What Personal Finance Is About

The Economics of Financial Decision Making

Limited Resources, Scarcity, and Choice

Economists are fond of pointing out that we live in a world of **limited resources.** And they also remind us that because these resources are not *freely* available to everyone, **choices** must be made as to how to use them. Basically, we can't have all the goods and services we want. Indeed, this is why economics has earned the dubious title of "the dismal science."

Economists are right. There *aren't* enough resources (called **productive resources** or **factors of production**) for *everyone* to have *everything* they want. Productive resources, and the goods and services produced from them, are truly scarce.

The problem of **scarcity** has huge implications for our own personal decision making, including managing our finances. For example, our limited time forces us to make difficult career decisions. Consider Sheila, a recent high school graduate with multiple career interests and abilities. Should she use her time and money to become a high school biology teacher or a doctor? She is interested in both, but she can't simultaneously be a high school teacher and a doctor. So what should she choose?

And as a consumer, what should Sheila do with the limited income she earns? The dollars she spends on purchasing a car can't be spent on a vacation. Sheila will have to make a **choice.** Scarcity always implies choice.

But all is not lost! Although economics reminds us of the challenge of scarcity, it also provides us with tools — a way of thinking — for managing scarcity effectively. The following set of economics principles is amazingly powerful in dealing with personal economic decisions, indeed, all types of decisions.

- Because of scarcity, people choose.
- All choices have an opportunity cost.
- People respond to incentives in predictable ways.
- Market forces and economic systems influence choices.
- People's choices have intended and unintended consequences which lie in the future.
- People expect to gain when they trade voluntarily.

Take Sheila's career decision. We have already seen how scarcity forces her to choose between two desirable careers. Other economic principles also apply to her decision. For example, Sheila realizes that there is a definite *cost* to her decision, and not just the monetary cost of college and the income she would lose by not working full time. If she chooses to become a teacher, she is giving up the opportunity to be a doctor, and vice versa. Sheila will also be responding to particular *incentives,* such as the differences in income potential between a doctor and a teacher and the differences in the time and money it takes to become a teacher compared to a doctor. The effect of *market forces* on salaries and the cost of education play a key role in these decisions. And Sheila must consider the future *consequences* of her decision. For example, if she wants to get married and have a family one day, how could that affect her decision?

The key point to make is this: If Sheila carefully thinks through her decision using the economic principles outlined above, she will be able to make a much more informed decision.

Opportunity Cost — Every Decision Has One

The second economic principle listed above — "All choices have an opportunity cost" — is particularly powerful. **Opportunity cost** refers to the best alternative someone gives up when making a decision. In the scenario above, if Sheila makes the choice to become a teacher, she gives up the opportunity to become a doctor. Being a doctor is her opportunity cost. Likewise, if she chooses to become a doctor, becoming a teacher is her opportunity cost.

Opportunity Cost

The concept of opportunity cost is critical to making personal financial choices — both as a producer *and* as a consumer. Sheila is making a choice about her future role as a **producer** when deciding whether to become a teacher or a doctor. But when she shops as a **consumer,** she will also confront the reality of opportunity cost. Her income, even if she has a doctor's higher income, is limited. At some point, she will have to choose to purchase one thing and give up another. And the item she chooses *not* to purchase will be her opportunity cost.

Keep in mind that there are many "non-money" criteria that people consider when analyzing the opportunity cost of their decisions. For example, in deciding whether to take a job in a far-away place, people consider the opportunity cost of not seeing their family as much as if they lived closer.

The major point to keep in mind is that the powerful concept of opportunity cost should be applied whenever decisions about personal finance are made.

The Circular Flow Model of a Market Economy

Sheila's decisions do not take place in a vacuum; they take place in the context of an **economic system.** Economic systems and the economic activity we see all around us seem complicated, but using a simple **circular flow model** provides a helpful picture of

how a market economy works.[1] The original idea of the circular flow model came from a group of 18th century French economists know as Physiocrats, who saw an analogy between the flows in the economy and the flows of blood through the body. This analogy is useful in describing our economy today.

Figure 1 illustrates how a pure market economy works. Households and businesses are the major **decision-makers.** They interact with each other in three major **markets,** represented by the three circles. The circular arrows going in opposite directions illustrate two major flows. The inner arrow represents the flow of either goods and services or productive resources. The outer arrow represents the flow of money.

