public hospitals, and public educational institutions might create private sector jobs; however, research money given to private institutions could also create private sector jobs.*
Park workers group: *The park workers are federal employees. There could be private sector jobs created indirectly through workers' spending on goods and services. Accept reasonable answers with respect to types of jobs.*)

22. Explain that, although government spending can foster private sector job growth, the creation of private sector jobs is more efficiently accomplished through private sector investment. The growth of private sector companies is due to their ability to produce what consumers want at prices that consumers are willing to pay while also limiting their costs in order to make a profit.

23. Optional: Display Slide 11. An alternative representation of crowding out has the supply curve shift left, depicting a decrease in the supply of loanable funds due to the reduction of funds made available in the private loanable funds market. The supply of private loanable funds are reduced in the market because government has made use of funds that otherwise may have been made available to the market for loanable funds. Regardless of whether the reduction is depicted as a decrease in supply or an increase in demand, the result is the same: less private sector investment.

Closure

24. Review the main points of the lesson by asking the following questions:
    - What is the market for loanable funds? (*A virtual clearinghouse matching savers and borrowers*)
    - Who are the demanders of loanable funds? (*Businesses, individuals, government*)
    - Who are the suppliers of loanable funds? (*Savers*)
    - How does crowding out occur in the market for loanable funds? (*Government enters the market, increasing the demand for loanable funds and, therefore, increasing the interest rate. Businesses and individuals who intended to borrow money cannot at the increased interest rate. Government crowds businesses and individuals out of the market.*)
    - How does the U.S. Federal Government borrow money? (*The federal government issues government securities to borrow money.*)
    - What are government securities? (*Government securities are bonds, notes, and other debt instruments sold by a government to finance its borrowings.*)

Handout 1

Market for Loanable Funds

Handout 2

The U.S. Government wants to borrow money to build a bridge.	The U.S. Government wants to borrow money to pay interest on the national debt.
The U.S. Government wants to borrow money to build a highway.	The U.S. Government wants to borrow money to build more fighter jets.
The U.S. Government wants to borrow money to build more tanks.	The U.S. Government wants to borrow money to pay unemployment benefits.
The U.S. Government wants to borrow money to pay for Medicaid expenses.	The U.S. Government wants to borrow money to pay for cancer research.
The U.S. Government wants to borrow money to pay national park workers.	

Handout 3

Hotcakes Inc. wants to borrow $300,000 for location expansion.	Cider Electrical Contractors wants to borrow $1,000,000 for a building addition.
Cross Adhesives wants to borrow $500,000 to retool a production line.	Benji Treats wants to borrow $800,000 for new equipment.
Temple Trucking wants to borrow $500,000 for additions to its fleet.	Huckleberry Plumbing Supply wants to borrow $800,000 for digging equipment.
John Powers and Ben Franks want to borrow $200,000 to open an art studio.	Elinore Strabe and Celia Fitzpatrick want to borrow $100,000 to start a consulting business.
Ace Architecture wants to borrow $200,000 for building enhancements.	Paper Hat Inc. wants to borrow $100,000 to purchase materials.

Handout 3 cont'd

Lincoln Law Group wants to borrow $1,000,000 to establish new locations.	**Teter Totter Playground Equipment wants to borrow $200,000 for testing labs.**
Prince Paints wants to borrow $5,000,000 to expand its plant.	**Arch Construction wants to borrow $20,000,000 to build a strip mall.**
Berry Flooring Manufacturing wants to borrow $500,000 for new equipment.	

Standards and Benchmarks

National Standards in Personal Finance

Standard 20: Federal government budgetary policy and the Federal Reserve System's monetary policy influence the overall levels of employment, output, and prices.

- **Benchmarks: Grade 12**

    3. In the long run, the interest-rate effects of fiscal policies lead to changes in private investment spending by businesses and individuals that partially, if not entirely, offset the output and employment effects of fiscal policy.

    5. When the government runs a budget deficit, it must borrow from individuals, corporations, or financial institutions to finance that deficit.