The Ledger

Federal Reserve Bank of Boston's Economic Education Newsletter Fall 1998

Also in this issue

A New Look for "Old Hickory"

Redesigned $20 note provides greater protection against counterfeiting

by Tom Diaz

Andrew Jackson was always popular with the voters, so it's only fitting that "Old Hickory" should appear on one of the more popular Federal Reserve notes—the $20 bill. But even old favorites can sometimes benefit from a new look.

On May 20, Treasury Secretary Robert E. Rubin, Federal Reserve Board Chairman Alan Greenspan and U.S. Treasurer Mary Ellen Withrow unveiled a redesigned $20 note. It is the third Federal Reserve note to receive a facelift, complete with new and modified security features similar to those that already appear on the Series 1996 $100 and $50 bills. The new twenties will be issued in the fall of 1998. (The $10 and $5 notes may be redesigned and reissued simultaneously some time next year, and the $1 note will be more modestly redesigned—unless a dollar coin replaces it altogether.)

The $20 note has special importance because it is much more widely circulated than $50s or $100s, and it is the highest denomination dispensed by ATMs. About $88 billion worth of $20 notes are currently in circulation; 80 percent of them are in the United States.

In an effort to ensure a smooth rollout for the redesigned $20, the U.S. Treasury and the Federal Reserve have undertaken an extensive public information campaign. The effort includes distribution of millions of brochures and other educational materials to the public and direct outreach to 3,000 major retailers, 4,300 financial institutions, 350 shopping mall outlets, and 4,000 small business organizations around the country.

And the publicity campaign is not limited to the United States. U.S. embassies and consulates around the world will conduct localized campaigns to increase international awareness of the redesigned currency. Educational materials are being translated into fifteen languages including Russian, French, Spanish, Bulgarian, and Chinese.

Another major reason for the extensive publicity effort is the fact that the $20 note is the most frequently counterfeited denomination in the United States. (Outside the United States, the $100 note is the most commonly counterfeited denomination.)

"The new $20 note will be an important tool against would-be counterfeiters," Secretary Rubin said. "The introduction provides us with an opportunity to educate cash-handlers and consumers about the importance of authenticating currency."

The redesigned twenties will replace older notes gradually. Old $20 notes that are still in good condition will remain in circulation.

"We are most gratified with the successful introduction of the new $100 and $50 notes and look forward to the same success with the new twenties," Chairman Greenspan said. "Older notes will not be recalled or devalued. All existing notes will continue to be legal tender."

New Features

The redesigned $20 bill has many of the same security features as the new $50 and $100 bills:

A larger, slightly off-center portrait: The enlarged portrait of Andrew

The Ledger

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The Ledger is the Federal Reserve Bank of Boston's newsletter for educators and the general public. Each issue features a variety of short pieces about new economic education resources, useful web sites, effective economic education programs and organizations, basic economic concepts, questions related to "everyday economics," and New England economic history.

The Ledger is published three times a year. Subscriptions are free. To get on the mailing list, write to:

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Test your powers of observation: There's something very different about the White House on the back of the new $20 note. Can you spot what it is? Hint: Look just above the pillars.

Jackson is easier to recognize, and the added detail is more difficult to reproduce with clarity. Relocating the portrait from the center, the highest area for wear, will also reduce wear on the portrait and provides room for a watermark.

A watermark: A watermark identical to Jackson's portrait is visible from both sides of the bill when held up to the light.

Security thread: A polymer security thread embedded vertically in the paper to the far left of the portrait indicates the $20 denomination. When held up to a bright light, the words "USA TWENTY" and an American flag can be seen on this thin security thread. The number "20" appears in the star field of the flag, and the polymer thread glows green when held under an ultraviolet light.

Color-shifting ink: The number "20" in the front lower right corner of the bill looks green when viewed straight on but appears black when viewed at an angle.

Microprinting: Because they're so small, microprinted words are hard to replicate. On the front of the note, "USA 20" is repeated within the number "20" in the lower left-hand corner, and "The United States of America" is microprinted repeatedly along the lower edge of the oval that frames the portrait.

Concentric fine line printing: The fine lines printed behind Jackson's portrait and the White House are very difficult to replicate.

Low vision feature: A large, dark, no-frills number "20" in the lower right corner on the back of the note is very easy to read.

In addition, the new $20 note is the first bill to incorporate a machine-readable capability intended to assist the blind. This feature will lead to the development of convenient scanning devices that could, in the future, enable the use of scanners to read denominations.

