



PRODUCING



EXCHANGING



CONSUMING



SAVING



INVESTING



ECONOMICS[®]

at Work

**TEACHER'S
GUIDE**

Economics at Work is a multimedia, contextual economics curriculum combining videodisc, video, print, and computer software into a comprehensive, one semester course designed around five major economic activities:



ECONOMICS[®]

at Work

Economics at Work includes instructional modules, computer software, and a classroom utilization component.

The five instructional modules contain

- six Level I barcode-driven videodiscs
- five videocassettes (containing linear versions of the videodisc material)
- five annotated teacher's guides
- five **Economics at Work** student guides (sold separately)

The computer software and classroom utilization component consist of

- a set of Windows[®] and Macintosh[®] software diskettes
- one teacher training video program
- one workshop leader's handbook

TEACHER'S GUIDE



SAVING

MODULE 4



AGENCY FOR INSTRUCTIONAL TECHNOLOGY

AGENCY FOR INSTRUCTIONAL TECHNOLOGY

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ECONOMICS AT WORK CREDITS

Project Design

CHIEF CONSULTANT

DeVon L. Yoho, Ph.D.

Department of Economics, Ball State University

INSTRUCTIONAL DESIGNER

Richard P. Lookatch, Ph.D.

Agency for Instructional Technology

Print Production

SENIOR EDITOR

John Pesta

FEATURES EDITOR

Rhonda Rieseberg

DESIGNER/COMPOSITOR

David Strange

ASSISTANT DESIGNER/COMPOSITOR

David Feuer

LESSON WRITERS

Barbara Flowers

University of Missouri—St. Louis

Sheryl Szot Gallaher

Governors State University (Illinois)

Sarapage McCorkle

University of Missouri—St. Louis

Mary Anne Pettit

Southern Illinois University at Edwardsville

Mary C. Suiter

University of Missouri—St. Louis

WRITER

Teacher's Guide Introduction; Workshop Facilitator's Guide

Sybil Eakin

ILLUSTRATORS

Dave Carpenter

Grady Gunter

Maureen O'Hara Pesta

Chris Sharp

LOGO AND COVER DESIGNER

Brenda Grannan

Video Production

EXECUTIVE PRODUCER

Gary Mills

SCRIPTWRITERS

Julie Kirgo

Joey and Patrick O'Donnell

Mary Trimble

WRITERS

Teacher Advisement Component

Lisa Ellison

Robert Catus

Student Assessment Component

Michael Mysker

PRODUCERS

David J. Gudaitis, Ph.D.

Sharon Greene

Robert Risher

Carrie Savage-Zimmerman

ASSISTANT PRODUCERS

Katie Ertmann

Brad Bloom

VIDEO EDITOR

John MacGibbon

ASSISTANT VIDEO EDITOR

Amy Crowell

ORIGINAL MUSIC COMPOSERS

Hugh Kremer

Benjamin Schneider

(Continued on next page)

Software Development

PROGRAMMING AND GRAPHICS

Created by Susan Mahoney & Associates, Inc.

SCRIPTWRITER

James E. Clark, Ph.D.

SOFTWARE CONTENT CONSULTANTS

Brenda Benda
Roberta Floyd, Ed.D.
Jeff Hamilton
Jerry Pepple, Ed.D.
Chuck Scott
Peter Searls
Glenn Stidd

Special Consultants

William Yohe, Ph.D.

Department of Economics, Duke University

Michael Mysker

Department of Economics, Indiana University

Project Management

Frank J. Batavick

Director, New Products and Projects, AIT

CONSORTIUM FORMATION AND FUNDING

John Nelson

PROJECT COORDINATOR

Diane C. Sumner

PACKAGING AND MARKETING

Wayne Thoren
Jerry Rosenbusch
Scott Anderson

ADMINISTRATIVE ASSISTANT

Connie J. Williamson

Project Evaluation

Powell International, Inc.

Content Consultants/Reviewers

Thom Amnotte, Old Town, ME
Steven Baker, Gresham, OR
Del C. Bibles, Cairo, GA
Ronnie D. Brown, White Oak, NC
Pamela Bryant, Guntersville, AL
Judy Butler, Nashville, TN
Robert Catus, Indianapolis, IN
Vickie L. Chandler, Bruneau, ID
Milton Chapin, South Ostelic, NY
Karen Chilton, Auburn, NY
Tom Cleveland, Hancock, NY
Dee Colvin, Bardstown, KY
Judy Commers, Valparaiso, IN
Charles F. Cook, St. Simons Island, GA
Alan B. Curtis, Presque Isle, ME
Richard V. Dannhoff, LaCrosse, WI
Devin Davidson, Buffalo, MN
Anita K. Decker, Bismarck, ND
Larry D. Denton, Hatfield, AR

Lisa C. Ellison, Kokomo, IN
Allen Feldeverd, Nicollet, MN
Jason Fickett, Mapleton, MN
Mark Fletcher, Lawrenceburg, IN
Michael Gecawich, Warwick, RI
Rita Geiger, Norman, OK
Harold Gilbert, Anderson, SC
Rita Grimm, Howard Lake, MN
Joyce E. Hall, Buffalo, WY
Betty Hampton, St. Louis, MO
Leonard Holmes, Windham, ME
John Huisman, Blue Earth, MN
George W. Irwin, Peoria, IL
Suzanne Johnston, Brookville, PA
Betty Jones, Orlando, FL
Abbejean Kehler, West Worthington, OH
Gene LaRoche, Calumet, MI
James Marlin, Ph.D., Lincoln, NE
Alfardretta M. Mason, Charlotte, NC

Thomas R. McKinnon, Ph.D., Fayetteville, AR
Michael Min, Pearl City, HI
Jack C. Morgan, Ph.D., Louisville, KY
Anna M. Northrop, Sheridan, WY
Tim O'Laughlin, Belle Plaine, MN
Carol Penland, Smyrna, GA
Virginia Peters, Jordan, MN
Charles W. Petersen, Ph.D., Portland, ME
Roger Popelka, LaCrosse, WI
F. Bradford Prior, Wyoming, RI
Frank Schleicher, Buffalo, WY
Margaret G. Thompson, Fort Smith, AR
Sandy Tracy, Hutchinson, MN
Ron Turner, Bangor, ME
William H. Turner, Washington, IN
Nanci VanLoan, Wells Bridge, NY
Tom Welsh, Bloomington, IN
Kathy A. White, Indianapolis, IN
Jon Williams, Rochester, MN

Special recognition to Robert Highsmith, Ph.D., former vice president for programs and research, National Council on Economic Education, New York, NY, and to the National Council on Economic Education for their cooperation with AIT in the development of *Economics at Work*

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Economic Literacy

We believe that every high school student in America should become economically literate and oriented to private enterprise. Students should understand and use economic ways of thinking and problem solving in order to live and work effectively as citizens in a changing world of commerce. Your use of Economics at Work with your students will help us accomplish this important goal.

—Robert F. Duvall
President and CEO
National Council on Economic Education

FOREWORD

ECONOMICS AT WORK: A NEW LEARNING EXPERIENCE FOR STUDENTS OF ECONOMICS

Economics is “a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions.”

—John Maynard Keynes

I do not have faith in the market, I have evidence in the market.

—Thomas Sowell

WELCOME to *Economics at Work*. This curriculum should serve you well as your principal tool for teaching economics. It uses the latest instructional technology to prepare students to engage in the economic way of thinking, and it enables students to relate to economics by presenting the concepts and principles of this subject in workplace settings to which they can easily relate.

The economic way of thinking employs a relatively short list of concepts to bring order and understanding to the economic activities of producing, exchanging, consuming, saving, and investing. Students of economics—economists—know how these activities fit together.

These concepts allow us to make sense of economic activities, both as observers and as participants. They also allow us to appreciate the interdependence of economic activity—even if we never fully comprehend it. As a result, we are better prepared to understand that the economic policies we pursue, in an effort to manage pressing social problems, have consequences that are often far different from what we initially predict.

Because these concepts facilitate the understanding of economic activity and policy, it is appropriate to study them within the contexts in which they occur. This is precisely what *Economics at Work* does. Just as the need to know and understand basic economic concepts takes place in the context of the real world, so also students will learn and demonstrate their understanding of the concepts in a context to which they can relate and respond. For example, in the lesson “TicketMax,” where students

need to learn and understand transaction costs, they develop their understanding of such costs in the context of an actual market for concert and sports tickets.

Students’ progress can be measured in many ways in *Economics at Work*. Besides the traditional questions and problems that appear in the printed guides, video-based assessment allows students to answer content questions by drawing on cues and prompts embedded in the video programs. While students should find the video interesting and enjoyable, these programs are far from mere entertainment. They are rigorous in the economics they dramatize, teach, and evaluate.

Videodisc technology not only provides support for the teacher in the form of an “assessment track,” but it also provides a “teacher advisement track” that offers suggestions on how to present the material in the lessons as effectively as possible. Teachers may access the advisement component by swiping barcodes, which trigger content and pedagogy instruction that plays over the video students will see. This provides another dimension to the effective use of *Economics at Work*.

As you will see, *Economics at Work* is a complete instructional package, with many aids for teachers and students. But it is your human capital as an educator that is the critical input needed to generate the desired student outputs. I am sure you will find these materials an exciting and rewarding way to teach the concepts and principles of economics.

—DeVon L. Yoho, Ph.D.
Director, EconomicsAmerica

INTRODUCTION

ECONOMICS AT WORK**OVERVIEW AND RATIONALE**

BEFORE long your students—the workers and employers of tomorrow—will be making decisions that are vital to the economic health of the nation. To decide wisely, they must have a sound foundation in the principles and concepts of economics, especially those affecting the free market and the workplace. *Economics at Work* is a new kind of resource—multimedia, interactive, and context-based—that will help you provide this essential foundation in economics.

Background

Since the publication of *A Nation at Risk* in 1983, several clear pointers have emerged to guide America's schools in preparing students for the 21st century. Two reports by the Secretary's Commission on Achieving Necessary Skills (SCANS) published in 1991 and 1992, combined with the school-to-work movement, have fueled the development of applied-academics curricula in science, mathematics, and English/communications. In spite of the growing recognition of the value of such curricula, however, no substantial applied-academics resources exist in social studies or business education.

This lack is especially surprising in the field of economics, which is naturally suited to an approach that applies concepts and principles to the problems and decisions of the workplace. As governments at all levels grapple increasingly with economic problems, students who will soon be workers need to be able to understand and discuss these complex issues. The “workplace know-how” advocated in the SCANS reports includes an understanding of economic forces that affect the workplace. Without this practical knowledge, employers and workers at all levels are likely to make poor workplace decisions based on faulty understanding of the principles of economics. As a result, their companies, their jobs, and ultimately their nation's prosperity may fall victim to economic ignorance.

Economics at Work

Exploiting the latest instructional technologies and methods, the Agency for Instructional Technology and the National Council on Economic Education have joined forces to develop a one-semester course that will help all secondary students apply economics to real-life experiences. The 27 lessons (20 of them centered around interactive video), the computer software, and the printed guides for students and teachers will provide your classes with a contextual foundation for the economics that you have been teaching. The materials are designed to support the five competencies and the foundation of skills laid out in the two SCANS reports. The software contains realistic problems involving economics in each of seven different career clusters.

The content of the lessons has been drawn from *A Framework for Teaching the Basic Concepts, with Scope and Sequence Guidelines* (1995), the National Council's Master Curriculum Guide in Economics. *Economics at Work* sets the principles and concepts of economics in an everyday or workplace context and challenges students to draw on a range of information, knowledge, and skills to solve problems, often in cooperation with one another. The curriculum offers you the materials and activities you need to meet the guidelines of these reports as well as the call for a school-to-work curriculum.

Education for Employment

The 1991 SCANS report, *What Work Requires of Schools*, spelled out the five “competencies” that workers need for success on the job. These competencies are listed below, together with a description of how *Economics at Work* addresses each of them. Effective workers can productively use:

- **Resources: allocating time, money, materials, space, staff**—The study of economics is the primary discipline for teaching students how to interpret, analyze, and solve problems involving the

management of time, money, human resources, and materials and facilities.

- **Interpersonal Skills: working on teams, teaching others, serving customers, and leading, negotiating, and working well with people from culturally diverse backgrounds**—Every module concludes with a substantive cooperative learning activity in which students are grouped according to their specific vocational interests and goals. Many of the activities suggested in the print also lend themselves to group work. In addition, many of the documentary and dramatic sequences highlight teams and groups working together to solve problems.
- **Information: acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information**—To solve the problems presented in the video segments and in their guides, students will need to evaluate, organize, interpret, and communicate data from a variety of sources. In the cooperative learning activities, they will also use computers to process information.
- **Systems: understanding social, organizational, and technological systems; monitoring and correcting performance; and designing or improving systems**—By studying the basic concepts in economics—producing, exchanging, consuming, saving, and investing—through examples from realistic business contexts, students will be introduced to the complexities of economic relationships in a market economy.
- **Technology: selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies**—*Economics at Work* is a multimedia curriculum, providing opportunities for students to work with and integrate material from print, video, and software sources. The documentary segments of both the video and print also present contemporary accounts of the effect of developing technologies on various businesses.

Economics at Work also addresses the three “foundation skills” cited in the SCANS report:

- **Basic skills**—reading, writing, arithmetic and mathematics, speaking, and listening

- **Thinking skills**—thinking creatively, making decisions, solving problems, seeing things in the mind’s eye, knowing how to learn, and reasoning

- **Personal qualities**—individual responsibility, self-esteem, sociability, self-management, and integrity

All lessons, both in their interactive video-based components and in the activities presented in the guides, require students to discuss, debate, and defend their decisions. They must also work with others to solve problems and to communicate their results, both orally and in writing.

In the second SCANS report, *Learning a Living: A Blueprint for High Performance* (1992), the commission addressed the changes and reforms that schools must make to implement the SCANS competencies and skills and to “bring all students to a level that, in the past, only a small minority reached.” *Economics at Work* emphasizes contextual learning. The curriculum links abstract concepts with “real world” examples, and the challenging assessment suggestions require students to solve actual workplace problems. Field activities bring the community into the classroom and take students into the community, further supporting the recommendations of the report.

School to Work

School-to-work and applied-academics initiatives have flowered in response to the SCANS and other recent reports that have voiced concerns about students’ lack of preparation for the workplace. Studies have found that the traditional classroom does not encourage the development of skills that students need to succeed in the workplace. Instruction has commonly been teacher-centered, with the instructor leading the group in practicing textbook problems and solutions. Drills, homework exercises, and tests measure students’ achievement in recall and mental manipulation rather than in application or understanding.

Unfortunately, many students, especially those who learn abstract concepts in concrete ways, do not understand the relevance of such mental exercises to the real world. In *Economics at Work*, concepts are introduced not in a traditional linear sequence but rather in a context to which students can more easily relate; the context itself partly determines the concepts that are taught at that point in the lesson.

School-to-work transition programs help learners make the connection between school and employment. They seek to bridge the gap between what schools teach and what the workplace requires. This approach is based on a core of challenging courses in which traditional academic skills are taught by showing how those skills are used in a workplace setting. School-to-work programs prepare learners either for direct entry into the work force as technically skilled employees or for further education leading to advanced certification or academic degrees. School-to-work programs emphasize four key components:

- ▶ **Motivation**—Young people must be encouraged to stay in school and graduate.
- ▶ **Enablement**—Educators must enable learners to reach high academic achievement.
- ▶ **Linkage**—Classroom curricula must link school and work so that learners understand the importance of learning the skills they will need in the workplace.
- ▶ **Employment**—Education must lead to initial and continued employment.

In a general way, the entire *Economics at Work* curriculum, with its emphasis on contextual examples and actual workplace problems, supports these guidelines. More specifically, at the end of every module, an application lesson that is presented on computer software permits students to collaborate in applying economics concepts and reasoning strategies to problems set in their particular area of career interest.

This curriculum provides a choice of seven general career clusters. These clusters are categorized in ways that are aligned with—though not necessarily identical to—the career classification systems of most states. The seven areas are:

- ▶ agriculture/natural resources
- ▶ mechanics and transportation
- ▶ business and computer technologies
- ▶ health and human services
- ▶ engineering technologies
- ▶ construction and design
- ▶ communication technologies

INSTRUCTIONAL PHILOSOPHY AND APPROACH

Contextual Learning

The lessons in *Economics at Work* use videodisc technology to present economic issues in the context of actual workplace settings and documentary case studies. For every illustration, students are required to learn, elucidate, and apply basic concepts and principles, often by answering questions that ask them to consider the causes and the consequences of certain events. Interactive lessons within modules present economic problems arising from the challenges that workers face in real-life situations—for example, foreign exchange, transaction costs, and efficiency considerations at a Corvette plant, where many foreign-produced parts are used to manufacture a “domestic” car. Studies have shown that this approach, which asks students to solve actual workplace problems, has proven highly effective for learning outcomes.¹

Authentic Instruction

Lesson design and student activities are driven by the five standards of authentic instruction described by Newman and Wehlage of the Center on Organization and Restructuring of Schools.² These standards are integrated into *Economics at Work* in the following ways.

- ▶ **Higher-order thinking**—The course requires students to manipulate economic information and concepts; generalize about events and their effects; speculate and hypothesize about causes and consequences; analyze, interpret, and explain complex workplace situations; and draw conclusions from observation and data.
- ▶ **Depth of knowledge**—The course is designed to permit sufficient time and background for students to analyze situations in depth, to make distinctions, to create arguments and construct explanations that support them, and to investigate and explain a variety of consequences.
- ▶ **Connectedness outside the classroom**—The illustrations connect economic principles and concepts with actual businesses, with real workers, and with the personal activities and experiences of students.
- ▶ **Substantive conversation (“talking to learn and understand the substance of a subject”)**—The instructional materials are designed to include

opportunities for group interaction, sharing of experiences, and cooperative analysis and problem solving to reach a coherent and reasoned understanding and consensus.

- **Social support for achievement (“high expectations, respect, and inclusion of all students in the learning process”)**—No single curriculum, by itself, can change a school’s learning climate and culture; however, the teaching suggestions and inservice information on the videodiscs and in the annotated resource guides will help teachers to convey high expectations, to encourage risk taking, and to challenge students to improve. In addition, the teacher materials encourage interdisciplinary cooperation and promote staff collegiality. The student materials are user-friendly and inviting, but at the same time they require learners to grapple with sophisticated concepts and real problems. The materials are also designed to encourage pair and group activities that foster cooperative learning. Students receive ample opportunities to take pride in genuine achievement.

Cooperative Learning

Reflecting the modern workplace, many activities in the lessons encourage students to work together in pairs or small groups. Extension sections contain numerous optional activities for students who share an interest in the same career cluster (see page x).

In addition, the application activities in the seven software programs, which augment each of the five modules, permit students to select a challenging problem scenario related to the general career area they have chosen. Small groups of students who choose the same career area and program work together to solve the problem posed in the software. This cooperative learning project is designed to help all members of the group learn. By collaborating to attain a shared goal, students improve their social skills at the same time they acquire knowledge.

Limited English Proficiency

Economics at Work demands rigorous thinking on the part of students. The concepts taught in the course and the activities supporting the concepts are designed to

stimulate and challenge all students, including those who are academically inclined. For these reasons, students with limited comprehension of English may require extra support and attention. Nevertheless, many features of the curriculum will help them, especially the 20 video programs, which dramatize economic events and the application of economic concepts, and the glossaries contained in the print and the software. Graphics and charts in the print and in the database on the videodiscs will also support their learning and help them understand the printed materials.

Encouraging Cooperative Learning in Your Classroom

IDEALLY, cooperative learning transforms the competitive instinct into teamwork. Much depends on teacher preparation, especially the adoption of effective grouping strategies and the avoidance of potential conflicts. Student choice, ability groups, peer tutorials, and career-interest teams may provide useful bases for grouping. To ensure that authentic collaboration is occurring, it is essential to monitor the interactions, especially in the early stages of group work. Without such monitoring, cooperative learning may fail either because one or more members “free ride” on the work of others, because cliques of students undermine others’ cognitive efforts by rushing assignments to conclusion (“task gang-banging”), or because high-ability students lower their output in resistance to being “used” by less able peers.

The “group retest” technique has been shown to facilitate a cooperative social atmosphere. A teacher using *Economics at Work* may use this technique by first administering the assessments, which appear at the end of each lesson, to the class as individuals. Then the class may divide into small groups, which can attempt to answer the same questions cooperatively, discussing items, using appropriate resource materials, and developing and submitting a single answer sheet for the group. This technique may be especially fruitful when group members share a similar career interest. When the whole class gathers again, groups’ answers can be discussed, and the next day their results can be posted.

Well-documented research manifests that cooperative activities of this kind enhance achievement, improve social skills, and ease the adjustment to workplace environments that demand collaborative skills.

COURSE CONTENT AND ORGANIZATION

Course Objectives

Economics at Work is designed to help students achieve five goals:

- ▶ understand and interpret relatively commonplace economic events through the study and application of everyday economic concepts
- ▶ acquire critical-thinking and decision-making skills needed for workplace and career decision making
- ▶ comprehend the economic activities (producing, exchanging, consuming, saving, and investing) of individuals, companies, labor, and government, along with the interdependence of these entities
- ▶ understand the market system in a global economy
- ▶ comprehend the impact of economic events on careers, the workplace, and lifelong learning

Curriculum Materials

The multimedia curriculum makes use of these resources:

- ▶ 11 interactive **videodisc** sides (one to four sides per module); alternatively, five noninteractive **videotapes** can be substituted if videodisc players are unavailable
- ▶ five **student resource guides** (one per module)
- ▶ five **teacher's guides** (one per module)—annotated versions of the student guides, containing barcodes for accessing the videodisc segments
- ▶ **computer software** containing application activities (35 activities, one for each of seven career clusters); these activities are designed to follow each of the five modules
- ▶ a special **teacher advisement track** on the videodiscs (but not on the videotapes), offering content enhancement and instructional suggestions
- ▶ an **assessment track** on the videodiscs (but not on the videotapes), linked to video segments that are suitable for portfolio as well as traditional assessment procedures
- ▶ **classroom utilization component**—a teacher training videotape and a workshop leader's guide

Although the videotapes provide an option when videodisc players are not available, only the videodisc version will permit teachers and learners to take full advantage of the curriculum's interactive design and features.

The student guides provide blank spaces and empty lines for students to work out problems and to answer questions; therefore, the guides may be treated as consumable items. But directions for all written activities in the guides include the option of writing on "a separate sheet of paper," according to school policy or teacher preference. Teachers may also ask students to maintain journals in which they enter all written work. The guides lend themselves well to any of these practices.

The software programs are designed for small groups of students who share an interest in one of the seven career clusters. The 35 software programs (five simulations for each cluster) encourage students to apply the information and understanding they have gained in a module to realistic challenges in their own field of interest. Although the software may be used by individuals, it has been crafted for small teams of from two to four students.

Packaging

The videodisc(s), videotape, and printed guides for each of the five modules are packaged together. A sixth box contains the classroom utilization materials and the computer software diskettes, which contain the career application activities for use with all modules.

Portfolios

Teachers are strongly urged to have students maintain **portfolios** for collecting their work during the course. Module assignments, printouts of software activity, and tests collected in folders will allow instructors and students to track performance across all modules. A portfolio represents a convenient way for the instructor to monitor progress from one module to the next. The student may also find a portfolio advantageous when applying for a job, inasmuch as its contents can demonstrate the applicant's ability to perform key skills.

Module Topics and Treatment

The curriculum is divided into five modules, each organized around a central economic activity: producing, ex-

changing, consuming, saving, and investing. These modules are best taught in the sequence in which they are presented. Each module contains up to eight lessons spanning from 12 to 20 class periods of 50 minutes each.

Taken together, the lessons in the five modules provide a comprehensive semester-long experience (75 class periods) in applied economics. The box below contains a brief description of module contents.

Contents of Modules

- 1. Producing**—the activities and institutions needed to transform human and nonhuman resources into goods and services that satisfy individual and collective wants; eight lessons plus application and field activities; 20 class periods

Concepts—resource allocation, demand, supply, costs, market price, profit, efficiency, equity, market structure, input and output prices, competition, comparative advantage, economic stability, economic growth

Contextual illustrations—profits and loss at a General Motors plant; bicycle sales and manufacturing profits; profits, losses, technology, and competition in architecture and landscaping businesses; unemployment issues in the computer industry; foreign trade and its impact on the athletic shoe industry; labor costs and productivity in the United States and other countries; employment during recessions

- 2. Exchanging**—the activities and institutions needed to deliver what is produced to consumers; four lessons plus application and field activities; 14 class periods

Concepts—costs, transaction costs, markets, efficiency, transportation, merchandising, externalities, functions of money, foreign exchange, debtor, creditor, anticipated and unanticipated inflation, equity, economic stability

Contextual illustrations—different means of ordering tickets to entertainment events; indirect costs of trash; use of foreign-produced components in the manufacture of cars; Consumer Price Index, inflation, credit and debt, the value of the dollar, and effect of these on a young photographer who needs to invest in new materials and equipment

- 3. Consuming**—the activities and institutions needed to satisfy individual and collective wants; six lessons plus application and field activities; 17 class periods

Concepts—competition, demand, supply, governmental regulation, efficiency, equity, market, public goods, externalities, equilibrium price, incentives, inventory, replacement and acquisition prices, comparative advantage, input prices, transportation costs, income, employment, economic stability

Concepts—market structure, supply, demand, costs, risk, efficiency, scarcity, income, choice, opportunity cost, interest rate, cost/benefit analysis, profit, equity, disposable income

Contextual illustrations—reasons for local, regional, and national price differences experienced by students traveling during spring break; effect of cost of pollution regulations on prices; price changes of gasoline and building supplies; difference between Mexico's and Korea's consumption of U.S. products; comparison of purchases of goods by unemployed and employed

- 4. Saving**—the activities and institutions needed to satisfy the preference to consume more later; four lessons plus application and field activities; 13 class periods

Concepts—market structure, supply, demand, costs, risk, efficiency, scarcity, income, choice, opportunity cost, interest rate, cost/benefit analysis, profit, equity, disposable income

Contextual illustrations—difference in bank interest paid on savings and interest charged for 36-month new-car loan; difference between cash and credit prices of cars and stereos; effect of decreasing interest rates on investment decisions in agriculture; rising interest rates and the effect on savings accounts

- 5. Investing**—the activities and institutions needed to increase resources and productivity; five lessons plus application and field activities; 11 class periods

Concepts—productivity, demand, supply, opportunity cost, present value, discounting, interest rate, annuity, human capital, specialization, surplus, economic security, input prices, substitution, profit, efficiency, equity, economic stability, GDP, investment, economic growth

Contextual illustrations—differences in earning powers of graduates of college, trade school, and high school, as observed at 10- and 20-year high school class reunions; effect of interest rates, present value, and future value on a decision to make a loan; robotics and automation and effect on employment in the medical field; investment in either tools or luxury goods by a young tradeswoman and effect of this kind of decision on GDP

LESSON DESIGN

The first lesson in Module 1 introduces the five module activities (producing, exchanging, consuming, saving, and investing) and dramatizes the effect of economic events on people at work and in their personal lives. The video segments take viewers on a walk down Market Street in Anytown, U.S.A. The interactive feature permits students to see examples of any of the five economic activities they choose and to practice identifying the activities in additional settings.

This lesson also defines the concept of scarcity and explains how this concept, combined with the assumption that all individuals seek to satisfy their needs and wants with the least amount of effort, provides students of economics with a foundation for describing all economic activity and behavior.

All lessons draw their content from the National Council's *Framework*. Every lesson introduces an economic event in general terms in the printed guide ("Econ Briefing" and "Power Up"). When applicable, the guide then presents an introduction to the video segment ("Take a Closer Look"), which is punctuated with questions and problems ("Economic Puzzle Challenge") that draw in the students as active viewers and learners. (Twenty of the 27 lessons are accompanied by video.) This is followed by a "Put It Together" section in which the main themes of the lesson are connected.

Finally, the guide presents a concluding section with summary ("Net Gain"), extension ("Building on Success"), and assessment ("Quality Control") activities.

(Note: Some of the department headings in the seven nonvideo lessons have titles that differ from those of the video lessons. For example, in the print-only lessons "Case in Point" takes the place of "Economic Puzzle Challenge"; however, there is a general correspondence among the two types of lessons.)

Here is the sequence of a typical video lesson:

Introduction of an Economic Event and Related Concepts—Print

In the lesson "Nice Shoes!" the general economic event that is presented could be summarized as "The output of some firms is exported far from the place of production." The guide describes the experience of a young worker in

a small town shopping at the only furniture store. This scenario leads students to consider the concept of competition. Students are asked to suggest options for the young worker to find less costly furniture.

Then examples, questions, and activities lead students to explore the economics of the production of oak (for furniture frames) and leather (for luxury upholstery) in order to discuss the concept of absolute advantage. The guide then compares two printing firms to introduce the concept of comparative advantage. Students are asked to decide whether each of the two firms should specialize in one kind of production, and, if so, which kind.

Video Presentation and Problem-Solving Challenges—Video and Print

The video in "Nice Shoes!" features the athletic shoe industry. The program is divided into several parts, which feature the design and production of shoes, a manufacturer's need to import leather for shoe production, the effect of a competitor's lower prices, and the effect of increased exports on U.S.-made shoes.

The videodisc segment pauses on screens that present discussion questions. (The videotape version must be paused manually.) All on-screen questions are also contained in the guides, where they are supported with background information. Some questions may require students to look up information or to do research. After discussion (or during the next class meeting), barcodes in the teacher's version of the guide permit the teacher to resume the videodisc segment.

These on-screen questions form part of a complex, multi-part "Economic Puzzle Challenge." In every part of the challenge, students are typically asked to consider several options and to select a course of action or an appropriate response ("Decision Time"). Barcodes permit the teacher to play different portions of the videodisc in order to display the consequences of each option, in response to students' choices. Frequently additional sections in the print ("For More...") provide further information related to the challenge.

Conclusion—Print

The next three sections of the lesson appear in the guide. In "Nice Shoes!" the "Put It Together" section presents several high-interest short readings that explore currency

exchanges, the economic effect of the 1995 Kobe earthquake, and the economic impact of a popular rock group, the Beatles, in the 1960s and today. “Net Gain” offers students a chance to review key concepts and to apply them to other situations and to their own lives. “Building on Success” suggests creative extension activities, often to be completed in pairs or small groups.

Application and Field Activities

After completing the lessons in a module, teachers are encouraged to provide their students with time to complete the application activities related to the seven general career areas contained on the computer diskettes. The problems presented on the diskettes have been carefully designed for group use. All members of a group are required to enter responses to questions and problems. Furthermore, the programs retain all files on which groups work so that teacher or students can review and check them. The programs also delineate the contribution of each member of the group.

ASSESSMENT

For video lessons, “Quality Control,” the final section of each lesson, contains two sets of questions for assessment purposes. The assessment opportunities are appropriate for both traditional and portfolio assessment methods.

The first set of questions, “On Your Own,” appears only in the guides. Students may work on these either at home or in class, as the teacher prefers. The questions may be answered in the guides, on separate sheets of paper, or in journals. Suggested answers are contained in the annotated teacher’s version of the guide.

A second part of the assessment section, “In Class,” is linked to a special assessment track on the videodisc. By swiping barcodes, teachers can play questions as voice-overs to video footage that students previously viewed. Students are prompted to reflect upon and to apply previously learned material in new contexts. Then they answer the questions in class. (This assessment audiotrack is not available on the videotape version; nor is it accessible on older videodisc players.) Questions and correct answers to the questions are printed in the annotated version of the guide.

TEACHER SUPPORT

Instructional Suggestions (Teacher Advisement Track)

An additional audiotrack on each of the *Economics at Work* videodiscs offers ongoing suggestions to teachers for introducing material and for managing student activities. Teachers can access these suggestions by swiping barcodes in their guides. (The teacher advisement track is not available on the videotape version of the curriculum.)

Extension Activities

In addition, the guides contain ideas for extension activities involving the community. These include suggestions for business and professional persons whom students might interview, individuals who might be invited to speak in class, “shadowing” or observation activities, research into local companies, and field trips.

Classroom Utilization Component

A videotape demonstrates actual classroom use of the *Economics at Work* curriculum. In addition, a workshop leader’s handbook provides agendas and information for workshop leaders whose task is to introduce the curriculum to teachers. These materials are packaged with the software diskettes that contain the application and field activities.

Appendix—Videodisc and Print

The Appendix to every guide includes a glossary of the key terms (“Econcepts”) introduced in the lessons. The glossary appears in both the student and teacher versions of the guides.

In addition, the teacher’s version of the guides includes a list of resources, featuring a bibliography of books and articles for further information and background. The teacher’s resource also contains a database of graphs and charts that are accessible by barcode from any videodisc; for instance, a teacher who wants to display a graph showing the relationship between price levels and output may swipe the appropriate barcode and bring up the graph on the video monitor, no matter which videodisc side is in the player.

USING MULTIMEDIA TECHNOLOGY

The *Economics at Work* curriculum takes full advantage of the resources of multimedia technology to stimulate student interest and to involve students in active learning. Interactive videodiscs or videotapes and computer software help deliver and support the lessons in the printed guides.

Instructors receive additional support through the special teacher advisement track, which contains suggestions for optimizing the effectiveness of the lessons. Further support is provided through an assessment track and an extensive database—which are accessible by barcodes in the guides—and through the classroom utilization component.

Interactive Videodiscs

Interactive videodiscs permit instructors to show students any part of a videodisc merely by swiping a barcode either with a wand or an automatic barcode reader. This nonlinear mode of instruction enables teachers to

move swiftly from one segment of the videodisc to another for such purposes as exploring related topics or reviewing earlier material.

