

LESSON EIGHT

THE CREDIT CONNECTION

INTRODUCTION

It's easy to buy clothing, a stereo, furniture, or a used car with borrowed money and pay for it slowly over time. Reality sets in when buyers discover that the amount they actually paid for the item is much greater than the purchase price. This is because all credit is a loan of some kind. For the privilege of borrowing, lenders typically charge borrowers interest and other fees. Understanding that interest rates are determined through the interaction of supply and demand and how to use Annual Percentage Rate (APR) to shop for credit helps young adults decide when and from whom to borrow.

CONCEPTS

- Annual Percentage Rate (APR)
- Credit
- Finance Charge
- Interest
- Monetary Policy
- Supply and Demand

OBJECTIVES

- ◆ Recognize that interest is an incentive to lenders to forgo spending their income at the present time
- ◆ Explain that interest rates are determined in the market by supply and demand
- ◆ Use the concept of interest rates and the cost of credit to explain Annual Percentage Rates (APR)
- ◆ Use APR and knowledge learned in this lesson when making borrowing decisions

LESSON DESCRIPTION

Students discuss the definitions of credit and interest and examine the price of a \$2,000 loan. Through interviews with classmates about their willingness to lend or borrow money at various interest rates, students learn that interest rates are

determined by the interaction of supply and demand. Using information from credit card solicitations, students learn how to use Annual Percentage Rate (APR) to decide from whom to borrow. In the assessment, students assume the role of a high school newspaper columnist and use the economic knowledge learned in the lesson to answer a question about credit from a reader.

TIME REQUIRED

- ◆ Two to three class periods

MATERIALS

- Transparencies of Visuals 8 and 9
- One copy of Activities 21 and 22 for each student
- One piece of graph paper for each pair of students
- Credit card applications collected from several sources
- One copy of Activity 23 for each student

PROCEDURE

1. Explain that while credit is relatively easy to obtain and convenient to use, the use of borrowed money is not free. All loans must be repaid later. When credit card loans are used, if the entire balance is not paid in full one month after the loan, the borrower will be charged interest and other fees.
2. Define credit as a loan that enables people to buy something now and pay for it later.
3. Define interest as the price for using someone else's savings. Interest rate is interest expressed as a percentage.
4. Explain that with credit the actual price of a purchase is more than the retail price because lenders charge interest.
5. As an example, ask students to project how long it would take to pay off a \$2,000 purchase on a credit card with an Annual Percentage Rate (APR) of 18.5% (typical of most credit cards) if the borrower chose to pay only the minimum balance of 3% required each month.

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6. Display Visual 8. Explain that it would take about 14 years, and the total interest charged would almost equal the original price of \$2,000. Most of the minimum payment goes toward paying the interest rather than the principal in the early months of a loan. (NOTE: The interest and principal added together equal the 3% minimum payment. For example, the first month's minimum payments, $3\% \times \$2,000 = \60 , includes \$29.17 for principal and \$30.83 for interest.)
7. Explain that the interest rates for different types of credit vary. When making purchasing and credit decisions, people should compare interest rates from different lenders.
8. Discuss the variety of places from which credit can be obtained. (banks, credit card companies, finance companies, credit unions, automobile companies)
9. Point out that interest rates vary at each institution. Interest rates reflect the credit history of borrowers. High-risk borrowers will pay higher interest rates.
10. Explain that in this lesson, students learn how interest rates are determined and how to use Annual Percentage Rates (APR) to make good credit choices.
11. Divide the class into pairs. Distribute a copy of Activity 21 to one student in each pair, and a copy of Activity 22 to the other.
12. Explain that one student is a borrower and the other is a lender. This simulation provides information regarding borrower and lender behavior.
13. Ask students in each pair to interview one another as instructed on the activity sheet. Explain they should determine ALL of the interest rates at which a borrower is willing to borrow \$100 and ALL of the interest rates at which a lender is willing to lend \$100. For example, if a lender is willing to lend at 11%, he or she would also be willing to lend at 13%, 15%, and 17%. A borrower who is willing to borrow at 9% interest is also willing to borrow at 7%, 5%, and so on.
14. As they interview their partner, they should place a check next to the appropriate interest rates for the borrower and lender.
15. Display Visual 9. Remind students that the interest rate is a price.
16. Ask the borrowers to raise their hands in response to the following question: How many of you were willing to borrow \$100 at 15%?
17. Multiply the number of borrowers who raise their hands by \$100 and record this dollar value next to 15% under "Quantity Demanded."
18. Repeat steps 16 and 17 for each interest rate listed.
19. Next, ask the lenders to raise their hands in response to the following question. How many of you were willing to lend \$100 at 15% interest?
20. Multiply the number of borrowers who raise their hands by \$100 and record this dollar value next to 15% under "Quantity Supplied."
21. Repeat steps 19 and 20 for each interest rate listed.
22. Discuss:
 - A. The demand for loanable funds is the amount of funds people are willing and able to borrow at various interest rates. Point out that the "Interest Rate" and "Quantity Demanded" columns give us the demand for loanable funds.
 - B. The supply of loanable funds is the amount of funds people are willing to lend at various interest rates. Point out that the "Interest Rate" and "Quantity Supplied" columns give us the supply of loanable funds.