Serial numbers: An additional letter has been added to the serial number. The unique combination of eleven numbers and letters appears twice on the front of the note.

Federal Reserve indicators: A new seal represents the Federal Reserve System. The new seal replaces the circular, saw-toothed seal that had a letter indicating the issuing Federal Reserve Bank. The letter and number under the left serial number identify the issuing Federal Reserve Bank.

Who Would You Choose?

The Federal Reserve Bank of Boston hosted a very successful "Take Our Daughters to Work Day" in 1998. The program included a visit to our Cash Services Department, where we asked the girls the following question:

When the government finally decides to put a woman's portrait on our paper money, which woman should it be?

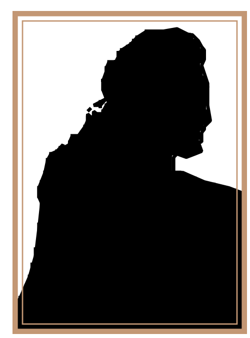
There were three prerequisites: She must be famous, she must be American, and she must be dead. No living people can have their portraits on U.S. coins or currency.

Here are the girls' choices:

Four votes each
Susan B. Anthony
Clara Barton
(The Unsinkable) Molly Brown
Harriet Tubman

Three votes
Amelia Earhart

Two votes each
Helen Keller
Eleanor Roosevelt
Christa McAuliffe
Phillis Wheatley (poet, 1753-1784)



One vote each
Abigail Adams
Louisa May Alcott
Josephine Baker
Admiral Grace Hopper (inventor of Cobol computer language)
Anne Hutchinson (advocate for religious freedom in colonial America)
Marilyn Monroe
Betsy Ross
Selena
Harriet Beecher Stowe
Ruth Wakefield (inventor of Toll House cookies)
Martha Washington

Teaching Materials

The Federal Reserve Bank of Boston has color posters, pamphlets, and information kits that provide easy-to-understand information about the changes and new features on the Series 1996 $20, $50 and $100 notes. They are great for classroom use, and they are available free of charge to teachers in the First Federal District. Contact:

Public & Community Affairs
Federal Reserve Bank of Boston
P.O. Box 2076
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Phone: 617-973-3459
Fax: 617-973-3511

And check out the Bureau of Engraving and Printing's web site at http://www.moneyfactory.com for a wide range of information on U.S. currency.

Shared Knowledge:
The Economic Way of Thinking

by John Morton

"The Economic Way of Thinking" originally appeared in the Spring 1997 issue of ECON-EXCHANGE, a joint publication of the E. Angus Powell Endowment and the Federal Reserve Bank of Richmond. John Morton, who was director of educational programs at the E. Angus Powell Endowment for American Enterprise when he wrote the article, is currently executive director of the Arizona Council on Economic Education. John, the Powell Endowment, and the Richmond Fed have kindly given us permission to reprint the article.

Economics needs a press agent. Although it is taught at every university and is a requirement for elementary and secondary students in 32 states, economics and economists are still mocked in the media and joked about everywhere.

Then why should students study economics? One sort of answer touts economics as a body of knowledge. In the introductory college course, this body of knowledge is called the "principles of economics." In a list prepared for use in K-12 teaching, the National Council on Economic Education's *Frameworks for Teaching the Basic Concepts* summarizes 22 important concepts.

This content is important, but by itself may not be enough to clinch a spot for economics in the K-12 curriculum. After all, the school curriculum is already crowded. Why does economics deserve a spot in this "standing-room only" curriculum?

Our answer assumes that economics is much more than a bundle of concepts. It is a unique way of thinking that offers insights into the seemingly chaotic confusion of human behavior in a world of different values, resources, and cultures.

Note the emphasis on human behavior. Economics is not the study of money. Almost every aspect of human behavior can be analyzed using an economic approach. It is this distinctive approach, not a definite set of conclusions, that counts.

According to John Maynard Keynes, "The Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor to draw correct conclusions."[1]

Keynes doesn't tell us exactly what this "apparatus of the mind" is. But we will take up this challenge and try to describe the essence of the economic way of thinking.

Everything has a cost

This is the basic idea that "there is no such thing as a free lunch," meaning that every action costs someone something—in time, effort, or a lost opportunity to do something else. Opportunity cost is the value of the next-best alternative or what someone gives up by choosing one alternative over another. The economic perspective sometimes is unpopular because of its focus on costs. Potential benefits are more fun to discuss than potential costs. Many a party has been spoiled by assertions of the economic perspective. That perspective reminds us that this can be a world of competing sorrows with more trade-offs than solutions.