Instructors may also have students use barcoded material for individual work or remediation. Teachers may also access assessment material, instructional suggestions, or database items by using barcodes. (Note: The assessment and support materials, recorded on separate audiotracks, require LB2 videodisc players.)

Videocassettes

For instructors who do not have videodisc players available, a linear version of *Economics at Work* has been developed on videocassettes. The instructional materials on these videotapes are the same as those on the videodiscs; however, tapes do not allow instructors instant access to whatever part of the materials they wish to use. Instructors face the minor inconvenience of having to rewind or fast-forward to reach the desired part of a videotape.

To minimize this problem and to save classroom time, teachers should determine beforehand the exact locations of the segments that they wish to show in class. Each videotape contains a running clock (hour, minute, second) in the upper left-hand corner of the screen. Its purpose is to assist teachers in locating or cuing up specific parts of the tape. In addition, by using the counting display on a videocassette recorder or videocassette player, teachers can quickly move to the exact spot desired.

When viewing tapes, logical places to pause are the still frames containing discussion questions. Upon reaching these points, the teacher should press the Pause button on the tape player (not the Stop button, which may create a loud burst of static). At the end of the discussion period, the instructor may press the Play button to resume the tape.

The videocassettes do not contain the additional audiotracks with assessment and instructional suggestions; nor do they provide programmed interactivity or permit access to the database, which is barcoded in the guides. However, the videocassettes are closed-captioned for hearing-impaired individuals. (Videodisc technology does not allow this feature.)

Advantages of Videodiscs

VIDEODISCs offer several advantages over conventional classroom audiovisual materials, including filmstrips, slides, movies, or videotapes.

- ▶ Videodiscs are practically indestructible.
- ▶ They are easy to use.
- ▶ Access is fast and unlimited—an instructor can display any segment on the videodisc within seconds.
- ▶ Videodiscs save time, eliminating the need to rewind and fast-forward through a videotape to find a certain part.
- ▶ They allow special effects to enhance a classroom presentation. The instructor can freeze individual frames on the TV screen, step through a series of frames one at a time, or show scenes in slow motion.
- ▶ Videodiscs reduce storage space. They are compact, yet they hold a large amount of information. The *Economics at Work* videodiscs contain additional assessment questions, instructional suggestions, and an extensive database, all of which are barcoded in the guides.

How to Use a Videodisc Player

SETTING UP

Option A—If the TV or Monitor Has Separate "Video-In" and "Audio-In" Ports:

1. Connect the video-out port at the back of the videodisc player to the video-in port of the TV or monitor.
2. Connect the audio signal from the videodisc player to the TV or monitor.
3. Switch the TV to the appropriate source. (A button designated "Ext." or "Aux." will usually be found among the controls on the front of the set.)

Option B—If the Monitor Has Only a Single Coaxial-Cable Input:

1. Connect the videodisc player's "RF" port (if it has one) to the coaxial "Antenna" or "Cable" port on the TV or monitor. (If the videodisc player does not have an RF port, then an RF modulator will be needed. This item can be purchased at an electronics supply store. If a modulator is needed, the videodisc player must be connected to it with the video and audio cables, and the modulator must be connected to the TV or monitor with the single coaxial cable.)
2. Under this option, the picture must be viewed on Channel 3 or Channel 4. Select the one desired on the TV or monitor and, if necessary, on the back of the videodisc player.

GENERAL OPERATING INSTRUCTIONS

1. Turn on the Power switch of the TV or monitor.
2. Turn on the Power switch of the videodisc player.
3. Press the Open/Close button—the videodisc table will extend from the player.
4. Place a videodisc on the table, with the labeled side of the videodisc to be played facing up. Use only one videodisc at a time. Take special care to align the videodisc within the guides on the table.
5. Press the Open/Close button—the table will close.
6. Some videodisc players require that a Play button be pressed to begin use.

USING THE BARCODE WAND

1. Press and hold down the Read button on the barcode wand.

2. Read (swipe) the barcode while constantly holding down the Read button. Hold the wand in a vertical position as if holding a pencil, and move it horizontally across the barcode in either direction. Be sure to swipe the entire barcode.
3. After the barcode has been read, an electronic "beep" will sound. (If the attempt to read the barcode was unsuccessful, change the angle at which the wand is being held, or modify swiping speed.) Next, aim the wand at the videodisc player and press the Send button.
4. If the barcode wand is hard-wired to the player, the wand automatically sends its instructions to the player after the swipe. If the barcode wand has no wire, press the Send key.

Note: Some of these instructions may not apply if you are using an automatic barcode reader.

Swiping the barcode wand is an acquired skill that takes a little practice. It's all in the wrist, and as time goes on you'll learn how easy the wand is to use. So don't be impatient. Do some "dry runs" before class. There's a learning curve for any new technology. The practice will be worth the effort.

Overall, using a videodisc player might take some practice at first, but once the technique is mastered it's as easy as pushing a button.

CARING FOR VIDEODISCS

1. When loading or removing a videodisc, hold it by the edges and try not to touch its playing surfaces.
2. Although fingerprints and other dirt on the videodisc will not actually damage the recorded signal, such soil will reduce the brightness of the light that is reflected from the signal surface. This can impair sound or picture quality. If the videodisc is dirty, clean it with a soft, damp, clean cloth before playing. *Do not clean the videodisc with record-cleaning or static-prevention sprays. Never use a cracked, scratched, or warped videodisc, for this can damage the player.*
3. After using a videodisc, always remove it from the player and replace it in its jacket. Store it vertically, away from excessive heat and humidity.

Follow any other instructions provided by the manufacturer for using the videodisc player and barcode reader.

Software

The software diskettes containing 35 application problems in seven different career clusters are designed for use with either Windows®- or Macintosh®-based operating systems. The software is self-contained and requires no other word- or data-processing program.

Computer Hardware Specifications

WINDOWS

- ▶ CPU: 386SX 16 MHz or compatible processor
- ▶ 4 MB RAM, 8 MB recommended
- ▶ Hard-drive space required, 30 MB
- ▶ Windows-compatible sound card, 8 bit DAC, 8 bit ADC
- ▶ Video display resolution of at least 640 x 480 with 256 colors
- ▶ Windows-compatible printer
- ▶ Windows 3.1 or higher; Windows for Workgroups 3.1 or higher; MS-DOS or PC-DOS 3.3 or higher

MACINTOSH

- ▶ Mac LCII or better with a minimum of 16 MHz 68020, 68030, or 68040 accelerator; or PowerMac compatible
- ▶ 13" monitor (640 x 480) or larger, 8-bit color or grayscale
- ▶ Hard-disk space, 30 MB
- ▶ At least 4 MB RAM, 2 MB available for program use
- ▶ System 6.0.7 or later

Some Compatible Laserdisc Equipment*

- ▶ Pioneer 2400, 2600, 8000 Models or later
- ▶ Sony MDP 1150, 1700 AR Models or later
- ▶ Suggested barcode readers: Pioneer Model V108-BC; Sony Model RM-B1150

*Not all-inclusive

ELECTRONIC MEDIA LIMITED WARRANTY

The Agency for Instructional Technology ("AIT") extends the following warranty to the original customer only.

Warranty Coverage

This warranty covers the media on which the AIT software/data are recorded. This limited warranty does not extend to the information contained on the media and in the accompanying book materials (the "software/data"). The media product is warranted against malfunction due to defective materials or construction.

This warranty is void if the media product is damaged by accident or unreasonable use, neglect, installation, improper service, or other causes not arising out of defects in material or construction.

Warranty Duration

The media product is warranted for a period of three months from the date of the original purchase by the customer.

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- A. Any implied warranties that arise out of this sale are limited in duration to the above three-month period. AIT will not be liable for loss of use of the media or other incidental or consequential costs, expenses, or damages incurred by you, the consumer, or any other user. Furthermore, AIT will not be liable for any claim of any kind whatsoever by any other party against the user of the software/data.
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- C. Any statements made concerning the utility of software/data are not to be construed as expressed or implied warranties.

- D. AIT MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE SOFTWARE/DATA AND MAKES ALL SOFTWARE/DATA AVAILABLE SOLELY ON AN "AS IS" BASIS.**
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- F. Some states do not allow the exclusion or limitation of implied warranties or consequential damages; therefore, the above limitations or exclusions may not apply to customers in those states.**

Further Disclaimers of Warranty

AIT will extend no warranty where the software is used on a machine other than that designated on the software package.

Media Replacement

Provided that you, the consumer, have satisfactorily completed and returned a copy of the License Agreement, AIT will replace, during the warranty period, any defective media at no charge. At AIT's option, the defective media must be returned, postage prepaid, along with proof of purchase date. Please contact AIT at the address shown below for return instructions before returning any defective media.

Agency for Instructional Technology
Box A
Bloomington, IN 47402-0120
800/457-4509

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.



This mark indicates that the LaserBarcode format has been followed and applied.

TOLL-FREE ASSISTANCE NUMBER

Support is available to help you with any technical or content problems you may experience with this media product. If you need assistance, call AIT toll-free at 800/457-4509.

If you identify a technical problem, please check your hardware to make sure it is working properly. If the hardware is functioning correctly, contact <http://ait.net> on the World Wide Web or call the above number. Please have the following information and materials on hand when calling:

- ▶ instructor's manual
- ▶ list of any error messages
- ▶ students' printouts
- ▶ description of the problem
- ▶ computer type and model
- ▶ computer's memory configuration
- ▶ version number of operating system
- ▶ name and version number of commercial software (if applicable)

You should indicate to the person in customer service whether you have a technical or content question. A specialist will call you back.

Please do not permit your students access to this number. You may also call this number if you want to order software or if you need product information.

NOTES

1. Cognition and Technology Group at Vanderbilt, "Anchored Instruction and Its Relationship to Situated Cognition," *Educational Researcher* 19 (1990): 2-11.
2. F. Newman and G. Wehlage, "Standards for Authentic Instruction," *Issues in Restructuring Schools* 4 (1993): 3-6.



INTEREST IN INTEREST

ECON BRIEFING

LAST week maybe you deposited your hard-earned paycheck at the bank because you're saving for a new sound system, a car, or college. Or maybe you bought a new CD player and put it on your credit card. If you did use plastic to pay the bill, are you aware that you were taking out a loan? Whether you were saving or borrowing, you were part of a complex system called the **market for loanable funds**.

Businesses, governments, and most individuals and families save or borrow money. Whether you're shopping around for the best deal on a car loan or thinking about what type of savings account to open, it helps to understand the language of borrowers, savers, and lenders. For example, it is useful to know who the savers and borrowers are, what "financial intermediaries" are, what an interest rate is, and why interest rates vary.

- ▶ If you received an inheritance of \$4,000, why would the interest rate be important to you?
- ▶ If you wanted to borrow money to start a small business, why would you be concerned about the interest rate?
- ▶ How is the interest rate a market price?
- ▶ Do savers or borrowers determine interest rates?
- ▶ Why are some interest rates higher than others?

WHAT YOU'LL LEARN IN THIS LESSON

- Savings are important to businesses and households. It takes time for businesses to produce consumer and capital goods, and so they must use savings to pay for resources before selling any goods. Households save so that they can purchase expensive items and can be prepared for unexpected expenses.
- People value consuming today more than consuming in the future. People must be compensated if they save today and postpone

2 CLASS PERIODS

Materials

To complete most of the activities in this lesson, students will need only writing paper or a notebook or journal. You will need to make a copy of the demander and supplier role cards (Appendix, pages 106–108); these cards must be cut apart and distributed, one to a student. You will also need small prizes for auction rounds.

INTRODUCTION

This lesson introduces students to interest rates. Interest rates play an important role in the economy. Businesses, governments, and most individuals participate in the market for loanable funds. They may be borrowers, savers, or both. Students may already participate in the market. If not, they will participate in the future.

GOALS

Students will be able to demonstrate their understanding of interest rates. They will be able to explain what interest rates are, why they are important to people and institutions, how they are determined, and why they vary. Their understanding of interest rates and the market for loanable funds should enable them to be more careful and informed savers and borrowers.

OBJECTIVES

Upon completing this lesson, students will be able to:

- define an interest rate
- explain that savers and borrowers interact in the market for loanable funds to determine the market rate of interest
- state the role of financial intermediaries, such as banks and credit unions
- analyze the factors that influence the range of interest rates available
- analyze the significance of interest rates for borrowers and savers

LESSON DESCRIPTION

In this lesson students will participate in an auction activity to illustrate how interest rates are determined in the market for loanable funds. They discover how the independent actions of savers and borrowers can interact to determine the equilibrium rate. Then they make decisions as individual savers or borrowers to explore why interest rates vary.

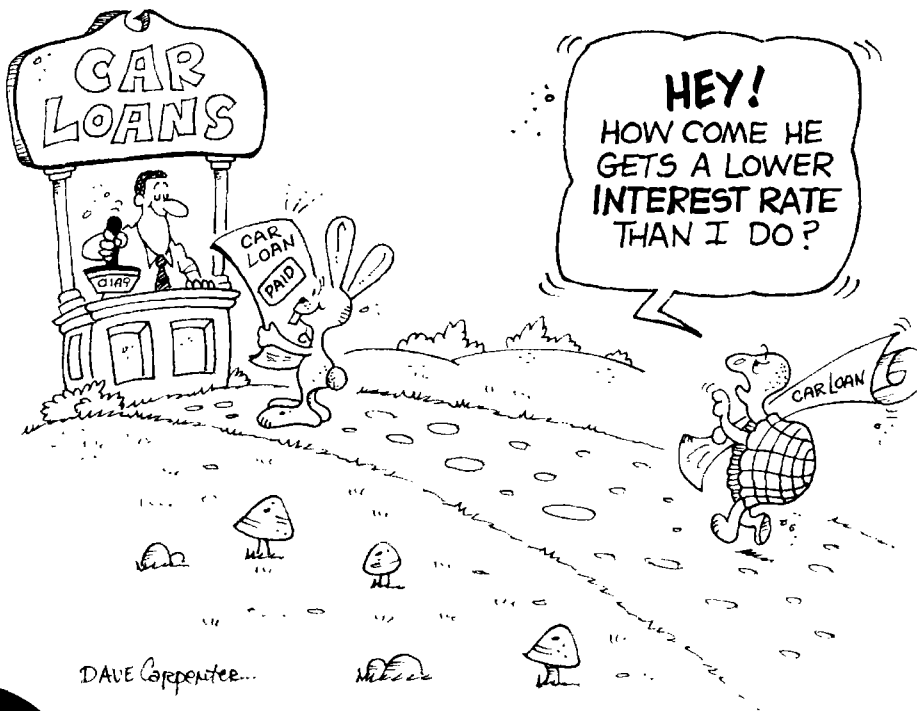
consumption. In other words, saving must be rewarded with interest income.

- Interest is the reward paid to savers for giving up consumption today. But borrowers wish to increase their spending today. Interest is the price borrowers pay to increase their present consumption.
- At higher interest rates, consumers are rewarded more for saving; therefore, the opportunity cost for consuming today is higher. At lower interest rates, loans are more attractive to borrowers.
- The equilibrium levels for different kinds of loans are determined by the intersection of supply and demand curves for loanable funds. Interest rates for different kinds of loans vary because of differences in risk, duration of loans, administrative costs, and tax treatment of loans.
- Banks and other financial institutions make it easier and less expensive to match up people who want to save (and lend) funds with people who want to borrow.

PAYBACK

In this lesson you will learn what interest rates are and how they are determined in the market for loanable funds. You will also examine the role of banks in the market and will explore the factors that lead to the many different interest rates you hear reported on the news.

An understanding of interest rates is important to you for several reasons. At various times in your life, you will probably be a saver. You might save for a car, a house, your retirement, or the education of your children. There will also be times when you are a borrower—to buy a house, a car, or expensive consumer goods. You might even borrow money to start your own business. Whatever the reason, interest rates will affect your decisions. If you know more about interest rates, you should be able to make careful, informed decisions.



DAVE Coverly...

Econcepts

financial intermediaries—institutions that serve as go-betweens, accepting funds from savers and making loans to borrowers

interest rate—the price paid for the use of someone's money

market for loanable funds—the market in which savers (suppliers of funds) and borrowers (demanders of funds) interact to determine the market rate of interest and the quantity of funds that will be loaned and borrowed

prime rate—the interest rate banks charge their most trustworthy and capable business customers

saving—disposable income earned but not spent

savings—accumulated past saving

POWER UP

WHY are so many people interested in interest? You probably already have some ideas about interest, but there are many other perspectives. To help you explore them, your teacher will divide the class into groups. Each group should consider one of these scenarios:

► **Michelle Mason, student**—

Michelle Mason works 20 hours a week after school and on weekends. She clears about \$100 a week after taxes. She deposits \$40 of her take-home pay into a passbook savings account because she wants to buy a computer with a CD-ROM drive.



Michelle Mason

► **Antonia Suglia, auto dealer**—

Antonia Suglia owns a large car dealership. She buys her automobiles from the manufacturer and maintains a large inventory of cars on her lot so that customers have a lot of choices.

► **Michael O'Malley, father**—Michael O'Malley has two children. One is 10 years old, and the other is 13. Mike has been saving for their college education ever since they were infants.

KEY TERMS

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

PREVIEW

Ask students to read the two paragraphs that introduce **Econ Briefing**. Encourage them to brainstorm ideas to answer the questions that follow these paragraphs.

Have students read **What You'll Learn in This Lesson** and **Payback** (pages 1–2).

Discuss the central topics, and clarify any points that students do not understand.

You may wish to write their questions on the chalkboard and display them throughout the lesson. Encourage students to keep notes as they develop ideas about the topics of the lesson.

Introduce the **Econcepts** and give contextual examples of each. Ask students to refer to them as needed during the lesson.

Have students read the introductory paragraph of **Power Up**. Divide the class into groups of from two to four students, and assign an *interest scenario* to each group. Tell the groups to answer the first three questions that follow the scenarios.



Daniel Watts

- ▶ **Eunice Chung, consumer**—Eunice Chung really likes to shop, and she enjoys the convenience of using a credit card. Every month she tries to pay more than the minimum payment required.
- ▶ **Craig Scherman, repairman**—Craig Scherman owns an appliance repair shop. Because of great marketing, his business has been growing fast. He'd like to expand his facility and add some technologically sophisticated equipment.

- ▶ **Daniel Watts, worker**—Daniel Watts is a member of the United Auto Workers. Every month he contributes 10 percent of his pay to the union's money-market savings account. He's saving for his retirement.

- ▶ **John Morton, retiree**—John Morton is 67 years old and quite healthy. He saved for years while he worked, and he put his money into certificates of deposit.



John Morton

- ▶ **Jill Walstad, entrepreneur**—Jill Walstad owns a small consulting business. She has been quite successful this year, and so she's decided to retain some of the profit for future use.

- ▶ **Roosevelt Anderson, builder**—Roosevelt Anderson owns a construction company that specializes in building single-family homes. Of course, his customers don't pay him for the house until the work is completed.

After the groups have finished their work, ask each group to read its scenario and to explain its answers to the first three questions on page 5.

After all groups have reported, have students answer the last two questions.

Your group should discuss its scenario and answer the next three questions listed on the following page. Write your answers on the lines provided or on a separate sheet of paper. When everyone has finished writing, the group should choose one member to serve as its reporter. The reporter's job is to share the group's answers with the class.

- Why would the person described in your scenario be concerned about interest rates?

- If interest rates rose, how might this person be affected?

- If interest rates fell, how might this person be affected?

After listening to reports from the other groups, answer the next two questions. Use the lines provided or another piece of paper.

- Which people would want interest rates to rise? Why?

- Which people would want interest rates to fall? Why?

“Nowadays, people can be divided into three classes—the Haves, the Have-Nots, and the Have-Not-Paid-for-What-They-Haves.”

—Earl Wilson, American newspaper columnist

Students may respond:

Michelle Mason is a saver. If interest rates rose, she would accumulate the money she needs faster. If rates fell, it would take longer for her to save the amount she needs.

Antonia Suglia must borrow money for inventory. Interest is a cost of production for her. If rates fell, she would be better off. If they rose, she would be worse off.

Michael O’Malley is a saver. If interest rates rose, he would be better off. If rates fell, he would be worse off.

Eunice Chung is a credit card user. As a borrower, she would be worse off if her finance charges rose; she’d be better off if they fell.

Craig Scherman must borrow money to expand his facility and buy new equipment. If interest rates rose, his costs of production would rise. If rates fell, his costs of production would decrease.

Daniel Watts is saving money for retirement. If interest rates rose, his retirement account would be worth more money. If rates fell, he would be worse off.

John Morton counts on interest income for his retirement. If rates fell, he would be worse off. If they rose, he would be better off.

Jill Walstad is saving some of her profit. If interest rates rose, she would have more money for her business in the future. If interest rates fell, she would be worse off.

Roosevelt Anderson must borrow money to pay for the resources needed to build his customers’ homes. If interest rates rose, his costs of production would go up and he would be worse off. If interest rates fell, he would be better off. Furthermore, higher interest rates will decrease the demand for his product.

The savers would want interest rates to rise so that they could earn more income.

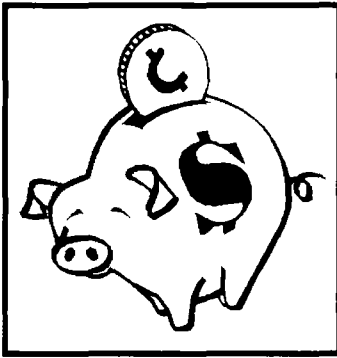
The borrowers would want interest rates to fall so that they could pay less to borrow money.

PRINT CORE

Ask students to read the paragraph that introduces **Take a Closer Look**.

TAKE A CLOSER LOOK

Now you can see that interest rates are important to people whether they are savers or borrowers. Interest rates will be important to you in the future. There will be times when you are a saver and are interested in receiving a high interest rate. And there will be times when you want to borrow money and will be interested in getting a low interest rate. In either case, you will be a participant in the market for loanable funds. There is still a lot you should know about this market and interest rates.

**Rattling the Piggy Bank**

By saving rather than consuming current output today, countries can look forward to higher income and consumption tomorrow. If the total supply of savings falls, global investment—and hence growth—will be constrained. Countries that save more tend to grow faster. Over the past 10 years, 14 of the 20 fastest-growing economies had savings rates of more than 25 percent of Gross Domestic Product. In contrast, 14 of the 20 slowest-growing economies had savings rates below 15 percent. Higher savings boost growth by spurring investment.

—Adapted from *The Economist* (May 6, 1995)

CONCEPT PRESENTATION

Have students read **Focus**. The questions in this paragraph are not intended for discussion at this point; rather, they are meant to indicate the direction of the lesson.

CLARIFICATION AND DISCUSSION QUESTIONS

Ask students to read the introductory paragraph of **Talk This Over**. Discuss the fact that all markets have two kinds of key players: demanders and suppliers. Emphasize that the market for loanable funds behaves as other markets do.

Have students respond in writing to the questions in this section. Then encourage whole-class discussion of their answers.

They may respond:

The demanders in the market for loanable funds are individuals, households, businesses, and governments that want to borrow money.

FOCUS

The interest rate is the price of money in the market for loanable funds. It is the price savers receive for supplying funds to the market. It is the price demanders pay to borrow loanable funds. Now it's time to answer some questions about the market. How are those important interest rates determined? Who are the participants in the market for loanable funds? What are their roles?

TALK THIS OVER

The market for loanable funds is similar in many ways to other markets that you have studied. Something is exchanged: loanable funds. There is a price: the interest rate. Like any market, the market for loanable funds has demanders and suppliers.

Answer the following questions on the lines provided or on a separate sheet of paper. Then discuss your responses with your classmates.

- Who are the demanders in a market for loanable funds?

- Why do these people or institutions want to borrow money?

- Who are the suppliers in the market for loanable funds?

- Why do these people or institutions accumulate savings?

Individuals and households want to borrow money to purchase homes, cars, and consumer goods and to provide funds for unexpected expenses in an emergency. Businesses want to borrow money to invest in plant and equipment, to provide operating funds, or to build inventories. Governments borrow money when their revenues are less than their expenses so that they can continue providing public services.

The suppliers in the market for loanable funds are entities with savings—individuals and households, businesses, and governments.

Individuals and households save for future consumption, for emergencies, and for retirement. Businesses save some of their profits for future investment. Sometimes governments have surpluses.

CASE IN POINT: THE MARKET FOR LOANABLE FUNDS

The savings accumulated by the suppliers of loanable funds must somehow be channeled to those people and institutions who want to borrow money. A marketplace would certainly come in handy.

CASE STUDY

Ask students to read **Case in Point: The Market for Loanable Funds** as far as **Decision Time 1**. Clarify any points they have trouble understanding.



"I'VE GOT MY EYE ON A SWAMP. WHAT KIND OF INTEREST RATES COULD I GET ON A 100-YEAR LOAN?"

The Market for Loanable Funds

People who borrow money would have a great deal of difficulty finding people who have money to lend. If a family wanted to borrow \$95,000 to buy a house, then it would have to find a saver with \$95,000—or a lot of savers with smaller amounts of money that add up to \$95,000. Imagine what it would be like if you had to go out and find people who had money they were willing to lend you. Fortunately there's a system that handles this problem. Banks and other financial institutions play the role of **financial intermediaries** in the market for loanable funds.

Milestone 1

Ask students to read the instructions in the first two paragraphs of this section. Then have them complete the activity.

Decision Time 1

Look at the following diagram. Note that financial intermediaries are in the middle, with savers (suppliers) above and borrowers (demanders) below. Money flows from savers to financial intermediaries and from financial intermediaries to borrowers.

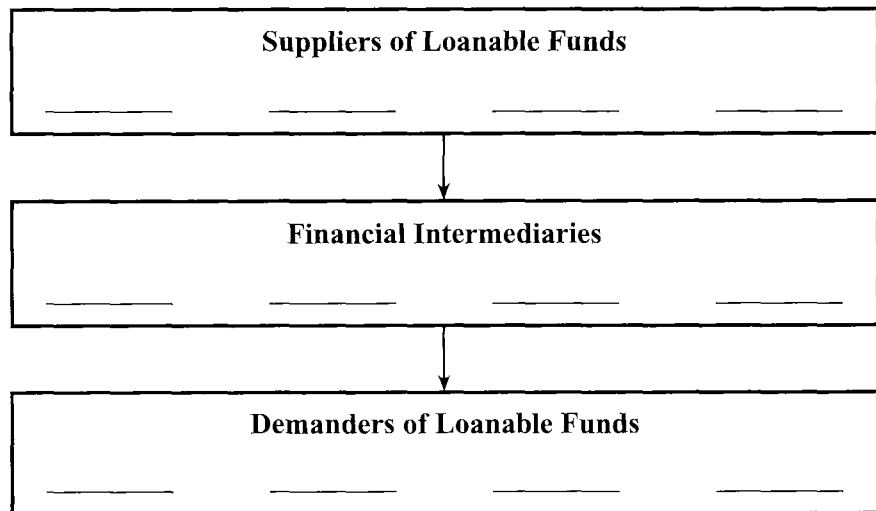
Following the chart are nine statements. Put the number of each statement in the appropriate box to indicate whether the statement represents a saver, a borrower, or a financial intermediary. (Your teacher may instruct you to reproduce the diagram on a separate piece of paper.)

Answers:

Suppliers: 2, 4, 6

Financial Intermediaries: 1, 3, 8

Demanders: 5, 7, 9



1. First National Bank opens a branch at 9800 Main Street.
2. Mrs. Alaniz works for the local Ford assembly plant. She contributes 10 percent of her weekly pay to a union pension account.
3. The Educational Credit Union provides services for teachers and other educators.

4. Sandra Kritner has a lawn-mowing service. Every month she places \$200 in an account for college.
5. The automotive repair shop at the corner wants to purchase new front-end-alignment equipment and needs a loan.
6. Will Samson is retired and has four certificates of deposit worth \$10,000 each.
7. Shaunna Andrews wants \$3,000 to pay tuition for her final semester at technical school.
8. Heartland Savings and Loan was founded in 1897.
9. Ms. Ginsberg is opening a small restaurant. She wants \$10,000 for equipment.

Now you've examined various types of suppliers and demanders in the market for loanable funds. But how is the price of loanable funds determined? The price of loanable funds is extremely important. It will affect decisions that people and institutions make regarding how much money to save or borrow. As in any market, the quantity demanded and the quantity supplied depend on the price.

Have students read the last paragraph, which serves as a bridge to the next section.

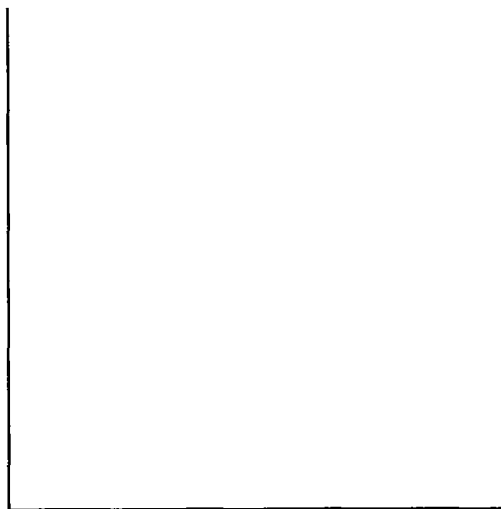
Decision Time 2

Interest is the price you pay or receive in the market for loanable funds. Your next job will be to complete the blank graph on this page. Start by labeling the horizontal axis "Quantity of Loanable Funds" and the vertical axis "Interest Rate." Write on this page, or use a separate sheet of paper.

Milestone 2

Ask students to read the introductory paragraph. Have them label the axes according to the directions. (Note: Students should not complete the graph at this point—they will plot it later in the lesson.)

The Market for Loanable Funds



Have students answer the questions in this section.

They might respond:

If the interest rate rose, I would be willing and able to save more money. Although I am giving up consumption today, I am being compensated with more interest income.

If the interest rate rose, it would cost me more to borrow the same amount of money. I may not have enough income to pay the higher rate, and I may not be willing to pay it and give up more consumption in the future.

Because demanders are less willing and able to pay higher interest rates, the quantity of loanable funds demanded will decrease as the interest rate rises. The demand curve will slope downward.

Because suppliers are more willing to provide loanable funds at higher interest rates, the quantity supplied will increase as the interest rate rises. The supply curve will slope upward.

Can you predict how the preceding graph would look. To guide your thinking, answer the following questions. Use the lines provided or a separate sheet of paper.

- If you were saving money and the interest rate available to you went up, would you be willing and able to save more or less money? Why?

- If you wanted to borrow money and the interest rate available to you went up, would you be willing and able to borrow more or less money? Why?

- Based on the above information, how do you think the demand curve for loanable funds will look? Explain your answer.

- Based on the above information, how do you think the supply curve for loanable funds will look? Explain your answer.

“Money, after all, is extremely simple. It is a part of our transportation system. It is a simple and direct method of conveying goods from one person to another. Money is in itself most admirable. It is essential. It is not intrinsically evil. It is one of the most useful devices in social life. And when it does what it was intended to do, it is all help and no hindrance.”

—Henry Ford, American automobile manufacturer

To test your hypotheses about how savers and borrowers react to interest rates and how the graph would look, take part in a simulation of a market for loanable funds. Half of the class should play “demanders,” and the other half should play “suppliers.” An auction between demanders and suppliers will take place.

Your teacher will give you a role card for the auction, in which you will assume the role of a demander or a supplier of loanable funds. Before the auction begins, you need to read both your role card and the rules for the auction:

A Market for Loanable Funds—Rules of the Game

1. Your teacher will conduct an auction so that demanders and suppliers can make exchanges. Loanable funds will be exchanged in \$10,000 units.
2. The information on your role card is confidential. Do not reveal it to anyone!
3. If you are a demander of loanable funds, your card indicates a maximum interest rate you are willing and able to pay to borrow \$10,000. You will be better off if you can get a lower interest rate. During the auction, you may announce an interest rate that you are willing to pay—it may be lower than the rate on your card. Try to make the best deal possible.

If you are a supplier of loanable funds, your card indicates a minimum interest rate at which you are willing to save (that is, lend) \$10,000. You will be better off if you can get a higher interest rate. During the auction, you may announce an interest rate that you are willing to receive—it may be higher than the rate on your card. Try to make the best deal possible.

4. Trading is voluntary. You don’t have to trade, but it would make sense to try to make yourself better off through trading.
5. In each auction round, you are allowed to make only one deal. You will receive a reward based on the results of your deal. Your teacher will give you one bonus point for every 0.25% gain you make. You will record information about your deal on a transaction card. Here’s an example of how to complete the card:
 - A demander who is willing to pay an interest rate of 9.5% and who negotiates a deal for 8% will gain six bonus points. (The maximum interest rate was 9.5%; the negotiated deal was 8.0%; the gain was 1.5%; therefore, six bonus points were earned.)

$$\frac{9.5 - 8.0}{0.25} = 6$$

Have students read the two paragraphs that precede **A Market for Loanable Funds—Rules of the Game**.

Give every student a **role card**. You will find the demander and supplier role cards in the Appendix (pages 106–108). There are enough role cards to accommodate a class of 26 students—13 demanders and 13 suppliers. If you have more students, they can participate in the activity by recording the interest rates that are negotiated. They can also take care of writing the current “bid” or “asked” prices on the chalkboard.

If you have fewer than 26 students, eliminate both a supplier and a demander. Do not use the 7% demander card or the 10% supplier card. If you must continue eliminating cards, proceed in the same fashion by deleting the next highest and lowest cards (the 7.25% demander card and the 9.75% supplier card). These are cards that are beyond the equilibrium rate.

