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AN ECONOMIC EDUCATION NEWSLETTER

INTERSECTIONS

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For more information, contact:

Andrew T. Hill, Ph.D.
Economic Education Specialist
(215) 574-4392 (telephone)
(215) 574-2512 (fax) or
andrew.hill@phil.frb.org

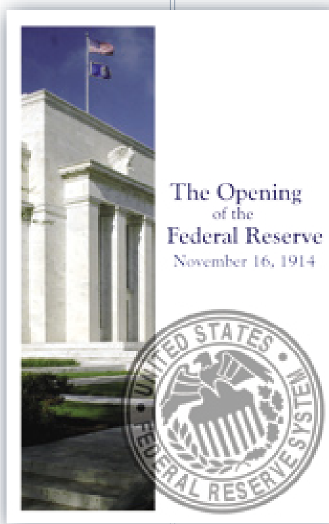
FEDERAL RESERVE BANK OF PHILADELPHIA

www.philadelphiafed.org

The Fed Celebrates 90th Anniversary

The Federal Reserve System was born when President Woodrow Wilson signed the Federal Reserve Act on December 23, 1913. It took some months for the act to be implemented and for the Federal Reserve Board and the Reserve Banks that make up the System to open for business. The Federal Reserve Bank of Philadelphia opened on November 16, 1914, along with the 11 other Reserve Banks located in cities across the country. So over the past two years, the Federal Reserve System has marked two milestones: the System's 90th anniversary in 2003 and the Federal Reserve Banks' 90th in 2004.

The idea for the Federal Reserve System grew out of the need for a financial institution that could act as a lender of last resort during financial crises and could also smooth seasonal fluctuations in money and credit that previously caused sharp swings in interest rates. The act established a system of 12 regional Reserve Banks that operate cooperatively but independently under the oversight of the Board of Governors of the Federal Reserve System located in Washington, D.C. With Reserve Banks throughout the United States and a centralized board in Washington, the System incorporates both regional and national perspectives as well as private- and public-sector interests.



The Federal Reserve System represents the nation's third central bank. Based on the vision of Alexander Hamilton, Congress created the first Bank of the United States, which had some of the features of a central bank, in 1791. This so-called First Bank, headquartered in Philadelphia, was a large institution that contributed to unifying the national economy during the country's early years. The First Bank was a private institution with about 70 percent foreign ownership, which concerned many Americans. In 1811, the First Bank's charter came up for renewal and was rejected by a single vote in Congress.

After the War of 1812, however, Congress established a second Bank of the United States in 1816 to help finance the nation's war debts and restore financial stability to the economy. Like the First Bank, the Second Bank had some features of a central bank. However, the Second Bank was not without opponents — most notably, President Andrew Jackson, who distrusted banks in general and particularly disliked the idea of a national bank with broad powers. In 1832, President Jackson vetoed a bill seeking an early re-charter of the Second Bank. After the Second Bank's 20-year charter expired in 1836, the United States was without a central bank until the founding of the Federal Reserve System more than 75 years later.

What Is Money?

If you ask your students, "What is money?" they are likely to tell you that money is the paper currency and coin they carry in their pockets. However, money is more broadly defined than just paper currency and coin. In fact, economists have come up with a number of different definitions of money in analyzing the U.S. economy. These definitions vary depending on the purpose for which the concept of money is being used. (See the sidebar on page 3.)

Money has been around since ancient times. It developed because barter, the swapping of goods and services for other goods and services, is difficult. The difficulty lies in the fact that barter requires a coincidence of wants between any two parties interested in making a trade. If Mary wants to buy a chicken and has a cantaloupe to sell and Bill wants a cantaloupe and has a chicken to sell, a coincidence of wants exists between them, and a successful trade can be arranged as long as the parties agree that a chicken is worth a cantaloupe. However, in reality, it is more likely that Mary wants a chicken and has a cantaloupe to sell, but Bill wants a knife and has a chicken to sell. In this situation, a coincidence of wants does not exist between them, and either Mary or Bill will have to carry out a trade with one or more other individuals in order to get what they want. With more individuals and more goods, the process of searching for acceptable trades and the likely need to make multiple trades before obtaining the desired goods makes barter even less efficient.