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- C. Are people willing and able to borrow more or less at higher interest rates? (less)
- D. Are people willing to lend more or less at higher interest rates? (more)

23. Distribute graph paper to each pair of students. Instruct partners to draw a graph of the demand and supply schedules using the data on Visual 9.

24. Explain that they should begin by labeling the x-axis (horizontal) as "quantity of loanable funds" and the y-axis (vertical) as "interest rate." Remind students that the interest rate is the price paid for obtaining credit and the price received for giving credit.

25. Instruct students to plot the data and connect the points to show the demand/supply curves. Label the demand curve "D" and the supply curve "S."

Sample Demand/Supply Schedule

Quantity Demanded	Interest Rate (%)	Quantity Supplied
0	25	1500
0	23	1500
0	21	1500
0	19	1500
200	17	1500
400	15	1500
1200	13	1200
1200	11	800
1400	9	500
1500	7	200
1500	5	0
1500	3	0
1500	1	0

26. Discuss the following questions.

A. What generalizations can you make about the relationship between interest rate and the quantity of loanable funds available? (Lenders are willing to lend more at higher interest rates than at lower interest rates.)

B. What generalizations can you make about the relationship between interest and the quantity of loanable funds demanded? (Borrowers are willing to borrow more at lower interest rates than at higher interest rates.)

C. At what interest rate does the quantity demanded equal the quantity supplied? (that interest rate at which the demand and supply curves intersect)

27. Explain that the interest rate/price at which quantity demanded equals quantity supplied is called the equilibrium or market price. Instruct students to label the equilibrium price on the graph "EP."

28. Using the graph and the following examples, demonstrate what might happen to equilibrium interest rate/price if demand or supply changed.

A. If automobile manufacturers offered large rebates on new cars, the demand for loanable funds would increase. The demand would shift to the right. Draw a new demand curve to the right of the original and label it "D2." This would result in a new equilibrium at the point where "D2" intersects the supply curve. At this new equilibrium, the price (interest rate) has risen.

B. If the Federal government announces that in the future social security benefits will be drastically reduced, individuals will have to finance more of their retirement. The supply would shift to the right. Draw a new supply curve to the right of the original and label it "S2." This would result in a new equilibrium at the point where "S2" intersects the demand curve. At this new

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equilibrium the price (interest rate) has fallen.

29. Emphasize that the equilibrium interest rate is not static; it changes as supply and demand change.

30. Ask students why financial institutions charge borrowers a higher interest rate than they pay savers. (Institutions that lend money do so because they earn profit on loans; if interest paid to savers were the same or higher than interest charged borrowers, the institutions would not earn a profit.)

31. Ask the class how interest rates affect saving decisions. (Interest rates act as incentives for savers; high interest rates encourage saving while low interest rates discourage saving.)

32. Ask students how interest rates affect borrowing decisions. (Interest rates act as incentives for borrowers; high interest rates discourage borrowing while low interest rates encourage it.)

33. Point out that payment of interest is only one cost of using credit. There are others.

34. Divide the class into groups of 3 or 4 students, and distribute several sample loan or credit card applications.

35. Instruct students to list all of the information that pertains to the cost and conditions of receiving the loan or using the credit card. Explain they should list any terms with which they are unfamiliar.

36. Allow time for each group to list the requirements and costs on the board so that comparisons can be made.

37. Discuss the various requirements and costs. Use the vocabulary list found at the end of this lesson to discuss any terms that were unfamiliar to students.

38. Point out that the Truth in Lending Act requires all lenders to disclose interest as well as other costs/charges to the borrower.

39. Explain that the actual measure of the cost of credit is called the Annual Percentage Rate (APR).

40. Explain that the APR figure is a yearly percentage rate that can be used by borrowers to compare rates from different lenders. This information can help credit consumers make decisions.

41. Instruct groups to locate the APR on their applications and circle it. Explain that if this information is not already listed on the board, they should list it now.