Ask students to read their cards and then to read **A Market for Loanable Funds—Rules of the Game**. Answer any questions they have about the rules. Make sure demanders understand that they are not allowed to bid an interest rate higher than the rate on their cards. Make sure suppliers understand that they are not allowed to ask for an interest rate lower than the rate on their cards.

A few students will find themselves unable to trade. These are demanders and suppliers who are beyond the equilibrium—demanders who have cards with an interest rate lower than the equilibrium rate and suppliers who have cards with an interest rate higher than the equilibrium rate.

Each student will also need a **transaction card**. Demander and supplier transaction cards appear in the *Student Guide* on page 13. (Note: Depending on school policy, students should list their transactions directly on the cards in their guides or on a separate sheet of paper.)

Sample Auction Round

Write the words **Bid** and **Asked** on the board. Suppose that a demander bids 8%. You would write 8 under **Bid**.

At that point a supplier might say 8%. Write 8 under **Asked**. Don't close the bidding yet, because another demander might say 7.75% in response to what the supplier asked.

Erase the 8 under **Bid** and write 7.75 on the board. **Bid** and **Asked** prices may go up or down. Keep the auction open until no more offers are forthcoming. Then announce that a deal has been made. The winning demander and supplier should write this information on their transaction cards. They are then excluded from the continuing auction. You (or a student recorder) should list the negotiated deal on the chalkboard.

As the auction proceeds, students can be expected to improve their negotiating skills.

You may need to check students' cards to make sure they have bid within the rules of the game.

- A supplier who is willing to make a loan at an interest rate of 7% and negotiates a deal for 8% will gain four bonus points. (The minimum interest rate was 7.0%; the negotiated deal was 8.0%; the gain was 1.0%; therefore, four bonus points were earned.)

$$\frac{8.0 - 7.0}{0.25} = 4$$

6. To make an offer during the auction, you must raise your hand and be recognized by the teacher. The teacher will write your offer under "Bid" or "Asked" on the board. That interest rate will stay there until someone offers another interest rate or until two parties strike a final deal.

If you are a demander, you may bid to pay a lower interest rate than the rate on your card. **You may not bid above your maximum rate.**

If you are a supplier, you may ask for a higher rate than the one on your card. **You may not ask below your minimum rate.**

7. Once you and another party negotiate an interest rate, you have a binding contract. You should record the negotiated interest rate on your transaction card, and you should calculate your gain and bonus points.

"Children become adults when they stop asking their parents for an allowance and request a loan."

—Anonymous

8. You may negotiate only in 0.25% increments—for example, 9.5%, 9.25%, 9.0%, 8.75%, 8.5%...
9. Once the auction begins, you must make decisions about what interest rate you are willing to negotiate. You will have a lot of competition in the room, and so you will have to act fast. You may have a target interest rate in mind, but you might need to change it because of what other bidders (demanders) or askers (suppliers) are doing. If you bid or ask for an interest rate, you may change to a higher or lower rate, depending on how the auction is progressing.

If you make a deal, use the appropriate transaction card on the following page to record what happened to you in Auction Round 1 (or copy the card on another piece of paper). See Rule 5 to refresh your memory on how to complete these cards.

Demander (Borrower) Transaction Card

Auction Maximum Interest Rate – Deal = Gain Bonus Points

1

2

3

Supplier (Lender) Transaction Card

Auction Deal – Minimum Interest Rate = Gain Bonus Points

1

2

3

Your teacher will now conduct the auction. Good luck negotiating!

Talk This Over

Look at the table on the board showing the interest rates at which deals were negotiated. Do you see any pattern? If so, what is it? Discuss this with your classmates.

The first auction round may have been confusing, but no doubt you've learned some bargaining skills. You can probably do better in another round. Your teacher will conduct a second round and possibly a third. Use the same role card in each round, and record your deals on your transaction card.

“The importance of money essentially flows from its being a link between the present and the future.”

—John Maynard Keynes,
English economist

Milestone 3

Eventually the negotiated interest rates will tend to cluster around the equilibrium interest rate of 8.5%.

If a clustering of rates around 8.5% does not occur in the first round, conduct a second round and possibly a third. Students' bids will gravitate toward the equilibrium as they become experienced in the auction process. Each student should use the same role card in each round and should record deals on his or her transaction card.

Next help students complete the supply-and-demand table in their guides.

Begin by having students look at their role cards. Ask demanders to raise their hands if they would borrow at 10% (assuming the 10% is in use). Only one demander exists at this level; therefore, write 10 (for \$10,000) under "Quantity Demanded." Then ask suppliers to raise their hands if they would lend at 10%. All suppliers are willing; assuming there are 13 suppliers in the game, write 130 (for \$130,000) under "Quantity Supplied." Next ask how many demanders would borrow at 9.75%. There will be two: the student with the card that says 9.75% and the student with the 10% card. But there is one less supplier, for the supplier with the 10% card will drop out. Continue in this way until the table has been completed, as below:

Qd (000)	Interest	Qs (000)
10	10.00	130
20	9.75	120
30	9.50	110
40	9.25	100
50	9.00	90
60	8.75	80
70	8.50	70
80	8.25	60
90	8.00	50
100	7.75	40
110	7.50	30
120	7.25	20
130	7.00	10

The equilibrium interest rate is 8.50% because that is where the quantity demanded is equal to the quantity supplied.

\$70,000 will be exchanged because the quantity demanded equals the quantity supplied.

After you're finished dealing, take some time to analyze what happened. As the demanders and suppliers interacted with one another, an equilibrium rate was established. What was the likely equilibrium interest rate? To answer this question, look at the information on your cards. Use that information to develop a supply-and-demand table:

Quantity Demanded (in thousands of \$)	Interest Rate (%)	Quantity Supplied (in thousands of \$)
_____	10.00	_____
_____	9.75	_____
_____	9.50	_____
_____	9.25	_____
_____	9.00	_____
_____	8.75	_____
_____	8.50	_____
_____	8.25	_____
_____	8.00	_____
_____	7.75	_____
_____	7.50	_____
_____	7.25	_____
_____	7.00	_____

- Given the supply-and-demand data on the cards, what is the equilibrium interest rate in this market for loanable funds? Why?

- Given the supply-and-demand data on the cards, what quantity of loanable funds will be exchanged? Why?

Go back to the graph on page 9, and plot the information from the table. Be sure to scale the axes correctly so that they represent the data you have entered. Now you can determine the equilibrium rate of interest by looking at the point where the loanable-funds supply curve intersects with the demand curve. Does the graph look the way you predicted it would? If it does, congratulations—you've learned a lot!

To enhance students' understanding of this topic, you may wish to use the graphical database on the loanable-funds market. If so, swipe this barcode:



CASE IN POINT: YOU MAKE THE CALL!

In the auction activity, you learned that the general level of interest is determined by the interaction of supply and demand in the market for loanable funds. Okay, that makes sense. But what if you receive 3% on your savings account, you pay 12% on your car loan, your family pays 9% on a home mortgage, and your brother pays 22% interest on his credit card debt. What's going on? Why are there so many different interest rates?

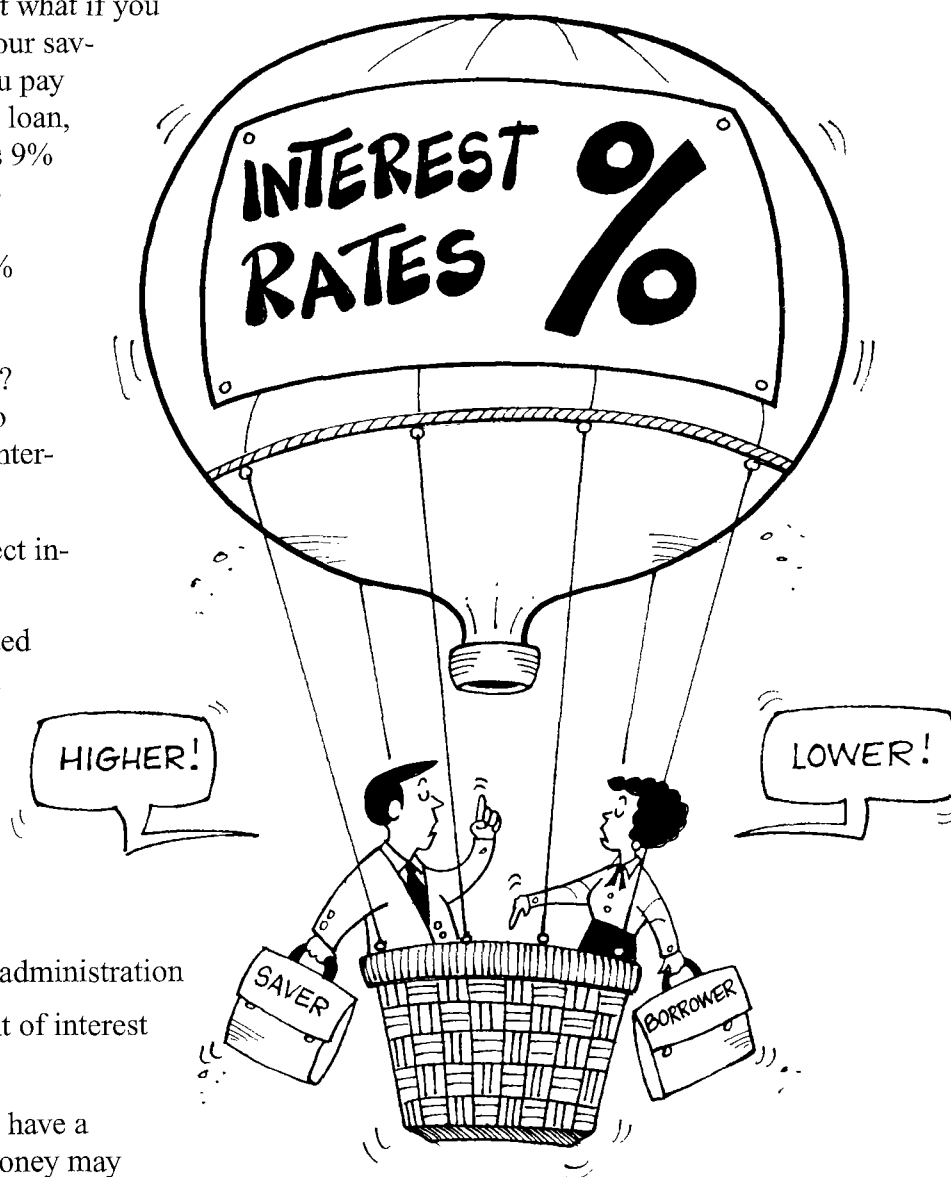
Four factors affect interest rates:

1. Risk associated with the loan or savings alternative
2. Duration of the loan or savings alternative
3. Cost of loan administration
4. Tax treatment of interest earned

Savers (lenders) have a risk that their money may not be repaid. Savers have

CASE STUDY

Ask students to read the first three paragraphs of **Case in Point: You Make the Call!** Clarify any points they do not understand.



DAVE GORPENTER

“Every morning, I get up and look through the Forbes list of the richest people in America. If I’m not there, I go to work.”

**—Robert Orben,
American humorist**

a higher opportunity cost when they must set aside their money for a longer period of time. Borrowers would like a lower interest rate if they’re willing to repay in a shorter time. Financial intermediaries have similar administrative costs for short- and long-term loans. Savers are attracted to financial instruments that have preferential tax treatment on the interest earned—for

example, tax-free municipal bonds. With such instruments, savers have more money to spend in the future.

Have students complete the fill-in-the-blank activity that follows the introductory paragraphs. *They should respond: higher; higher; higher; lower.*

Summarize the effects of these factors by completing the following statements. Use the blank lines provided or another piece of paper.

- The higher the risk, the _____ the interest rate.
- The longer the loan, the _____ the interest rate.
- The longer the savings alternative, the _____ the interest rate.
- The smaller the loan, the _____ the interest rate.
- If preferential tax treatment is assigned to a savings alternative, the interest rate will be _____.

Next ask students to examine the list of interest rates in **You Make the Call!** and to read the ensuing two paragraphs. As usual, clarify points they have trouble grasping.

You Make the Call!

Look at the following list of interest rates, which were all in effect during the same week.

Federal Funds Rate	5.93%
Passbook Savings	3.00%
Certificate of Deposit (1 year)	6.25%
State and Local Bonds	6.18%
Conventional Mortgage (30 years)	9.25%
Conventional Mortgage (15 years)	8.75%
New-Car Loan	10.00%
Used-Car Loan	12.50%
Credit Card Finance Charge	21.80%
Prime Rate	8.50%
Home Equity Loan	2.00 points above prime rate

Although you often hear about movements in “the” interest rate, there are actually many levels of interest. Movement of the interest rate refers to a change in the general level of interest rates—a range of rates that move in the same direction.

As you have seen, the general level of interest rates depends on supply and demand in the loanable-funds market. And several factors—risk, duration, administrative cost, and tax treatment—influence interest rates. You will now make some decisions to see if you can determine those factors.

Analyze the following situations as if you were a lender or a saver. Write your answers on the lines provided or on a separate piece of paper. Be prepared to discuss your analyses with your classmates.

Decision Time 1

Ten potential borrowers have come to your bank to borrow money to buy a car. Each of them wants to borrow \$10,000. David and Mary Thornton want to borrow \$100,000 to buy a house. The bank has enough money to make all the loans. Will you charge both types of borrowers the same rate of interest? Explain your decision.

Decision Time 2

Carole Douglas is considering a couple of savings alternatives. The first is an insured passbook savings account, and the second is an uninsured money-market fund. Which alternative will pay a higher interest rate? Explain why.

Finally, have students read the last paragraph of this section—it serves as a bridge to the six **Decision Time** sections.

Milestone 1

Ask students to read **Decision Time 1** and to answer the question in this section. *They may respond: No. I wouldn't charge the same interest rate to both types of borrowers. A car loan is riskier than a house loan. Cars depreciate quickly. A house stays where it is and tends to hold its value or appreciate.*

Milestone 2

Ask students to read **Decision Time 2** and to answer the question. *They might respond: The uninsured money-market fund will pay a higher interest rate. Passbook savings accounts have no risk—they are insured up to \$100,000—and so they pay a lower interest rate.*

A Saving Strategy

ABOVE all, you need a savings habit. Open a bank or credit-union savings account and make deposits every month. Start with five percent of every paycheck. Once that's working, go to 10 percent. Your savings target: a nest egg equal to three months' income. Don't worry about the interest rate; what matters is having an emergency-savings account. That money is for short-term security, not long-term growth. Security comes first.

—Adapted from Jane Bryant Quinn, "Rising Interest? Make It Pay," *Woman's Day* (April 4, 1995)

Milestone 3

Ask students to read **Decision Time 3** and to respond. Possible answer: *The longer mortgage will have a higher interest rate. The further into the future that a loan can be repaid, the more uncertain repayment becomes. Loans that are extended for longer periods usually have higher interest rates.*

Milestone 4

Have students read **Decision Time 4**. Encourage them to answer the question. They might respond: *If people are asked to postpone current purchases, they incur an opportunity cost of giving up consumption today, which is preferable. To encourage savers to tie up their money for a longer period, they must be rewarded with higher interest.*

Milestone 5

Ask students to read **Decision Time 5** and to answer the question in this section. Students may respond: *The smaller loans would have a higher interest rate because of the cost of administration. Any loan must be administered by the lender, whether the loan is large or small. Bills must be mailed, payments recorded, and repayment monitored. Part of the interest that is charged is used to cover these administrative costs—the smaller the loan, the larger the portion of interest that must be used for administration.*

Milestone 6

Have students read **Decision Time 6**. Encourage them to answer the question that concludes the case study. Students might respond: *Yes. I would buy a municipal bond if its interest rate exceeded the after-tax interest rate on a certificate of deposit. Tax treatment affects interest rates. Not all municipal bonds are insured, however. Those that are insured pay slightly lower interest rates than uninsured ones.*

Decision Time 3

According to the table of sample interest rates (page 16), the interest rate for a 30-year mortgage is higher than the interest rate for a 15-year mortgage. Why?

Decision Time 4

A certificate of deposit that matures in one year usually pays a lower interest rate than a certificate of deposit that matures in five years. Why?

Decision Time 5

Clarence Jones, the loan administrator for a bank, must process all the paperwork for every loan. A small loan requires the same amount of paperwork as a large loan. As the bank president, would you charge a higher interest rate for small loans? Explain your reasoning.

Decision Time 6

Interest earned on most bonds issued by state and local governments is exempt from federal income tax. These municipal bonds offer lower interest rates than certificates of deposit, whose interest is taxable. As a saver, would you purchase a municipal bond rather than a certificate of deposit? Why?

PUT IT TOGETHER

THE Econ Briefing at the beginning of this lesson posed five questions about interest rates. Draw from what you have learned to answer those questions now. Use the lines provided or a separate sheet of paper.

- If you received an inheritance of \$4,000, why would the interest rate be important to you?

- If you wanted to borrow money to start a small business, why would you be concerned about the interest rate?

- How is the interest rate a market price?

- Do savers or borrowers determine interest rates?

- Why are some interest rates higher than others?

CLOSING

Put It Together repeats questions that first appeared in **Econ Briefing** at the beginning of the lesson. Encourage students to answer these questions and to provide reasons for their responses.

Possible responses:

If I were going to save my inheritance, I would want to receive as much return as possible on my savings because I have an opportunity cost: I am putting off spending today for spending tomorrow. I must be rewarded for doing this.

If I borrowed money to start a business, I would be concerned about the interest rate because it is a cost of production to me. I want to borrow money at the lowest interest rate possible to keep my costs down.

The interest rate is the price of borrowed money. Like all prices, it is determined in a market consisting of buyers and sellers. In the loanable-funds market, buyers borrow and sellers lend loanable funds.

Neither savers nor borrowers determine the interest rate. It is determined by the interaction of the demand of borrowers and the supply of savers in the market for loanable funds.

Various factors influence interest rates: risk, duration of loan, size of loan, and tax treatment.

The Do's and Don'ts of Going in Debt

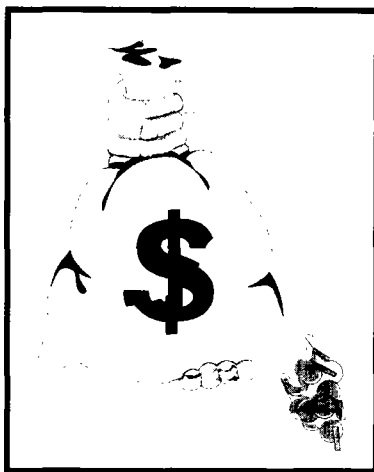
WHEN you're in the market for loanable funds, keep the following advice in mind.

- **Borrow against your bank savings account.** Most savings banks, credit unions, and savings and loans currently offer low-cost loans at bargain interest rates. At Home Savings of America, depositors who take out loans pay only 2% above the rate they're earning on their passbook savings accounts. Under this arrangement, if you borrow \$3,000 against a savings account earning 3%, you will pay 5% for the loan but continue earning the 3%. In other words, the loan actually costs only 2% a year, or \$60. If you borrow the \$3,000 through a personal bank loan, currently at a rate of 16%, it would cost you a whopping \$480 a year in interest.

- **Borrow against your retirement savings plan at work.** Most employee savings plans, such as the 401(k), permit you to borrow from them. The top limit is usually 50% of your account balance or \$50,000, whichever figure is smaller. The interest is almost always lower than what you'd pay elsewhere, and because you're essentially borrowing the money from yourself, you pay the principal owed back to yourself.

- **Borrow free for college.** All students who "demonstrate need" can take out a Stafford Loan to pay for college or

graduate school. If you qualify for a Stafford Loan, the government will pay the interest on the loan while you're in school and for up to six months, and possibly longer, after graduation. The savings are substantial. If you borrowed \$2,000 a year for four years of school at 8% interest, the government would pay the \$2,120 of interest owed on the first 4½ years of the loan. For more information, call Nellie Mae, the largest provider of education loans, at (800) 9-TUITION.



- **Don't borrow on credit cards.** The average interest rate on a credit card is a little under 18%, but many cards still charge rates of more than 21%. If you carry a running balance of \$2,000 on your charge account at 20%, you're laying out \$400 a year in interest.

- **Don't borrow from small loan/finance companies.** Interest rates on loans from these companies vary from state to state, but they're generally high. In California, for example, the maximum permissible rate on such loans of less than \$2,500 is around 30 to 40%, which includes administrative costs. In Florida, it's 30% a year for up to \$1,000 and 24% a year on loans of \$1,000 to \$2,000.

—Adapted from Barbara Gilder Quint, "Better Ways to Borrow and Save," *Family Circle* (January 10, 1995), ©1995 Gruner + Jahr USA Publishing; reprinted with permission

SUMMARY

Have students read **Net Gain**. Ask them to provide examples of each of the major points made in the lesson. Correct any misunderstandings they may have.

NET GAIN

WITH your new knowledge about interest rates, you should become a more careful and informed saver and borrower. You now possess a lot of knowledge that most people don't have. This knowledge should help you in your future financial endeavors. Remember the major points made in this lesson:

1. **Savings are important to both businesses and households.** Businesses may use savings to pay for the resources they need to produce goods. Individuals and families may have to accumulate the money needed to buy expensive items or to cover unexpected expenses.
2. **People value consuming and having things today more than in the future.** They must be compensated for postponing consumption. Saving is rewarded with interest income.

3. **Interest is the cost paid by borrowers to increase their consumption today.** Borrowers prefer to satisfy their wants now rather than to save their money and satisfy their wants in the future.
4. **When interest rates are high, consumers are rewarded more for saving** (the opportunity cost of consuming today moves higher). When interest rates are low, loans become more attractive to borrowers.
5. **Interest rates for different kinds of loans vary because of differences in risk, loan duration, administrative cost, and tax treatment.** An equilibrium interest rate occurs when the quantity of loanable funds demanded equals the quantity of loanable funds supplied.
6. **Banks and other financial institutions act as intermediaries,** making it easier and less expensive to match people who want to save (and lend) funds with people who want to borrow them.

BUILDING ON SUCCESS

- **WORKING** with a partner, contact a local bank and obtain interest rates for the following loans or savings instruments.
1. new-car loan
 2. used-car loan
 3. 15-year conventional home mortgage
 4. 30-year conventional home mortgage
 5. 2-year certificate of deposit
 6. 5-year certificate of deposit
 7. \$500 personal loan
 8. \$10,000 personal loan

EXTENSION

The activities in this section should be completed outside class. Divide the class into pairs to complete the activities. When students return to class after collecting their information, write their data on the board and discuss differences in interest rates. Ask them to identify the factors that cause differences in rates.

Borrowing Money

"A banker is someone who lends you his umbrella when the sun is shining, and takes it back when it starts to rain."

—Mark Twain (Samuel Clemens), American writer and humorist

"Behind every millionaire hides a frenzied borrower."

—Aristotle Onassis, Greek shipping magnate and businessman

Divide the class into groups of three or four students. Have the groups discuss and prepare an outline or grid to describe the benefits and costs of savings options.

For example:

Savings Option 1:

- A. Risk
- B. Loan Duration
- C. Costs of Administration
- D. Tax Treatment

Savings Option 2:

- A. Risk
- B. Loan Duration
- C. Costs of Administration
- D. Tax Treatment

Report your findings to the class. A class survey should then be compiled. Hold a class discussion about why some differences in interest rates occurred.

- Imagine that you have worked as a customer-service representative for Home Health Care, Inc. The company provides and maintains medical equipment for patients in their homes. The firm has 350 employees. Recently you were asked to serve on a committee that will consider various savings options for the employees. You have been asked to develop an outline or grid that can be used to help analyze the costs and benefits of each savings option.

Prepare an oral presentation to explain your outline or grid to the rest of the committee.

"Money is always around, it just changes hands. That's all that can be said about it."

—Gertrude Stein, American writer

ASSESSMENT

Assessment questions are provided to help you evaluate students' comprehension and mastery of the material presented in this lesson. You may wish to assign the questions as homework or to use them as a formal in-class assessment tool.

Answers:

1. (b)

2. (a)

QUALITY CONTROL

DEMONSTRATE your understanding of the concepts examined in this lesson by completing the following multiple-choice exercise. Circle the answers that you think are correct, or write your answers on a separate sheet of paper.

1. The quantity of loanable funds demanded is inversely related to the interest rate because:
 - a. higher interest rates are more attractive to savers
 - b. people and institutions are more willing and able to borrow at lower interest rates
 - c. the opportunity cost of saving rises as people increase the amount they save
 - d. suppliers are more willing to lend at higher rates
2. The supply of loanable funds is an upward-sloping curve because:
 - a. higher interest rates are more attractive to savers
 - b. businesses prefer to pay more interest to get a reduction in their taxes
 - c. borrowers prefer to buy things today rather than tomorrow
 - d. lower interest rates are more attractive to borrowers

3. The equilibrium interest rate occurs where: 3. (b)
- a. the number of savers is equal to the number of borrowers
 - b. the quantity of loanable funds demanded is equal to the quantity of loanable funds supplied
 - c. borrowers will minimize their interest costs
 - d. savers will maximize their interest income
4. A financial intermediary will: 4. (a)
- a. channel funds from savers to borrowers
 - b. prefer to charge low interest rates to attract borrowers and to pay higher interest rates to attract savers
 - c. determine interest rates in the market for loanable funds
 - d. all of the above
5. Which of the following is **incorrect**? 5. (b)
- a. A five-year certificate of deposit usually will pay a higher interest rate than a one-year certificate of deposit.
 - b. A used-car loan usually will have a lower interest rate than a new-car loan.
 - c. A small loan will have a higher interest rate than a large loan, other things being equal.
 - d. A 15-year conventional mortgage usually will have a lower interest rate than a 30-year conventional mortgage.

***“If you think nobody cares if you’re alive,
try missing a couple of car payments.”***

—Earl Wilson, American newspaper columnist

6. The interest rate is: 6. (d)
- a. the reward paid to savers for giving up consumption today
 - b. determined by a financial intermediary so that the interest rate paid to depositors exceeds the interest rate earned from borrowers by the largest amount possible
 - c. the cost paid by borrowers to increase their consumption today
 - d. both “a” and “c”

SIDE 9
GRAPHICAL DATABASE BARCODES

(Use "step still" function or barcodes below
to advance within categories.)

Step Back



Step Forward



Elasticity



Role of Profits



Product Markets



Consumer Behavior Theory



Production Theory



Foreign Exchange Markets



Human Resource Market



Nonhuman Resource Market



Aggregate Supply & Demand



Loanable Funds Market



SIDE 9
TEACHER-TRACK BARCODES

Tough Choices



2

Why Bank?



2

Why Bank?—More



2

Spending or Investing



2

Interest Rate Differences



2

A Run on the Bank (audio only)*



2

Interest and Inflation



2

*Swipe any other barcode to restore video.



Module 4, Lesson B

SIDE 9



WHY SAVE?

ECON BRIEFING

You jump out of bed, blinking as the morning sunlight streaks through the slits in your blinds. It's Saturday—you don't have to work—and, best of all, it's your 18th birthday! You dash downstairs to the kitchen, where a pile of mail is waiting for you on the table:

- a romantic greeting from your secret admirer
- a flowery card and a big check from Grandma
- a flowery card and a not-so-big check from Uncle Carlo
- and five—no, seven business envelopes addressed to you

You've never received so much business mail before. What's the deal here?

"Dear Miguel: Congratulations! You have been preapproved for a \$2,000 line of credit and your very own Visa card. Simply complete the enclosed form and return it in the postage-paid envelope."

"Dear Miguel: Happy Birthday! Your good credit makes you eligible for \$1,500 instant cash from MasterCard."

"Dear Miguel: You've worked hard! Now it's time to give yourself a reward. Use your instant credit line to do your summer shopping with your new Discover Card."

What are the facts about buying on credit? Is it okay to buy now and pay later? Can you have everything you want as soon as you want it? What about interest rates—how much are you really paying for what you buy on credit?

Knowing about credit and loans and banks will help you whenever you make decisions about the best way to spend your money. Learning the meaning of "opportunity cost" will help you decide when it is better to spend or to save.

2 CLASS PERIODS

Materials

This lesson uses the videodisc (or videotape) program **Why Save?** To complete the activities, students may use the following items: credit card application forms; information about interest rates from local financial institutions; calculators; markers; graph paper; and computers with word-processing, graphics, and spreadsheet software. If you choose to have students complete the optional activity suggested in **Further Discussion** (page 38), you will need pictures of at least four items that cost about \$500 each—for instance, stereo components, ski equipment, a camcorder, and a set of car tires.

INTRODUCTION

This lesson introduces students to the idea that choosing to save means choosing to forego present consumption. Students will learn that funds are transferred from savers to borrowers through banks and other financial institutions. These institutions act as intermediaries and charge interest for their services. Students will revisit the concept of opportunity cost and will analyze choices and alternatives. Students will also analyze the costs and benefits of saving, spending, and buying on credit; they will examine the effects of inflation on people's decisions to save or to borrow.

GOALS

Students will be able to demonstrate their understanding of the advantages and disadvantages of saving. They will be able to make decisions about the prudent use of credit and will realize that consumption in the future may depend on saving in the present.

OBJECTIVES

Upon completing this lesson, students will be able to:

- list examples of ways to invest in human capital
- calculate simple interest
- explain why interest rates for loans are higher than interest rates for savings
- describe the role of risk in determining bank interest rates
- compare simple and compound interest
- define opportunity cost
- explain why saving by individuals is important for business and government
- define inflation and explain its effect on saving and borrowing

LESSON DESCRIPTION

This lesson focuses on how present decisions to save or to spend determine options in the future. Daniel and Laura are faced with choices about whether to buy the things they want now or to save their money so that they can get the things they want in the future. Students are asked to examine the position of banks as businesses; they are urged to consider the importance of interest rates in their decisions to save, to use credit, or to borrow.

Before showing the video, encourage students to think about the function of banks, credit, and saving in today's society.

WHAT YOU'LL LEARN IN THIS LESSON

- Scarcity requires people, businesses, and governments to make choices.
- Every choice involves an opportunity cost.
- Sometimes people, businesses, and governments choose to save now so that they can consume more later.
- Banks pay interest on savings; banks charge interest on loans.
- People exchange productive resources in order to earn income.
- Income enables people to buy the things they want.

PAYBACK

Think about these expressions: "Save for a rainy day"; "Be prepared"; "Live within your means." And these: "Buy now, pay later"; "You only go around once"; "Just do it." They offer two kinds of advice, don't they? On the one hand, you are reminded to work hard, to be sensible, and to prepare for the future. On the other, you are told to enjoy yourself now, because who knows what tomorrow will bring?

When you see advertisements for shiny new cars, the latest fashions, glittering jewelry, and state-of-the-art computers, it's natural to want to own them—and to own them right now. With instant credit, bank cards, and no-payments-till-next-year come-ons, you might even get the idea that you **can** have everything you want as soon as you want it. But there's a catch: Sooner or later, you do have to pay for it.

As you complete the activities in this lesson, you will learn that decisions about buying or saving involve making choices. The choices you make now may affect your schoolwork, your vacation plans, and even your future career options. If you consider the consequences and make good choices, you will benefit in the long run.



Buying a stereo system on sale may be a good decision, but if you charge it to a credit card, you may eventually pay far more than the sale price.

Econcepts

choice—selecting one option from among several alternatives

income—the benefits received (usually measured in money) for engaging in productive labor

inflation—a sustained increase in the price level of the entire economy

interest—payment for the use of borrowed money

opportunity cost—the highest valued alternative that must be given up because another option is chosen

savings—the part of disposable income that has not been spent

scarcity—the imbalance between relatively unlimited wants and relatively limited resources to satisfy those wants

POWER UP

WHY not have everything you want right now? Even if you don't have enough cash to pay for that new dirt bike, you can get a loan from the bank. So what if the prom dress of your dreams costs \$800. Just charge it. Then you can pay a little each month until it's paid off. Sounds easy, doesn't it?

Sometimes it's necessary to buy things with money you must borrow. But borrowing from a bank or buying on credit can be a problem unless you make the right choices. Consider the following situation.

Going in Style

Osman was a young man with a goal: He wanted to be a hair-stylist. When he was in high school, he had entered a local styling competition and won. His prize was a scholarship to the Westmont College of Hair Design. He studied and worked hard, attending classes four days a week. In just 11 months he took the state board exam and passed with flying colors. He had a job waiting for him at Lorena's Classic Hair Salon.

Lorena guaranteed Osman at least 25 hours of work each week. If he built up enough business for himself, he could work more. Osman dreamed of having his own salon someday, but that would have to wait. In the meantime, he would

KEY TERMS

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

PREVIEW

Ask students to read **Econ Briefing**, including **What You'll Learn in This Lesson** and **Payback** (pages 25–26). Discuss the importance of saving, and ask students to list reasons to save. Ask students to suggest what they could do with money that they do not spend; encourage creative and unusual ideas. *They may respond: Money could be kept in savings accounts, savings bonds, stocks, mutual funds, coffee cans, shoe boxes, mattresses.* Next ask students to offer reasons why each alternative is a wise or unwise choice. Accept any responses that students can justify.

Distribute sample credit card applications, and have students complete them. Collect the applications, and tell students that they will now act as credit analysts. Redistribute the applications so that no student has his or her own. After they have read the applications, each analyst should either approve or deny credit for the applicant and give reasons for the decision. Students should focus on questions such as: "What makes an applicant a good credit risk?" "What factors should not enter into the decision to grant credit?" "How is a credit limit related to the applicant's income and/or debt?" Allow time for students to discuss these questions and to analyze their classmates' decisions. Accept any reasonable responses.

Introduce the **Econcepts**, and give contextual examples of each. Ask students to refer to the new terms as needed during the lesson.

Ask students to read the opening two paragraphs of **Power Up**. Write the terms "fixed costs" and "variable costs" on the chalkboard. Tell students to be alert for these terms as they read **Going in Style**.

