

## LESSON SEVEN

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# SAVERS, BANKERS, AND BORROWERS: A LESSON IN INTERDEPENDENCE

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Interest  
Opportunity Cost  
Profit

## OBJECTIVE

◆ Use opportunity cost and interdependence to make more effective and responsible personal finance decisions related to saving and borrowing.

## INTRODUCTION

**Purpose:** In this lesson, students use opportunity cost and interdependence to analyze the decisions made by savers, banks, and borrowers. Then, given an amount deposited by a group of savers, information on the expenses and profits of a financial institution, and loan amounts desired by borrowers, they calculate the required interest rate.

**Background:** Depository financial institutions (banks, credit unions, and savings and loan associations) perform two primary functions. First, they accept deposits from those who want both a safe haven for their funds and income for the use of their funds. Second, financial institutions lend funds to people who want to borrow. Although the rate of interest paid to savers and paid by borrowers is generally based on activity within the market for loanable funds, banks have some interest rate flexibility within a narrow range. Savers will select a bank with the highest interest rate relative to the interest rates offered at other institutions. Similarly, borrowers will seek the lowest interest rate, that rate being determined in part by the likelihood of the borrower to repay the loan. The interest rate paid by the borrowers must cover the expenses of granting and servicing the loans, must include a fair level of profit for the owners of the financial institution, and must cover the interest desired by the depositors who make it possible for the financial institution to lend. Understanding this interdependence among savers, financial institutions, and borrowers is important to personal financial decision making.

## CONCEPTS

Interdependence

## LESSON DESCRIPTION

This lesson begins with an illustration of how savers' deposits are transformed into loans for borrowers. The discussion of this transformation is based on the concept of opportunity cost; banks must pay a level of interest sufficient to cover the opportunity cost of banks plus the opportunity cost of savers. Then students work in groups to determine the interest rate the borrowers must pay in order to cover the opportunity costs of the bank and the savers. This interplay of opportunity cost and interest rates results in an interdependence among savers, banks, and borrowers. The students will discuss this interdependence and its role in their decisions to save and borrow responsibly.

## TIME REQUIRED

◆ One fifty-minute class period

## MATERIALS

One transparency of Activity 33  
One copy of Activities 33, 34, and 35 for each student  
Answers for Activity 33  
Answers for Activity 34

## PROCEDURE

1. Distribute a copy of Activity 33 to each student and/or display on a transparency. Explain that the decisions of savers, bankers, and borrowers are affected by opportunity cost.
2. Define opportunity cost as the highest forgone alternative when a decision is made.
3. Use the illustration on Activity 33 as you explain the opportunity costs of savers and bankers:

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- A. Savers deposit money in the bank to earn interest. The interest received must exceed the next best alternative that they have for saving. For example, if savers could get 6 percent on their savings deposits elsewhere, Everybody's Community Bank must pay at least 6 percent to attract deposits.
- B. Everybody's Community Bank is in business to make a profit for its owners by lending funds. Profit is the difference between revenues and costs. Profit becomes the payment to bank owners who have many alternative uses for their money. As long as the expected profit of bank ownership is greater than the expected profit of the alternative uses, they will remain bank owners. The greatest share of the bank's revenue comes from interest paid by borrowers. The bank's costs include employees' wages, rent for office space, and other operating costs. These are the costs of doing business and for example, might be two percent of the amount the bank lends. Another cost is the profit expected by the bank's owners. And yet another cost is the interest payments the bank must make to those who have deposits in their facility. Everybody's Community Bank pays six percent to its savings depositors.
- C. Borrowers pay interest to compensate lenders for the use of borrowed money, to cover a portion of the bank's cost of doing business, and to partially compensate the bank owners. Therefore, interest is the price of the loan, and it is based on the opportunity cost of those who provide the money (the savers and bank owners) and the costs of operating the bank.
4. Explain that the general level of interest is determined in the marketplace. Just as the interaction of supply and demand assigns a market price for a good or service, the interaction of supply and demand also assigns a market price for funds--and that market price is referred to as the interest rate.
5. Explain that savers (the suppliers of funds), will be willing to save more funds at higher interest rates and less funds at lower interest rates. This reflects the opportunity cost of saving money and forms the supply curve. On the other hand, borrowers (the demanders of funds), borrow less funds at higher interest rates and more at lower interest rates, and form the demand curve. The point at which supply and demand intersect determines the market interest rate. So, in general, the rate of interest paid to savers and paid by borrowers is determined in the marketplace. However, if banks can reduce their costs or increase their revenue, they can be somewhat flexible with the interest rates they offer.
6. Divide the class into small groups and distribute Activities 34 and 35 to each group.
7. Explain that 100 savers are willing to deposit \$1,000 each in Everybody's Community Bank, if they can be assured of earning an interest rate of 6% for one year. Likewise, 10 borrowers want to borrow \$10,000 each from Everybody's Community Bank for one year.
8. Explain that borrowers want to pay as low an interest rate as possible. The bank is willing to make the loans if it can cover its costs and make a profit, assumed here to be 1 percent of revenues for its investors/owners.
9. Explain that each group should use Activity 34 to determine the interest rate that Everybody's Community Bank must charge the borrowers to earn the revenues needed.
10. After they have completed the activity, instruct students to discuss and answer the questions on Activity 35.