The **products market** (top circle) is the market for finished goods and services. As in all free markets, prices are determined by the interaction of supply and demand. Businesses **supply** goods and services (inner arrow), and households **demand** these goods and services using their money income (outer arrow). This is where Sheila would make her purchasing decisions as a consumer.

In the **productive resources market** (bottom circle), households supply the productive resources, especially labor (inner arrow), and businesses demand the productive resources (outer arrow) they need to produce goods and services. The resulting interaction of supply and demand determines the price of the productive resources. In the case of human resources, this price is called a **wage** or **salary.** When Sheila earns the qualifications to become a teacher or a doctor, she will enter this market in search of a job.

Households may not spend all of their income. Income that is **saved** flows into the **financial capital market** (middle circle), where it is borrowed by businesses to finance more production. Households thus **supply** loanable funds (private saving), and businesses **demand** them. The interaction of savers and borrowers in this market for loanable funds results in a special price known as the **interest rate.** Banks, credit unions, insurance companies, brokerage houses, and other financial institutions help households channel their savings to businesses.[2]

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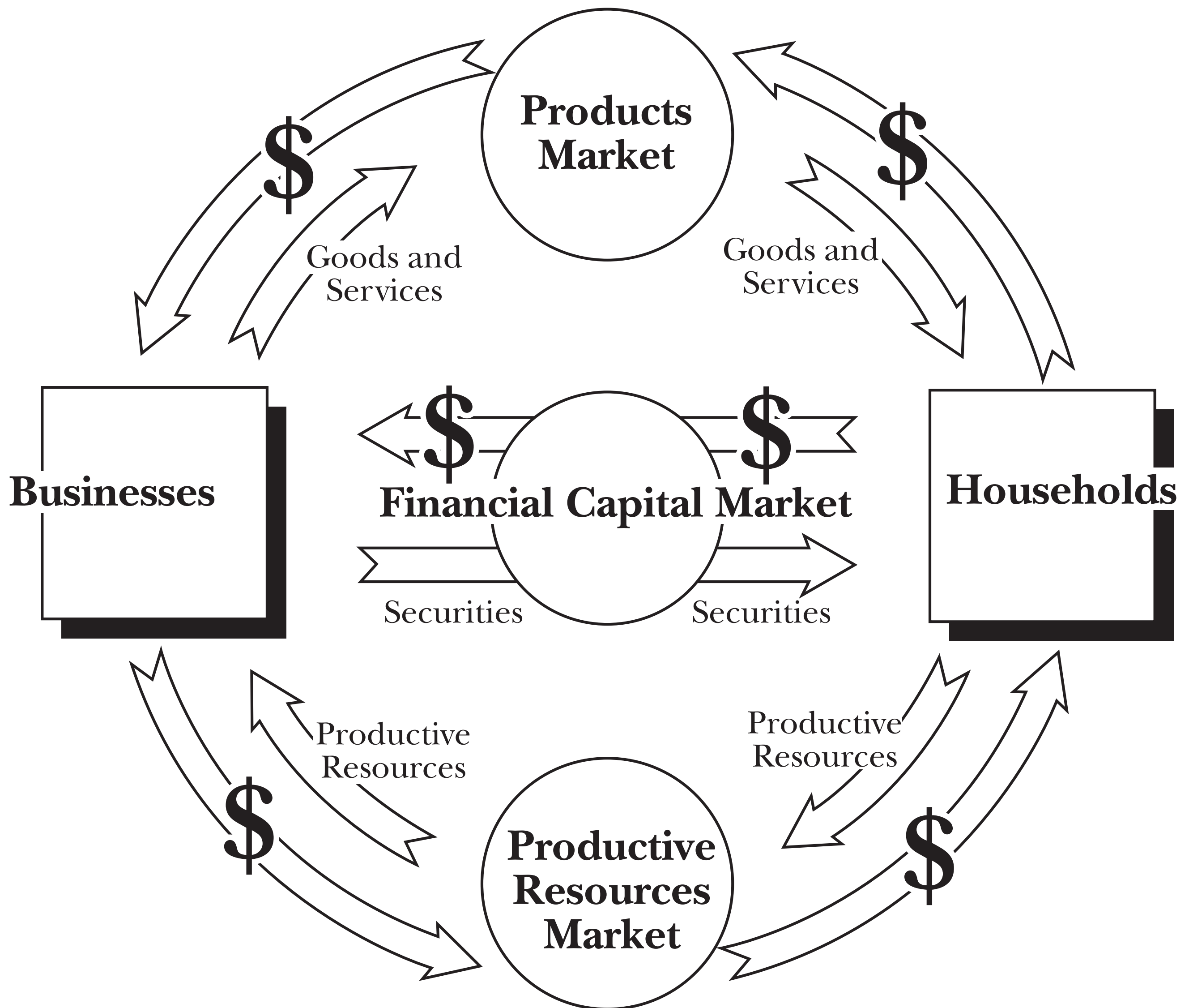
1. Economies in which changing prices (determined by the interaction of buyers and sellers) act as the primary guide for economic activity are known as market economies. Other names for a market economy include capitalism, price system, laissez-faire, and free enterprise. Economies that rely primarily on government agencies to direct economic activity are known as command economies. Economies in which much economic activity is based on custom and historical precedent are traditional economies. Note that there are no “pure” market, command, or traditional economies – all are mixed economies to some degree.