People choose for good reasons

This is the most important principle of economic thinking. People always face choices, and when they choose, they look for the most advantageous combination of costs and benefits. This behavior is self-interested, not selfish.

In his Nobel lecture, Gary Becker makes the case this way:

"Unlike Marxian analysis, the economic approach I refer to does not assume that individuals are motivated solely by selfishness or material gain. It is a method of analysis, not an assumption about particular motivations.

"Along with others, I have tried to pry economists away from narrow assumptions about self-interest. Behavior is driven by a much richer set of values and preferences.

"The analysis assumes that individuals maximize welfare as they conceive it, whether they be selfish, altruistic, loyal, spiteful, or masochistic. Their behavior is forward looking, and it is also assumed to be consistent over time."[2]

The key to this analysis is that only individuals choose; those individual choices drive society. According to Paul Heyne, "All social phenomena emerge from the choices individuals make in response to expected benefits and costs to themselves."[3]

Incentives matter

Economics is really about incentives. Economic theory is based on the idea that changes in incentives influence behavior in predictable ways. Incentives are nothing more than changes in costs and benefits, which in turn influence choices. Supply and demand analysis is about incentives. Price controls are about incentives. Profits and business behavior are about incentives. Government decisions are about incentives.

According to Steven Landsburg, "Most of economics can be summarized in four words: 'People respond to incentives.' The rest is commentary. 'People respond to incentives' sounds innocuous enough, and almost everyone will admit its validity as a general principle. What distinguishes the economist is his insistence on taking the principle seriously at all times."[4]

People create economic systems to influence choices and incentives

Economic activity doesn't occur in a vacuum. Cooperation among people is governed by written and unwritten rules. As rules change, incentives and behavior change. For example, why have market economies been successful? Market economies depend on private-property ownership. People work harder and use resources more wisely when they own property. Private property thus creates a whole structure of incentives. But rights to own property cannot simply be asserted. Ownership of property depends upon rules that establish and protect property rights. The rules in turn depend upon a system of governance.

The Economic Way of Thinking

- Everything has a cost
- People choose for good reasons
- People create economic systems to influence choices and incentives
- People gain from voluntary trade
- It is people, not countries, that trade
- The price of a good or service is affected by people's choices
- Economic actions create secondary effects

People gain from voluntary trade

People trade when they believe the trade will make them better off. When two people trade voluntarily, they each give up something they value for something else they want. The trade is made when both parties consider the benefits of the trade to be greater than the costs.

It is people, not countries that trade

International trade policy is hotly debated, but the logic of individual rules rarely is disputed. Everyone specializes and trades some of his or her labor for a vast array of goods and services. This system of specialization and exchange makes people better off. Any effective economic system must encourage specialization and exchange. Self-sufficiency is the road to poverty.

The price of a good or service is affected by people's choices

Goods and services do not have intrinsic value; their value is determined by the preferences of buyers and sellers. Economists describe these preferences, and their effects, in terms of supply and demand.

continued at bottom of next page

1 Quoted in Paul Heyne, The Economic Way of Thinking (New York: Macmillan, 1994), p. 4.
2 Gary Becker, "Nobel Lecture: The Economic Way of Looking at Behavior," Journal of Political Economy, 101 (3) (1993): 385-6.
3 Heyne, The Economic Way of Thinking, p. 8.
4 Steven E. Landsburg, The Armchair Economist (New York: Free Press, 1993), p. 3.
5 Quoted in James D. Gwartney and Richard L. Stroup, Economics: Private and Public Choice, 6th ed. (Fort Worth: Dryden Press, 1992), p. 11.

EquilibriaChat Brings Econ Teachers Together on the Web

Bob Graboyes has the kind of playful intelligence that's all too rare in an ever more earnest world. As editor of *Equilibria*, the economic education bulletin of the Federal Reserve Bank of Richmond, he looks at economics in a way that prompts readers to smile and think at the same time.

In a recent issue of *Equilibria*, Graboyes observed that a high school economics teacher could well be the loneliest of all faculty members. There's rarely an on-site mentor to guide the novice; hardly ever a knowledgeable colleague to act as a sounding board.