Throughout history societies have used many different things as money, including stones, shells, elephant-tail bristles, gold and silver coins, furs, salt, whales' teeth, and pieces of paper. Today, money includes paper currency, coins, bank deposits on which checks can be written, and, at times, other types of deposits that can be easily converted into cash (such as savings deposits or certificates of deposit).

Money has three functions. As a medium of exchange, money can be used for buying and selling goods and services, thereby allowing society to avoid the difficulties associated with barter. When you present cash or use a check or a debit card at the grocery store, you are using money in its function as a medium of exchange.

As a unit of account, money can be used to judge the relative value of different goods and services. Money lets consumers and producers make rational decisions about buying and selling goods and services. When you check the price of a good or service and compare it with the price of another good or service as part of your purchasing decision, money is being used in its unit of account function.

As a store of value, money can be used to transfer purchasing power from one period to another. When you get paid by direct deposit into your checking account and do not spend the money for two weeks, you are employing money's store of value function.

Functions of Money

- **Medium of Exchange**—Money can be used for buying and selling goods and services. Money allows society to avoid the difficulties associated with barter.
- **Unit of Account**—Money can be used to judge the relative value of different goods and services. Money assists consumers and producers in making informed decisions.
- **Store of Value**—Money can be used to transfer purchasing power from the present into the future.

Characteristics of Money

- **Divisible**—Can be broken into smaller units.
- **Relatively scarce**—Not as much available as everyone wants.
- **Durable**—Should last a long time.
- **Portable**—Easy to carry.
- **Desirable**—Something people want.
- **Distinguishable**—Easy to recognize and hard to fake.

Definitions of Money

- **M1** is a narrow definition of the U.S. money supply. M1 includes coins and paper currency as well as all deposits in banks and savings institutions on which checks can be written. M1 was $1.36 trillion in November 2004.*
- **M2** is a broader definition of the U.S. money supply than M1. M2 includes M1 plus savings deposits (including money market deposit accounts), small (less than $100,000) time deposits, and money market mutual funds. M2 was $6.40 trillion in November 2004.*

- **M3** is a broader definition of the U.S. money supply than M2. M3 includes M2 plus large ($100,000 or more) time deposits. These large time deposits are generally certificates of deposit owned by businesses. M3 was $9.41 trillion in November 2004.*

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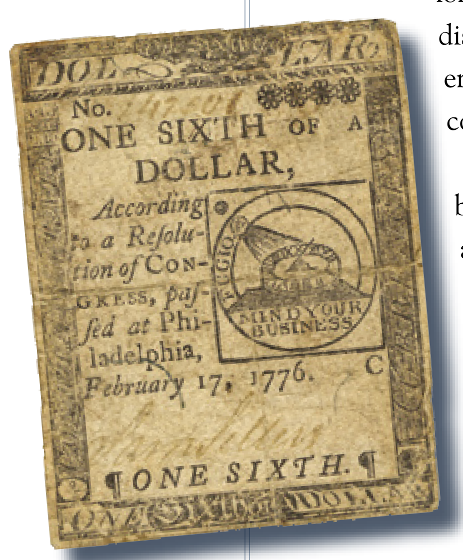
* Data are for November 2004 and can be found in Federal Reserve Statistical Release H.6 at www.federalreserve.gov/releases/h6/.

To function efficiently, money should possess a number of characteristics. Money should be divisible. In our economy Federal Reserve notes in denominations of $1, $2, $5, $10, $20, $50, $100, along with pennies, nickels, dimes, quarters, half-dollars, and one-dollar coins, allow money to be divided from large amounts into small amounts. However, for much of the nation's early history, shortages of coin meant that dividing large denominations into small denominations was difficult. If money is not divisible, it's hard to carry out transactions that require the seller to provide change. Therefore, money that is not divisible does not act as a very good medium of exchange.

Money should be relatively scarce. As long as money is relatively scarce, it will act as a good store of value. History provides numerous examples of money that lost value because it was no longer scarce. In colonial Virginia, tobacco was used as money until planters grew so much tobacco that it was no longer scarce. Then tobacco had little or no value as money. Likewise, during the American Revolution, the Continental Congress printed so much paper currency that this paper money became worthless and the phrase "not worth a Continental" became a common term.