42. Ask students, based on the APR and other information, which credit card/loan they should choose. Allow time for students to share their choices.

CLOSURE

1. Review how supply and demand determine interest rates and how changes in supply and demand affect savers' and borrowers' choices.

2. Bring in newspaper charts and tables listing interest rates on car loans, home loans, and savings products.

3. Discuss how changes in supply and demand will change the equilibrium rate of interest for these purchases or savings accounts.

ASSESSMENT

Explain that each student will act as a columnist for a school newspaper. The column is called the "Consumer Connection." Fellow students submit questions asking for consumer advice. Distribute a copy of Activity 23 to each student, and explain that this is the most recent question they have been asked to answer. Instruct each student to answer the question in letter form for publication. (Answer: Music Man should obtain a personal loan from the

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Biddle Bank. It has the lower APR (14%) and an affordable monthly payment. Now is a good time to borrow; interest rates are not expected to fall.)

EXTENSION ACTIVITIES

Bring in a credit card statement for students to examine. Point out the APR and the price charged if the payment were not made in full.

VOCABULARY

Annual Fee is a flat, yearly charge for owning a credit card.

Annual Percentage Rate (APR) is a measure of the cost of credit on a yearly basis expressed as a percentage rate, including interest, transaction fees, and service fees.

Average Daily Balance is the most common method of calculating interest. The lender adds up the amount owed for each day of the billing cycle and divides that number by the number of days in the billing cycle.

Balance is the amount owed to the lender, including purchases, fees, interest, and transaction charges.

Cosigner is a person who agrees to pay a loan if the borrower fails to do so.

Cash Advance is the use of a credit card at a bank or automatic teller machine to get a cash loan. The interest rate for a cash advance may be higher than for purchases and starts the day of the withdrawal; there can also be a handling fee in addition to interest charges.

Credit is a loan that enables you to buy something now that you will have to pay for later.

Credit Limit is the maximum amount you may charge on a credit card. Many lenders may let you spend more but may charge you a fee for doing so.

Demand is the relationship between the quantity of a resource, good, or service that consumers are willing and able to buy at various possible prices during a specific time period.

Finance Charge is the dollar amount paid to use credit. It includes interest, transaction fees, and service fees.

Grace Period is the time, usually about 25 days, in which you can pay your credit card bill without paying a finance charge.

Interest is the price paid for obtaining credit.

Minimum Payment is the smallest amount you are required to pay the lender each month.

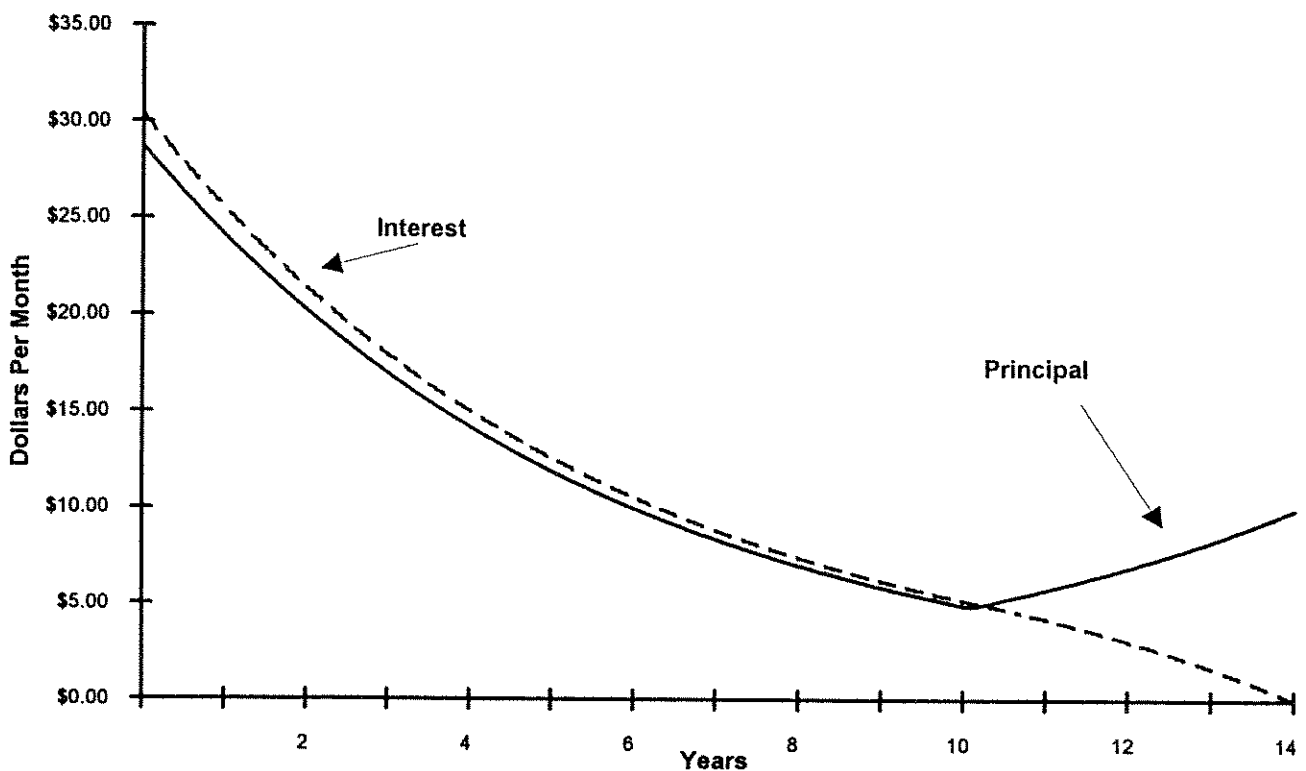
Supply is the relationship between the quantity of a resource, good, or service that lenders are willing to produce and sell at various possible prices during a specific time period.