But Graboyes and the Richmond Fed have come up with a way of using the World Wide Web to make life a bit less lonely for economics teachers. EquilibriaChat is a Web-based discussion board that gives economics teachers access to one another, to economic education organizations, and to experienced economists. Graboyes calls it "A place on the World Wide Web where economics teachers can ask questions, give answers, share ideas, spread news, and turn for help."

Teachers have already begun using EquilibriaChat to ask a wide range of questions, including:

- Are short-term interest rates a good indicator of inflationary expectations?
- Can you recommend good starter books for laypersons interested in economics?
- Where can you find certain basic economic statistics?
- Does anyone know of econ lesson plans on the World Wide Web?
- How good were the economic arguments in a recent *Wall Street Journal* article on the Fed?
- Was the *Wizard of Oz* an allegory on the Free Silver Debate?

One of the nicest things about EquilibriaChat is that the format is non-threatening. A teacher can ask even the most basic question without the fear of seeming uninformed.

Membership in EquilibriaChat is open to educators whose curriculum includes economics, regardless of whether or not they live in the Richmond Federal Reserve District. And it's free. Only members can participate in the dialogue, but anyone can view EquilibriaChat (www.rich.frb.org/eon).

For information on joining EquilibriaChat, send an e-mail message to Bob Graboyes (equilibria@rich.frb.org).

And for a free subscription to *Equilibria*, contact:

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The Economic Way of Thinking
continued from page 5

No supplier would willingly produce something that could not be sold for more than it cost to produce. However, consumers are equally important in a market economy. Just as producers want to sell at the highest price, consumers want to buy at the lowest price. The actual price is determined through the interaction of buyers and sellers.

Economic actions create secondary effects

Good economics involves analyzing secondary effects. Frederic Bastiat, a 19th-century economist, stated that "the difference between a good and a bad economist is that the bad economist considers only the immediate, visible effects whereas the good economist is also aware of the secondary effects, effects that are indirectly related to the initial policy and whose influence might only be seen or felt with the passage of time."[5] In this respect, an economic system is like an ecological system. One action may create many unintended consequences. For example, rent controls make apartments more affordable to some consumers, but those same controls make it less profitable to build and maintain rental housing. The secondary effect is a shortage of apartments and houses to rent. Higher taxes provide more revenue for government, but they also create negative incentives to work, save, and invest. A wise policymaker considers both initial and secondary effects.

Can teachers really teach the economic way of thinking, or is this econ stuff just too abstract to be practical? The principles of an economic way of thinking are only a starting place for teachers to work from. Teachers can't just hand these principles to their students and say, "This is economics." They must use creative approaches to apply these ideas to all sorts of situations.

New England Focus:

Maine Council on Economic Education Has All the Right Tools for Teachers

The Maine Council on Economic Education is a thriving affiliate of the National Council on Economic Education. EconomicsAmerica—the National Council's nationwide network of state councils and university-based economic education centers—conducts workshops and in-service training for more than 120,000 teachers a year.

Bob Mitchell knows how to get the most out of every resource. The front of his business card reads: Robert J. Mitchell, President, Maine Council on Economic Education. The back lists "Six Clues to Economic Understanding." Nothing goes to waste, and that makes him a perfect fit for the Down East state where people still pride themselves on Yankee frugality.

Taken from the back of Bob Mitchell's EconomicsAmerica business card:

Handy Dandy Guide (HDG)
for Solving Economic Mysteries:
SIX CLUES TO
Economic Understanding

1. **People choose.**
2. **People's choices involve costs.**
3. **People respond to incentives in predictable ways.**
4. **People create economic systems that influence individual choices and incentives.**
5. **People gain when they trade voluntarily.**
6. **People's choices have consequences that lie in the future.**

Mitchell operates the Maine Council on Economic Education (MCEE) from a one-room office on the University of Southern Maine campus. He and Jill Jordan, the coordinator for Maine's Stock Market Game, work with teachers in a statewide effort to foster economic education. MCEE's mission is practical and straightforward: Teach people to adopt an economic way of thinking so they can apply it to the questions of everyday life. "Economic education," says Mitchell, "is about learning to be an effective member of the community."

Bob brings what he calls a "toolbox mentality" to economic education. He tries to give teachers an assortment of instructional tools so they can say to their students, "Here are the tools you can use when you're trying to decide what to do with your life."