Money should be durable. Throughout history, agricultural products have been used as money in different parts of the world. However, perishable agricultural commodities often spoil if held for a long period, resulting in a breakdown in their usefulness as a store of value. Federal Reserve notes are printed on paper that is one-fourth linen and three-fourths cotton to ensure that even if it mistakenly goes through the wash in the pocket of your jeans, it will not be destroyed.



Despite the remarkable durability of our nation's paper currency, repeated handling does wear out these bills. Therefore, each week, the Federal Reserve Banks shred millions of dollars in worn-out currency and replace it with new Federal Reserve notes to ensure that our nation's paper currency remains in good condition.

Money should be portable. During the colonial period, livestock and other agricultural commodities were at times used as money. But significant transportation costs associated with bringing livestock and bulk products to market made it difficult to use them as mediums of exchange.

Money should be distinguishable. It needs to be easily recognizable and difficult to fake or counterfeit. From the early colonial money designed and printed by Benjamin Franklin to today's "Safer, Smarter, More Secure" 2004 series Federal Reserve notes, continual efforts have been made to add features to paper currency that will help protect it from counterfeiters. Security features, such as today's security thread, color-shifting ink, and the watermark, make it easy for the general public to distinguish genuine Federal Reserve notes from counterfeit bills.

Money should be desirable. If people are unwilling to accept a certain form of money, it ceases to be an effective medium of exchange. Throughout time, when economies have experienced very high levels of inflation, people became reluctant to accept that country's currency and often desired other countries' currencies or gold or some form of commodity money. This flight from the local currency occurred because high levels of inflation diminished the usefulness of money as a store of value and unit of account. During the colonial period, when commodities such as livestock and tobacco were used as money, people were often unwilling to accept those commodity monies because storage and transportation costs made them less desirable.

Along with the economic concepts of scarcity, opportunity cost, and choice, the characteristics and functions of money represent some of the most fundamental concepts in economics. A good understanding of the characteristics and functions of money can serve as a strong underpinning for lessons about personal finance. The Federal Reserve System works every day to ensure that money in the United States—whether paper currency, coin, or checkable deposits—efficiently and effectively serves as a medium of exchange, a unit of account, and a store of value.—*Andrew T. Hill, Ph.D.*

Applicable Academic Standards

Voluntary National Content Standards in Economics: Standard 11

Students will understand that money makes it easier to trade, borrow, save, invest, and compare the value of goods and services.

Delaware Social Studies Curriculum Framework: Economics Standard 2

New Jersey Core Curriculum Content Standards for the Social Studies: Standard 6.5

Pennsylvania Academic Standards for Economics: Standards 6.2.3, 6.2.6

For more information on money:

- Michael Bryan, in his article "Island Money," provides a fascinating explanation of use of the famous Yap stones as money in the South Pacific. These stones, some having diameters of more than 12 feet, have been used as money on a few isolated islands for hundreds of years.
  Bryan, Michael F. "Island Money." *Economic Commentary.* Federal Reserve Bank of Cleveland, February 1, 2004.
  Available at: www.clevelandfed.org/Research/Com2004/0201.pdf

- Michael Bryan, in his article "The Trime," tells the story of the trime, a 3-cent silver coin minted in the United States between 1851 and 1873, and the coin shortages of the mid-1800s.
  Bryan, Michael F. "The Trime." *Economic Commentary.* Federal Reserve Bank of Cleveland, January 15, 2004.
  Available at: www.clevelandfed.org/Research/Com2004/0115.pdf.

- The Federal Reserve Bank of New York's *Fed Point* "The Money Supply" provides an overview of the U.S. money supply and definitions of the M1, M2, and M3 money supply.
  Federal Reserve Bank of New York. "The Money Supply." *Fed Point* 49, January 2003.
  Available at: www.newyorkfed.org/aboutthefed/fedpoint/fed49.html

- Dean Croushore, in his article "U.S. Coins: Forecasting Change," provides some facts about coins and describes how the Federal Reserve System and the U.S. Mint forecast the demand for change.
  Croushore, Dean. "U.S. Coins: Forecasting Change." *Business Review.* Federal Reserve Bank of Philadelphia, Second Quarter 2003, pp. 6-13. Available at: www.philadelphiafed.org/files/br/brq203dc.pdf

- For more information on the features of U.S. currency, visit www.moneyfactory.com.