2. This simple circular flow model shows businesses borrowing savings only from households. In reality, it is far more complex since businesses as well as households provide savings to the market. Also, consumers and governments compete with businesses to borrow available savings. This simple model also does not consider the role of government or the rest of the world in product, financial, and productive resource markets.

Figure 1

Circular Flow Model of a Market Economy



Personal Finance Basics That Everyone Needs to Know

Although a good understanding of economic principles is essential for making good personal finance decisions, it is certainly not sufficient. The modern world is very complex, and people like Sheila also need factual, practical *information* about all areas of personal finance, such as earning an income, taxes, investments, and insurance. The rest of this booklet provides practical information on these topics.

Earning Income

In order to make sound decisions about managing money, a person first of all has to *have* money. People typically get money by earning **income,** the most common being income from **wages** and **salaries.** Economics teaches us that, in general, the income people earn is determined primarily by the **market value** of what they produce and how **productive** they are.

Making Career Decisions

So how *does* someone like Sheila determine what kind of work to pursue? There are four key factors that will influence her decision.

- **Personal Preference:** People generally seek work that they enjoy and are interested in, which is a very important factor to consider when seeking work in the labor market. Unfortunately, it is not uncommon for someone to be in a highly paid job, yet not be happy in the work.

- **Skills/Human Capital:** People also tend to work in areas where they are skilled or have a particular aptitude, that is, in areas where they are relatively **productive.** Economists refer to the skills and abilities that people have acquired that make them productive as **human capital.** While Sheila may want to be a teacher or a doctor, she must consider whether she has the actual skills and aptitude to be successful at either job.

- **Demand for Certain Jobs:** This factor is absolutely critical in a job decision. Even if someone has a great interest in doing a particular job and also is skilled in that kind of work, it won't matter unless there is **demand** for that job from potential employers. This is why it is important for students to carefully consider job markets when making career choices. But the job market is very complex and is constantly changing. Jobs that were plentiful in the past may not be in the future,