But as every home handyperson knows, success often hinges on choosing the proper tools and knowing which projects to tackle. The tools in the MCEE toolbox are all geared to Maine's framework of "Learning Results" (statewide curriculum standards) for students in the elementary, middle, and secondary grades. Mitchell teamed up with curriculum writers from the Maine State Education Department to develop Learning Results for economics based on the voluntary national content standards in economics that came out of the *Goals 2000: Educate America Act of 1994*.

MCEE concentrates its efforts on four main initiatives, all of which are directly related to the Learning Results:

1. The EconomicsAmerica *Economics at Work* curriculum (in collaboration with the Maine Association of Community Banks)

2. The Stock Market Game

3. Personal finance economics (in collaboration with the Maine Credit Union League)

4. Curriculum assistance for individual school districts.

Economics at Work is a multimedia curriculum developed by the National Council on Economic Education and the Agency for Instructional Technology. Its five modules—Producing, Exchanging, Consuming, Saving, and Investing—are designed

Aroostook County teachers navigate the Web during an MCEE workshop
Photo by Robert Mitchell

for students who may or may not continue their education beyond high school. Print, video laser disc, videotape, software, and simulations are all part of the package.

MCEE makes a special effort to help teachers get the most out of *Economics at Work* by teaming up with the TechPrep Coordinators in the Maine Technical College System to offer teacher training. The outreach effort is made possible by special funding from the Maine Association of Community Banks (MACB) and the resources and personnel of MACB member banks.

The Stock Market Game is another nationwide program with a unique Maine feature. The investment simulation, developed by the Securities Industry Foundation for Economic Education, is available throughout the country in a traditional paper-based format and a new Internet version, SMG2000. But Maine is the only state to conduct the program solely on the web, thanks to the fact that Bell Atlantic created a statewide fiber optic cable system with a connection to every Maine school and an e-mail address for every Maine teacher. Maine's SMG2000 serves nearly 10,000 students a year and is done in close collaboration with the Newspaper in Education programs of *The Bangor Daily News*, *Portland Press Herald/Maine Sunday Telegram*, and the *Lewiston Sun Journal*. Jill Jordan coordinates the entire statewide effort from a single desk at MCEE.

A third component of the educational effort is the personal finance literacy program MCEE conducts in partnership with the Maine Credit Union League, which provides funding and classroom assistance. The program consists of four teacher-centered curriculum guides designed for grades K-12: *PocketWi$e, $mart $pending and $aving, Money in the Middle Grades*, and *Wallet Wi$dom.* The program helps students to develop skills in personal money management and decision making.

MCEE's fourth major educational initiative is curriculum assistance for individual school districts. Bob Mitchell travels the entire state to help teachers master aspects of economic education that

For more information on EconomicsAmerica . . .

To find out more about the full range of economic education resources available through the National Council on Economic Education and its EconomicsAmerica affiliate, contact the Economic Education Council in your state. In the New England region, Connecticut, Maine, Massachusetts, and Rhode Island have active and thriving Councils.

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If you live outside New England and would like to find out the address of the Economic Education Council in your state, you can look it up on the National Council on Economic Education web site http://www.nationalcouncil.org/dir.html.

are not necessarily covered in existing programs such as *Economics at Work* or the Stock Market Game. A 1997 workshop took him on a 587-mile round trip to Fort Fairfield in Aroostook County—a destination that's as remote as it sounds.

How can one person cover a state the size of Maine? Technology helps. Bell Atlantic's fiber optic network made it possible for Mitchell to set up the Fort Fairfield workshop with just two phone calls and 15 to 20 e-mail messages. (Anyone who has ever tried to telephone a teacher during school hours knows what a difference e-mail makes.)

Of course, he still has to drive long distances and contend with Maine's changeable and challenging weather, but that's a part of the job he seems to relish. "One of the things I really like about Maine," says Mitchell, "is the hometown feeling you get wherever you go."

He's also quick to point out that MCEE has been able to do so many good things because of the support he's received from the University of Southern Maine and the excellent cooperation from his board of directors. "I've been fortunate in that my board has been a great team. They value the Council's mission, and they have been a great source of encouragement."

And finally, MCEE may be doing so well because it has managed to change with the times. "One of the things we did," explains Mitchell, "was to adopt what worked for American business. We looked at our core competencies and asked ourselves "What do we do well?" and "What do our customers want?"

The assessment seems to have worked well. By all accounts, MCEE has a state full of satisfied customers.