Does Your School Have a Personal Finance Course?

Is your school looking for a way to add a tried-and-true semester-long personal finance course to its elective offerings? Do you have a personal finance course that needs expanding or updating? The “Keys to Financial Success” course may be perfect for your school.

Since 2001, the Federal Reserve Bank of Philadelphia, in partnership with the University of Delaware Center for Economic Education and Entrepreneurship, the Delaware Bankers Association, and the Consumer Credit Counseling Services of Maryland and Delaware, has equipped schools to offer the “Keys to Financial Success” course. In the 2004-2005 academic year, the course is being offered in 25 schools in Delaware and Pennsylvania.

Designed by the University of Delaware Center, the “Keys” course includes five units: Future Financial Goals and the Decision Making Process; Career Planning—Investments in Human Capital; Money Management; Consumer Skills; and Risk Protection. Students learn important life skills, such as budgeting, borrowing, saving, and investing. The program includes pre- and post-testing of students, quarterly roundtable meetings for the teacher, and a complete curriculum package designed with state standards in economics and personal finance in mind. Teachers receive, free of charge, one week of training at the end of June, a copy of the National Council on Economic Education’s *Financial Fitness for Life* curriculum, and a binder that includes the suggested day-to-day lessons for the entire course. Schools commit to offering at least one section of the course per year but decide which department within the school will teach the course and where the course will appear in the schedule. “Keys,” which can be easily adapted from the semester format to a full-year course or block schedule, is designed to provide schools with a complete course ready for use in the high-school classroom.

Pennsylvania and New Jersey schools interested in learning more about the “Keys to Financial Success” course should contact Todd Zartman (todd.zartman@phil.frb.org) at 215-574-6457.

Interested high schools in Delaware should contact Barbara Emery (emeryb@lerner.udel.edu) at the University of Delaware Center for Economic Education and Entrepreneurship at 302-831-4622.

Bulletin Board

Mathematics and Economics

When: February 23, March 2, and March 9, 2005 • 4:30 pm to 7:30 pm

Where: Federal Reserve Bank of Philadelphia
7th and Arch Streets
Philadelphia, PA 19106

For: Middle and high school educators

What: This three-afternoon program, taught by Federal Reserve economists and economic education specialists, introduces middle and high school educators to economic concepts and how to teach them through mathematics. Emphasis is placed on active-learning techniques that help educators meet state and national standards in economics.

Prerequisites & Requirements: There are no prerequisites for this program. Participants are required to attend all three sessions. Participants who attend all three sessions will receive a copy of the National Council on Economic Education's Mathematics and Economics: Connections for Life curriculum package.

Cost: **Free of charge**

Credit: Upon completion of all three meetings, teachers will receive professional development hours in their respective states.

Register online at: www.philadelphiafed.org/education *(Note: Registration is online only.)*

Registration Deadline: February 16, 2005

For more information, contact: Dr. Andrew T. Hill
Economic Education Specialist
Federal Reserve Bank of Philadelphia
andrew.hill@phil.frb.org

Making Sense of Money and Banking: A Course for Educators

When: July 18 through 22, 2005 • 8:00 am to 3:30 pm

Where: Federal Reserve Bank of Philadelphia
7th and Arch Streets
Philadelphia, PA 19106

For: Elementary, middle, and high school educators

What: This course, taught by Federal Reserve economists, economic education specialists, and staff from the state centers on economic education, covers money, banking, and the Federal Reserve System. It will include sessions on the history of central banking and how to choose a good economics lesson. Participants will also visit the sites of early central banking, which are part of Independence National Historical Park. Emphasis is placed on effective strategies and curricula for teaching money and banking in the K-12 classroom. Participants will receive professional development credit in their state.

Prerequisites & Requirements: There are no prerequisites for this program. Participants are required to attend all five days.

Cost: **Free of charge**

Credit: Upon completion of all five days, teachers will receive professional development hours in their respective states.
OPTION: For a tuition fee, teachers may register with a partner institution to receive graduate credit. For more information about this option, contact Andrew Hill (see below).