“The truth is that the rate of interest permeates all economic relations. It is a link that binds people to the future and that they use to make all their far-reaching decisions.”

—Adapted from Irving Fisher,
American economist

try to earn some extra money by cutting and styling hair in the basement of his parents’ house. They lived in an unincorporated area, so there were no zoning restrictions; his parents surprised him by paying the \$125 state license fee, but Osman still had to spend some big bucks to turn the basement into an attractive salon.

Osman knew that he would have both fixed costs and variable costs in his home business. The **fixed costs** (such as rent and utilities) would not change from month to month, for he would be paying his parents a flat amount of money to cover these items. The **variable costs** (things such as shampoo, conditioner, and gel) would depend on how many customers he served.

Osman’s total costs came to \$1,224, the sum of his fixed costs and variable costs. He decided to pay cash for the things he could afford right away and to charge other costs to his credit card and pay them later.

The first month went pretty well. Osman worked 25 hours at the salon and had five customers at home. He was able to pay the rent, his monthly car payment, and even his auto and health insurance. He also bought some new clothes, ate out with his friends, and went to a concert. Unfortunately, he had only enough left over to pay the \$15 minimum payment on his credit card, leaving an outstanding balance of \$873.

The second month, business at Lorena’s was about the same, but Osman had 11 customers in his home salon. He paid all his monthly bills and sent a check for \$200 to the credit card company. That brought his balance down to less than \$700. He estimated that he would have his account paid off in just four more months. Then he could start saving money for the day when he could open a real shop of his own.

Ask students what is meant by the term “human capital.” (Human capital refers to the knowledge and skills that increase the value of human resources.) Have students answer the question at the bottom of this page. *They should respond along these lines: Osman invested in his human capital by going to school to increase his knowledge, by working for Lorena to enhance his skills, and by gaining experiences that might expand his opportunities.*

Osman’s story demonstrates how a good plan and an investment in human capital can pay off. **Human capital** means the knowledge and skills that make a person’s work more valuable.

What did Osman do to invest in his human capital? Write your answer on the following lines or on another sheet of paper.

Osman chose to invest in two ways: He invested in himself, and he invested in his business. Each choice involved an opportunity cost.

An **opportunity cost** is the most highly valued alternative that is given up when a choice is made. When Osman chose to attend styling college, he gave up the opportunity to work full-time. He could have made about \$12,000 working as a clerk at a local department store; instead he went to school. He gave up the opportunity to work and earn \$12,000.

Turning his family's home space into a salon also involved choices. What did Osman give up to remodel the basement? List examples of his opportunity cost on the lines below or on another piece of paper.

Osman had already decided that when his credit card bill was paid off he would begin saving for his "real" shop. Saving also involves choices. When you choose to save, you have an opportunity cost. For Osman, the cost of saving was the current consumption he would be sacrificing. If he put \$400 a month into a savings account, he would not be able to spend that \$400 on anything else.

Review the concept of opportunity cost, and have students reread its definition in **Econcepts**. Ask students to suggest Osman's opportunity cost when he opened his home salon. *Responses may include any alternatives whose value is \$1,224, which it cost Osman to open the salon. Such alternatives are a vacation, new clothes, a stereo system, a used motorcycle, etc.*

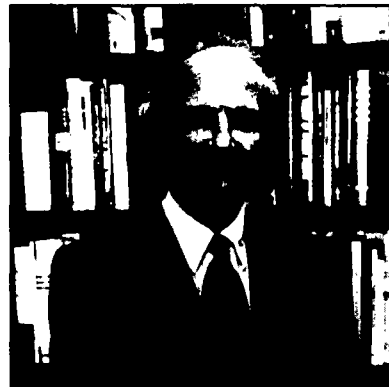
He Wrote the Book on Human Capital

CAN economic theory be used to measure the rate of return on a high school or college education? American economist Gary Becker thinks so.

Becker measured the dollar rates of return on high school and college educations by studying government statistics on income and education costs to determine how profitable an investment in education was in terms of individual earnings and productivity.

In results described in his highly influential book, *Human Capital* (1964), Becker found that in one group of white males, college graduates earned about 60 percent more than high school graduates by the age of 50. Their investment in education yielded a rate of return close to 14.5 percent.

In *Human Capital*, Becker developed the foundation for explaining the costs and returns of investing in people through education, on-the-job training, and health measures. Becker has also applied economic theory to such unusual areas as crime prevention and the selection of a marriage partner.



Gary Becker received the Nobel prize for economics in 1994.

Courtesy of the University of Chicago

—Adapted from David Hyman, *Economics* (1989)

Counting the Costs of Credit Card Fraud

"Credit card fraud is growing rapidly. Experts estimate card fraud in the U.S. ran close to \$1 billion in 1993, up from \$864 million in 1992. Increasingly sophisticated scam artists are coming up with a bewildering variety of ploys to rip off card holders and card issuers. Some of the worst abuses these days involve counterfeit cards. MasterCard's losses from counterfeiting reached at least \$113 million of its total \$395 million in worldwide fraud losses in 1993."

—Adapted from Kelley Holland, "Stalking the Credit-Card Scamsters," *Business Week* (January 17, 1994)

"You want 21 percent risk free? Pay off your credit cards."

—Andrew Tobias, *American Way* (November 1982)

"A credit card is a money tool, not a supplement to money. The failure to make this distinction has 'supplemented' many a poor soul right into bankruptcy."

—Paula Nelson, *American economist*



Explain the role of interest rates for savers and borrowers. Make sure that students understand why interest rates on loans are higher than interest rates on savings. Encourage students to read **Banks Have an Interest in Saving** and to respond to the questions throughout this section. Emphasize that simple interest is being used.

Students should respond:

Saving \$100 at a rate of 5.5% will yield \$5.50 in interest at the end of one year.

Banks Have an Interest in Saving

Saving is important for individuals. You need to save if you want to have money in the future for a new car or your own small business. Saving is also important for businesses and for society as a whole.

Have you ever wondered how new companies get the millions of dollars they need to build office buildings, develop new products, and buy expensive equipment? Where do people get the large amounts of money they need to buy homes? Actually, the savings of individuals such as Osman helps others to purchase houses, finance cars, start up new businesses, and pay for education.

The money that you save in an account at your local bank or savings institution can be borrowed by other people. Banks pay interest to savers like you. If the bank is paying 5.5% simple interest on savings accounts, this means that for every dollar you save, the bank pays you 5.5 cents in interest per year. If you save \$100, how much interest will the bank pay you after one year? Write your answer here or on your sheet of paper.

The bank also charges interest on the money it lends to borrowers. If the lending rate is 9.8%, the borrower must pay 9.8 cents a year for every dollar the bank lends. If you borrow \$1,000 from the bank at 9.8% interest, how much will your interest be at the end of one year? Write your answer below or on the other paper.

Borrowing \$1,000 at a rate of 9.8% will result in \$98 interest at the end of one year.

Why is the interest rate on savings less than the interest rate on loans? Why do you pay 9.8% to the bank when you borrow but earn only 5.5% when you save? Banks are businesses—just as restaurants, auto dealers, and shoe stores are. Like any other business, banks try to maximize their profits. They could make even bigger profits by charging even higher interest rates. So why wouldn't a bank charge 50% interest on a loan? Or why not 100% or even more than that?

The answers to these questions go back to the market. Banks provide a service: They bring together people who need money (borrowers) and people who have money (savers). The price they charge for their service is the interest rate. But banks operate in a fairly competitive marketplace. If a bank charges interest rates that are higher than consumers are willing and able to pay, few people will choose to do business there. If that bank wants to stay in business, its interest rate must come down.

You may have noticed ads in the newspaper or on radio or TV indicating that the size of the interest rate for borrowing money depends on how the money is used. Home loans have one interest rate; car

Installment Credit Finance Rates			
	1991	1992	1993
Commercial banks			
New car	11.14	9.29	8.09
Credit cards	18.23	17.78	16.83
Finance companies			
New car	12.41	9.93	9.48
Used car	15.60	13.80	12.79
Fixed-rate mortgage			
New home	9.3	8.3	7.3

— The Statistical Abstract of the United States (1994)

Explain that banks face risks, just as individuals do. Because of the possibility that some borrowers may not repay a loan, banks attach higher interest rates to riskier types of loans.

Appropriate responses to the questions about risk are: The highest risk is associated with the consolidation loan. Possible reasons are that the borrower has already demonstrated an inability to repay existing loans and that the bank's experience indicates that borrowers who seek consolidation loans default on them more often than other borrowers.

Tell students that the prospect of future benefits is often an incentive for people to take risks. *Students should respond: Henry Ford probably believed that his investment would result in a greater return in the future.*

loans have another rate; and business loans have a third. If you use a credit card, you are actually paying interest on a loan: The credit card company is lending you the money you need to make your purchases every month. Some credit card companies charge 9% interest; some charge 22%. Some charge annual fees; some do not.

Why are there so many different rates and fees? Part of the answer has to do with risk. Osman took a risk when he chose to go to school and when he chose to invest his money in a home salon. Banks take risks when they lend money to their customers. A loan is especially risky when a borrower does not have well-established credit. Banks charge a higher rate for that type of loan. If home loans are 8.7%, car loans are 12.6%, and bill-consolidation loans are 16.8%, which do you think involves the highest risk? What makes it riskier than the others? Talk over your ideas with your classmates, and then write your answer on the lines below or on a separate sheet of paper.

When Osman finally establishes his own business, he will probably need to get a bank loan. When Henry Ford began the Ford Motor Company in 1903, he needed \$100,000. He had \$28,000 in cash and had to borrow the additional \$72,000. That was a lot of money at that time—it still is!

Having to repay \$72,000 involves an opportunity cost. Henry Ford had to forego the opportunity to use his money for other things. He could have bought a lovely villa in France and relaxed on the beaches of the Riviera. Instead he gave that up and chose the risk of starting his own company. Why did he do that? Brainstorm the possibilities with your classmates, and then use the lines below or another sheet of paper to list the ideas you think are best.

To increase productivity or to keep up with consumer demand, businesses often need to update their equipment and technology. If you are a talented tailor, you may have to invest hundreds of dollars to buy the latest sewing machine and other equipment to help you serve your customers faster and more efficiently.

As your business continues to grow, will you choose to move into a larger facility? That might mean higher rent. There might be higher



"Businesses have to [save] too—and even governments. We all have to learn to give up something today—in your case, the stereo—in order to get something for tomorrow—in your case, the car."

variable costs too. Wages and benefits for employees are some costs that you will incur if you expand your business. You will face many choices, and each choice will involve an opportunity cost. What are some of the choices a new business owner faces? Think of the opportunity cost for each choice. Write your ideas on the following lines or on another sheet of paper.

Ask students to suggest some risks involved in starting and expanding a business; elicit the opportunity cost of each decision. Accept any reasonable response.

TAKE A CLOSER LOOK

BUYING a stereo, financing a car, or going to technical school—each of these decisions involves costs. When you buy a stereo, you might use gas to drive to the store and pay to park your car in the public garage; you might even pay a finance charge if you don't have enough money to pay cash for the new system. If you choose to go to technical school, your costs might include tuition, books, uniforms, and any special tools you need to complete your training.

And don't forget the opportunity cost. If you finance a car now, you won't have that \$300 every month to use for the next best alternative.

VIDEO CORE

Ask students to read the two introductory paragraphs of **Take a Closer Look**. The first video segment introduces students to the idea that consuming in the present may require giving up future consumption. A decision to buy should focus on all costs: price, tax, interest on credit card debt, and opportunity cost.

INTRODUCTION TO THE VIDEO

Ask students to read **What You'll See on the Screen**. After they finish reading, divide the class into groups of four and have each group brainstorm reasons to save. List students' responses on the chalkboard, and ask them to suggest how long they might need to save to be able to meet the goals they listed. *Students may respond: save for college, 15 years; save for a car, three years; save for a house, 10 years; save for a motorcycle, two years.*

VIDEO-BASED ACTIVITIES, PART 1

Have students read the opening paragraph of **Talk This Over**. Then start the videodisc (Side 9), and swipe this barcode to play:

Why Save?
(introductory segment)



The video will pause on these questions (which also appear in the *Student Guide*):

**Are you saving for anything? Why?
What are you giving up now? What
will you get later?**

Ask students to answer in writing and then to share their responses. If some students respond that they are not saving, ask them to think about something for which they would like to save. Encourage students to be realistic in their responses.

Further Discussion

Have students read **For More...** on this page. Divide the class into four groups. Give each group a card on which is written one of these statements: "Leave it to chance"; "Let others decide"; "Follow an impulse"; "Rely on habit." Explain that these are four ways of making decisions. Have each group think about making decisions using the method listed on its card. Each group should suggest one situation in which its method is appropriate and one in which it is not appropriate.

WHAT YOU'LL SEE ON THE SCREEN

The opening segment of "Why Save?" demonstrates that the decision to save or to spend is a choice that nearly everyone faces. Young adults must decide whether to buy the things they want right away or to delay gratifying themselves until some time in the future. As older people begin to think about retirement, they need to make choices too. Should they put \$300 into a retirement fund every month? If they do, they will have less to spend on the things they want right now.

The Economic Puzzle Challenge sequence will ask you to think about saving and spending as you watch people, both young and old, make important decisions.

TALK THIS OVER

Even though birthday presents and summer jobs may have added a few hundred dollars to your savings account, you still probably have a big-ticket item or two on your wish list. Maybe it's a car or a computer system or a vacation in California. When the video pauses, the following questions appear on the screen.

Are you saving for anything? Why? What are you giving up now? What will you get later?

Think about these questions. Then write your answers on the lines below or on another sheet of paper.

For More...

Saving now means giving up present consumption. If you get \$150 for your birthday and put it in the bank, you won't have the cash to spend today on new clothes or to fix your muffler. Consuming now means giving up consumption in the future. If you choose to splurge on a new sweater and jeans, you won't have the \$150 to spend later—when your muffler is dragging on the highway!

Consuming now also means giving up the chance to earn interest on money in the bank. If you buy an outfit, you're giving up about \$7.50 in interest that you could have earned if you had put the \$150 in the bank for a year.

Every choice involves a sacrifice of the next best alternative—the opportunity cost. The idea of opportunity cost is central to your understanding of economic decision making. Examining alternatives is important; if you don't look at the costs and benefits of all your choices, you might make a poor decision.

Charge It Today, and Pay for It the Rest of Your Life?

SUPPOSE you decide to make a \$2,000 purchase this month and charge it to your Visa or MasterCard. That makes you one of the millions of Americans who today have more than \$165 billion charged on their bank cards!

If you can't pay the entire \$2,000 bill this month, the card issuer will be quite accommodating. You can keep your credit in good standing by making the required minimum monthly payment. You may be surprised to know that if you have a card that charges 19.8 percent interest and a \$40 annual fee, and if you make only the required minimum monthly payment every month, it will take you 31 years and 2 months to pay off that \$2,000!

And, along the way, you'll have paid an additional \$8,202 in nondeductible finance charges.

—Terry Savage, *Terry Savage's New Money Strategies for the '90s* (1993)

TALK THIS OVER

Credit cards make it convenient to buy the things you want. When your favorite CD is on sale, you can charge it at the discounted price and save a few dollars. As long as you pay the full amount of your purchases when you get your credit card statement, you won't have to pay any interest at that high credit card rate.

When the video pauses, the screen poses this question:

How do interest rates influence your decision to save for purchases rather than charge them?

Think about some important decisions you have already made or will make in the future. Talk with your classmates about your choices, and then answer the question on the following lines or on another sheet of paper.

Possible responses are:

"Leave it to chance"—okay for choosing a breakfast cereal, not for choosing the president of the United States; **"Let others decide"**—okay for choosing a fast-food restaurant, not for choosing how to invest your money; **"Rely on habit"**—okay for choosing a TV program, not for choosing which courses to take in school; **"Follow an impulse"**—okay for choosing a candy bar, not for choosing a new car.

Encourage students to recognize the importance of gathering facts before making important decisions.

—Adapted from National Council on Economic Education, *Choices, the Economy, & You* (1992)

VIDEO-BASED ACTIVITIES,

CONTINUED

Ask students to read the introductory paragraph of the second **Talk This Over** section. Then swipe the next barcode to generate the following question (which also appears in the *Student Guide*).

How do interest rates influence your decision to save for purchases rather than charge them?



This question requires students to make decisions based on whether interest rates are relatively high or low. Ask students to read the rest of this section and to respond in writing. When they finish, encourage them to share answers. *Possible responses include: When interest rates are relatively high, saving is a better choice for two reasons—interest on savings will yield more income, and interest on charge accounts will make payments higher. If rates are relatively low, charging might be appropriate, for the opposite reasons.*

Further Discussion

Ask students to read **For More...** on this page. Explain that compound interest on savings increases the amount that is earned. On the other hand, compound interest on a loan (or a credit card) increases the amount that must be paid. Initiate discussion of the table on this page, and encourage students to comment on the differences between simple and compound interest. If students have access to a computer with spreadsheet software, encourage them to project a hypothetical schedule on a credit card balance of \$1,000 at 20% interest at the end of 20 years, using simple, annually compounded, and monthly compounded interest.

Draw students' attention to the feature from Terry Savage's book (page 35). Elicit discussion of the responsible use of credit cards. *Students should suggest that responsibility means not using a credit card to charge more than they can reasonably repay.* Help students understand that it is a good idea to pay more than the monthly minimum in order to reduce interest payments in the long run.

For More...

Economic decisions affect different people in different ways. High interest rates on loans do not appeal to borrowers, but they are good for lenders. High rates on savings accounts are appealing to savers, but they aren't so good for the bank. When it comes to interest rates on credit cards, it's the compounding of interest that can add up to big headaches if you're not careful.

At one time banks charged simple interest. On a \$1,000 loan at 20% interest, the yearly interest was \$200. If you paid off the loan at the end of one year, your payment was \$1,200; if you paid the loan back at the end of two years, the amount due was \$1,400.

Compound interest works differently. A \$1,000 loan at 20% interest compounded annually will result in a higher amount due. At the end of one year, if you paid nothing on the principal, you would owe \$1,200. But the interest at the end of the second year would be computed by taking 20% of \$1,200 (instead of 20% of the original \$1,000).

Interest can also be compounded monthly, or even daily. The chart below shows how \$1,000 borrowed at an annual interest rate of 20% will result in substantially different totals at the end of 10 years, depending on how interest is calculated.

Amount Needed to Pay off Loan	Simple Interest	Yearly Compounding	Monthly Compounding
At the end of 1 year	\$1,200	\$1,200.00	\$1,219.39
At the end of 2 years	\$1,400	\$1,440.00	\$1,486.91
At the end of 3 years	\$1,600	\$1,728.00	\$1,813.13
At the end of 4 years	\$1,800	\$2,073.60	\$2,210.93
At the end of 5 years	\$2,000	\$2,488.32	\$2,695.97
At the end of 6 years	\$2,200	\$2,985.98	\$3,287.44
At the end of 7 years	\$2,400	\$3,583.18	\$4,008.68
At the end of 8 years	\$2,600	\$4,299.82	\$4,888.15
At the end of 9 years	\$2,800	\$5,159.78	\$5,960.56
At the end of 10 years	\$3,000	\$6,191.74	\$7,268.25

ECONOMIC PUZZLE CHALLENGE, PART 1

Before swiping the barcode, ask students to read the introductory paragraph to **Economic Puzzle Challenge, Part 1**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 1



ECONOMIC PUZZLE CHALLENGE, PART 1

Laura has been saving her money. She would love to buy a convertible. She also plans to start X-ray technician training soon, for which she'll need tuition money. Because she is saving, Laura has had to give up some things she would have liked to buy. Her choice to save now means that she must give up the opportunity to consume now. If she buys a car, she may not be able to afford to go to school. If she pays her tuition, she will not have the car of her dreams. Choices are seldom easy; the opportunity cost is often high.



"If I go ahead and buy the car, I'll have to give up my tech school tuition or the interest income on my savings."

Decision Time

At the end of the first part of the Puzzle Challenge, the video presents this question:

If you were Laura, what would you do?

Carefully consider the choices you see on the screen. Discuss the options with your classmates; choose one; and explain your reasons. Then watch the video to see the consequences of your decision.

☐ A. Go with the hardtop.

☐ B. Save up for the convertible.

☐ C. Reconsider the options.

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

If you were Laura, what would you do?

Encourage students to consider the options carefully and to discuss them with their classmates. Then swipe barcodes for the options you wish to view.

A. Go with the hardtop.



Analysis: By choosing to consume today, Laura will have to give up consumption in the future. Her opportunity cost is the next best alternative that she foregoes when she makes a choice. If she spends her money on a car now, she will give up the opportunity to go to technical school. If she does not buy the car, she could put her money into a savings account and earn interest; therefore, consuming now means that she must give up the opportunity to earn interest on her savings. The interest she could have earned is an opportunity cost.

B. Save up for the convertible.



Analysis: If Laura chooses to save, she still has to make a choice of what to consume in the future. Will she choose a convertible, a computer, or school tuition? She does not have the income that she needs to buy the convertible. Perhaps the right decision now will help her to earn the income she will need to buy her dream car in the future.

C. Reconsider the options.



Analysis: Because Laura is faced with several tough decisions, she needs to take time to gather facts. After examining the advantages and disadvantages of each choice and after analyzing her opportunity cost, Laura will be able to make a prudent selection.

Further Discussion

Have students read **For More...** on this page. Remind them that an opportunity cost is the single best alternative that is given up when a choice is made. You may wish to demonstrate this by showing pictures of four popular items that cost about \$500 each—for example, stereo components, a camcorder, ski equipment, and a set of car tires. Ask students to rank the items in order of preference. Then tell them to suppose that they have decided to save the \$500 instead of buying something. Each student should circle the most-preferred item on his or her list. That item is the opportunity cost—it is what must be given up now in order to save money in the bank. The other three items on the list are not opportunity costs.

ECONOMIC PUZZLE CHALLENGE, PART 2

Before swiping the barcode, ask students to read the introductory paragraph to **Economic Puzzle Challenge, Part 2**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 2

**For More...**

Every choice involves an opportunity cost. If Laura buys a car, she will give up the opportunity to buy a new computer or the tuition she needs for school or the interest she could have earned on her savings—but not all three! Laura's opportunity cost is the single next best alternative that she will give up when she makes her choice. She will have to examine the costs and benefits of each option so that she makes a wise decision. By considering facts and by not making a quick decision, Laura will increase the likelihood that her choice will be the best one for her.

Have you ever noticed how there's this endless stream of things you want—and no way to get them all?

ECONOMIC PUZZLE CHALLENGE, PART 2

The interest rates on bank loans and bank deposits are different. Banks charge a higher rate for loans than they pay depositors on their savings. When Laura finally chose to postpone her dream of owning a convertible and instead put her money into a savings account, she expected to earn about 10.9% interest, the same as the interest on a car loan. She was surprised when Mrs. Winship told her that the rate was only 5.5%.

"We sell a financial service. We're the middle man between people who have money to lend and people who need to borrow money."



Decision Time

When the video pauses, the following question appears on the screen.

Why is there a 5.4% difference between savings and car loan interest rates?

In answering this one, think of a bank as a business. Discuss the options below, and then choose the one you prefer. Be sure to explain why you made that choice. Write your response on the lines provided or on another piece of paper.

- ☐ A. Banks control the savings and lending rates.

- ☐ B. Banks want to make a profit, which comes from the difference between deposit and loan rates.

- ☐ C. The risks to the bank affect the rate. Car loans are riskier.

Like other businesses, banks operate in a competitive market: The ones offering the rates most attractive to potential customers are the ones who do the most business. Market forces ultimately determine a bank's savings and lending rates.

For More...

A business earns a profit when the value of its sales exceeds the cost of the goods or services that it sold. A bank is a business: It makes a profit when the value of interest on loans exceeds the value of interest it pays to depositors.

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

Why is there a 5.4% difference between savings and car loan interest rates?

Assist students in analyzing each of the possible responses. Then swipe barcodes for the options you wish to view.

A. Banks control the savings and lending rates.



Analysis: Banks may choose to pay savers any interest rates they want; they may charge borrowers any interest rate they want. In the market, though, the competition among banks is significant. Most customers will choose banks offering competitive rates. Rates on loans must be higher than rates on savings so that the bank can pay the costs of making the loan and can earn a profit.

B. Banks want to make a profit, which comes from the difference between deposit and loan rates.



Analysis: Banks are businesses; they seek to maximize profits by charging higher interest rates on loans than they pay to savers. The business of banks is different from that of most businesses. Banks provide a service to their customers; they act as intermediaries between those who need money and those who have money. Savers provide the funds that borrowers and investors need, and banks help with the transaction. (This option will play directly into Economic Puzzle Challenge, Part 3.)

C. The risks to the bank affect the rate. Car loans are riskier.



Analysis: Interest rates depend upon a number of variables; risk is one. Because

more people default on car loans than on home mortgages, car loans have higher interest rates. Another factor affecting interest rates is the duration of the loan.

Further Discussion

Ask students to read **For More...** beginning on page 39 and to answer the two questions in the last paragraph of the section. Accept any reasonable responses. If some students wish to pursue the issue of equity, ask them to do some research on this subject and to report their findings to the class.

Just as any other business faces the risk of loss as well as the promise of profit, banks face risks too. To minimize their risk of loss, banks charge different rates for different kinds of loans. The riskier the loan, the higher the interest rate. Risk is determined by studying the history of certain kinds of loans. If experience indicates that borrowers default on car loans more often than on home loans, then car loans will have higher interest rates. If new-car loans have been repaid more consistently than used-car loans, then used-car loans will have higher interest rates. Even though you might be a very dependable and trustworthy borrower, you will pay the higher rate because of the overall risk the bank faces.

Interest rates differ for other reasons too. Banks might offer lower interest rates for shorter-term loans. If you choose a 24-month loan for your new car, you might lock in a 9.8% interest rate; your brother, who chose a 48-month loan, might be paying an 11.6% rate. His rate is higher because the bank's risk is greater—it will have to wait longer for the loan to be repaid.

Because he's postponing his current consumption—by saving—he may be enabling you to increase your current consumption, by borrowing.

Do you think it's fair that a trustworthy borrower must pay a higher rate because other borrowers have defaulted on their loans? Here's something else to think about: Banks often pay higher interest rates on large-denomination CDs than they do on smaller ones; in other words, a person with \$50,000 to deposit can get a better rate than someone with only \$5,000 to save. Is this fair to the person who can't afford the larger-denomination CD? Write your answer on the lines provided here or on a separate piece of paper. Be prepared to defend your opinion in a classroom discussion.

ECONOMIC PUZZLE CHALLENGE, PART 3

Option B of **Economic Puzzle Challenge, Part 2** played through the introduction to **Part 3**. If you wish to review this introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 3



ECONOMIC PUZZLE CHALLENGE, PART 3

Decision Time

Sometimes, even if you've been saving, you may find yourself short of cash when you want to buy a stereo or take a vacation. Laura faced this kind of problem as she calculated how much money she

still needed to pay her first year's tuition at technical school. She had to make a choice.

When the video pauses, the screen asks you to help Laura make a decision:

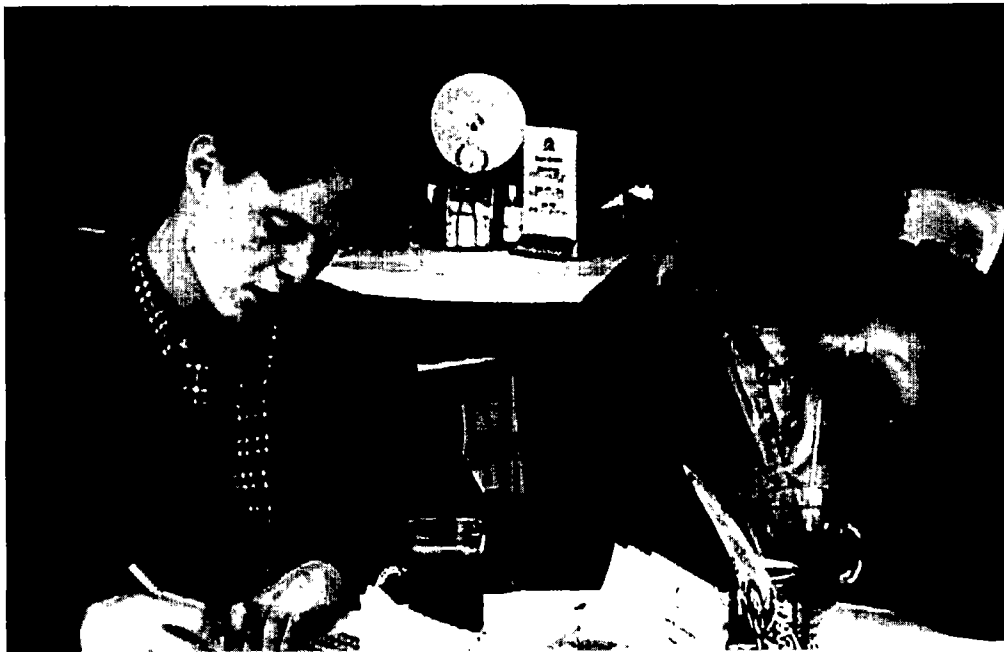
What would you say to Laura about the \$200 shortfall?

Consider Laura's three options. Mark the one you favor, and give your reasons for that choice. Also be sure to explain Laura's opportunity cost.

Write your thoughts on the lines provided here or on another sheet of paper. Then discuss your views with the rest of the class.

☐ A. Apply for a student loan.

☐ B. Start saving now and don't worry about it.



"If you want a higher standard of living in the future, you're going to have to cut your consumption to the bone today. No movies, no concerts..."

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

What would you say to Laura about the \$200 shortfall?

Ask students to read **Decision Time** and to choose a response. Then swipe barcodes for the options you wish to view.

A. Apply for a student loan.



Analysis: If Laura applies for and receives a loan, she will have to repay it with interest. She will also have other transaction costs: the price of public transportation to get to the bank, the time spent waiting to talk to a loan officer, the stress of having to fill out a lot of paperwork. To make a wise choice, Laura must weigh these costs against those of her other options.

B. Start saving now and don't worry about it.



Analysis: By saving and earning compounded interest, Laura will be able to increase the amount of money she has available to pay her tuition. If she continues to save, she will presently have to forego some of the things she enjoys: concerts, restaurants, movies. She has to examine her opportunity cost in order to choose the best alternative.

ECONOMIC PUZZLE CHALLENGE, PART 4

Before swiping the barcode, ask students to read the introductory paragraph to **Economic Puzzle Challenge, Part 4**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 4



Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

What did Laura give up to invest in her “human capital”?

Allow time for students to discuss the question and to write down their answers. *Students should respond in words to this effect: Laura invested in her human capital by going to school, buying a computer to help with assignments, and by saving money to finance these things.*

Swipe the next barcode to generate the following question (which also appears in the *Student Guide*).

Besides training employees, what are some other long-term investments firms can make?



Allow time for students to brainstorm responses to the question and to write down their answers. *Possible responses are: A firm can hire highly qualified personnel, invest in research and development of new products, or support educational causes so that tomorrow’s workers will be better qualified and more skilled.*

Side 9 Menu



Quit Instructions



ECONOMIC PUZZLE CHALLENGE, PART 4

Laura thought hard about her decision. She examined the costs and benefits of her options and chose the one she thought was best for her. She sacrificed the immediate satisfaction of owning a flashy convertible; instead she chose to invest in her human capital. Eventually it paid off, because she was able to get a good job that required her new skills and knowledge.



Laura says she’s glad she was able to sacrifice a short-term standard of living to make an investment in human capital—an investment in herself.

Talk This Over

When the video pauses, the following question appears.

What did Laura give up to invest in her “human capital”?

Discuss this with your classmates, and then write your decision below or on a separate piece of paper.

Some companies pay for their employees to go to school for additional training. The owners of these firms believe that skilled employees are more productive than unskilled ones. Additional training and education will improve the abilities of mechanics, technicians, and service employees. As employees become more productive, the firms benefit too.

The screen challenges you with another question:

Besides training employees, what are some other long-term investments firms can make?

Talk this over, and then write your answer on the following lines or on a separate sheet of paper.

PUT IT TOGETHER

SAVING for a rainy day sounds like a good idea. Your dollars will grow because of compound interest, and you will be providing dollars to borrowers who want to buy homes and to investors who will use the money to expand their businesses, buy new equipment, and increase their productivity. They will hire new workers for their expanding businesses, and the economy will grow. So saving is **always** a good idea, right? Maybe not. Consider this:

Inflation: When More Means Less

Inflation is a sustained increase in the average price level of the entire economy. During inflationary times, nearly all prices rise—the prices of goods and services that you produce, as well as the prices of goods and services that you consume. If you are working, your wages may rise too, but because prices are higher, you might not be able to get more for your money.

Are you any better off if your wages double and the average price level doubles? The answer is no, because your dollars still buy the same quantity of goods and services. The numbers on your paycheck might be bigger, but your buying power remains the same.

What does inflation have to do with saving and borrowing? The following story will show you.

A Tale of Two Car Buyers

Two persons, Randall and Sangita, plan to buy cars. Randall is saving to buy a new car in a couple of years, and so he

CLOSING

The **Put It Together** section brings up the topic of inflation and suggests that the effects of inflation may influence people's decisions to save or to spend. Remind students that economic decisions are never cost-free; nor do they affect all people the same way. Situations that offer benefits to some present costs to others.

Some students may think that an inflationary period presents the same disadvantages to everyone. Demonstrate to them, through the examples in this section, that even inflation can be a benefit to some, particularly borrowers who repay their loans with dollars that have become less valuable because of inflation.