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e-mail: jjordan@usm.maine.edu

Working on Fundamentals

When it comes to economics, one of the challenges a teacher faces is identifying the major concepts. The National Council on Economic Education had this concern in mind when it developed A Framework for Teaching Basic Economic Concepts. *(Visit the National Council on Economic Education web site at http://www.nationalcouncil.org.)*

Each issue of The Ledger *highlights a concept from the* Framework. *The last issue looked at "Scarcity." This time it's "Opportunity Cost and Trade-offs."*

Opportunity cost: You can't necessarily have it all.

• Should I work overtime on Saturday or go out with my friends?

• Should I go to acting school or become a CPA and do community theater?

• Should we take the out-of-state job or stay close to family and friends?

• Should we go to Paris or make extra payments on the mortgage?

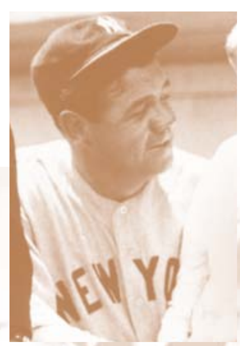
Advertisers might like us to believe we can "have it all," but, deep down, most of us know better. The size of our paychecks and the number of hours in a day force us to make trade-offs.

Opportunity cost is an economic concept that gets at the notion of trade-offs. Writer Susan Lee, in her book *Susan Lee's ABZs of Economics*, defines opportunity cost as "a measure of what could have been."

The fact that we live in a world of limited resources means we can't "have it all." When we choose to commit a certain amount of money, time, or materials to one thing, we leave ourselves with less to devote to something else.

If you turn down four hours of overtime because you want to go to a party, you give up four hours of overtime pay. That's opportunity cost. You could have worked, but you chose to go to the party instead. And you paid a price. You "bought" the leisure time with the overtime pay you turned down.

But the cost of making a choice is not always an explicit cost in dollars and cents. Suppose you turn down an out-of-state transfer to a higher-paying job because you don't want to uproot your family. The opportunity cost is fairly easy to calculate. It's the difference between the higher salary at the job you turned down and the lower salary at your current job.



But what if you decide to uproot your family and take the higher-paying job? There's still an opportunity cost; it's just tougher to calculate. You give up the chance to be close to family and friends. There can be a monetary cost in that—maybe higher child care costs. But there might also be an emotional price to pay—you miss your family and friends. By choosing to do one thing, you give up something else.

Opportunity cost applies to every aspect of life—personal consumption, career decisions, education, health care, national defense . . . even sports. Anyone who is a fan of the Boston Red Sox knows all about opportunity cost and the "measure of what could have been." One phrase says it all: The Curse of the Bambino.

Between 1915 and 1919, Babe Ruth helped bring three World Series championships to Boston. The last one—the very last one—came in 1918. The Red Sox have never won another World Series.

Boston Globe sports columnist Dan Shaughnessy blames the Red Sox World Series drought on a "curse." His book, *The Curse of the Bambino*, advances the theory that the Red Sox haven't won since 1918 because their owner, one Harry Frazee, sold Babe Ruth to the arch rival New York Yankees in 1920. (It's as good an explanation as any.)

Frazee was an avid sportsman, but the Red Sox were not his number one priority. He was, first and foremost, a theatrical impresario, and in 1919 he desperately needed cash to finance his Broadway productions. When Yankees owner Colonel Jake Rupert offered to "buy" the Babe for more than $100,000 in cash and a $300,000 loan for a mortgage on Fenway Park, Frazee took the deal.

The rest is history. Harry Frazee enjoyed continued theatrical success, most notably with *No, No Nanette* (hit song "Tea for Two"). Babe Ruth went to New York, became a sports legend, and made the Yankees a baseball dynasty. And you know what happened to the Red Sox.

Babe Ruth talks with youngsters at Fenway Park, 1933.
Photo by Leslie Jones.
Courtesy of the Boston Public Library, Print Department.

You make the call . . .

How does the concept of opportunity cost relate to Harry Frazee and Babe Ruth?

A Question of Economics

A Question of Economics focuses on questions related to economics in everyday life. Anyone can submit a question—students, teachers, anyone at all. And the question need not be complicated. In fact, the more it pertains to daily life, the better.

Since no one submitted a question for this issue, we had to rely on family members. But who knows if they'll come up with one for the next issue? So, send your questions about everyday economics to:

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If we use your question, we'll send you a bag of genuine shredded money for each person in your class (limit 30).