What Personal Finance Is About

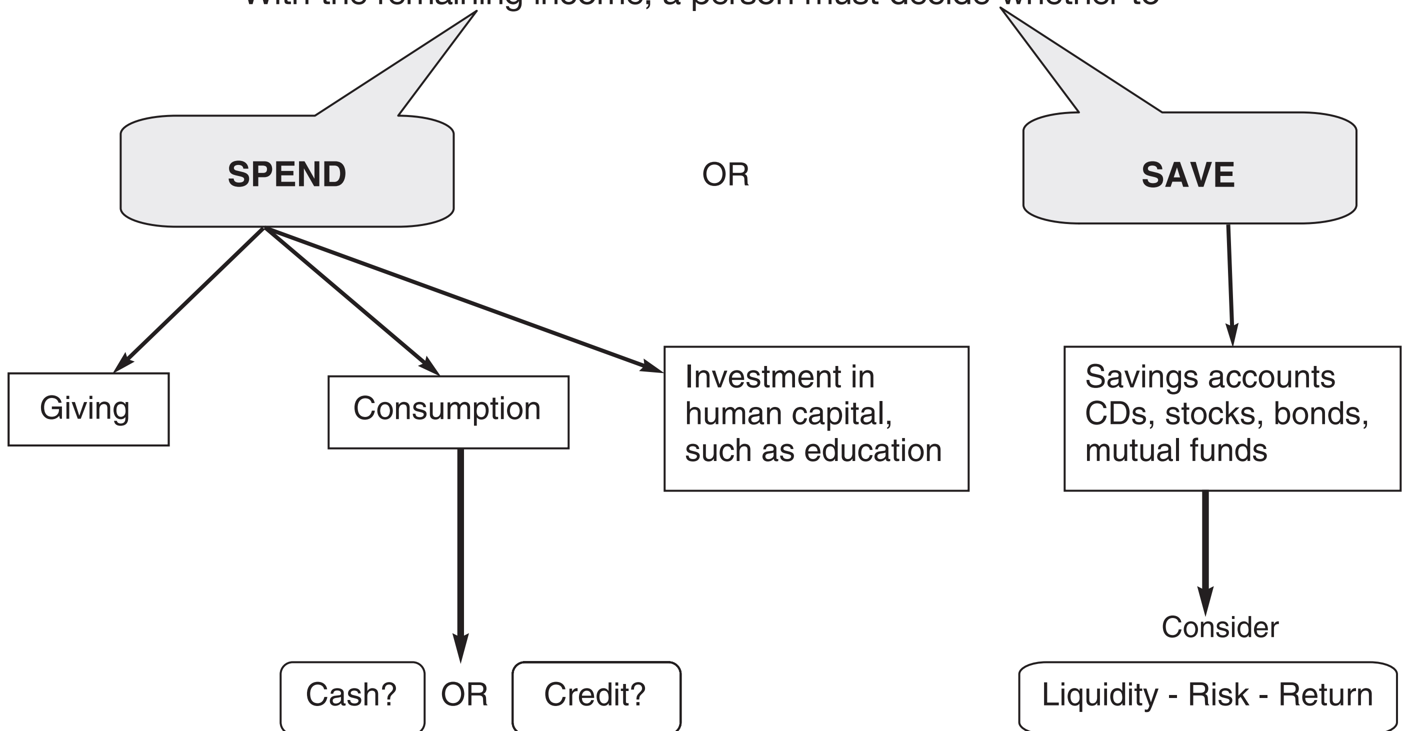
People must make many decisions to meet their financial goals. Before financial decisions can be made, people must first earn

INCOME

Some income is used to pay

TAXES

With the remaining income, a person must decide whether to



Most decisions involve risk. One way to manage risk is with

INSURANCE

Remember: We live in a world of **scarce** resources. We must therefore make **choices**, and every choice has an **opportunity cost**.

and may not even exist at all. Likewise, there will be many new jobs in the future that we can't even currently imagine. It helps if young people gain flexible, marketable skills that can be adapted to a variety of jobs, including some that don't yet exist — not an easy task.

- **Earnings Potential:** Related to personal preferences, skills/human capital, and the demand for certain jobs, is the importance of selecting a career that allows people to earn an income that will support their desired standard of living. As Sheila has already discovered, there can be a large difference in earnings potential between different careers. It is therefore very important for her to consider the earnings possibilities that she will face in making an informed career choice. One key determinant in considering earning potential is that, in competitive market settings, workers are typically paid according to the value of their contribution to productive activity. This means that the more productive Sheila is, the higher she can expect her income to be. It is therefore very important for her to think about investing in skills/human capital in order to enhance her earnings potential.

One reason that choosing a career can be so difficult for young people is that their interests and abilities may not match up well with current market demand. For example, people with artistic or literary skills often have trouble finding work in their special areas of interest, particularly work that pays enough to support themselves or a family. The reality is that sometimes people must choose a line of work that is not optimal in terms of interest, and instead satisfy their true personal interests in hobbies or in "after-work" endeavors.