Have students read **Inflation: When More Means Less**. Then ask them to define inflation in their own words or to review the **Econcepts** (page 27). Use the chalkboard or an overhead display to illustrate that when the inflation rate exceeds interest rates on savings, then savers lose money in real terms.

Pay Yourself First (A Little Can Add Up to a Lot)



Save this amount every week
at 5% interest, and in 10 years
you'll have:

\$7.00	5%	\$4,720
14.00	5%	9,440
21.00	5%	14,160
28.00	5%	18,880
35.00	5%	23,600

Save \$1,000 a year (\$19.20 per week).

Interest rate	5 years	10 years	15 years	20 years
5%	\$5,525	\$12,578	\$21,578	\$33,065
6%	5,637	13,181	23,276	36,786
7%	5,751	13,816	25,129	40,995
8%	5,867	14,487	27,152	45,762
9%	5,985	15,193	29,361	51,160
10%	6,105	15,937	31,772	57,257
11%	6,228	16,722	34,405	64,203
12%	6,353	17,548	37,279	75,052

—Choices & Decisions: Taking Charge of Your Life

“In the early days there was often much discussion as to what should be paid for the use of money. Many people protested that the rate of 10 percent was outrageous, and none but a wicked man would exact such a charge. I was accustomed to argue that money was worth what it would bring—no one would pay 10 percent, or 5 percent, or 3 percent unless the borrower believed that at this rate it was profitable to employ it.”

**—John D. Rockefeller,
American financier**

puts \$4,000 in a four-year certificate of deposit (CD) that is currently earning 6% interest. The bank agrees to pay him 6% compound interest for four years; he agrees to let the bank use his money for four years—if he withdraws his money early, he will have to pay a penalty.

Sangita wants to buy her car now. She borrows \$4,000 from a bank at a fixed rate of 8% and agrees to pay the money back in 48 months. Her interest will stay at 8% for four years.

Before Randall and Sangita can say *Economics at Work*, the economy goes into a steep inflationary period. Prices of nearly all goods and services begin to rise sharply. Because interest is the price for the use of borrowed money, interest rates increase along with other prices.

Will rising interest rates help or hurt Randall and Sangita? Who is better off during inflationary times, the saver or the borrower?

Even though interest rates on loans are rising, Sangita will not have to pay a higher rate on her loan; she has a contract that says her interest rate will be 8% for four years. New borrowers might be paying 9 or 10%, but she won't.

When Randall agreed to invest his money in a CD, he locked in a 6% interest rate. With inflation, new savers are able to find banks that are offering 7 or 8% on CDs. Randall, however, is stuck with his 6% rate.

Because the goods and services that Randall and Sangita buy are costing more because of inflation, the buying power of each dollar decreases. Each dollar is worth less because of inflation. Sangita is better off, because she is repaying her loan in cheaper dollars; Randall is worse off, because the dollars he is earning on his CD have less value. During highly inflationary times, saving may not be such a good idea.

If you are earning 5% interest on your savings but the inflation rate is 6%, you are actually losing money by saving. Try the math activity in the next section to demonstrate how inflation affects your decision to save or to spend.

To Buy or Not to Buy?

The decisions you make about buying or saving become even more difficult when you have to take into account the effects of inflation. Calculate the new price of each of the following items. Then think about how inflation can change your decision to spend or save. The

Next ask students to read **To Buy or Not to Buy?** Using the example of hiking boots, which is provided, demonstrate the procedure students should use to solve the inflation problems. Discuss the idea of buying during inflationary times.

first answer is provided as an example. Write your answers on the lines provided or on another sheet of paper.

Item	Price this year	Inflation rate	Price next year
Hiking boots	\$100.00	6.0%	\$106.00
Bread	\$0.80	8.0%	_____
Shampoo	\$3.00	6.7%	_____
Golf clubs	\$400.00	7.0%	_____
Computer	\$3,000.00	7.4%	_____
Minivan	\$25,000.00	9.0%	_____

Answers:

\$0.86

\$3.20

\$428.00

\$3,222.00

\$27,250.00

Which of the above items would you choose to buy now instead of next year? Explain why on the lines below or on your sheet of paper.

In response to the final question, some students may choose the van because of the higher inflation rate. Others may suggest that, because bread is a staple item, its purchase cannot be postponed for a year. Accept any reasonable answers that students can justify.

You may wish to introduce the problem of "hyperinflation." Some students might like to delve further into this topic by doing research about the hyperinflation that occurred in Germany or Argentina during the 20th century. If so, ask them to report their findings to the class, using graphs to illustrate their findings.

Inflating the Cost of Living

EVEN relatively low rates of inflation can do a lot of damage over time. Assuming a five percent inflation rate, the cost of living for someone retiring in 1993 will nearly triple in 20 years. That is, it will take more than \$130,000 a year in 2013 to buy the lifestyle that costs \$50,000 a year in 1993.

—Adapted from Terry Savage, *Terry Savage's New Money Strategies for the '90s* (1993)

NET GAIN

SHOULD you save? Should you spend? Should you borrow from a financial intermediary or use a credit card? This lesson can help you make the right decisions if you remember these points:

- 1. Individuals, firms, and governments sometimes choose to borrow.** When Daniel's father talked about putting his money into a retirement fund, the fund managers may have invested his money in government securities. If so, he was actually lending money to the government, and the government was paying him back, with interest. The government uses the money it raises this way to invest in such things as technology for space exploration or equip-

SUMMARY

Invite students to read **Net Gain**. Review the four content statements, and encourage students to respond to each one by citing examples from current periodicals or from personal experiences.



If Laura had bought the hardtop for \$4,500, she wouldn't have had the money to pay for technical school.

ment for national parks. Firms borrow money so that they can invest in new plants and equipment. You might borrow money to invest in yourself someday. You could pay for new instruments to help you begin a career as a dental hygienist, or you could invest in your human capital by taking classes that would make you a better supervisor for a construction company.

2. Consuming more now means consuming less later.

If Laura had decided to buy the hardtop that she saw at the car dealer, she would not have had the money to pay tuition for technical school. Nor would she have been able to buy the computer she needed. She examined the costs and benefits of each choice before she made a decision. If you choose to buy a car, go on vacation, or study at the local secretarial college this year, it will mean that you will have less money to buy things in the future.

3. **Choosing to consume more later means consuming less now.** When Laura chose to attend X-ray technician school, she knew that when school started she would need money for tuition, books, a computer, and various incidentals. With Daniel's help, she faced the fact that in the meantime she might have to give up movies and concerts. If you make plans to fly to California next winter, you will have to make some sacrifices now so that you will have the cash you need when you get there.
4. **Interest rates affect your decisions to save or to consume.** The high interest rate on car loans influenced Laura's decision to save her money for school instead. Your ideas about saving or buying will be influenced by interest rates on the money you save, the money you borrow, and the money you charge with your credit card. If inflation is a factor, your decision will require even more careful consideration.

The Dangers of Not Saving

THE *Wall Street Journal* reported last December that not only are consumers charging more purchases to their credit cards, they have also let their savings rate slide lower and lower. Why is too low a savings rate bad for the economy? It raises the cost of capital, forcing the government and businesses to pay more for the use of money. The cost of capital has a direct effect on the formation of businesses and the creation of new jobs.

—Adapted from Senator Orrin G. Hatch, "Statements on Introduced Bills and Joint Resolutions," *Congressional Record* (February 4, 1994)

BUILDING ON SUCCESS

CREDIT cards differ in many ways. Interest rates, annual fees, grace periods—you should consider all these things when you begin to think about buying on credit. When you save, you provide funds that borrowers and investors need; therefore, saving decisions are important too. Work with a partner to complete three of the following activities to extend your understanding of credit and saving.

- ▶ Write or phone at least six different bank card or credit card companies. Ask them to send you application forms and any other necessary information you might need to sign up for their cards. With your partner, make a chart that compares the cards in at least seven areas (interest rates, annual fees, etc.).
- ▶ Contact a local bank that issues a bank card. Invite one of its representatives to come to your class and to discuss the pros and cons of buying on credit. Prepare a list of 10 open-ended questions to ask the banker—"open-ended" questions are ones that can't be answered with a simple "yes" or "no." Afterwards, organize the responses into a well-written essay about credit buying.
- ▶ Use your school or public library to find the names of the 10 U.S. banks that offer the lowest interest rates on credit cards. Survey at least 25 persons (friends, relatives, neighbors) to find out how many of them have cards from these low-interest banks. Use a computer to create a graph that displays your results. If some people do not use the low-interest cards, ask why. Prepare a graph that shows which bank cards are most popular, and then lead a discussion in your class that explains people's reasons for using cards with high rates even though lower rates are available.
- ▶ Contact several local banks to learn the current interest rates they are offering on savings accounts, checking accounts, and certificates of deposit. You will find that a bank offers different rates based upon the type of account and (in the case of CDs) the length of time the depositor holds the certificate. Make a bar graph that displays the information on interest rates. The graph must include the names of the institutions, the types of accounts, the interest rates being offered, and the length of time a depositor must hold a CD or other time account.
- ▶ Examine the data on the chart and graph on the next page. Based upon what you have learned in this lesson about saving and spending, write your reaction to the following statement: "American companies may soon find it difficult to expand operations or develop new technologies."

EXTENSION

Ask students to read **Building on Success**. Assign pairs of students to read the suggested activities and to choose any three. Be sure that at least one pair chooses each activity. (If certain activities seem less desirable, offer extra credit to students who undertake them.) Encourage the use of visual aids—charts, graphs, tables, drawings—to enhance oral reports.

National Savings Rate

(National savings as a percentage of Gross Domestic Product)

	1960–1969	1970–1979	1980–1989
U.S.	9.8	8.2	3.6
Canada	9.8	11.4	8.4
United Kingdom	10.5	7.5	4.8
France	17.7	15.3	7.8
Germany	18.0	13.6	10.2
Japan	21.9	22.3	18.2

—U.S. Congressional Budget Office calculations based on data from the Organization for Economic Cooperation and Development

ASSESSMENT

Two types of assessment are provided for you to evaluate students' comprehension and mastery of the material presented in this lesson.

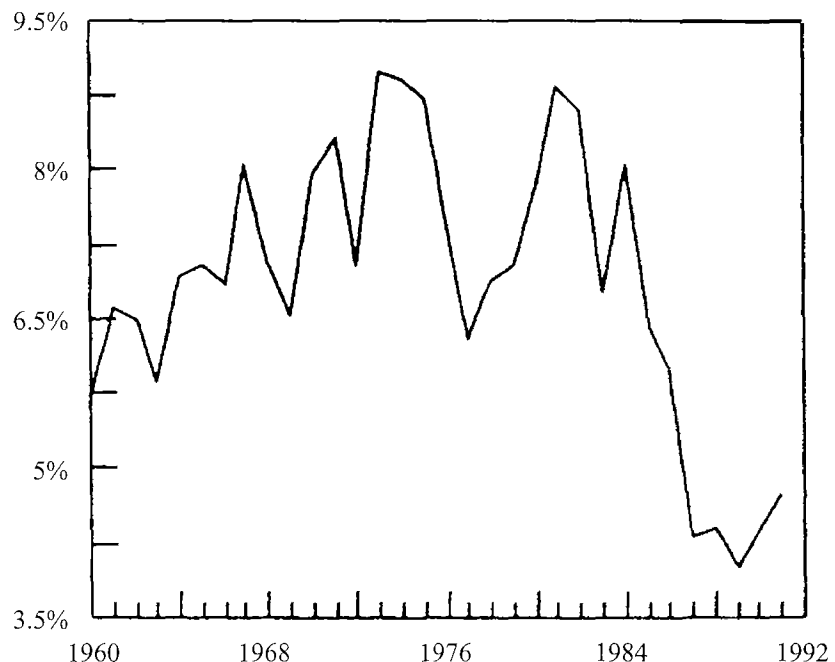
ON YOUR OWN

The questions that appear in the *Student Guide* under the heading **On Your Own** are intended as a homework assignment; however, you may wish to have students answer some or all of them in class.

Students should use calculators to solve the problems, but they should also be able to explain their procedures.

Answers:

1. One possible method of arriving at exactly \$1,500 is for Kim to buy one of every item, plus a second pair of dress shoes, a second bathing suit, and a second blouse. (Note: An easy way to figure this is to use a calculator to subtract the price of one of each item from \$1,500; the balance will be \$177. Then use trial and error to find a few items whose prices add up to this amount.)

Personal Disposable Income, 1960–1991

—U.S. Congressional Budget Office calculations based on data from the Department of Commerce

QUALITY CONTROL**ON YOUR OWN**

SOLVE the following problems. Write your answers on the blank lines or on another sheet of paper.

1. Kim has \$1,500 for a new wardrobe. Use the price list on the following page to help her choose. She must buy at least one of each item, and she must spend exactly \$1,500.

How many?					
_____	Business suits	\$413	_____	Skirts	\$46
_____	Evening dresses	\$182	_____	Workout clothes	\$63
_____	Dress shoes	\$84	_____	Bathing suits	\$65
_____	Casual dresses	\$65	_____	Winter coats	\$189
_____	Casual shoes	\$48	_____	Spring coats	\$85
_____	Sweaters	\$55	_____	Blouses	\$28

2. If Kim's state sales tax is 7.5%, what will her total bill be?

3. How many payments will Kim have to make to pay for her wardrobe if she puts it on layaway? The layaway fee is 15% of the total purchase price (not counting sales tax), and Kim agrees to pay \$150 a week. Remember to count the sales tax in your final answer.

4. Kim can save 10% of her total bill (not counting sales tax) by opening a charge account at the store where she is buying her wardrobe. The charge account has a \$35 annual fee, which must be paid at the time of application, and the interest rate is 1.6% per month. If she pays off her bill after one month (when the grace period has expired), how much will she spend in all?

5. Which is Kim's better choice: to pay cash when she buys her wardrobe or to open the charge account and save 10%? Explain your answer.

6. How would an inflation rate of 20% affect Kim's decision to use her charge account? (Hint: Refer to Question 4.)

2. The total is **\$1,612.50** ($\$1,500 \times 0.075 = \112.50 tax; $\$1,500 + \$112.50 = \$1,612.50$)

3. She will have to make **13 payments** ($\$1,500 \times 15\% = \225 layaway fee; $\$1,612.50 + \$225 = \$1,837.50$ total price; $\$1,837.50$ divided by $\$150$ per week = 12.25 weeks. She must make 12 full payments plus one partial payment.)

4. **\$1,510.03** (10% of $\$1,500 = \150 ; $\$1,500 - \$150 = \$1,350$; by opening the account, Kim reduces her bill to $\$1,350$. Tax on $\$1,350$ is $\$101.25$. The annual fee is $\$35$. Her total bill is $\$1,350 + \$101.25 + \$35 = \$1,486.25$. With an interest rate of 1.6% per month, Kim will pay $\$23.78$ per month. If she pays off her bill in one month, her total outlay of funds will be $\$1,486.25 + \$23.78 = \$1,510.03$.)

5. Opening the charge account and saving 10% is the better deal. At $\$1,510.03$, it is $\$102.47$ less than paying $\$1,612.50$ cash. (Some students may suggest that opening the charge account may be a bad decision in the long run, because it may encourage Kim to spend more than she can afford. Accept any student responses that can be supported with valid arguments.)

6. Using her charge account would be Kim's better decision, because her annual interest rate is only 19.2% (1.6% per month \times 12 months), whereas inflation is 20%. She would be paying off her credit card with cheaper dollars.

ASSESSMENT-TRACK QUESTIONS

Besides appearing in the *Student Guide*, the questions under the heading **In Class** are contained on a special assessment track of the videodisc for this module. Using the appropriate disc side, you can access each question by swiping its barcode. Each question is presented as a voice-over to part of a video program that students previously watched. The video will provide students with valuable cues, enabling them to generalize previously learned material to new situations.

Assessment Question 1

1. In general, the role of saving and borrowing is to "smooth" consumption over time. For example, individuals save a portion of their earned income in order to be able to consume when they retire; they borrow against future income in order to purchase cars and homes today. Likewise, firms and governments save and borrow. Firms often borrow against future income to make payments and purchases today. Governments borrow to fund such services as military expenditures or social welfare programs. Funds available for borrowing, whether by individuals, firms, or governments, originate in the saving decisions of households.

Assessment Question 2

2. Daniel is sacrificing the next best use of the dollars he will use to repay the loan plus interest to his father. Consumption today requires less consumption tomorrow. Why? Because of scarcity. Scarcity requires people to make choices about using goods and services to satisfy wants. Whenever a decision to use limited resources is made (i.e., an economic choice), an opportunity cost is involved. Because of scarcity, the consumption activities that people undertake today will require them to sacrifice consumption in the future.

IN CLASS

These questions should be answered while you watch a special section of the videodisc that your teacher will play for you. Write your answers on the lines provided or on a separate sheet of paper.

1. Laura is thinking of getting a loan. Not only individuals, but firms and governments also borrow. Why do individuals, firms, and governments save and borrow funds?

2. Daniel wants to buy this stereo today. He's willing to pay his father back over time in the future. What is he sacrificing by buying the stereo today?

- [illegible]

- [illegible]

-

4. A higher interest rate means that money saved today would earn higher interest payments in the future; therefore, the higher the interest rate, the greater the opportunity cost of current consumption. Conversely, a lower interest rate would mean a lower opportunity cost of current consumption. By determining the opportunity cost of future consumption, the interest rate influences people's decisions, and it determines their willingness and ability to consume more today or in the future.

SIDE 9
GRAPHICAL DATABASE BARCODES

(Use "step still" function or barcodes below
to advance within categories.)

Step Back



Step Forward



Elasticity



Role of Profits



Product Markets



Consumer Behavior Theory



Production Theory



Foreign Exchange Markets



Human Resource Market



Nonhuman Resource Market



Aggregate Supply & Demand



Loanable Funds Market



SIDE 9
TEACHER-TRACK BARCODES

Effects of Interest Rates



2

Puzzle Challenge Activities



2



Module 4, Lesson C



FAMILY FARM

ECON BRIEFING

OLD MacDonald had a farm. Old MacDonald had bills to pay and budgets to balance. Old MacDonald had a tractor to buy, livestock to feed, and workers to hire. Old MacDonald needed money, so he borrowed it. Now he is singing, “E–I–E–I–owe.”

How does a farmer get the large amount of money needed to buy combines or hay balers, to purchase hundreds of bushels of seeds, or to install milking machines for a herd of 55 dairy cows? Farmers do the same thing barbers and computer technicians do when they need money: They borrow it from financial intermediaries, such as banks. Where do banks get the money? How do banks reduce their risks when they approve loans? Will higher interest rates change banks’ willingness to lend money and farmers’ decisions to borrow it?

Banks play an important role in an economy. Banks help bring together savers and borrowers—the suppliers and the demanders of money. Understanding this connection and how it relates to your borrowing and saving decisions will help you when you choose to put money aside for a car, new equipment for your workshop, or a small business venture.

WHAT YOU’LL LEARN IN THIS LESSON

- Every decision involves an opportunity cost.
- An interest rate is the opportunity cost for borrowing money.
- Households lend money indirectly to people and firms.
- Banks and other financial organizations are specialized economic institutions found in market economies.
- Banks serve as intermediaries or go-betweens, bringing together savers and borrowers.
- The forces of supply and demand determine prices—even the price of borrowing money.

2 CLASS PERIODS

Materials

This lesson uses the videodisc (or videotape) program **Family Farm**. To complete the activities, students may use the following items: bank loan-application forms; information about interest rates from local banks or savings institutions; calculators; play money; colored pencils or other markers; graph paper; poster board; blank overhead transparencies; and computers with word-processing, graphics, and spreadsheet software. If you choose to do the activity described in the **Preview** section, you will need a supply of 4" x 6" index cards (one per student).

INTRODUCTION

This lesson reinforces the concepts involving saving and borrowing that were introduced in Module 4, Lesson B. The role of banks as intermediaries is revisited, as is the idea that loan interest is the opportunity cost of borrowing money. Students will learn that savers and borrowers, as suppliers and demanders of loanable funds, interact to determine an equilibrium price (interest rate). As interest rates rise or fall, savers and borrowers will respond differently. The role of inflation and the function of the Federal Reserve Bank in regulating the money supply are briefly discussed so that students may become aware of various forces that affect interest rates and the market for loanable funds.

GOALS

Students will be able to demonstrate their understanding of the loanable-funds market. They will be able to analyze interest rate fluctuations and predict the reactions of savers and borrowers. By understanding the opportunity cost of saving or borrowing, students can make decisions regarding their own use of loanable funds.

OBJECTIVES

Upon completing this lesson, students will be able to:

- list the characteristics of a good credit history
- identify noninterest factors that encourage saving and borrowing
- interpret information on a supply-and-demand graph
- explain how supply and demand interact in the market for loanable funds
- analyze how changes in interest rates affect savers and borrowers
- explain how inflation affects savers and borrowers
- explain how the circular flow diagram relates to the market for loanable funds
- construct graphs, tables, and charts

- A market is a setting or mechanism where buyers and sellers establish prices; in the market for loanable funds, borrowers and savers establish interest rates.
- For savers, interest is earned income; for borrowers, it is the payment for use of financial capital.
- Changes in interest rates affect people differently.

PAYBACK

When you need a few dollars for gas or lunch, do you ask your parents to lend you the money? Have you ever asked a friend if you could borrow a few bucks “till tomorrow”? Small loans like these are made all the time.

As you get older, your financial needs will grow, and you may need to borrow more money than your family and friends are willing or able to provide. When that happens, you may find yourself sitting across the desk from a loan officer in a bank. What kinds of questions will she ask you? What issues will you want to discuss? How will you convince the bank that you will repay the loan? And what factors will affect your decision to borrow the money you need?

When you complete this lesson, you will have a better understanding of banks and money. You will be able to use what you learn to make decisions about when it is better to spend or to save. Whether you need funds to rebuild a transmission or to start up a business, your decisions on saving and borrowing will be important to your financial health.

LESSON DESCRIPTION

This lesson focuses on farming, saving, and borrowing to demonstrate that the market for loanable funds is affected by supply and demand. Jarrett and his father, Steve, are faced with important choices when they decide to move back to the family farm after the death of Jarrett's grandfather. Students encounter questions about saving and borrowing and about the role

Many family farms turn to banks for loans to buy seed and fertilizer and to cover the expenses of harvesting their crops.



Econcepts

cost-benefit analysis—weighing the advantages and disadvantages of alternatives in order to make a choice

nominal income—earnings (measured in dollars) received as wages, rent, profit, or interest

opportunity cost—the highest valued alternative that must be given up because another option is chosen

profit—the return that a business earns when the value of sales exceeds the cost of the goods and services that were sold

real income—a measure of the quantity of goods and services that nominal income can buy

POWER UP

BANKS seem to be everywhere! They're in small towns, in malls and supermarkets, and in the throbbing, noisy hearts of the biggest cities. When you play Monopoly, there has to be a banker. People use expressions such as "You can bank on it" or "That's just like money in the bank." Children's toy villages almost always include a bank, and grandparents like to give their grandkids silver dollars to put in piggy banks. When someone asked Willie Sutton why he robbed banks, he replied, "Because that's where the money is."

A bank does provide money to people who need it—people other than bank robbers. It acts as an **intermediary** or go-between that brings together savers and borrowers. The following story illustrates the role of banks in a market economy.

A Taste of Money

Maria had just completed her studies at the Uptown School of Culinary Arts, and she was anxious to use her new skills as a chef in a business of her own. She found an excellent location: a cozy storefront in an area not far from downtown Cincinnati. It would take a lot of hard work to turn the empty room into a French bistro, but Maria was willing to invest her time and money.

She knew she would have to get a small-business loan in order to open her cafe, and so she went to a nearby bank. After

of interest rates in making banking decisions. They learn about present interest rates, the current inflation rate, and the role of the Federal Reserve, the nation's central bank. This information will help them make decisions to save or to borrow.

Encourage students to think about how savers and borrowers are interdependent in a market economy.

KEY TERMS

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

PREVIEW

Ask students to read **Econ Briefing**, including **What You'll Learn in This Lesson** and **Payback** (pages 53–54). Explain how savers are the suppliers and how borrowers are the demanders of loanable funds. Discuss the role of banks as intermediaries between savers and borrowers. Ask students to imagine how difficult the exchange of funds would be without banks. To illustrate this, invite students to participate in the following simulation.

Explain that in a society some people, the savers, have excess funds. Other people, the borrowers, need funds. Without banks, if people needed to borrow, they would have to seek out those with excess funds. It would be a difficult, often unfruitful process, because there would be little way of knowing who the savers and borrowers are.

Prepare enough 4" x 6" index cards so that every student will receive one. On half the cards print: "I have saved \$_____." On the other half print: "I want to borrow \$_____." Distribute the cards randomly, and tell students not to divulge what is written on the cards. Next ask students to fill in the blank space with a dollar amount from \$1,000 to \$10,000, rounded off to the nearest hundred dollars.

Explain that the borrowers need money for specific purposes. Discuss with the class the kinds of questions a saver might

ask a borrower before lending a sum of money. (Examples: "What do you intend to use the money for?" "Do you owe anybody any money now?" "When will you be able to repay me?" "Do you have any collateral?")

Begin the exercise by asking savers to try to match the dollar amounts on their cards with the dollar amounts on the borrowers' cards. The exercise is to be done quietly, simulating the real world, where neither individuals with excess funds nor persons who need funds broadcast these facts. Students should record how many interactions they had to initiate before they were able to lend or borrow the appropriate amount of money.

At the end of the exercise, there may be students who were unable to complete a transaction. This is a good time to discuss what might happen in the real world if a borrower needed more money than an individual lender might be willing to provide.

Could several savers combine to provide funds to a borrower? Could two or more borrowers approach a single wealthy saver? These questions can drive an interesting discussion among the students.

When the simulation is over, students should be able to answer the following questions:

1. What was difficult about exchanging funds in this way? Possible responses:

It was hard to find a person who had the amount of money I needed. I had to get information secondhand from others. It took a lot of time to find what I needed.

2. How could the exchange of funds be made easier? Possible responses: *If*

filling out a loan application for \$5,000, Maria was invited into the vice president's office. He asked about her credit history, how many charge accounts she had, how much she owed on each one, and whether she had any other outstanding debts. He checked her employment background and asked where she lived and how long she had lived there.



"The hardships of farm life include mostly responsibility. You have to have the responsibility to your animals or to the work you're doing—whether you're sick or...it's 30 below zero or raining."

Why do you think the bank was interested in Maria's credit, job, and housing background? Discuss this with your classmates, and write your response on the lines below or on another sheet of paper.

Maria knew that to qualify for the loan she probably would need collateral (assets that can be used as security for a loan). The bank keeps property used as collateral if the borrower fails to repay the loan. Maria did not have any property that was worth \$5,000, and so she was afraid that her loan application would be rejected.

But Maria did have something of value she could use in place of collateral. It was not the kind of property that you

can see or touch. It was her human capital, the skills and knowledge that she had acquired by going to school to become a chef. The bank knew that Maria's skills would help her earn the money to repay her loan.

The banker reviewed Maria's records and approved the loan. Now Maria had a difficult decision to make. Should she choose a fixed or variable interest rate? The fixed rate of 9.5% would not change during the five years she would have to repay the loan. The variable rate would be at 7.5% during the first year, but it might change during the next four years. If interest rates in general went up, Maria's rate would increase; if rates went down, her rate would decrease.

How would Maria decide which type of loan was best? Her decision would depend on whether she expected interest rates to rise or fall.

Interest rates increase or decrease for a number of reasons, one of which is supply and demand. Interest rates represent the price of loanable funds. Just as the price of butter is determined by how much butter is available and how much consumers want to buy, the price of loanable funds is also established by the interaction of supply and demand in the market.

The suppliers of loanable funds are savers. Wage earners like you put a portion of their paychecks into savings accounts. Banks and other savings institutions use that money to provide loans to borrowers. Borrowers might be newlyweds buying their first home, students needing tuition for computer training, young people buying a new car, or chefs such as Maria wanting to open their own restaurants.

Savers respond to incentives. Usually they will save more when interest rates rise. But saving involves an opportunity cost. The money they save for the future cannot be used to consume goods and services right now.

Richie Gotapile just made his daily deposit at the bank. The dollars that Richie is saving can help Maria finance her bistro—but then Richie can't use those same dollars to buy a diamond ring today. The diamond ring is his opportunity cost for saving.

there were one central clearinghouse that had information about savers and borrowers, exchanges would take place more easily. If each saver had the exact amount that the borrower needed, the exchange would have been easier.

3. How do banks simplify the exchange of loanable funds? Possible answers: Banks provide a service that brings together savers and borrowers. Banks pool the savings of many depositors to make loans that might be larger than an individual saver could make.

Introduce the **Econcepts** (page 55), and give contextual examples of each. Use situations that relate to students' experiences. Encourage students to refer to the terms whenever necessary throughout the lesson.

Ask students to read the opening two paragraphs of **Power Up** (page 55). Write the term "collateral" on the chalkboard, and explain that collateral is any asset that can be used as security for a loan. Ask students to suggest reasons why collateral may be necessary to obtain a loan. Students may respond: to prove that the borrower is capable of repaying the loan; to reduce the risk to the lender. Encourage students to read **A Taste of Money** and to think about collateral as they do so.

Save the Rich!

LIKE them or not, we count on the very rich to save and invest for the rest of us. Most people have little left at the end of the day to tuck under the mattress. But the wealthiest one percent—folks whose gross earnings amount to at least \$200,000 a year or whose net worth exceeds \$3 million—save fully 27 percent of their after-tax income, according to a survey by U.S. Trust Company. In 1993 this stash accounted for roughly half the nation's personal savings, estimated at \$195 billion.



—Adapted from Jacklyn Fierman, "Save the Rich," *Fortune* (November 29, 1993)

"A farmer will use his crops as collateral oftentimes for an operating loan. During the spring, it's necessary to buy seeds and chemicals and to cover the expenses of putting a crop out. After the harvest, this operating loan is usually repaid."



Explain that to receive a loan from a bank, a borrower must provide information that indicates an ability to repay. Ask students to respond to the question on page 56. They should respond along these lines: Maria's ability to repay loans in the past would indicate whether she is a good risk for a new loan. Maria's ability to work and be successful at a job would indicate whether she is responsible and dependable. Her housing background would also be an indication of stability: If she lived at one address for a long time, she might be less of a risk than if she moved every six months.

Discuss with students how savers represent the supply of loanable funds. Ask them to respond to the question on this page. Possible answers: more savers; expectations of higher (or lower) interest rates; savers' expectations of a better return in the market for loanable funds than they can obtain elsewhere.

Savers represent the supply side of the market for loanable funds. What factors can increase the supply of loanable funds? To help you answer this question, think about the determinants of supply. Then brainstorm some ideas with your classmates, and write your response on the following lines or on another sheet of paper.

Borrowers make up the demand side of the market. They respond to different incentives than savers do. When interest rates go down, borrowers will usually borrow more. They too face an opportunity cost.

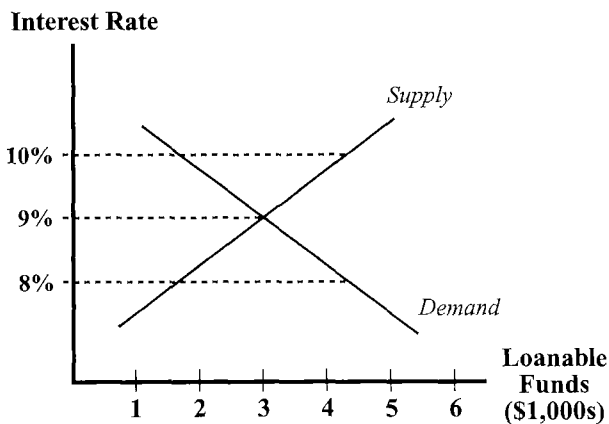
A loan must be paid back—with interest. If Richie borrows \$100,000 to buy a new Ferrari, he will get \$100,000 from the bank now, but he will have to pay interest to the bank for the use of the money. The interest is his opportunity cost.

What factors can influence the demand for loanable funds? To help you answer this question, think about the determinants of demand.

Share your ideas with your classmates, and then write your answer below or on another piece of paper.

Banks act as intermediaries. They provide a market in which savers and borrowers voluntarily exchange loanable funds. They accept deposits from people like Richie who have excess funds, and they make loans to people such as Maria who need money to open small businesses.

Supply and demand in the market for loanable funds interact to determine an equilibrium price. The graph below shows the supply of and demand for loanable funds in the town where Maria and Richie live. The equilibrium price (interest rate) is 9%. At a rate of 9%, the quantity of loanable funds that savers are willing and able to save (quantity supplied) is equal to the quantity of loanable funds that borrowers are willing and able to borrow (quantity demanded).



An interest rate of 10% provides an incentive to save—that is, it encourages people to save more of their money. On the other hand, a 10% rate drives some borrowers out of the market. Now a surplus of loanable funds exists, because the quantity supplied exceeds the quantity demanded. The surplus is eliminated as the interest rate declines. As the interest rate falls, savers leave the market because their money is earning less. At the same time, more borrowers enter the market because they can borrow for less. The market moves toward equilibrium.

On the other hand, an interest rate of 8% is below the equilibrium price. The lower rate is an incentive for people to borrow, but it

Explain that borrowers represent the demand for loanable funds. Ask students to respond to the question on this page. *Possible answers: more borrowers; expectations of higher (or lower) interest rates; interest rates in other markets; people's attitudes regarding debt.*

Explain how supply and demand interact in the market for loanable funds. Construct a supply-and-demand graph on the chalkboard or on an overhead transparency, using the graph as a guide. Review with students that when the quantity supplied is greater than the quantity demanded, a surplus exists. Price then decreases, moving the market toward equilibrium. Use the graph to demonstrate how savers leave the market and borrowers enter the market as the interest rate declines.