How can sports teams afford to pay superstars so much money?

BOSTON, December 1997 — A voice from the radio announces that the Boston Red Sox just signed pitcher Pedro Martinez to a six-year, $75 million contract. Martinez is one of the top talents in baseball, and, by all accounts, a very nice young man. But how can the Red Sox afford to pay him that much money?

The short answer is that superstars generate more than enough revenue to cover their salaries.

What is revenue?

In generic economic terms:

Total Revenue=(Price) x (Quantity)

For example, a team's ticket revenue for one game is:

(Price per ticket) x (Number of tickets sold for the game).

Professional sports teams have three main sources of revenue:

- Television
- Ticket sales
- The sale of licensed goods (all those products, from caps to computer games, that carry an official team or league logo).

Superstars earn big money because they generate lots of revenue for their teams. They are "marquee players" who draw spectators to the game through a combination of exceptional talent and a certain star quality that is sometimes hard to define but always easy to spot.

Think about it. What draws Chicago fans to a Bulls game? Sure, some of them enjoy cheering for the home team, but many of them are buying tickets or turning on the TV just to see Michael Jordan.

Fannies in the Seats

Yankees owner George Steinbrenner had it right when he said superstars make big money because they "put fannies in the seats," but today that means much more than just selling tickets. The "fannies" that watch a televised game from the living room sofa may be even more important than the "fannies" that fill the stands. (In 1950, approximately 75 percent of all team revenues came from ticket sales; by 1990 they accounted for less than half).

Television is the "golden goose" of modern professional sports. It pumps tremendous amounts of money into spectator sports, and it connects more fans to the games and to the players than ever before. The National Football League offers a striking example.

During the early 1960s, NFL Commissioner Pete Rozelle convinced team

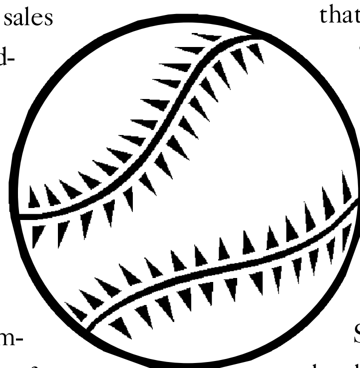
continued on page 12

A Question of Economics
continued from page 11

owners that they'd make more money if the league negotiated a national TV deal on their behalf. And events proved him right. The first national TV contract—a two-year, $28.2 million deal with CBS—seemed like a fortune at the time. But things just kept getting better, and by 1998 the NFL had TV deals with ABC, CBS, ESPN, and Fox for a combined total of $17.6 *billion* over eight years.

Why are television companies willing to pay that much to sports leagues? Because lots of fans are tuning in to watch the games and see the superstars. And that means TV networks and cable companies can charge advertisers higher rates for commercial time during the games. The 1998 Super Bowl alone attracted 133.4 million viewers, and advertisers paid $1.3 million for 30 seconds of commercial time.

Licensed goods are another important source of revenue. Official logos and player endorsements often can persuade fans to pay extraordinary prices for very ordinary products. And every time someone buys a team jersey, a pack of baseball cards, or an official NFL key-chain, a certain percentage of the money goes to one of the leagues or one of the player's associations. Total 1997 sales for NFL-licensed products were $3.6 billion. Total 1997 sales for NBA-licensed products approached $3 billion, and NHL-licensed products hit $1.2 billion. Sales of Major League Baseball-licensed products plummeted to $1.5 billion after the 1994-95 players strike, but by 1997 the annual total was back to $2 billion and climbing.



Without the revenue from licensing fees, TV contracts, and ticket sales, teams couldn't afford to pay superstars as much as they do. The money just wouldn't be there.

And without superstars, pro sports wouldn't generate as much excitement—or as much revenue. The relationship between sports and superstars has benefited both.

Post-Game Wrap Up

- Superstars appeal to an audience that extends far beyond their "home" cities. Michael Jordan plays for the Chicago Bulls, but people in every corner of the globe wear jerseys that bear his number. Mark McGwire plays for the St. Louis Cardinals, and Sammy Sosa is a Chicago Cub, but baseball fans from Kansas City to Korea followed their quest to break the single-season home run record during the summer of 1998. Why? What makes that broad appeal possible?
- Babe Ruth was the original modern superstar. People sometimes still refer to Yankee Stadium as "the house that Ruth built." What do they mean?

The Ledger

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