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VISUAL 8 LOAN PAYMENTS: INTEREST VS. PRINCIPAL

\$2000 Loan Repayment Interest vs. Principal

Minimum Payment = 3% 18.5% APR



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VISUAL 9 SUPPLY AND DEMAND FOR \$100 LOAN

Borrowers		Lenders
Quantity Demanded	Interest Rate (%)	Quantity Supplied
	3	
	5	
	7	
	9	
	11	
	13	
	15	
	17	
	19	
	21	
	23	
	25	

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ACTIVITY 21

BORROWER

You have discovered that the pair of \$120 tennis shoes you want to buy is on sale for \$100, but in order to buy them you will have to borrow \$100. Unfortunately, the local bank that charges 11% per year for personal loans does not lend to persons under age 18. Likewise, credit cards which charge 18% per year are not available for your use either. Fortunately, a friend says he or she will lend you the money from a savings account if you will pay back the loan with interest at the end of the year. Interview your friend to determine ALL the interest rates at which he or she is willing to lend you the money. On the chart below, mark a "✓" beside those rates. Do not negotiate an interest rate.

_____ 25%	_____ 17%	_____ 9%
_____ 23%	_____ 15%	_____ 7%
_____ 21%	_____ 13%	_____ 5%
_____ 19%	_____ 11%	_____ 3%

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ACTIVITY 22

LENDER

You have agreed to lend a friend \$100 so he or she can buy a pair of tennis shoes that are on sale. Since the money will be withdrawn from your savings account, which presently pays you 5% interest per year, your friend has agreed to pay back the loan at the end of the year with interest. Personal loans from local banks are averaging about 11% per year, and credit cards charge about 18% per year. Unfortunately for your friend, both loans are available only to persons who are age 18 or older. Since the level of economic activity has been growing in recent months, interest rates on savings have been slowly rising. Interview your friend to determine ALL the interest rates at which he or she is willing to borrow the money. Record the answers below by placing a "✓" beside the acceptable interest rate(s). Do not negotiate an interest rate.

_____ 1%

_____ 9%

_____ 17%

_____ 3%

_____ 11%

_____ 19%

_____ 5%

_____ 13%

_____ 21%

_____ 7%

_____ 15%

_____ 23%

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ACTIVITY 23

ASSESSMENT

Dear "CC",

I've had my eye on a stereo system with a tape, CD player, and powerful speakers — everything I have always wanted. It is on sale for \$800, and I have decided to buy it on credit (my parents will cosign). I can make a \$100 down payment from my savings and can afford to spend \$100 a month on the loan. The following four credit options are available to me.

1. Lacy's Department Store charges 13% APR with a minimum payment of 25% (\$140 the first month) until the balance is paid off.
2. The Recover Card charges an APR of 18% and requires a minimum payment of 3% (\$21 the first month) until the balance is paid off.
3. Biddle Bank offers a personal loan with an APR of 14% a year for a fixed monthly payment of \$88.73 for 9 months.
4. The American Bold Card charges an APR of 17% with a minimum payment of 5% (\$35 the first month) until the balance is paid off.

In my economics class, I learned that the demand for credit has been increasing during the past year, and most people expect interest rates to rise slightly and then stabilize. Please help me decide which of the above loans will enable me to pay off the loan in a reasonable time with a low cost and whether now is a good time to borrow.

Sincerely,

Mad About Music