Further explain that a shortage exists when the quantity demanded exceeds the quantity supplied. The interest rate increases, moving the market toward equilibrium. Use the graph to explain how savers enter the market and borrowers leave the market as the interest rate increases.

“Banks do not raise or lower interest rates depending upon how they feel about it. A bank buys money like a grocer buys bananas—and then adds on salaries and rent and sells the product.”

—Llewellyn Jenkins,
American banker

drives some savers out of the market. A shortage of loanable funds exists, because the quantity of funds demanded is greater than the quantity supplied. An increase in the interest rate eliminates the shortage. As the interest rate climbs, borrowers leave the market because they have to pay too high a price. Savers respond to the higher rate by saving more. Once again the market moves toward equilibrium.

It would be a good idea for Maria to try to predict the direction of interest rates—up or down—before deciding whether to choose a fixed or a variable rate on her \$5,000 loan.

Maria is not an expert in finance, so she went to see a financial adviser. The adviser suggested the fixed rate, because she believed interest rates were going to increase over the next couple of years. It would be better for Maria to lock in a constant rate of 9.5% rather than face higher rates during the life of her loan.

After reading the **Power Up** section, students should be able to complete the five statements on this page.

1. surplus, decrease
2. supply
3. shortage, increase
4. demand
5. equilibrium

You may wish to have students use the graphical database **Loanable Funds Market**, which is accessible by this barcode:

Loanable Funds Market



Step Back



Step Forward



Demonstrate your understanding of the market for loanable funds by completing the following sentences. Use these words as your answers: **equilibrium, shortage, surplus, supply, demand, increase, decrease.**

1. When the quantity supplied is greater than the quantity demanded, there is a _____ of loanable funds. It can be eliminated if interest rates _____.
2. Savers represent the _____ side of the market.
3. When the quantity demanded is greater than the quantity supplied, there is a _____ of loanable funds. It can be eliminated if interest rates _____.
4. Borrowers represent the _____ side of the market.
5. The market is in _____ when the quantity of loanable funds saved is equal to the quantity of loanable funds borrowed.

High interest rates are an incentive to savers. If Richie owns a two-year certificate of deposit with a 6% interest rate, he will earn 6% for the life of the CD. When he cashes it in at the end of two years, he can reinvest his money in a new CD. If interest rates have risen to 8% by then, Richie can begin earning the higher interest rate. The higher rate provides an incentive for him to keep his money in savings rather than spend it on a diamond ring or an expensive car.



Interest rates are prices that rise and fall with the forces of supply and demand—just as the prices for products are determined by supply and demand.

TAKE A CLOSER LOOK

BANKS and farms...how are they related? Bankers produce a service; they act as intermediaries, bringing savers and borrowers together to exchange money.

Bankers need farmers to provide food, and farmers need bankers to provide funds for building barns, for buying seed and livestock, and for investing in new technology. Banks and farmers are interdependent—that is, they depend on one another in their businesses. They are interdependent in the market for loanable funds.

WHAT YOU'LL SEE ON THE SCREEN

The opening segment of “Family Farm” demonstrates that a farm is a business. Planning, record keeping, and good old-fashioned hard work help to make farmers successful. But in hard times they need money to keep their farms running—otherwise they would never be able to pay their bills. In good times they need money to invest in new equipment so that they can improve their productivity and become even more profitable.

In the Economic Puzzle Challenge sequence, you will see how interest rates affect farmers’ decisions to save, to spend, and to borrow. You will also learn that rising and falling interest rates have different effects on farmers, on bank owners, and on yourself.

VIDEO CORE

Ask students to read the introductory paragraph of **Take a Closer Look**. The first video segment introduces students to the idea that savers and borrowers represent the supply of and the demand for loanable funds in the market. Interest rates represent the price of loanable funds; interest rates are dependent upon the quantity of loanable funds saved and the quantity borrowed. Savers and borrowers respond differently to increases in the interest rate, because a high rate provides an incentive to save, whereas a low rate provides the incentive to borrow. Students should realize that rising or falling interest rates mean different things to different people.

INTRODUCTION TO THE VIDEO

Have students read **What You’ll See on the Screen**. When they finish, ask them to suggest situations that can cause farmers to need to borrow money. Encourage students to provide examples from the news or from their own experiences. *They may respond: Flooding along the Mississippi River caused damage to barns and equipment. Freezing weather in Florida damaged citrus trees. Lack of rain led to wind erosion and required added irrigation. Labor strikes among fruit pickers raised the costs of farming.*

Discuss with students their own future borrowing of money. Some students will undoubtedly mention the purchase of a new car. Distribute current issues of a local newspaper, and ask them to look for advertisements for new-car loans. List on the chalkboard the various interest rates they find. This information will be useful when they begin to watch the video.

VIDEO-BASED ACTIVITIES, PART 1

Ask students to read the paragraph that introduces the first **Talk This Over** section. Then start the videodisc (side 9), and swipe this barcode to play:

Family Farm
(introductory segment)



The video will pause on a screen with the following questions (which also appear in the *Student Guide*).

What are some typical interest rates for new-car loans?

Are interest rates currently rising or falling?

Make current newspapers available to the class, and encourage students to use the library, the telephone, and a computer on-line service (if available) to obtain answers to the questions. Answers will differ from region to region. Phone a local bank for current data.

Further Discussion

Tell students to read **For More...** on this page. Explain that interest rates represent the price of loanable funds. As the interest rate increases, the quantity of loanable funds supplied increases—that is, as rates go up, savers are encouraged to enter the market. On the other hand, as rates decrease, the quantity of loanable funds demanded increases—borrowers are encouraged to enter the market.

TALK THIS OVER

Maybe you'll never need to take out a loan to operate a farm, but someday you'll probably want to borrow money for something. You might need the money to purchase furniture, to open a small business, or to buy a car. When you begin to check out interest rates, you may find that they differ from bank to bank.

The video will pause on a screen with the following questions. Write your answers on the lines provided or on a separate sheet of paper, and then share your thoughts with the other members of the class.

What are some typical interest rates for new-car loans?

Are interest rates currently rising or falling?

For More...

Interest rates are affected by the supply of and the demand for loanable funds. The demand for funds can change, depending upon the number of people who want to borrow money. The supply of funds is controlled by the Federal Reserve, the central bank of the United States.

You might think that the Federal Reserve could increase the supply of money simply by ordering more money to be printed; then people could borrow all the money they want. Wouldn't this provide loanable funds to everyone who wanted to borrow?

It's not that simple. Printing too much money might lead to inflation—a rise in the general level of prices. If there's an increase in the amount of money in circulation, prices of relatively scarce goods and services will be bid up. If your boss raised your weekly salary to \$500 from \$200, you'd suddenly be able to pay more for the goods and services you buy.

The Federal Reserve is the nation's money watchdog. Its governors examine what's happening in the economy every day. Their job is to regulate the supply of money in order to prevent inflation (too much money) and recession (too little money).

TALK THIS OVER

If you plan to buy a new car, you'll probably need more money than you have in your savings account. What will you do? Will you keep saving until you have enough money? Or will you choose to borrow the money now and pay it back with interest over the next three or four years?

The screen challenges you with another set of questions. Write your answers on the lines provided or on a separate sheet of paper; then discuss your responses with your classmates.

Do you borrow more than you save, or save more than you borrow? Why?

How would changes in interest rates affect your desire to save or borrow?

The forces of supply and demand determine prices—even the price of borrowing money.

For More...

Rising interest rates are an incentive for savers, and falling interest rates are an incentive for borrowers. But the real effect of higher or lower interest rates may be a lot different than you would expect.

Yo, Interest Rates—Get Real!

One day Ronald Frump read in the *Wall Street Journal* that interest rates on savings had gone to 5% from 3%. He decided to put \$1 million in a certificate of deposit. He figured that, even with simple interest, he'd earn \$50,000, just by leaving a million dollars in the bank for a year. He could use

VIDEO-BASED ACTIVITIES, CONTINUED

Have students read the opening paragraph of the second **Talk This Over** section. Then swipe the next barcode to generate the following questions (which also appear in the *Student Guide*).

Do you borrow more than you save, or save more than you borrow? Why?

How would changes in interest rates affect your desire to save or borrow?



These questions require students to analyze their own saving or borrowing habits. Although most students may be too young to have borrowed independently from a bank, some may have had parents as cosigners for major purchases; students may also have borrowed from friends or relatives. Encourage students to examine their saving and borrowing attitudes. Remind them of the effects of interest rates on savers and borrowers.

Appropriate responses to the second question: Rising interest rates would encourage saving and discourage borrowing; falling interest rates would encourage borrowing and discourage saving.

(Note: When you wish to resume the video program, use the barcode on page 65.)

Further Discussion

Ask students to read **For More...** beginning on this page. Explain that nominal interest rates express the current value of the dollar, without taking inflation into account. But inflation can change the real value of the dollar—and likewise of interest rates.

Be sure that students understand the difference between nominal and real rates by asking them to solve the following problems.

1. Nominal interest rate = 7%; inflation = 8%. How much buying power will \$100 have at the end of a year? Answer: \$99. What is the real interest rate? Answer: -1%.
2. Nominal interest rate = 10%; inflation = 8%. How much buying power will \$100 have at the end of a year? Answer: \$102. What is the real interest rate? Answer: 2%.
3. Nominal interest rate = 8%; inflation = 8%. How much buying power will \$100 have at the end of a year? Answer: \$100. What is the real interest rate? Answer: 0%.

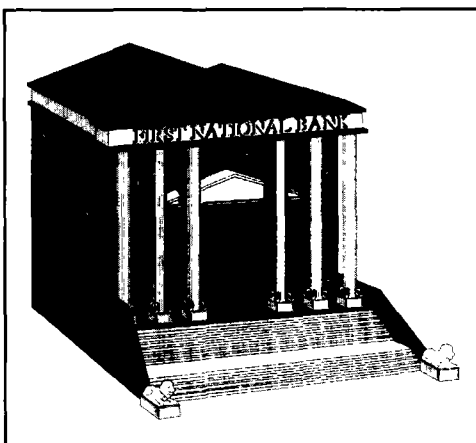
that money to remodel the honeymoon suite in his hotel in Pacific City, a job that had been estimated to cost \$50,000.

One year later, Ronald went to the remodeling contractor with the \$50,000 interest he had earned and said he was ready to sign a contract. But the contractor said that the price for the job was now \$54,500. What had happened to make the price of the job go up that much?

During the year, the inflation rate was 9%. The remodeling job, which originally would have cost \$50,000, was now priced at \$54,500 ($\$50,000 \times 0.09 = \$4,500$; $\$4,500 + \$50,000 = \$54,500$). The interest that Ronald earned from his savings would not be enough to pay for the project. In other words, his money was not worth as much as it had been worth a year earlier. Inflation had risen beyond the interest paid to him on his savings; therefore, his money was worth less. The \$50,000 would not buy as much now as it would have bought a year earlier.

Even though the **nominal** rate of interest was 5%, the **real** rate was less. His \$50,000 would buy less this year than it could have bought last year. Last year he could have had the remodeling done for \$50,000; this year that wasn't enough. Ronald would have had to earn a rate of 5.45% on his \$1 million to have enough interest to pay for the renovation.

The nominal rate of interest is expressed in current value; it does not reflect the inflation rate. The real rate takes inflation into account. That's why Ronald's financial investment of \$1 million would have required a **nominal** interest rate of 5.45% in order to earn the same amount of **real** money that 5% would have provided last year.



You Can Take That to the Bank

"Banking is a risk industry. Unless bankers take risks, they cannot support their communities or the industries and businesses making up those communities."

—Philip E. Coldwell,
Federal Reserve Board governor

"A bank is a place that will lend you money if you can prove you don't need it."

—Bob Hope, American comedian

TALK THIS OVER

Saving money involves an opportunity cost. The money that is saved now cannot be used to buy things now. The opportunity cost of saving is the present consumption that the saver gives up.

Borrowing money also involves an opportunity cost. The screen asks:

What effect would higher interest rates have on the opportunity cost of borrowing money?

Think about this question, and write your answer on the lines below or on another sheet of paper. Then share your thoughts with your classmates.

“Time is money, and many people pay their debts with it.”

—Josh Billings, American humorist

For More...

When you borrow money, you have the use of it now instead of having to wait several months, or even years, to save enough for what you want. But there is a cost—an opportunity cost. The opportunity cost of borrowing money is the interest that you pay on the loan.

When Is a Debt Not a Debt?

Jacob needed to borrow \$10,000 to buy equipment for his small-motor repair business. The lowest interest rate he could find was 5% for 10 years. He thought that sounded like a good deal, so he applied for the loan—and got it! In the meantime, he heard that inflation was rising and that interest rates would be going up too. His bank’s rate soon rose to 5.5%. A few weeks later it was 6%. Fortunately for Jacob, his interest rate was fixed at 5%. It could not increase.

In times of inflation, people who borrow money actually benefit because they reduce their opportunity costs. Jacob’s opportunity cost for borrowing \$10,000 was the \$2,727.71 interest he would pay the bank. If he had waited a few weeks to borrow the money, his opportunity cost would have been \$3,322.42—the interest on \$10,000 at 6% for 10 years.

VIDEO-BASED ACTIVITIES, PART 2

Have students read the paragraph that introduces the third **Talk This Over** section. Then swipe this barcode to continue playing:

Family Farm
(introductory segment, continued)



The video will pause on a screen with this question (which also appears in the *Student Guide*):

What effect would higher interest rates have on the opportunity cost of borrowing money?

Ask students to respond in writing and then to share their ideas. They should respond: The interest rate represents the opportunity cost of borrowing money; therefore, as interest rates rise, the opportunity cost of borrowing money also rises.

Further Discussion

Have students read **For More...** on this page. Explain that in times of inflation the general price level rises. Savers are hurt by inflation if their money is earning a fixed rate while prices generally are going up. Borrowers benefit during inflationary times if they are repaying their loans at a fixed rate while other prices are getting higher.

Students should be able to discuss the section **When Is a Debt Not a Debt?** Help students understand that Jacob benefited from inflation because his business was worth more than his payment of \$14,088 to the bank.

VIDEO-BASED ACTIVITIES, CONTINUED

Have students read the opening paragraph of the fourth **Talk This Over** section. Then swipe the next barcode to generate the following questions (which also appear in the *Student Guide*).

What effect would higher interest rates have on the opportunity cost of saving or lending money?

What if rates decreased?



Explain that savers and borrowers respond to different incentives. Low interest rates encourage borrowing, because the opportunity cost of borrowing is low. The reverse is true for savers. The opportunity cost of saving is the current consumption that savers give up.

Students should respond along these lines: As interest rates increase, the opportunity cost of saving decreases. Individuals have a greater incentive for saving instead of spending. If rates decrease, the opportunity cost of saving increases. With the prospect of a lower rate of return on their money, people are more inclined to consume in the present.

Further Discussion

Ask students to read **For More...** on this page. Explain that a certificate of deposit is a special kind of saving instrument that guarantees a specified interest rate for a specified length of time. Ask students to respond in writing to the question on the next page.

TALK THIS OVER

When you borrow money, you must eventually pay it back, with interest. The interest represents an opportunity cost: When you pay the interest, you are giving up the opportunity to spend that money on something else. Also, when you save money, you have an opportunity cost. If you deposit \$100 in the bank, you give up the opportunity to spend that \$100 on your next best alternative.

The screen asks these questions:

What effect would higher interest rates have on the opportunity cost of saving or lending money?

What if rates decreased?

Answer the questions on the lines below or on another piece of paper, and then discuss your ideas with the other students in your class.

For More...

Some savings accounts offer higher interest rates than others. If you have a standard passbook account at your local savings institution, you may be earning 3% or 3.5% interest. If rates rise, the bank will increase your earnings to 3.75% or 4%. As rates continue to increase, you will receive the benefit of those added percentage points.

Some accounts, however, are fixed. A certificate of deposit is an account that offers an unchanging interest rate for a specific length of time. Usually CDs offer higher interest rates than regular savings accounts, but the interest rate may be locked in for a period of 90 days, or two years, or even 10 years. How will rising interest rates affect your savings in a CD?

If you invest your money in a three-year CD at 5% interest and then, one month later, interest rates rise to 6%, you will be earning less than savers who deposit their money at the new rate. Because you signed an agreement to keep your money in the CD for three years, you may not withdraw it without paying a penalty. You could be earning a higher rate of interest in another account, but your money is locked into a three-year agreement. You face a higher opportunity cost because you are giving up the extra interest you could have been earning if your money were in an account earning 6%.

Inflation has the same effect—it harms savers. If you are earning 5% interest in a savings account, but the inflation rate is 7%, you are ac-

tually losing money, because your money will be able to buy less. That's what happened to Rakesh....

Rakesh wanted to buy a \$1,000 stereo with his graduation money. His brother told him to save his money in a 12-month CD, earn interest, and buy the stereo later. Rakesh, being a good guy, took his big brother's advice. Unfortunately, the inflation rate during the next 12 months was 7%, while Rakesh's CD was paying only 5%.

With inflation at 7%, the stereo that had cost \$1,000 when Rakesh graduated now carried a price tag of \$1,070. Rakesh's \$1,000 in a 5% CD was worth only \$1,050 at the end of a year. He did not have enough money to pay for the stereo! In this case, Rakesh would have been better off buying the stereo when it was \$1,000 and he had \$1,000.

Answers: advantage—rate is guaranteed even if other rates go down; disadvantage—rate is locked in even if other rates go up.

Think about saving money in a fixed-rate account, such as a certificate of deposit. List at least one advantage and one disadvantage of saving in this type of account. Use the lines below or a separate sheet of paper.

ECONOMIC PUZZLE CHALLENGE, PART 1

Before swiping the barcode to continue, ask students to read the introductory paragraphs of **Economic Puzzle Challenge, Part 1**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 1



ECONOMIC PUZZLE CHALLENGE, PART 1

Farmers' profits depend on the weather and other factors that farmers can't control. Jarrett's father must face many difficult situations, from drought to hail damage to changes in interest rates; therefore, he must weigh all the costs and benefits of his options before making a decision.

He knows that interest rates can decrease or increase as the supply of loanable funds rises or falls. Rates can also change as the demand for funds goes up or down. Steve would like to pay the lowest rate possible for his farm loan. The lower the rate, the less interest he has to pay. Should



"The lowest rate we offer right now is a floating-rate loan tied to prime, but I don't recommend it for you. Interest rates are expected to increase—and if that happens, you could incur lower profits or a loss."

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

Why the expected increase in interest rates?

Ask students to discuss the question. After the discussion, assist them in analyzing each of the possible responses to the question. Then swipe barcodes for the options you wish to view.

A. Savers will lend more than borrowers will borrow.



Analysis: Savers represent supply; borrowers represent demand. If the quantity supplied is greater than the quantity demanded, a surplus exists. A surplus is eliminated as prices decrease. If Janice expects interest rates to rise, it is unlikely that the reason is a surplus of loanable funds.

B. Savers will lend less than borrowers will borrow.



Analysis: Savers represent the supply side of the market for loanable funds; borrowers represent the demand side. If the quantity supplied is less than the quantity demanded, a shortage exists. A shortage is eliminated as prices increase. If Janice expects interest rates to rise, it is likely that the reason is a shortage of loanable funds. (This option will play directly into Economic Puzzle Challenge, Part 2.)

C. A shortage of goods and services exists in the output market.



Analysis: A shortage in any market is eliminated as price increases. However, the market for loanable funds is different from the market for goods and services in the output markets. Interest rates represent the price of loanable funds; they do not reflect the price in output markets.

he choose a “floating” rate that can change or a fixed rate that will stay the same? What does he need to know in order to make a decision? Think about Steve and his farm as you watch the video.

Decision Time

At the end of the first part of the Puzzle Challenge, the video asks you the following question.

Why the expected increase in interest rates?

Use either the lines provided here or a separate sheet of paper to mark your choice and to explain your reasons. Then watch the video to see the results of your decision.

☐ A. Savers will lend more than borrowers will borrow.

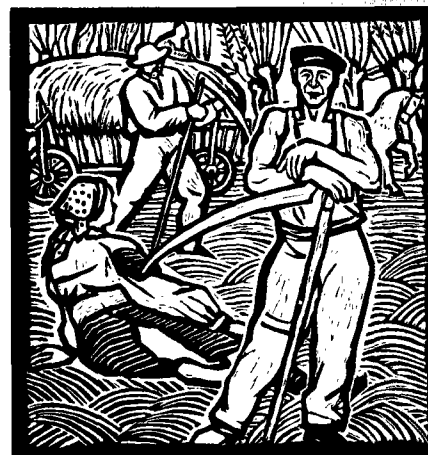
☐ B. Savers will lend less than borrowers will borrow.

☐ C. A shortage of goods and services exists in the output market.

What Is a Farm?

THE federal government defines a farming household as one that produces or sells \$1,000 or more of agricultural products in one year. The farm definition has been set at the same income amount since 1972.

In the early days of the nation, many Americans lived on small farms. Today the number of family farms has dwindled.

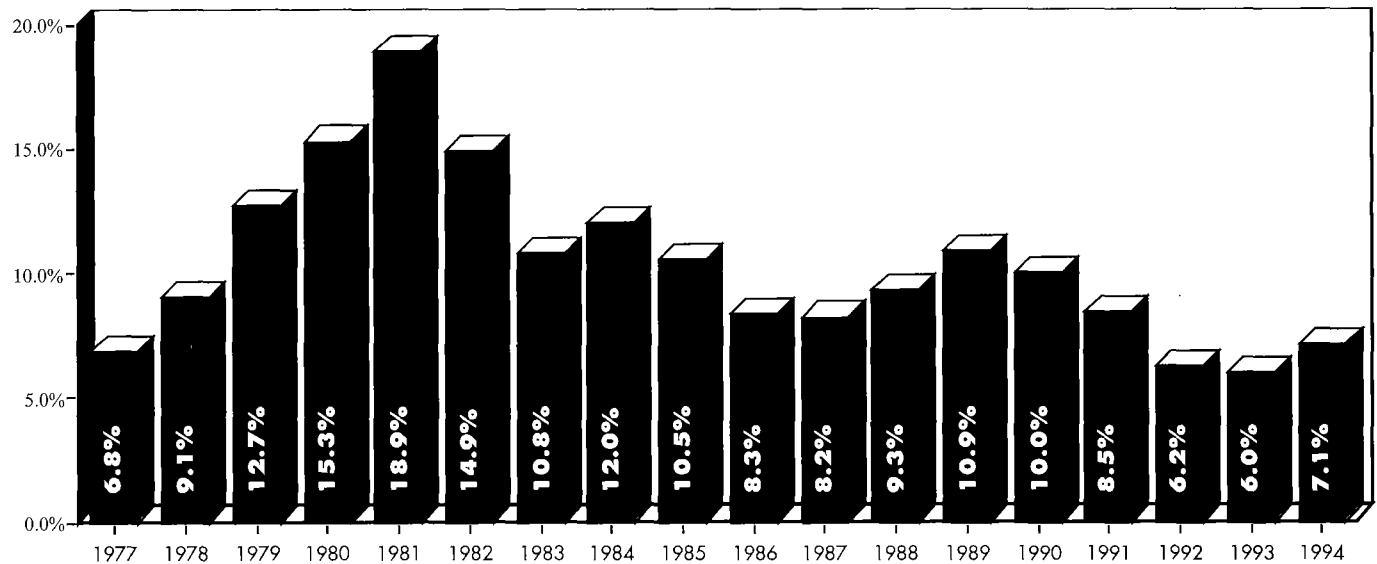


For More...

Janice mentioned a floating-rate loan tied to prime. The prime rate is the interest rate that a bank charges its best business customers. However, because the prime rate changes from time to time, Janice did not recommend the floating rate; it would be too risky for Steve. If the prime rate rose, his rate would increase with it.

The following bar graph shows how the prime rate changed from 1977 to 1994.

Average Prime Interest Rates, 1977–1994



—Graph data courtesy of the *Federal Reserve Bulletin*

Further Discussion

Explain that the prime rate is the interest rate that a bank charges its best business customers; the prime is the lowest loan rate. Ask why a bank has different rates for different customers. *Possible answers: Trusted customers have proven their ability to repay loans. Longtime customers have established a history of good credit and present less risk. Customers who borrow large sums will pay large amounts of interest and add to the bank's profits.*

Ask students to analyze the graph on this page. *Possible observations: Savers who locked in long-term CDs in 1981 benefited because rates fell sharply after that; borrowers who signed loan agreements in 1977 benefited because rates rose sharply the next four years.*

ECONOMIC PUZZLE CHALLENGE, PART 2

Decision Time

For a farmer, many jobs can't wait until tomorrow. Caring for livestock and planting crops are things that need to be done at specific times. Cows need to be milked every day—a farmer can't take a vacation from milking. Corn has to be planted in the spring—farmers can't put off planting until the long days of summer.

Farmers need to spend money on milking and planting. Spending their money in the spring means they won't have that money to save or spend later.

Now that you know about some of the problems facing farmers, you should be able to understand Steve's dilemma.

ECONOMIC PUZZLE CHALLENGE, PART 2

Option B of **Economic Puzzle Challenge, Part 1** played through the introduction to **Part 2**. If you wish to review the introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 2



Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

What happens to the opportunity cost of present-day consumption as interest rates rise?

Ask students to read **Decision Time** (page 69). Help them analyze each of the possible responses. Be sure they understand that the opportunity cost of present consumption is the foregone interest on money that could have been saved. Then swipe barcodes for options you wish to view.

A. It increases.



Analysis: The incentive to consume is reduced when interest rates rise, because saving will provide greater benefit than consuming will; therefore, when rates rise, consuming in the present means giving up higher returns in the future. This response is correct. (This option will play directly into **Economic Puzzle Challenge, Part 3.**)

B. It decreases.



Analysis: No. The incentive to consume increases when interest rates fall, because consuming will provide greater benefit than saving will; therefore, when rates fall, consuming in the present means giving up smaller returns in the future.

C. It does not change.



Analysis: No. As interest rates rise, the incentive to save increases. Saving provides greater benefit than present consumption. The opportunity cost of consuming increases as rates increase, because consuming results in giving up greater benefits from saving.



Although the interest payment will be higher for a fixed-rate loan, the rate is locked in. On the other hand, the lower rate for a floating loan could increase to more than the present rate for the fixed-rate loan.

The video poses this question:

What happens to the opportunity cost of present-day consumption as interest rates rise?

Discuss the three choices with your classmates, then mark your choice below or on another sheet of paper. Be sure to explain why you made your decision. Then watch the video to see the results of that choice.

☐ A. It increases.

☐ B. It decreases.

☐ C. It does not change.

ECONOMIC PUZZLE CHALLENGE, PART 3

Decision Time

Farming is a business. Like other businesspeople, farmers make a profit when their revenues are greater than their expenses. If they save money when interest rates are high and borrow when rates are low, they're making good business decisions. Because some aspects of farming are risky and beyond their control, farmers must be careful about saving and borrowing.

Think about saving and borrowing as you tackle the next part of the Puzzle Challenge.

The screen presents another question:

Who benefits from rising interest rates?

Use the lines below or a separate sheet of paper to make your choice. Explain your decision, and then watch the video to see the results.

☐ A. The supplier of loanable funds

☐ B. The demander of loanable funds



ECONOMIC PUZZLE CHALLENGE, PART 3

Option A of **Economic Puzzle Challenge, Part 2** played through the introduction to **Part 3**. If you wish to review the introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 3



Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

Who benefits from rising interest rates?

Ask students to read **Decision Time**, and then assist them in analyzing the two possible responses. Then swipe the barcode of either option you wish to view.

A. The supplier of loanable funds



*Analysis: Savers are the suppliers of loanable funds, and savers benefit when interest rates rise. Even though saving means foregoing present consumption, the incentive to save is enhanced when interest rates rise. (This option will play directly into **Economic Puzzle Challenge, Part 4**.)*

B. The demander of loanable funds



Analysis: Borrowers are the demanders of loanable funds, and borrowers pay a higher price when interest rates rise. It is savers, not borrowers, who benefit from rising interest rates.

With interest rates on the rise, Steve returns to the bank for a crop loan.

ECONOMIC PUZZLE CHALLENGE, PART 4

Option A of **Economic Puzzle Challenge, Part 3** played through the introduction to **Part 4**. If you wish to review the introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 4



Video-based Questions

The video will pause on a screen with the following questions (which also appear in the *Student Guide*).

What condition in the loanable funds market would lead to a decrease in interest rates?

How would this affect you? [Are you a net saver or borrower?]

Ask students to read **Talk This Over**. Allow time for them to respond in writing and to discuss the questions. Review how the supply of and demand for loanable funds interact to determine an equilibrium interest rate. Review the choices that Jarrett and Steve made about their farm.

Students should respond along these lines: A decrease in the interest rate would eliminate a surplus of loanable funds. A surplus occurs when the quantity supplied is greater than the quantity demanded; therefore, a decrease in the interest rate would occur when the quantity of funds saved exceeds the quantity of funds borrowed. The effect of decreasing interest rates on a net saver would be negative, because savers benefit from rising rates. The effect of decreasing interest rates on a net borrower would be positive, because borrowers benefit from falling rates.

Side 9 Menu



Quit Instructions



ECONOMIC PUZZLE CHALLENGE, PART 4

Talk This Over

As Steve and Jarrett try to decide whether or not to buy a Jeep, they will have to study the market for loanable funds. If interest rates are above equilibrium, there will be a surplus of funds available to borrowers, and rates will decrease. But if loan rates are too low, a shortage of funds will exist, and the rates will increase so that the market returns to equilibrium.

But how will Steve know if rates are too high or too low? There is no giant supply-and-demand graph that tells farmers the state of equilibrium at any particular time. The answer is Steve needs to study the market. He needs to watch how interest rates move up and down from year to year and from season to season. He needs to make predictions and get advice from experts, such as Janice at the bank.

Banks provide many services. Lending money and offering financial advice are just two of them.

The screen challenges you with a final set of questions:

What condition in the loanable funds market would lead to a decrease in interest rates?

How would this affect you? [Are you a net saver or borrower?]

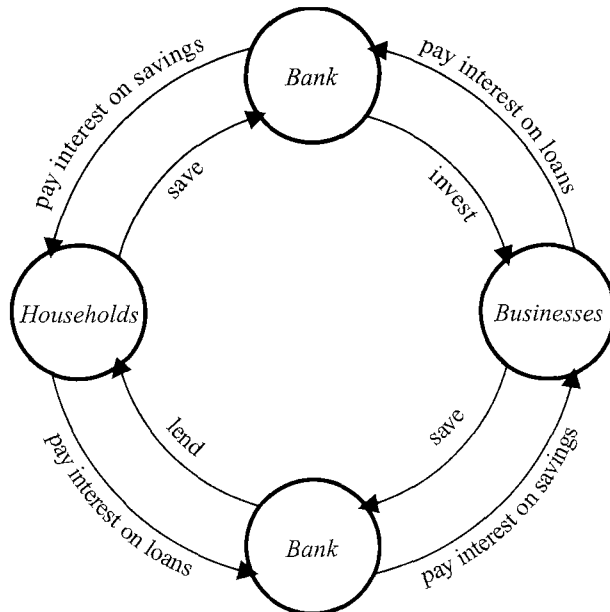
Write your conclusions on the lines provided or on another sheet of paper, and then discuss your ideas with the rest of the class.

“Credit...is the only enduring testimonial to a man’s confidence in man.”

—James Blish, American writer

PUT IT TOGETHER

HOUSEHOLDS and businesses form a partnership in the market for loanable funds, just as they do in markets for other economic resources. The following circular flow diagram can be used to help you understand the interaction between households and businesses.



When they save, households provide loanable funds to banks. Banks then make those funds available to businesses to develop new products, to expand operations, to construct new plants, or to buy equipment.

Businesses also save money in banks and other institutions. The money they save is then available to households for such things as car loans and home mortgages. Businesses and households are interdependent in the market for loanable funds.

The money that is saved and borrowed also flows in a circle. Households and businesses earn interest on their savings, whether it is in a regular savings account, a N.O.W. checking account, or a certificate of deposit. They pay interest to the bank when they borrow money.

The flow of loanable funds from households to banks to businesses—and from businesses to banks to households—makes money available to those who need it. The banker plays a vital role in this exchange of funds. Imagine how difficult it would be if every person who wanted to buy a house or a car had to find another person willing to lend the money. If all borrowers had to find their own lenders and if all lenders had to locate their own borrowers, the system would be extremely inefficient. Banks make the transactions easier and more practical.

CLOSING

The **Put It Together** section introduces students to the use of the circular flow model in the context of the market for loanable funds. Students should be encouraged to discuss the interaction of households and businesses as both suppliers and demanders of loanable funds. They should also recognize the importance of banks and other financial institutions as intermediaries that facilitate the exchange of loanable funds between savers and borrowers.

Remind students about the simulation they performed earlier in this lesson, in which savers and borrowers attempted to make exchanges in a market without banks. Discuss the outcomes of that simulation and how it relates to the circular flow model. (Note: The circular flow model demonstrates the interaction of savers and borrowers in the market for loanable funds. Banks provide a service that enables households and businesses—as savers and borrowers—to exchange funds efficiently.)

Funding the American Farm

THE U.S. government provides commodity loans to help support farm prices and income. To obtain these loans, farmers apply to the U.S. Department of Agriculture's Commodity Credit Corporation and put up their crops as collateral. The loan is calculated using the "loan rate," which is a price per bushel, bale, pound, or hundredweight, depending on the crop. A farmer may repay the loan with interest after selling the crop at the market price; however, if the market price is below the loan rate, the farmer can forfeit the crop to the government as full settlement of the loan.