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11. After 15 or 20 minutes, have the groups report the interest rate they would need to charge. You may wish to pass out the answer sheet for Activity 35.

12. Ask students to explain the components of the 9 percent interest rate to be paid by the borrowers. (They should be able to see that 6 percent goes to savers, 2 percent goes to cover operating costs, and 1 percent provides the profit to investors/owners of the bank.)

13. Explain that the interest rate to be paid to savers and the rate of profit desired by bank investors is based on the opportunity costs of savers and investors.

14. As a class discuss the questions from Activity 35 that the students considered in their groups. In the discussion, be sure the following points are brought out:

- A. Savers deposit savings in financial institutions that yield them a level of interest income exceeding the next best alternative available to them for their saving.
- B. Banks earn income by facilitating exchange among those who wish to save and those who wish to borrow, and banks profit by making wise loans with their deposits.
- C. Borrowers pay interest as a means of paying for the use of the borrowed funds.

15. Explain that savers, banks, and borrowers are interdependent, which means that they are each affected by the decisions or events that affect the others. Banks are dependent on savers to provide the funds on the basis of which loans can be made to borrowers. Banks are similarly dependent upon borrowers to repay the loans so that funds are available to savers when they make withdrawals. Borrowers would have no funds to borrow if not for savers, and savers would not be able to earn interest

on their deposits if not for payments by borrowers for the use of the funds.

16. Explain that due to interdependence, people acting in their own best interest benefit from the actions of others, who are themselves, seeking their own best interests. Lead a discussion to answer the following questions:

- A. In what ways do savers benefit from the decisions of borrowers?
- B. In what ways do borrowers benefit from the decisions of savers?
- C. How might savers be harmed by borrowers?
- D. How might borrowers be negatively affected by decisions made by savers?

### CLOSURE

Summarize the lesson for students by explaining that the focus was on two important economic concepts (opportunity cost and interdependence) that affect their decisions to save and borrow. Ask what those two concepts were and for their definitions.

Ask the students to cite ways that opportunity cost affects the decisions of savers, banks, and borrowers.

Ask the students to cite ways that interdependence affects the decisions of savers and borrowers.

### EVALUATION

1. Tell students that a new bank has come to town and that to attract depositors it is offering 6.5% for savings accounts. Ask students to answer the following questions:

- A. What is the opportunity cost for depositors who stay with Everybody's Community Bank? (It is the forgone opportunity of getting an additional 0.5% at the new bank.)
- B. What would Everybody's Community Bank need to do to keep its depositors? (It would

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have to raise the interest rate it pays to savers.)

C. What effect would the higher rates at the new bank have on the people who want to borrow at Everybody's Community Bank? (If Community Bank raised interest paid to savers by .5%, it would have to cover that additional cost by reducing costs or by increasing revenue by raising the interest rate for borrowers.)