To see the agenda and to register go to: www.philadelphiafed.org/education *(Note: Registration is online only.)*

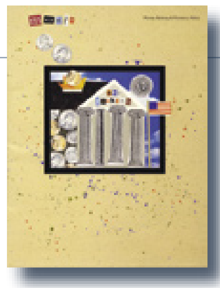
Registration Deadline: July 1, 2005

For more information, contact: Dr. Andrew T. Hill
Economic Education Specialist
Federal Reserve Bank of Philadelphia
andrew.hill@phil.frb.org

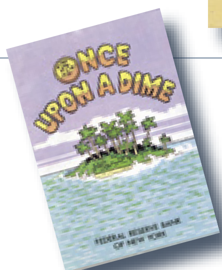
The Resource Rack

The Federal Reserve System has many publications and online resources available for classroom use. Most are available in classroom sets for free.

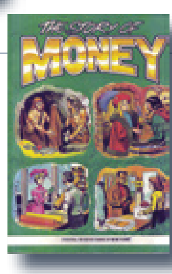
Dollars and Cents: Fundamental Facts About U.S. Money
Provides historical information about U.S. money and describes the types and features of paper money and coins now in circulation. The booklet also tells how currency and coins are made, how money circulates, how damaged money is redeemed, and how to spot a counterfeit bill.
Published by the Federal Reserve Bank of Atlanta
Order at www.newyorkfed.org/publications



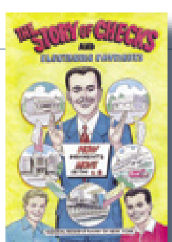
Money, Banking and Monetary Policy
Explores money as a medium of exchange and how banks "create" money when they lend it. Also discusses the Federal Reserve's role in promoting economic growth without inflation.
Published by the Federal Reserve Bank of Dallas
Order at www.newyorkfed.org/publications



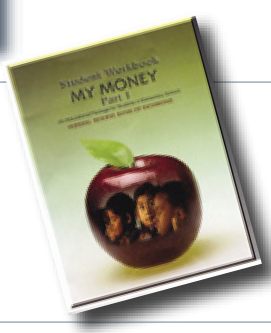
Once Upon a Dime
Presents a fable about the island kingdom of Mazuma and the growth of its economy from barter to a sophisticated modern system, with its own central bank. The fable illustrates basic concepts of barter, money, banking, and inflation. Great for elementary and middle schools.
Published by the Federal Reserve Bank of New York
Order at www.newyorkfed.org/publications



The Story of Money
Explains the purposes of money in a modern economy, the characteristics of items used as money, the way the banking system creates money, and the reasons the Federal Reserve influences the money supply.
Published by the Federal Reserve Bank of New York
Order at www.newyorkfed.org/publications



The Story of Checks and Electronic Payments
Describes how to write a check, the uses and advantages of checks, the automation of check collection, and the concept of an electronic payment system.
Published by the Federal Reserve Bank of New York
Order at www.newyorkfed.org/publications



My Money Part 1
Introduces K-2 students to economic concepts of money, savings, jobs, goods, and services. Activities cover topics such as coin identification, money equivalents, and examples of jobs that provide goods or services. Classroom set includes a teacher's guide and 25 student workbooks.
Created by the Federal Reserve Bank of Richmond
Order at www.newyorkfed.org/publications

American Currency Exhibit
Takes a look back in time at the evolution of money and gives a lesson on how our nation's history is closely tied with our currency. An accompanying teacher's guide is available on the web site.
Created by the Federal Reserve Bank of San Francisco
Available online at: http://www.sf.frb.org/currency

Tips for Teachers

With class time at a premium, it's important to find ways to incorporate economics and personal finance material into existing mathematics, language arts, and social studies classes.

- Consider using the daily newspaper or the Internet to start a clippings file of articles related to economics and personal finance. Have your students cut out and collect articles for the classroom clippings file and maintain the files from year to year. Periodically hold a "clippings session" where students report to the class about an article they found and how it relates to economics and personal finance. Local newspapers often deliver classroom sets of newspapers each day through the Newspapers in Education (N.I.E.) program. Contact your local newspaper to see if it participates in the N.I.E. program.

- If your school has a student newspaper, consider having students in your class write an economics or personal finance column for the paper.

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