—Adapted from *CQ Researcher* (December 2, 1994)



SUMMARY

Ask students to read **Net Gain**. Review the four content statements, and ask students to respond to each statement with examples from their personal experiences or from their reading.

NET GAIN

THIS lesson shows that banks are an important factor in the movement of funds between savers and borrowers. Banks provide funds to farmers such as Steve, and they protect the savings of others. If you reflect on the choices Steve had, you should recall these points:

1. **Every decision involves an opportunity cost.** When Steve decided to borrow money to keep the family farm, his opportunity cost was the interest he would have to pay on his loan. He felt that the cost of the loan was less than the opportunity cost of losing the farm. When he decided to save money to buy a Jeep, his opportunity cost was the chance to buy things now with the money he would be putting in the bank. He felt that giving up current consumption was less of a cost than putting aside money every month for something he really wanted. As you think about your education, your career, or even what to do on Saturday night, opportunity cost will affect your decision. You'll normally choose the option with the lower opportunity cost.
2. **Banks serve as intermediaries between savers and borrowers.** Steve needed to borrow money for his farm. He did not have to find an individual who was willing to lend him the money; he merely went to a bank. Savers want to keep their money in a place that is safe and offers a good return. They choose banks and other financial institutions that meet their needs. When you choose to save your money—or when you want to borrow money—you won't have to look all over town to find some individual who will do business with you. Service is as close as your nearest bank.
3. **Market forces affect the price of loanable funds.** Janice explained to Steve and Jarrett that some interest rates are fixed and

others are variable or floating. As the supply of and the demand for loanable funds change, the price of those funds will change too. You'll be able to borrow money more cheaply when rates are low. Then that car you've wanted won't seem so unaffordable after all.

4. **Changes in interest rates affect people differently.** Steve knew that his father had saved some money before he died. His father had always been pleased when interest rates increased, because then his savings earned a higher return. Janice advised Steve to choose the fixed rate on his loan because she expected interest rates to rise during the next few years. He'd continue to pay the same rate, no matter how high rates went. You wouldn't want to put your money in a five-year CD if you expect rates to rise; however, you might want to take out a fixed-rate loan now if you think rates will be going up.

BUILDING ON SUCCESS

- ▶ VISIT or call several local banks or savings institutions, and ask them for their current car-loan and mortgage rates. Compare the rates, and display your findings on a poster, chart, or overhead transparency. Present the information to your class in an oral report.
- ▶ Check your library for information about inflation rates during the past 10 years. Display the information on a bar graph. Then find out about interest rates on savings accounts and certificates of deposit over the same period of time. Put that information on a bar graph too. Write a report about your findings, and be sure to include an analysis of how inflation would affect the value of savings.
- ▶ Interview a banker, and ask him or her what qualities a bank wishes to see in a prospective borrower. Use what you learn to dramatize two situations in which one member of your group is the applicant and the other is the banker. In the first role-play scene, enact a negative situation where the applicant provides all the wrong kinds of answers and displays all the wrong kinds of body language. In the second scene, do the opposite: Have the applicant provide all the right kinds of answers and the best possible behavior. Have members of the class compare the two scenes.

EXTENSION

Have students read **Building on Success**. Allow them to complete the activity in pairs. They should read all suggested activities and choose any two of them to complete. Encourage creativity, including the use of well-executed posters, graphs, charts, computer slide shows, or other visual aids that enhance presentations. Have students rehearse oral presentations so that their finished products are polished and well-done.

Borrowers are the ones who demand loanable funds. When interest rates rise, they have to pay a higher price for the money they borrow.

Total interest paid: 10 years, **\$3,322.42**; five years, **\$1,599.68**; three years, **\$951.88**

- Use a computer spreadsheet or financial software (or check with a local bank) to derive schedules of payments for a loan of \$10,000 at 6% interest for 10 years, for five years, and for three years. Analyze the total amount of interest paid at the end of each loan period. Be prepared to explain the differences to your class.

ASSESSMENT

Two types of assessment are provided for you to evaluate students' comprehension and mastery of the material presented in this lesson.

ON YOUR OWN

The questions that appear in the *Student Guide* under the heading **On Your Own** are intended to be used as a homework assignment; however, you may wish to have students complete some or all of them in class.

Answers:

1. Nominal terms: \$90 in interest for a total of **\$1,090**; Real terms: \$20 in interest for a total of **\$1,020**
2. Students may respond: I'd feel as if I made a smart move. Borrowers benefit from increased interest rates because they have already been guaranteed a lower rate. Because the interest rate is the opportunity cost of borrowing, the earlier borrower faces a lower opportunity cost than the later borrower whose rate is higher.
3. Students may respond: I'd wish I had waited. Savers whose money is in fixed accounts, such as certificates of deposit, are hurt when interest rates increase. Their savings continue to earn a fixed rate, even though interest rates have risen. Their opportunity cost is higher, because they are giving up the opportunity to earn a higher rate.

QUALITY CONTROL

ON YOUR OWN

DEMONSTRATE your understanding of the concepts you have learned in this lesson by answering the following questions. Write your answers on the lines provided or on a separate sheet of paper.

1. Inflation is running at 7% this year. Interest rates on saving are at 9%. If you have \$1,000 in a savings account earning simple interest, how much money will you earn at the end of one year...
 ...in nominal terms? _____
 ...in real terms? _____
2. You have taken out a loan for \$10,000 to start a dressmaking business. The interest rate is fixed at 9% for 10 years. How would you feel if you found out that interest rates on loans have increased to 12%? Explain your answer.

3. You have won a big prize in the state lottery: \$100,000 in cash. You decide to put the \$100,000 into a 60-month certificate of deposit earning 7% interest. A week after you deposit your

\$100,000 you learn that interest rates on savings have gone up to 8.5%. How do you react, and why?

4. If the equilibrium interest rate is 6%, explain the effect on savers and borrowers if the current rate is 7%.

5. If the equilibrium interest rate is 6%, explain the effect on savers and borrowers if the current rate is 5%.

4. When the current rate is higher than the equilibrium rate, this indicates that the quantity of loanable funds supplied is greater than the quantity demanded. There is a surplus of loanable funds, and a surplus is eliminated as price decreases. As the interest rate falls, savers will leave the market and borrowers will enter the market until equilibrium is restored.

5. When the current rate is lower than the equilibrium rate, this indicates that the quantity of loanable funds demanded is greater than the quantity supplied. There is a shortage of loanable funds, and a shortage is eliminated as price increases. As the interest rate rises, savers will enter the market and borrowers will leave the market until equilibrium is reestablished.

ASSESSMENT-TRACK QUESTIONS

Besides appearing in the *Student Guide*, the questions under the heading **In Class** are contained on a special assessment track of the videodisc for this module. Using the appropriate disc side, you can access each question by swiping its barcode. Each question is presented as a voice-over to part of a video program that students previously watched. The video will provide students with valuable cues, enabling them to generalize previously learned material to new situations.

Assessment Question 1

1. *The interest rate is a price. Like all prices, it is determined in a market consisting of buyers and sellers. Interest rates change over time because the actions of buyers and sellers also change over time, reflecting market conditions. If the demand increases or the supply decreases, a shortage of loanable funds develops and interest rates will rise. If the demand decreases or the supply increases, a surplus of loanable funds develops and interest rates will fall.*

Assessment Question 2

2. *When people save, they incur an opportunity cost. Savers choose to postpone some current consumption activities. Their incentive for doing so is a rate of return, the interest rate, paid by borrowers for the use of the savings. The opportunity cost of saving/lending is the foregone or sacrificed current consumption. On the demand side, borrowers must compensate savers for the use of their funds with interest income. The interest rate determines the amount of future consumption the borrower sacrifices; thus it measures the opportunity cost of the loan.*

IN CLASS

The following questions should be answered while you watch a special section of the videodisc that your teacher will play for you. Write your answers on the lines provided or on a separate sheet of paper.

1. Individuals, firms, and governments lend and borrow money. The amounts they borrow may depend on interest rates. What is an interest rate? And why does it change over time?

2. How does the interest rate measure the opportunity cost of borrowing and lending?

- [illegible]

- [illegible]

[illegible]

- [illegible]

4. Interest rates reflect, for the most part, the risk and term to maturity of a loan. Individuals, firms, and governments all borrow money. The interest rate you pay on a personal or car loan will differ from the interest rate a large firm or a government entity will pay on its loans (i.e., bonds). Both increased risk of default and a longer time to repayment will increase the interest rate of a loan. This is why individuals pay higher interest rates on car and mortgage loans than a major corporation, such as General Motors, pays on its bonds—individuals have a higher probability of defaulting. This is also why 30-year U.S. Treasury bonds pay a higher interest rate than do three-month U.S. Treasury bills. Often references are made to “the” interest rate because, for all their differences, interest rates do tend to move together, affected by overall market conditions.



THEY JUST KEEP CHANGING

ECON BRIEFING

HAVE you noticed that banks post their interest rates every day? Why do they list them so frequently? Because interest rates are changing all the time. Individuals, businesses, and governments pay a lot of attention to these rates. People feel encouraged to save more of their income when interest rates go up. On the other hand, they feel discouraged from borrowing when interest rates move higher.

Businesses also may want to save more of their profits if interest rates increase. They will have the incentive to borrow for business expansion if interest rates are falling. As interest rates fall, potential investments in plant and equipment become more attractive. Governments know that rising interest rates will mean a heavier burden on taxpayers—more tax dollars will be needed to repay loans that a government takes out, usually by issuing bonds.

When interest rates change, some people benefit, whereas others have higher costs. Why do interest rates change? What are the factors that influence changes in interest rates? The answer lies in a better understanding of the behavior of people and of institutions, such as businesses, banks, and governments.

- ▶ What happens if people, businesses, and governments change their behavior and want to consume more and save less today?
- ▶ If people have more income, will they save more or spend more?
- ▶ If people decide to increase their saving no matter what the interest rate is, will interest rates change?
- ▶ What factors influence the demand for and the supply of loanable funds?

WHAT YOU'LL LEARN IN THIS LESSON

- Disposable income is the income available for use after taxes have been paid. It is spent on goods and services, or it is saved.

3 CLASS PERIODS

Materials

To complete the activities in this lesson, students will need only writing paper or a notebook or journal.

INTRODUCTION

This lesson enhances the previous lessons on saving. Students learn how changes in disposable income may affect people's spending and saving behavior. They also examine how changes in the demand for or the supply of loanable funds will change the interest rate in the market for loanable funds.

GOALS

Students will be able to demonstrate their ability to analyze changes in personal financial decisions when changes in income occur. They will also be able to show that they can analyze changes in the equilibrium interest rate and in the quantity of loanable funds exchanged in the market for loanable funds.

OBJECTIVES

Upon completing this lesson, students will be able to:

- explain how changes in disposable income affect the behavior of savers
- explain the effect that changes in the preference for current versus future consumption have on the market for loanable funds
- predict changes in the equilibrium interest rate and in the quantity of loanable funds exchanged in the market for loanable funds
- Interest is the “reward” paid to savers for giving up buying goods and services today.
- The equilibrium interest rate is determined by the interaction of all savers and borrowers in the loanable-funds market.
- Changes in the supply of loanable funds affect the equilibrium interest rate.
- Changes in the demand for loanable funds affect the equilibrium interest rate.
- Interest is the cost that borrowers pay to increase their current spending.

LESSON DESCRIPTION

This lesson focuses on two case studies. In

Case in Point: The Robinson Family, students examine the changing financial picture for a family and determine how changes in income may relate to spending and saving. In **Case in Point: Changes in Interest Rates**, students analyze how changes in the demand for or the supply of loanable funds will change the equilibrium interest rate and the quantity of loanable funds exchanged in the marketplace.

PAYBACK

Do changes in interest rates really matter to you? Do they affect your everyday life? You bet they do! Although you might not yet be an active participant in the loanable-funds market, you may be indirectly affected by it. Furthermore, you will certainly be affected in the future.

If you're saving money to buy a car, you'd like a high interest rate on the savings that you have in the bank. The more interest you earn, the faster you accumulate the money you need for your purchase. On the other hand, you would prefer a low interest rate if you have to borrow money to buy a car. A lower interest rate means that you will have lower monthly payments than you would have with a higher interest rate.

High interest rates are helping Amal save for his first house. But when he's ready to buy, he'll be hoping for lower interest rates.



When you begin your career, your employer may give you an opportunity to save money for your retirement in a simple savings or money-market account. A higher interest rate means that you will have more money to spend when you retire. But there's a down side: Higher interest rates may discourage your employer from investing in plant and equipment that could increase your productivity and lead to a higher wage.

Suppose your school district wants to issue bonds to raise money so that your school can build a new athletic center. Taxpayers would prefer a lower interest rate so that it doesn't cost so much to borrow the money. If interest rates are too high, the district may decide to postpone the bond issue, and you would not get to enjoy a new athletic facility.

Interest rates are always changing. Even so, people must continually make decisions about saving and borrowing. The more you know about the loanable-funds market and why interest rates change in that market, the more successful you will be when it comes to making careful decisions about saving and borrowing.

Econcepts

disposable income—the income available for use after taxes have been paid; it is either spent on consumption (goods and services) or saved

interest—the payment to savers for giving up present consumption; the cost to borrowers for increasing present consumption

interest rate—the price paid to savers and charged to borrowers for a unit of loanable funds

POWER UP

If you're like most people, you want to have control over your life. Do you have control over the interest rate that you receive on your savings account or the rate that you pay on a loan? Of course not. Loanable funds are a commodity like any other good or service. They are traded in the marketplace at a cost—interest—and they respond to the forces of supply and demand.

KEY TERMS

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

PREVIEW

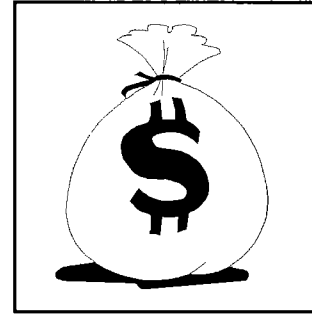
Ask students to read **Econ Briefing**, including **What You'll Learn in This Lesson** and **Payback** (pages 81–83). Discuss the central topics, and brainstorm questions that students may raise. You may wish to write their questions on the chalkboard and display them throughout the lesson. Encourage students to keep notes as they develop ideas about these topics.

Introduce the **Econcepts**, and give contextual examples of each. Ask students to refer to these terms throughout the lesson.

Ask students to read **Power Up**. Clarify any points that they do not understand. You may wish to explain that the "national debt" is the running total of yearly "deficits" and that the debt is currently in the trillions of dollars.

How Much Do You Owe on the Nation's Debt?

THE national debt of the United States is so large that it's hard to imagine owing that much money, let alone paying it back someday. However, when you consider how much every American would have to pay to zero out the public debt, you get a clearer—and more disturbing—picture of how deeply in debt America is. And most of the debt has been piled up during the past few decades. Even though there were far fewer Americans in 1940, the per-person share of the public debt was only \$325 at that time. By 1994, the per-person share was \$18,025.



“Christmas is a time when kids tell Santa what they want and adults pay for it. Deficits are when adults tell the government what they want—and their kids pay for it.”

—Richard Lamm,
governor of Colorado

PUBLIC DEBT OF THE UNITED STATES

Fiscal year	Debt (in billions)	Per person (in dollars)	Interest paid (in billions)	Percentage of federal expenses
1940	\$43.0	\$325	\$1.0	10.5%
1950	256.1	1,688	5.7	13.4%
1960	284.1	1,572	9.2	10.0%
1970	370.1	1,814	19.3	9.9%
1980	907.7	3,985	74.9	12.7%
1985	1,823.1	7,598	178.9	18.9%
1990	3,233.3	13,000	264.8	21.1%
1991	3,665.3	14,436	285.4	21.5%
1992	4,064.6	15,846	292.3	21.1%
1993	4,351.2	16,689	292.5	20.8%
1994	4,692.7	18,025	296.3	20.3%

—Bureau of Public Debt, United States Department of the Treasury

You might think that only individuals and families borrow money. In reality, the market is far more complicated than that. Who else saves and borrows money? Businesses and governments borrow all the time. They play important roles in the loanable-funds market. The federal government plays a leading role. You've probably heard that the federal government has run a budget deficit for many years. As a result, it has accumulated a huge national debt. It must borrow large quantities of money every day! If interest rates rise, then taxpayers have a larger bill to pay for interest on the debt; on the other hand, people who own savings bonds or Treasury bills, notes, and bonds can benefit by receiving more interest income.

It's a complex situation. What's behind these important interest rates? Why do they keep changing?

TAKE A CLOSER LOOK

WHEN you think about interest rates, you probably take a personal view: “How do they affect **me**?” There’s nothing wrong with that. As you progress through life, you will make many important financial decisions. With your knowledge of economics, you will be able to engage in some careful financial planning. Interest rates will concern you because your savings will generate income—and because you will have to pay interest on your loans. Interest rates will affect how much you can afford to spend when you borrow money to buy a car, a house, or big-ticket consumer goods.

Of course, you’re not the only person who will make decisions that are influenced by interest rates. Everyone has decisions to make on saving and borrowing. One person alone doesn’t control the market for loanable funds. But when you put everyone together, changes in the demand for loanable funds or the supply of loanable funds will change the interest rate. So you must also consider the bigger picture.

Focus

In this lesson you will examine a case study about the Robinson family and its personal financial situation. By analyzing the kinds of decisions the Robinsons must make, you will get a better understanding of the relationship between income and spending and income and saving.

Then you will analyze how changes in people’s behavior can affect the entire loanable-funds market. By considering possible changes in the demand for and the supply of loanable funds, you will see why interest rates change.

TALK THIS OVER

Before getting into the case studies, think about the following questions. Write your answers on the lines provided or on a separate sheet of paper—and be sure to give your reasons. Then discuss your responses with your classmates.

- If a family’s income increases, will it save more or spend more?

- How is the interest rate determined in the loanable-funds market?

PRINT CORE

Ask students to read the paragraphs that introduce **Take a Closer Look**.

CONCEPT PRESENTATION

Have students read **Focus**. Emphasize that they will explore saving, spending, and interest rates from two perspectives: personal and market.

CLARIFICATION AND DISCUSSION QUESTIONS

Ask students to read **Talk This Over** and to answer the questions in writing. Encourage them to discuss their responses as a class.

Students may respond that a family will both spend more and save more when its income increases.

At this point in the course, students should be able to respond that the interest rate is determined by the interaction of supply and demand in the loanable-funds market.

CASE STUDY

Have students read the introductory paragraph of **Case in Point: The Robinson Family**. Clarify any points that they do not understand. Then ask students to read the story about the Robinson family as far as **Decision Time 1**. Answer any questions they have about the budget.

CASE IN POINT: THE ROBINSON FAMILY

What do people do with their income? After they pay taxes, they either spend or save the remaining amount. Some people carefully plan their saving and spending. Others don't think about it at all. If income increases, people tend to spend more and save more. Look at the case study of Roy and Jeanetta Robinson to see how it works.

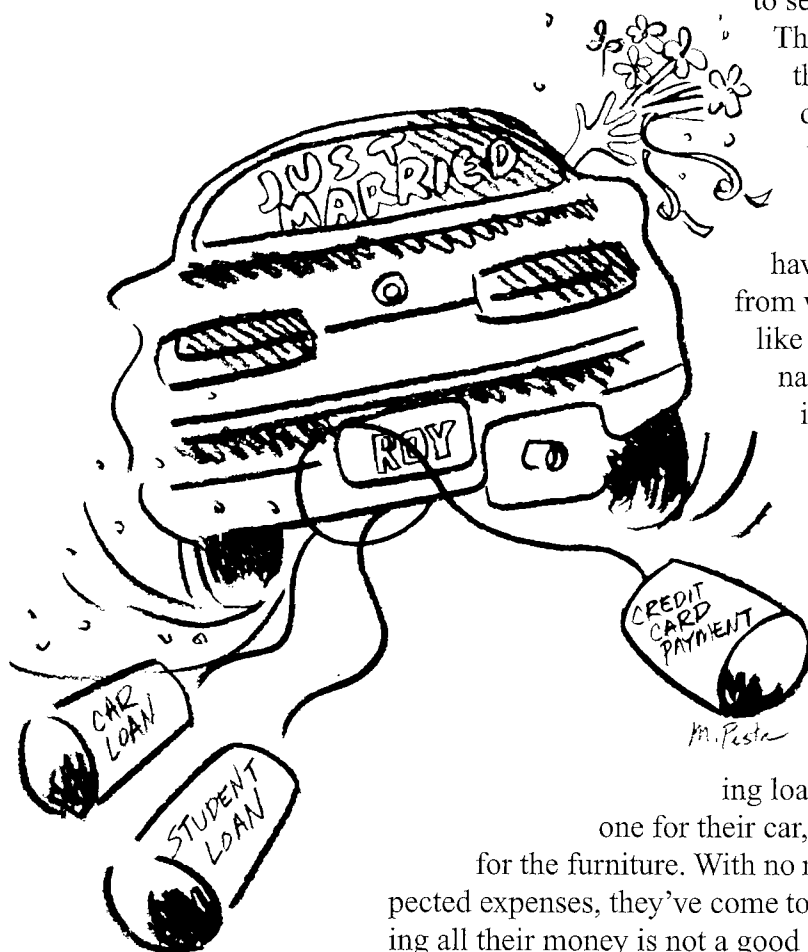
The Robinson Family

Roy and Jeanetta Robinson are a young couple who have been married about five months. They don't have any children. Roy, who is 24, works as a computer technician for CompSolver. He is highly talented, and he has an uncanny knack for figuring out other people's computer problems. His employer pays him \$12 an hour plus benefits. Jeanetta, 21, just finished a community college program and now works as a paralegal. She earns \$9 an hour plus benefits.

Roy and Jeanetta lived from paycheck to paycheck during the first four months they were married. Their money went out as fast as it came in. As a New Year's resolution, they decided to set up a household budget.

There are many nice things they'd like to have someday—and lots of places they want to see. For one thing, they'd like to buy a second car so that Jeanetta won't have to ride the bus to and from work. And someday they'd like to buy a house. Unfortunately, they haven't been saving any money because they had to pay off a short-term loan they needed for their honeymoon. They also have a car loan and a student loan, and they used a credit card to buy some furniture for their apartment. As a result, they have three remaining loan payments every month:

one for their car, one for schooling, and one for the furniture. With no money set aside for unexpected expenses, they've come to the conclusion that spending all their money is not a good idea.



To plan for the future, they have developed a budget for the coming year:

Budget—Year 1		
(January 1–December 31)		
Income		
Roy's job		\$24,960
Jeanetta's job		18,720
less taxes, FICA, and other payroll deductions (25%)	\$10,920	
Total take-home pay		\$32,760
Expenses		
Food	\$6,200	
Apartment rent	7,200	
Car loan payments	3,600	
Gas, oil, maintenance	1,800	
Bus fare	520	
Furniture loan payments	2,400	
Clothing	1,200	
Utilities	2,400	
Car insurance	980	
Renters' insurance	120	
Medical	550	
Student loan payments	2,000	
Entertainment	1,000	
Miscellaneous	700	
Total expenses		\$30,670
Savings		\$2,090

“Budgeting: the method of worrying before you spend instead of afterward.”

— Anonymous

If Roy and Jeanetta stay within their budget, they will be able to save some money for the future. It's not a fortune, but it's a start!

Decision Time 1

It's a year later now. It wasn't easy, but the Robinsons managed to stick to their budget and save \$2,090. At the beginning of this year, Roy will receive a raise to \$13 from \$12 an hour because of his outstanding work. There are 2,080 working hours in a year, which means that Roy will earn \$27,040 annually. Jeanetta has turned out to be a valued employee at the law firm. On January 1 she will receive a 5% increase to \$9.45 an hour. Things are looking up for the Robinsons!

Of course, it's not all good news. Inflation is expected to be 4% for the year, and this means their total expenses will increase by 4%, excluding loan payments. The percentage for withholding taken out of their paychecks will remain at 25%.

Milestone 1

Ask students to read the three paragraphs at the beginning of this section and to complete the budget based on the information provided in them.

Now it's time to establish a budget for the coming year. How about helping the Robinsons set it up: Fill in the blanks with the correct amounts, or write the figures on a separate sheet of paper. Adjust expenses (except loan payments) for 4% inflation. Of course, not all expenses would rise by exactly 4%—some would go up more slowly, some more quickly. Most of the adjustments have already been computed for you. Round your numbers to the nearest dollar.

Budget—Year 2

(January 1–December 31)

Income

Roy's job	\$27,040
Jeanetta's job	_____ (1)
less taxes, FICA, and other payroll deductions (25%)	_____ (2)
Total take-home pay	_____ (3)

Expenses

Food	\$6,448
Apartment rent	7,488
Car loan payments	3,600
Gas, oil, maintenance	1,872
Bus fare	541
Furniture loan payments	2,400
Clothing	_____ (4)
Utilities	_____ (5)
Car insurance	1,019
Renters' insurance	125
Medical	572
Student loan payments	2,000
Entertainment	1,040
Miscellaneous	728
Total expenses	_____ (6)

Savings _____ (7)

Answers:

1. $\$9.45 \times 2,080 = \$19,656$

2. $(\$27,040 + \$19,656) \times 0.25 = \$11,674$

3. $\$27,040 + \$19,656 - \$11,674 = \$35,022$

4. $\$1,200 \times 1.04 = \$1,248$

5. $\$2,400 \times 1.04 = \$2,496$

6. Expenses add up to **\$31,577**.

7. $\$35,022 - \$31,577 = \$3,445$

Milestone 2

Ask students to read the two paragraphs that open this section and to complete the budget based on the information provided.

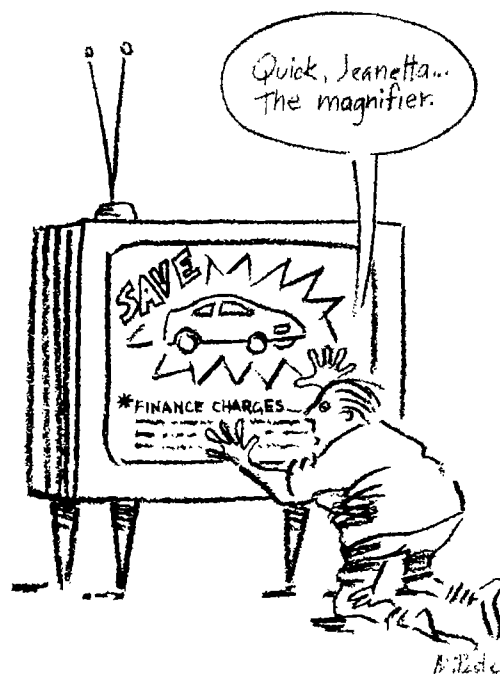
Decision Time 2

Life hasn't been dull for the Robinsons. In December, they used some of their savings and bought a second car. At the beginning of the coming year, Roy will get a 4% wage increase and Jeanetta will get a 5% increase. Predicted inflation for next year is only 2%. Roy and Jeanetta are expecting their first child at the end of July. After July, they will have \$200 a month in child care expenses. To get ready for the baby, they've decided to cut their entertainment expenses in half. Roy's car has been paid off, but now they are paying for Jeanetta's car. Their car insurance will increase to \$1,500.

They also will have another \$500 in gas, oil, and car maintenance. Fortunately, this will be the last year they have to make payments on the student and furniture loans. In the meantime, they're still saving for a down payment on a house.

Use this information to prepare the Robinsons' budget for the new year. Again, enter your figures on the following lines or on a separate sheet of paper, and round off numbers to the nearest dollar.

Budget—Year 3 (January 1–December 31)		
Income		
Roy's job		(1)
Jeanetta's job		(2)
less taxes, FICA, and other payroll deductions (25%)	\$12,190	
Total take-home pay		(3)
Expenses		
Food	\$6,577	
Apartment rent	7,638	
Car loan payments	3,000	
Gas, oil, maintenance	2,372	
Bus fare	0	
Furniture loan payments	2,400	
Clothing		(4)
Utilities		(5)
Car insurance	1,500	
Renters' insurance	128	
Medical	583	
Student loan payments	2,000	
Entertainment	520	
Child care (August–December)	1,000	
Miscellaneous	743	
Total expenses		(6)
Savings		(7)



$$1. \$27,040 \times 1.04 = \$28,122$$

$$2. \$19,656 \times 1.05 = \$20,639$$

$$3. \$28,122 + \$20,639 - \$12,190 = \$36,571$$

$$4. \$1,248 \times 1.02 = \$1,273$$

$$5. \$2,496 \times 1.02 = \$2,546$$

$$6. \text{Expenses add up to } \$32,280.$$

$$7. \$36,571 - \$32,280 = \$4,291$$

Decision Time 3

Things have really changed in the Robinson household. Roy Jr. is on the scene, and his parents are as proud as can be. At the beginning of the year, Roy will get a promotion and a 10% raise. Jeanetta won't be getting a raise because she decided to work half-time so that she could spend more time with her baby. Naturally, it costs more to feed three people, and so Roy and Jeanetta have budgeted a 10% increase for food. Inflation is expected to be 3% in the coming year, increasing

Milestone 3

Ask students to read the introductory paragraphs of this section and to complete the budget based on the information provided.



the amount they need to budget for many items. Child care expenses will increase to \$1,200 annually. The good news is that gas, oil, and car maintenance costs will decrease because

Jeanetta won't be working as much—the Robinsons are budgeting 80% of the previous year's expenses for these items. Also, the furniture and student loans are gone!

Using this information, calculate the family's budget for the new year. Use the blank lines or a separate sheet of paper, and round your figures to the nearest dollar.

Budget—Year 4

(January 1–December 31)

Income

1. $\$28,122 \times 1.10 = \$30,934$

2. $(\$30,934 + \$10,320) \times 0.25 = \$10,314$

3. $\$30,934 + \$10,320 - \$10,314 = \$30,940$

4. $\$1,273 \times 1.03 = \$1,311$

5. $\$2,546 \times 1.03 = \$2,622$

6. Expenses add up to **\$29,311**.

7. $\$30,940 - \$29,311 = \$1,629$

Roy's job	_____ (1)
Jeanetta's job	\$10,320
less taxes, FICA, and other payroll deductions (25%)	_____ (2)
Total take-home pay	_____ (3)

Expenses

Food	\$7,235
Apartment rent	7,867
Car loan payments	3,600
Gas, oil, maintenance	1,898
Bus fare	0
Furniture loan payments	0
Clothing	_____ (4)
Utilities	_____ (5)
Car insurance	1,545
Renters' insurance	132
Medical	600
Student loan payments	0
Entertainment	536
Child care	1,200
Miscellaneous	765

Total expenses _____ (6)

Savings _____ (7)

Talk This Over

Roy and Jeanetta Robinson have experienced several financial changes during their married life. They've seen their income go up and down, and they've seen their expenses rise and fall. That's life!

Answer the following questions on the lines provided or on another sheet of paper.

- What happened to the Robinsons' take-home pay in budget years 2 and 3?

- What happened to their spending in budget years 2 and 3?

- What happened to their saving in budget years 2 and 3?

- What happened to their take-home pay in budget year 4?

- What happened to their spending in budget year 4?

- What happened to their saving in budget year 4?

Milestone 4

Ask students to read **Talk This Over** and to answer the questions.

*They should respond in words to this effect:
Their take-home pay increased in years 2 and 3.*

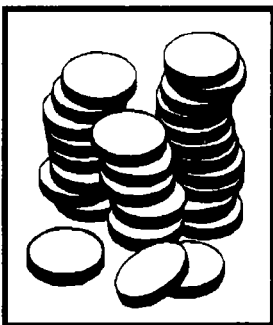
Their spending increased in years 2 and 3.

Their saving increased in years 2 and 3.

Their take-home pay decreased in year 4.

Their spending decreased in year 4.

Their saving decreased in year 4.



"Why is there so much month left at the end of money?"

—Anonymous

"A budget tells us what we can't afford, but it doesn't keep us from buying it."

—William Feather, American writer and publisher

"Money is just an allowance."

—Coco Chanel, French fashion designer

Economists use the term **disposable income** for take-home pay. Disposable income is income that is available to people after taxes have been paid. It may be spent on goods and services or saved. Now answer the next two questions. As usual, use the lines provided or a separate sheet of paper.

A direct positive relationship existed: As disposable income increased, spending increased.

- In the case of the Robinson family, what relationship existed between disposable income and spending?

A direct positive relationship existed: As disposable income increased, saving increased.

- What relationship existed between disposable income and saving?

When the Robinsons save and borrow, they participate in the market for loanable funds. When they save, they earn interest income. Interest is the reward paid to savers who give up spending today. When they borrow, they pay interest. In this case, interest is the cost paid by borrowers so that they can increase their spending today.