D. What would borrowers do when Everybody's Community Bank raises its lending interest rate? (They would look for other places to borrow funds since the opportunity cost of borrowing from Everybody's Community Bank rather than another alternative has gone up.)

2. Have students write a brief essay in response to the following question: How would the failure of a borrower to repay his/her loan affect owners, savers, and borrowers of Everybody's Community Bank? (The failure of a borrower to repay a loan represents a loss of revenue for the bank. Profits will be lower, so owners will not receive their expected return. If the expected return is lower than the return on alternative uses of their money, owners may sell their shares of Everybody's Community Bank and choose an alternative financial investment. If revenues are sufficiently low, the bank may have to lower the interest rate it pays to savers. If savers find an alternative bank paying a higher interest rate, they may withdraw their savings from Everybody's Community Bank in favor of the alternative opportunity. Finally, Everybody's Community Bank may seek to increase its revenue by increasing the interest rate future borrowers must pay. Those borrowers may find a lower interest rate at an alternative institution; otherwise, they must pay the higher rate or forgo the good they intended to buy with borrowed money.)

## SUGGESTIONS FOR FURTHER ENHANCEMENT

1. Ask students what might happen if Everybody's Community Bank were able to be more efficient and could cut its operating costs to 1.5% of the amounts loaned. (Several things could occur. The bank could increase the interest rate paid to savers, raise wages, increase the profit paid to owners, or lower the interest rate paid by borrowers.)

## PARENTAL INVOLVEMENT

◆ Have students survey local financial institutions to determine interest rates for savings accounts. Then, have the students go home and talk to their parents about the student's current or anticipated savings behavior. This discussion should focus on the student's use of opportunity cost to explain where he or she would prefer to put his or her savings from the list of financial institutions surveyed.

## RESOURCES

Financial Responsibility (education kit). For price and ordering information, contact: Office of Public Responsibility, American Express Company, 200 Vesey Street, New York, NY 10285-4850.

Credit Education: Strategies for Success, Vol. 1, 1994, 20 pp., free, National Coalition for Consumer Education, 434 Main St., #201, Chatham, NJ 07928 (201-635-1916). This publication highlights projects from 1991-1992 of the NCCE/AT&T Consumer Credit Education Fund. This guide includes strategies for developing and implementing consumer education programs, along with descriptions of approaches for consumer credit education.

Credit Ready? Five Essential Lesson Before Starting to Use Credit, free, American Express Company, P.O. Box 4635, Trenton, NJ 08650-4635. This kit contains five self-contained learning capsules on credit with activities and brief videos.

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Credit Wise: Coming to Terms, 1994, VHS, 15 minutes, one free copy. For price and ordering information, contact: Office of Public Responsibility, American Express Co., 200 Vesey St., New York, NY 10285-4850. This video offers clear explanations of most credit card concepts including: rates, credit costs, grace periods, and cash advances. Appropriate for all ages. Supplementary teaching guide provides an overview and suggested teaching methods.

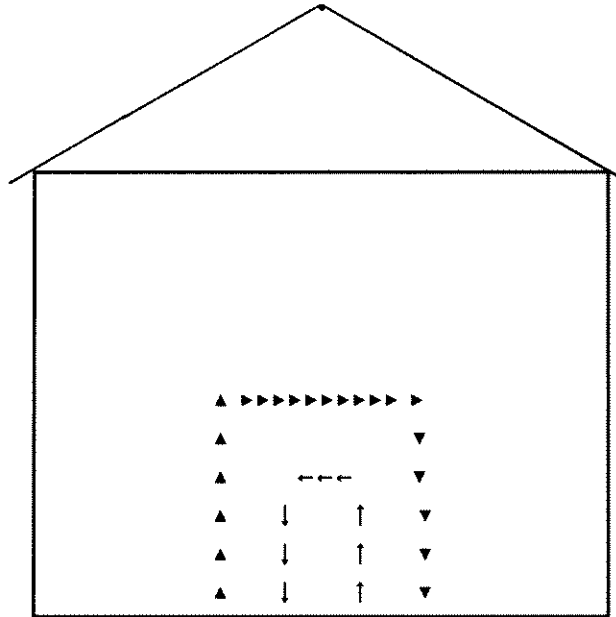
Credit: Young Persons (resource list), 1994. For price and ordering information, contact: National Institute for Consumer Education, 207 Rackham Building, Eastern Michigan University, Ypsilanti, MI 48197 (800-336-NICE or 313-487-2292).

How to Use Consumer Credit Wisely (Teaching guide), 1991. For price and ordering information, contact: International Credit Association, Publisher, 243 North Lindbergh Blvd., St. Louis, MO 63141-1757 (314-991-3030).

Credit for Kids, 1993, 142 pp. For price and ordering information, contact: Center for Economic Education, University of Cincinnati, M.L. 0223, Cincinnati, OH 45221-0223 (513-556-2948). This unit, for grades 7-9 contains thirteen lessons that help students understand credit and learn how to make decisions.

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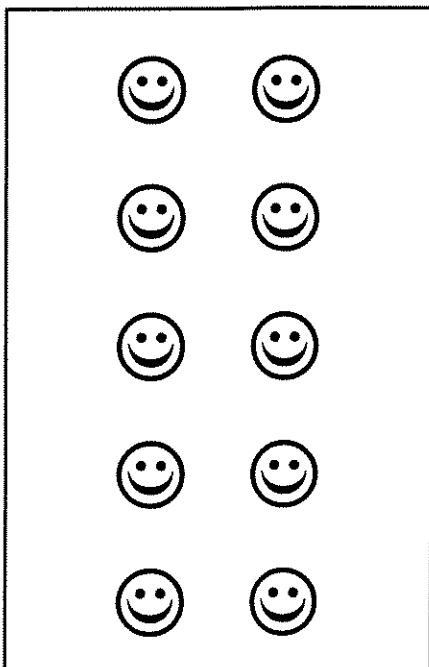
**ACTIVITY 33**  
**EVERYBODY'S COMMUNITY BANK**



**EVERYBODY'S COMMUNITY BANK**

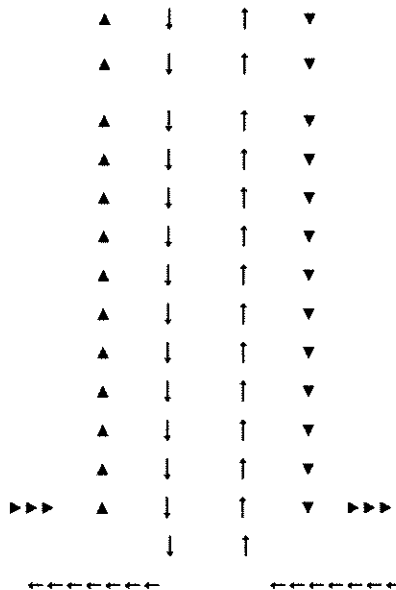
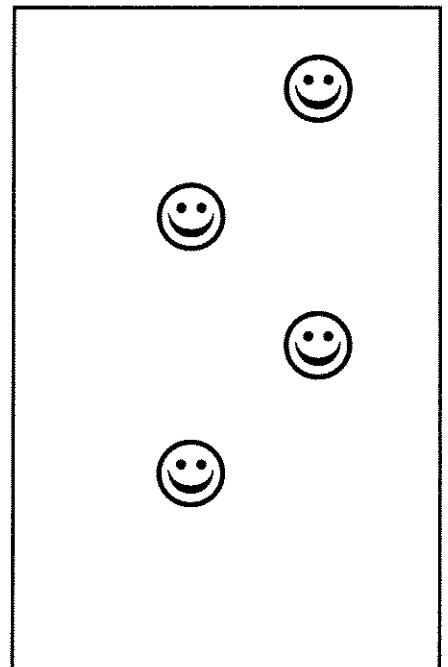
**SAVERS**

☺ = 10 savers



**BORROWERS**

☺ = 2 borrowers



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# ACTIVITY 34

## INTEREST CALCULATIONS

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*Task:* Determine the lowest possible interest rate that the bank can charge its 10 borrowers of \$10,000 and still manage to:

- A. pay all its \$1,000 savers 6% interest per year and
- B. pay the expenses and earn a profit for the bank.