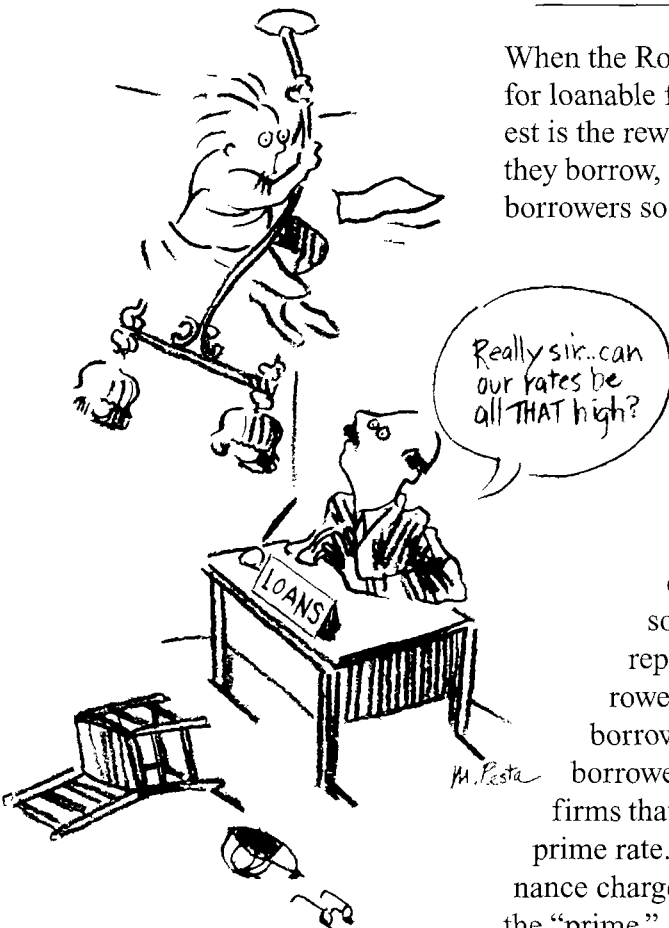
CASE IN POINT: CHANGES IN INTEREST RATES

Interest rates are not carved in stone. For several months they might rise, and then for the next few months they might fall. They are constantly changing. For example, you may have heard the prime interest rate reported in the news. The prime rate is the interest rate that banks charge their best borrowers, which are usually businesses that are financially sound and that have excellent credit histories. The media report the prime rate because it is important to large borrowers and because changes in that rate affect the costs of borrowing and, therefore, the costs of production. Individual borrowers are also interested. For instance, many banks and firms that issue credit cards base their finance charges on the prime rate. People with this type of credit card will see their finance charges go up and down, depending on what is happening to the "prime."

What kinds of changes in the market for loanable funds will affect interest rates? You'll find out in the next part of this lesson. By using supply-and-demand analysis, which you've learned in this course, you will examine some possible changes in the loanable-funds market; you will also predict changes in the interest rate and in the quantity of loanable funds exchanged.

CASE STUDY

Have students read **Case in Point: Changes in Interest Rates** as far as **Decision Time 1**.



Building Your First Home Budget

TRADITIONALLY, young people leave home to get married, to get a job, to go to college, or to join the military. If you're about to start out on your own, planning your move carefully can improve the quality of your financial life.

In *Money Matters for Young Adults*, a brochure distributed by Citibank, Steven L. Sanders offers advice that can help you avoid making costly mistakes in managing your money. Here are some of his after-graduation tips:

- ▶ If you still live at home, don't be in a hurry to move out. Take advantage of the lower cost of living at home—even if you pay rent—and use the money you save to build up your reserves.
- ▶ Be realistic about the costs of living on your own. The key is not to get in over your head. Under no circumstances should your expenses exceed your income.
- ▶ Consider sharing a place with one or two others. You'll save a lot and may have more fun too.
- ▶ When you're tempted to make a big purchase, or even an unnecessary small one, wait a few days instead.
- ▶ Open a department store charge account. This will help you establish credit and may help you with some of the furnishings for your first apartment.

—*The Word on Business* (St. Louis, May 1994)

Use the lines provided or another sheet of paper to budget your own expenses.

Fixed Expenses	Monthly	Annually
Rent	_____	_____
Car payment/lease	_____	_____
Student loan	_____	_____
Child care	_____	_____
Medical insurance	_____	_____
Cable television	_____	_____
Basic telephone	_____	_____
Saving	_____	_____
Other	_____	_____
Subtotal	_____	_____

Variable Expenses	Monthly	Annually
Utilities (gas/electric)	_____	_____
Long-distance telephone	_____	_____
Groceries	_____	_____
Dining out	_____	_____
Gasoline	_____	_____
Bus fare	_____	_____
Parking	_____	_____
Personal items	_____	_____
Laundry/dry cleaning	_____	_____
Barber/beauty shop	_____	_____
Newspapers/magazines	_____	_____
Tuition	_____	_____
Books/supplies	_____	_____
Recreation	_____	_____
Charity	_____	_____
Postage	_____	_____
Pet (s)	_____	_____
Miscellaneous	_____	_____
Subtotal	_____	_____

Periodic Expenses	Monthly	Annually
Car maintenance	_____	_____
Medicine/prescriptions	_____	_____
Clothing	_____	_____
Furniture	_____	_____
Car insurance	_____	_____
Doctor/dentist	_____	_____
License/property tax	_____	_____
Gifts	_____	_____
Vacation	_____	_____
Other	_____	_____
Subtotal	_____	_____

Fixed Expenses	_____	_____
Variable Expenses	_____	_____
Periodic Expenses	_____	_____
TOTALS	_____	_____

Milestone 1

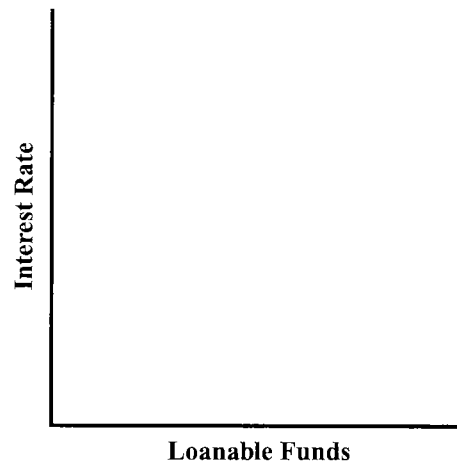
Ask students to read **Decision Time 1**, to draw their graphs, and to complete the statements at the end of the section.

Decision Time 1

It's no secret that the average age of people in the United States is increasing. The population is getting older—that is, the average age of the population is increasing, both because the birth rate has declined and because people are living longer. As they get older, most people tend to save more money. There are two good reasons for this: They are preparing for retirement, and they no longer have high expenses related to housing and children.

If a general increase in saving occurs because of an aging population, what will happen in the market for loanable funds? Draw a supply-and-demand diagram below or on a separate sheet of paper, and predict what will happen to the equilibrium interest rate and the quantity of loanable funds exchanged (assuming all other things are equal).

Other things being equal, an increase in saving will increase the supply of loanable funds. At each interest rate, more will be supplied. As a result, the equilibrium interest rate will fall, and the quantity of loanable funds exchanged will rise.



Answers:

decrease

The equilibrium interest rate will _____.

increase

The quantity of funds exchanged will _____.

Milestone 2

Ask students to read **Decision Time 2**, to draw their graphs, and to answer the questions.

The Aging American Work Force
Percent distribution by age of the civilian labor force

Age	1979	1994	2005*
55+	14%	12%	14%
45–54	16%	19%	24%
35–44	19%	27%	25%
25–34	27%	26%	21%
16–24	24%	16%	16%

*Projected

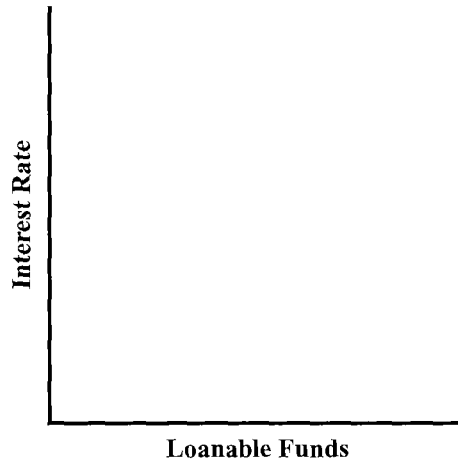
—Courtesy of the Bureau of Labor Statistics

Decision Time 2

People borrow money to buy cars, houses, and consumer goods. Businesses borrow money to invest in plant and equipment. Governments borrow money when tax revenues are insufficient to cover expenditures.

Assume the economy is booming and people, businesses, and governments will borrow money at any interest rate. Draw a supply-and-demand diagram on the next page or on a separate sheet of paper, and predict what will happen to

the equilibrium interest rate and the quantity of loanable funds exchanged, provided all other things remain equal.



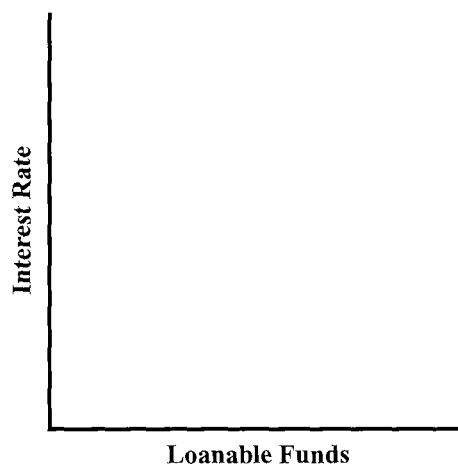
The equilibrium interest rate will _____.

The quantity of funds exchanged will _____.

Decision Time 3

Remember that banks are financial intermediaries in the loanable-funds market. The Federal Reserve, the central bank of the United States, can affect the amount of funds that banks have available to lend to people and businesses.

Suppose the board of governors of the Federal Reserve undertakes policies that reduce the amount banks have available to lend. Draw a supply-and-demand diagram below or on a separate sheet of paper, and predict what will happen to the equilibrium interest rate and the quantity of loanable funds exchanged, all other things being equal.



The equilibrium interest rate will _____.

The quantity of funds exchanged will _____.

Other things being equal, an increase in demand will occur. At each interest rate, more will be demanded. As a result, the equilibrium interest rate will rise, and the quantity of loanable funds exchanged will rise.

Answers:

increase

increase

Milestone 3

Ask students to read **Decision Time 3**, to draw their graphs, and to answer the questions.

Other things being equal, the supply of loanable funds will fall. At each interest rate, less will be supplied. As a result, the equilibrium interest rate will rise, and the quantity of loanable funds exchanged will fall.

Answers:

increase

decrease

Milestone 4

Ask students to read **Decision Time 4**, to draw their graphs, and to answer the questions.

Fast Facts

Americans earned \$5.7 trillion in 1994. After paying personal taxes and other payments totalling \$742 billion, working Americans had \$4.9 trillion in disposable personal income. If that were divided evenly among the more than 250 million citizens of the U.S., every American would have \$19,003 of disposable personal income.

—Bureau of Economic Analysis,
U.S. Department of Commerce

Other things being equal, the demand for loanable funds will fall. At each interest rate, less will be demanded. As a result, the equilibrium interest rate will fall, and the quantity of loanable funds exchanged will fall.

Answers:

decrease

decrease

Milestone 5

Have students read **Talk This Over** and answer the questions.

Answers:

increase, increase

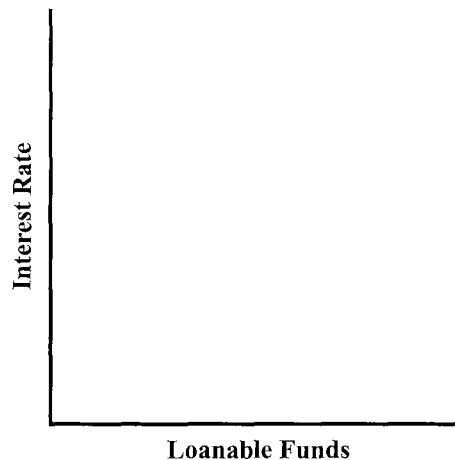
decrease, increase

decrease, decrease

Decision Time 4

During recessions, people's disposable income falls. Imagine that a recession suddenly occurs. Businesses discover that they are selling less, and their income falls. Many businesses postpone investing in plant and equipment. Many people are reluctant to take out mortgages or car loans because they fear they might lose their jobs.

Based on these conditions, draw a supply-and-demand diagram below or on a separate sheet of paper. Predict what will happen to the equilibrium interest rate and the quantity of loanable funds exchanged, all other things being equal.



The equilibrium interest rate will _____.

The quantity of funds exchanged will _____.

Talk This Over

You have analyzed several factors that influence supply and demand in the loanable-funds market. When changes in the market occur, the interest rate changes. Summarize your analyses by completing the following statements. Use the lines provided or a separate sheet of paper.

- If the demand for loanable funds were to increase, then the interest rate would _____ and the quantity of loanable funds exchanged would _____.
- If the supply of loanable funds were to increase, then the interest rate would _____ and the quantity of loanable funds exchanged would _____.
- If the demand for loanable funds were to decrease, then the interest rate would _____ and the quantity of loanable funds exchanged would _____.

- If the supply of loanable funds were to decrease, then the interest rate would _____ and the quantity of loanable funds exchanged would _____.

increase, decrease

- If the general population developed a stronger preference to buy today instead of tomorrow, what would happen in the loanable-funds market?

Students may respond:

A stronger preference for buying today would mean that people would be likely to borrow more, perhaps by using their credit cards more frequently. Demand for loanable funds would increase; the interest rate would increase; the quantity of loanable funds exchanged would increase.

- If the general population had more disposable income, what would happen in the loanable-funds market?

With more disposable income, people are likely to save more. An increase in saving will increase the supply of loanable funds. The equilibrium interest rate would fall, and the quantity of loanable funds exchanged would increase. (Note: In the short run, saving usually rises. In the long run, the demand for loanable funds may also increase.)

PUT IT TOGETHER

THE Econ Briefing at the beginning of this lesson posed several questions about changes in interest rates. Draw on what you have learned in this lesson to answer those questions.

- What happens if people, businesses, and governments change their behavior and want to consume more and save less today?

CLOSING

Have students answer the questions in the **Put It Together** section.

Students should respond along these lines:

If people change their behavior and decide to consume more in the present and save less, the supply of loanable funds will decrease (other things being equal). It is also possible that the demand for loanable funds will increase if people, institutions, and governments must borrow money to increase consumption.

- If people have more income, will they save more or spend more?

If people have more income, they are able to spend more and save more. In general, they are likely to do both.

- If people decide to increase their saving no matter what the interest rate is, will interest rates change?

Yes. The increase in saving will increase the supply of loanable funds. As a result, the equilibrium interest rate will fall.

The factors that affect the demand for loanable funds include changes in people's preferences toward consuming today instead of in the future, government budget deficits, and the outlook for profitability of new investment projects. The factors that affect the supply of loanable funds include a greater desire of people and businesses to save, government surpluses, and changes in policy by the Federal Reserve.

- What factors influence the demand for and the supply of loanable funds?

SUMMARY

Have students read **Net Gain**. Ask them to provide examples of each of the major points made in the lesson. Correct any misunderstandings they may have.

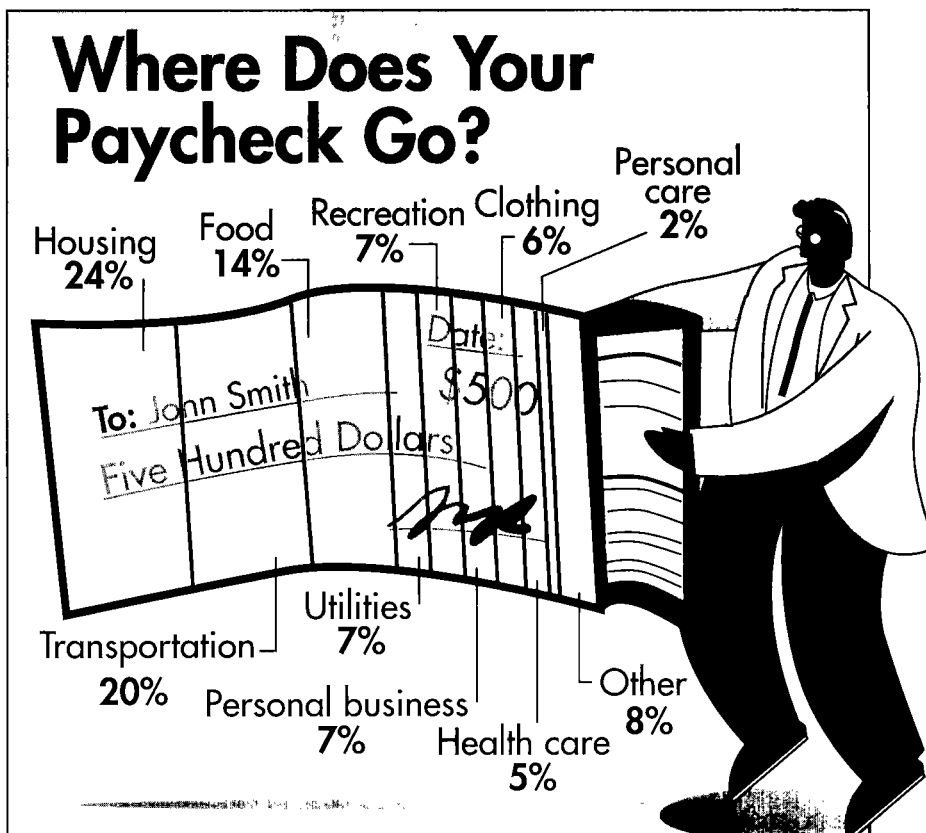
NET GAIN

Now that you have expanded your understanding about interest rates and about how they change, you should become a more careful saver and borrower. You've learned that changes in disposable income affect people's saving and spending decisions. As a matter of fact, you've even learned something about personal budgets.

You have also examined factors that influence the demand for loanable funds and the supply of loanable funds. You've analyzed how changes in those factors affect interest rates on saving and borrowing. Many people don't pay attention to the world of changing interest rates. As a result, they make some bad decisions. The information you have gained in this lesson can help make you a more knowledgeable financial planner.

Remember these key points:

1. Disposable income is the income that is available for use after taxes have been paid. It is either spent on goods and services, or it is saved.
2. Interest is the "reward" paid to savers for giving up buying goods and services today.



—U.S. Department of Commerce

3. Interest is the cost paid by borrowers to increase their current spending.

4. The equilibrium interest rate is determined by the interaction of all savers and borrowers in the loanable-funds market.
5. Changes in the supply of loanable funds change the equilibrium interest rate.
6. Changes in the demand for loanable funds change the equilibrium interest rate.

BUILDING ON SUCCESS

- You have learned that the prime rate is the interest rate banks charge large, stable businesses. Your teacher will divide the class into six groups and will assign each group a different two-month segment of a year. Group members should go to the library and find newspaper articles about changes in the prime rate during the two-month period assigned to them. After the data are collected, the class should work together to plot a graph showing how the prime rate changed during the one-year span. Each group should be prepared to discuss why the prime rate changed, according to the newspaper articles. Try using the financial section of a big-city newspaper or the *Wall Street Journal*.
- Take a field trip to a local bank. During your visit, try to get as much information about interest rates as you can from a banker. Here are some questions to cover. Develop more of your own.
 - What savings alternatives are offered by the bank?
 - What interest rate does the bank pay on each of its savings alternatives?
 - Why do interest rates vary among these alternatives?
 - What kinds of loans does the bank offer? Does it make loans to individuals, businesses, and units of government? Why?
 - What interest rates does the bank charge for the various loans?
 - What factors account for differences in loan interest rates?
 - How does the banker keep up with changes in interest rates in the economy?
 - How does the bank decide on a particular interest rate and when to change interest rates?

The Word on Money around the World

"When money is not a servant, it is a master."

—Italian proverb

"Money is flat and meant to be piled up."

—Scottish proverb

"A man without money is like a wolf without teeth."

—French proverb

"If you have no money, be polite."

—Danish proverb

EXTENSION

The activities in this section involve work outside class. You may wish to assign the activities or to invite students to choose which ones they would like to complete.

For the first activity, divide the class into six groups and assign each one a two-month period of a year, according to the instructions in the *Student Guide*. Students will share their research so that they can compile their data and draw a graph. A class discussion about the changes in the prime rate should follow.

- ▶ Invite a financial planner to class to discuss the role that interest rates play in personal financial decision making.
- ▶ Invite an accountant or manager from a business to discuss how changes in interest rates affect his or her business decisions.

ASSESSMENT

Assessment questions are provided to help you evaluate students' comprehension and mastery of the material presented in this lesson. You may wish to assign the questions as homework or to use them as a formal in-class assessment tool.

Answers:

1. (c)

2. (d)

3. (c)

QUALITY CONTROL

COMPLETE the following statements. Circle the option you think is correct, or write the letter of the best response on a separate sheet of paper.

1. Disposable income is
 - a. the amount of income people choose to spend
 - b. the amount of income people earn from their employers
 - c. the amount of income people have left after paying taxes
 - d. both "a" and "c"
 - e. all of the above
2. If the demand for loanable funds were to increase, then
 - a. the supply of loanable funds would increase, and the interest rate would fall
 - b. the supply of loanable funds would increase, and the interest rate would rise
 - c. the interest rate would decrease
 - d. the interest rate would increase
3. If the supply of loanable funds were to increase, then
 - a. the demand for loanable funds would increase, and the interest rate would fall
 - b. the demand for loanable funds would increase, and the interest rate would rise
 - c. the interest rate would decrease
 - d. the interest rate would increase

4. If the demand for loanable funds were to decrease, then 4. (c)
- a. the supply of loanable funds would decrease, and the interest rate would fall
 - b. the supply of loanable funds would decrease, and the interest rate would rise
 - c. the interest rate would decrease
 - d. the interest rate would increase
5. If the supply of loanable funds were to decrease, then 5. (d)
- a. the demand for loanable funds would decrease, and the interest rate would fall
 - b. the demand for loanable funds would decrease, and the interest rate would rise
 - c. the interest rate would decrease
 - d. the interest rate would increase
6. People will save if 6. (a)
- a. they are rewarded for postponing consumption today
 - b. the government is running a deficit
 - c. businesses want to borrow money
 - d. the prices of houses, cars, and consumer goods are increasing

GLOSSARY

choice—selecting one option from among several alternatives

cost-benefit analysis—weighing the advantages and disadvantages of alternatives in order to make a choice

disposable income—the income available for use after taxes have been paid; it is either spent on consumption (goods and services) or saved

financial intermediaries—institutions that act as go-betweens, accepting funds from savers and making loans to borrowers

income—the benefits received (usually measured in money) for engaging in productive labor

inflation—a sustained increase in the price level of the entire economy

interest—payment for the use of borrowed money; the payment to savers for giving up present consumption; the cost to borrowers for increasing present consumption

interest rate—the price paid to savers and charged to borrowers for a unit of loanable funds

market for loanable funds—the market in which savers (suppliers of funds) and borrowers

Econcepts

(demanders of funds) interact to determine the market rate of interest and the quantity of funds that will be loaned and borrowed

nominal income—earnings (measured in dollars) received as wages, rent, profit, or interest

opportunity cost—the highest valued alternative that must be given up because another option is chosen

prime rate—the interest rate banks charge their most trustworthy and capable business customers

profit—the return that a business earns when the value of sales exceeds the cost of the goods and services that were sold

real income—a measure of the quantity of goods and services that nominal income can buy

saving—disposable income earned but not spent

savings—the part of disposable income that has not been spent; accumulated past saving

scarcity—the imbalance between relatively unlimited wants and relatively limited resources to satisfy those wants

ADDITIONAL RESOURCES

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ORGANIZATIONS PROVIDING INFORMATION FOR HIGH SCHOOL ECONOMICS TEACHERS

► Agency for Instructional Technology
P.O. Box A
Bloomington, Indiana 47402-0120
(800) 457-4509

(Call or write for information on *Understanding Taxes and Taxes in U.S. History*.)

- ▶ ERIC Clearinghouse for Social Studies/Social Science Education (ERIC/Chess)
855 Broadway
Boulder, Colorado 80302
(303) 492-8434

(Write for list of free materials. Custom computer searches and duplicate printouts of computer searches of social studies materials are available.)

- ▶ National Council on Economic Education
1140 Avenue of the Americas
New York, New York 10036
(212) 730-7007

(Ask for checklist of publications.)

- ▶ U.S. Federal Reserve Board
(Write the banks—a partial list follows—for instructional materials and educational services of the Federal Reserve system.)

- Board of Governors of the Federal Reserve System
Publications Services
20th and C Streets, N.W.
Washington, DC 20551
(202) 452-3244
- Federal Reserve Bank of New York
Public Information Department
33 Liberty Street
New York, NY 10045
(212) 791-6134
- Federal Reserve Bank of Atlanta
Research Department, Publications Unit
104 Marietta Street, N.W.
Atlanta, GA 30303
(404) 586-8788
- Federal Reserve Bank of Chicago
Public Information Center
230 South LaSalle Street
Chicago, IL 60690
(312) 322-5112

- Federal Reserve Bank of St. Louis
Bank Relations and Public Information
411 Locust Street
St. Louis, MO 63102
(314) 444-8320

- Federal Reserve Bank of Richmond
Public Services Department
701 East Byrd Street
Richmond, VA 23219
(804) 643-1250

- Federal Reserve Bank of Kansas City
Public Affairs Department
925 Grand Avenue
Kansas City, MO 64198
(816) 881-2402

- Federal Reserve Bank of San Francisco
Public Information Department
101 Market Street
San Francisco, CA 94105
(415) 974-2246

INTERNET RESOURCES

Economic Bulletin Board (EBB)
Gopher://una.hh.lib.umich.edu/11/ebb

Economic Education
<http://unicorn.unomaha.edu/dept/econ/econed.htm>

Economic Resources
<http://soig.escr.bris.ac.uk.subjects/econ.html>

Reach-Net
reach.ICEE.niu.edu

Resources for Economists on the Internet
This resource can be accessed through: *Shortcut to All Resources Link*
<http://econwpa.wustl.edu/EconFAQ/EconFAQ.html>

YaHoo's Economy Economics
<http://www.yahoo.com/Economy/Economics/>

APPENDIX

ROLE CARDS

This activity is part of “Interest in Interest” (Module 4, Lesson A, pages 11–15).

DEMANDER

YOU want to borrow \$10,000 to buy a new car. The highest interest rate you will pay is 10%. Of course, a lower interest rate is more desirable! You may **not** deal for a higher rate.

DEMANDER

YOUR city wants to borrow \$10,000 to hire a contractor to fill potholes. The highest interest rate the city will pay is 9%. A lower interest rate saves tax dollars! You may **not** deal for a higher rate.

DEMANDER

YOUR tire business wants to borrow \$10,000 to add more tires to its inventory. The highest interest rate you will pay is 9.75%. Of course, a lower interest rate is more desirable! You may **not** deal for a higher rate.

DEMANDER

THE dentist’s office where you work wants to borrow \$10,000 to buy new high-speed, teeth-cleaning equipment. The highest interest rate it will pay is 8.75%. Try to get a lower rate! You may **not** deal for a higher rate.

DEMANDER

YOU want to borrow \$10,000 to build a swimming pool in your backyard. The highest interest rate you will pay is 9.5%. A lower interest rate is even better. You may **not** deal for a higher rate.

DEMANDER

YOUR family wants to buy a new \$10,000 speedboat for skiing. The highest interest rate you will pay is 8.5%. Of course a lower rate would be more desirable! You may **not** deal for a higher rate.

DEMANDER

YOUR auto repair shop wants to borrow \$10,000 to buy some computer diagnostic equipment. The highest interest rate you will pay is 9.25%. A lower rate is even better! You may **not** deal for a higher rate.

DEMANDER

YOUR construction firm wants to borrow \$10,000 to purchase new equipment for home construction. The highest interest rate you will pay is 8.25%. Try to get a lower rate! You may **not** deal for a higher rate.

DEMANDER

THE hospital where you work wants to borrow \$10,000 for a piece of X-ray equipment. The interest rate you are willing to pay is 8%. A lower rate is better! You may **not** deal for a higher rate.

SUPPLIER

YOU have inherited \$10,000. You want to lend the money, but you want to receive 10% interest. Of course, a higher rate of interest is even more desirable. You may **not** deal for a lower rate.

DEMANDER

YOUR family wants to borrow \$10,000 to finish the basement of your home. The interest rate you are willing to pay is 7.75%. A lower rate is even better! You may **not** deal for a higher rate.

SUPPLIER

YOU have been saving for a number of years. You now have \$10,000 that you are willing to lend, but you want 9.75%. A higher rate of interest would be even better! You may **not** deal for a lower rate.

DEMANDER

THE office where you work wants to borrow \$10,000 for additional computer equipment and a fax machine. The interest rate it is willing to pay is 7.5%. A lower rate would help contain costs. You may **not** deal for a higher rate.

SUPPLIER

YOU, your brother, and your parents have combined savings of \$10,000. You are willing to lend the money if you can receive a 9.5% interest in return. Of course, a higher rate would be better. You may **not** deal for a lower rate.

DEMANDER

YOU own a lawn service. You want to borrow \$10,000 for a truck. The interest rate you are willing to pay is 7.25%. Of course, a lower rate is even more desirable! You may **not** deal for a higher rate.

SUPPLIER

YOU are willing to place your \$10,000 savings in a certificate of deposit at the bank if you can receive interest of 9.25%. Of course, a higher rate is even more desirable! You may **not** deal for a lower rate.

DEMANDER

YOU want to borrow \$10,000 for your tuition at the technical school you attend. You can't afford to pay an interest rate greater than 7%. A lower rate would really help your budget. You may **not** deal for a higher rate.

SUPPLIER

YOU won \$20,000 in the lottery. You are willing to place \$10,000 in the bank if you can receive interest of 9%. Of course, a higher rate is even more desirable. You may **not** deal for a lower rate.

SUPPLIER

You have \$10,000 from a savings program at work. You are willing to put the money in an account if it pays 8.75%. A higher rate would be even better. You may **not** deal for a lower rate.

SUPPLIER

Your small business firm had a profitable year. Now you have \$10,000 in retained earnings to put in a savings account. You want at least 7.75% interest. A higher interest rate would be more desirable! You may **not** deal for a lower rate.

SUPPLIER

You sold a mint-condition Babe Ruth baseball card for \$10,000. You are willing to lend this money if you can receive 8.5%. A higher rate would be even better! You may **not** deal for a lower rate.

SUPPLIER

Your hair salon had a super year. You are now saving \$10,000 of your profit to use in the future when you hope to expand. You'd like to earn at least 7.5% interest. You may **not** deal for a lower rate.

SUPPLIER

Over the years, you have set aside \$10,000 from your earnings for retirement. You want to build a larger nest egg and want at least 8.25% interest. A higher rate would be great! You may **not** deal for a lower rate.

SUPPLIER

Your grandparents gave you \$10,000 that you must place in a trust fund. You will use this money for school tuition, and you want to earn at least 7.25% interest. A higher rate is better! You may **not** deal for a lower rate.

SUPPLIER

Your small town's government had \$10,000 in surplus tax revenues. The town council members are willing to lend it if they can receive 8% interest. A higher rate would be even better! You may **not** deal for a lower rate.

SUPPLIER

It was extremely hot this year, and your ice-cream store had a fantastic summer! You have decided to save \$10,000 of your income if you can earn at least 7% interest. A higher rate would be even better! You may **not** deal for a lower rate.

More Instructional Resources from



Geography in U.S. History

Investigate the relationship between geography and history to help students place historical events and trends in the contexts of time and place. This award-winning video series for grades 9-12 demonstrates how knowledge of geography contributes to historical understanding and develops historical and geographical literacy. **Geography in U.S. History** is ten 20-minute video programs and a 100-page teacher's guide.

The U.S. Constitution

Examine how this 200-year-old document affects the rights of all citizens, even those under voting age. Show 7th-12th grade students why the U.S. Constitution is an enduring and fundamental document in the American heritage and in their own lives. Hosted by award-winning journalist Bill Moyers, **The U.S. Constitution** is six 30-minute video programs and a 44-page teacher's guide.

Workplace Readiness

Prepare today's learners for tomorrow's changing workplace with employability skills for the '90s and beyond. Empower 9th-12th grade and adult learners to take responsibility for their future by introducing the basic skills all workers need to succeed in today's competitive international marketplace: Problem Solving, Teamwork, and Self-Management. **Workplace Readiness** is a comprehensive one semester curriculum consisting of instructor's guides, learner's guides, assessment portfolios, student video programs, teacher training video programs, a Level I barcode videodisc, and computer software.

The Road to School-to-Work: A Map for Implementation

A complete School-to-Work Transition implementation resource for educators, businesses, and communities. Explore the nature of the School-to-Work movement, introduce a model for implementing a School-to-Work program in your school or district, and take the first step toward drafting an action plan. **The Road to School-to-Work** is one 74-minute video program, one 136-page School Implementation Resource, and one 32-page workshop facilitator's guide in a vinyl album.

Mathemedia

Teach 7th-12th grade students to apply mathematic principles to real-world situations, by placing math in everyday and workplace contexts. **Mathemedia** is a comprehensive multimedia curriculum consisting of twelve instructional modules, each focusing on one key mathematical concept. **Mathemedia** consists of three Level I barcode-driven videodiscs, a linear version of the videodisc material on six videocassettes, and two annotated teacher's guides in a custom display case. Student guides are sold separately.

For more information on these and other resources,
call AIT Customer Service at **800-457-4509**.

Economics at Work is divided into five instructional modules, each organized around a central economic activity:

Producing Exchanging Consuming Saving Investing

Each **Economics at Work** teacher's guide contains:

- annotated student guide pages
- suggestions for implementing and directing student activities
- barcodes for accessing the interactive video segments
- barcodes for accessing "Assessment Track" questions
- barcodes for accessing "Teacher Track" instructional suggestions

Each teacher's guide lesson introduces an economic event and related concepts. The lesson then continues with either interactive videodisc segments and problem-solving challenges or written activities. Each lesson concludes with summary and assessment activities. The appendix to each teacher's guide includes a complete glossary of terms and an extensive resource list; a correlation to the National Council on Economic Education's *Scope and Sequence Guidelines, K-12*; and a barcoded database of charts and graphs available on the videodiscs.

The Agency for Instructional Technology is a nonprofit U.S.-Canadian corporation established in 1962. Its mission is to foster learning through the development, acquisition, and distribution of quality electronic technology-based resources and services; and by providing leadership to the educational technology policy community.

AGENCY FOR INSTRUCTIONAL TECHNOLOGY
Box A, Bloomington, Indiana 47402-0120
800-457-4509 812-339-2203 FAX: 812-333-4278



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