### **Savers**

Total amount deposited by savers:  $100 \times \$1,000 =$  (#1) \_\_\_\_\_

Interest to be paid to savers:  $(\#1) \times 6\% (.06) =$  (#2) \_\_\_\_\_

### **Bank**

Operating costs:  $2\% (.02) \times \#1$  (#3) \_\_\_\_\_

Profit:  $1\% (.01) \times \#1$  (#4) \_\_\_\_\_

### **Borrowers**

Total amount to be repaid by borrowers:  $10 \times \$10,000 =$  (#5) \_\_\_\_\_

Interest paid by borrowers:  $\#1 + \#2 + \#3 + \#4 - \#5 =$  (#6) \_\_\_\_\_

Interest rate as a percent:  $\#6 \text{ divided by } \#5 =$  (#7) \_\_\_\_\_

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# ACTIVITY 34

## INTEREST CALCULATIONS (Answers)

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*Task:* Determine the lowest possible interest rate that the bank can charge its 10 borrowers of \$10,000 and still manage to:

- A. pay all its \$1,000 savers 6% interest per year and
- B. pay the expenses and earn a profit for the bank.

### Savers

Total amount deposited by savers:  $100 \times \$1,000 =$  (#1) \$100,000

Interest to be paid to savers:  $(\#1) \times 6\% (.06) =$  (#2) \$ 6,000

### Bank

Operating costs:  $2\% (.02) \times \#1$  (#3) \$ 2,000

Return on investment:  $1\% (.01) \times \#1$  (#4) \$ 1,000

### Borrowers

Total amount to be repaid by borrowers:  $10 \times \$10,000 =$  (#5) \$100,000

Interest paid by borrowers:  $\#1 + \#2 + \#3 + \#4 - \#5 =$  (#6) \$ 9,000

Interest rate as a percent:  $\#6 \text{ divided by } \#5 =$  (#7) 9%

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# ACTIVITY 35

## DISCUSSION QUESTIONS

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1. Why would savers want to be a part of this process?
2. Why would borrowers want to be a part of this process?
3. Why would banks want to be part of this process?
4. Why are interest rates different for borrowers and savers?
5. Would you rather be a saver or a borrower? Why?
6. What might happen if borrowers failed to repay debts and interest?
7. What would happen to borrowers if savers were unwilling to save?

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# ACTIVITY 35

## DISCUSSION QUESTIONS (Answers)

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1. Why would savers want to be a part of this process?

(Students could give many reasons. The best answers would be those that recognized that savers have many options and would pick the one that had an interest rate at least as high as the next best alternative.)

2. Why would borrowers want to be a part of this process?

(Students could give many reasons. The best answers would recognize that borrowers will want to pay as low an interest rate as possible. Paying a higher rate would have an opportunity costs because the interest to be paid would not be available for other alternative uses.)

3. Why would banks want to be part of this process?

(Banks are able to earn profit for their investor/owners.)

4. Why are interest rates different for borrowers and savers?

(The difference in rates reflects the need for the bank to pay its operating costs, a return to its owner/investors, and interest to savers.)

5. Would you rather be a saver or a borrower? Why?

(There is no one correct answer. The answer depends on the opportunity cost faced by each person.)

6. What might happen if borrowers failed to repay debts and interest?

(The biggest impact would be on the savers and the owner/investors. If the bank lost money, investor/owners would not earn their expected return and would suffer the opportunity cost of not having what could have been earned elsewhere. In the future, interest rates paid to savers and charged to borrowers may change to reflect the added risk.)

7. What would happen to borrowers if savers were unwilling to save?

(If savers deposit less or withdraw their funds, less money would be available to lend. This means the supply of loanable funds would be reduced and interest rates would rise. This would be bad for borrowers. However, higher interest rates would attract more deposits because the opportunity cost of failing to save would be higher.)