Key Factors That Influence Career Decisions

1. Personal Preference
2. Skills/Human Capital
3. Demand for Certain Jobs
4. Earnings Potential

Acquiring Skills/Human Capital

So how does a person like Sheila obtain the necessary skills that make her more productive — and more valuable — to a future employer? The primary way is through education and training. This can take many forms: formal education, internships, apprenticeships, on-the-job training, certificate programs, etc. A person who has taken steps to acquire skills and human capital will typically be more marketable than someone who hasn't.

It is important to recognize that there is an **opportunity cost** to any decision to acquire human capital. The time it takes to acquire skills often means that we must forgo current income. If Sheila decides to be a teacher or a doctor, she will still have to *forgo current income* while she gets her education. The forgone income is an opportunity cost of deciding to go to college. And, of course, she will also incur explicit costs for tuition, books, etc. that will not be used to purchase other consumer items or to save. Sheila hopes, of course, that the education she receives will enable her to have a more satisfying job and earn more over the course of her lifetime than if she had not pursued the education and training.

Uncertainty and Risk

There is one thing we *do* know about the future — that it is **uncertain.** Thus, as one of our economic principles reminds us, the future will hold both intended and unintended consequences. Sheila thinks she could be successful as a teacher or doctor, but she doesn't know for sure. She may not be capable of completing the required training. Or after becoming a doctor or teacher, she may discover she doesn't like it or isn't very good at it, and may decide to change jobs altogether. The bottom line is that there is always **risk** associated with a decision to increase one's human capital through education and training.

Fortunately, people can take steps to mitigate this risk. For example, Sheila could take a skills inventory test to get a better idea of what her true strengths are. She could talk to or "job shadow" friends who are doctors and teachers to gain a better perspective on their jobs. She could analyze labor markets, getting estimates of the future supply of and demand for teachers and doctors. But even though she does all these things, she must recognize that she will incur some level of risk. It is unavoidable.

Taxes

As the saying goes, death and taxes are two things we can be sure of in this life. Sheila can be sure that whatever her career choice, she will be taxed on what she earns. Sheila will pay a wide variety of taxes, but most of the taxes she pays will typically fall into three major types: income, sales, and property. She will pay these taxes to various levels of government — federal, state, and local.

Income taxes are based on Sheila's income. She will have to pay a certain percentage of her income to the federal government in the form of taxes. The percent that she pays on additional income earned will likely increase as her income increases. Many

states and some local governments also have an income tax. Sheila will also face a payroll tax known as FICA (Federal Insurance Contributions Act) that goes for Social Security and Medicare. **Sales taxes** are taxes people pay for many goods and services they purchase and can also include excise taxes, such as those on gasoline and telephone service. **Property taxes** include taxes on real estate owned, which are usually paid to local governments. Property taxes vary significantly from state to state.

Three Major Types of Taxes

1. Income
2. Sales
3. Property

These taxes are paid to federal, state, and/or local goverments.

The important thing to realize is that Sheila's take-home pay, or **disposable income,** will be less than her initial salary/wage. In planning what to do with her income, she must first take into account the amount of taxes she will pay.

There is another thing to remember about taxes, and that is their impact on work **incentives.** One of our key economic principles is that *people respond to incentives in predictable ways*. At some point, if a person believes that the tax on additional **(marginal)** earnings is too high, he or she may very well decide to work less, or even not at all. In this situation, the **opportunity cost** of working would be too high. That person may believe that it is best to use his or her valuable time doing other things, perhaps volunteer work. This is no small issue for policy makers as they formulate tax policies that encourage economic growth and prosperity. Raising marginal tax rates too high will at some point discourage work and economic growth.

Spend or Save?: The Reality of Scarcity and Opportunity Cost

Regardless of how much income someone earns, it is still limited, and one must make choices as to what to do with it. For most people, this means a decision on how much to **spend** and how much to **save.** Once again, people confront the reality of **scarcity** and **opportunity cost.** Income spent cannot be saved. Income saved cannot be spent on present consumption. *All* people make these decisions when receiving their paychecks.

If someone decides to save, this usually means having more to spend in the future (especially with investment or interest gains), but this also means giving up the benefits of present consumption. If a person decides to spend, this means gaining the benefits of present consumption, but having less to spend in the future.

Spending Decisions

Erik is a construction worker. Suppose he earns $3,000 a month in **gross income.** After taxes, he has $2,300 in **disposable income.** After saving $300 from his disposable income, Erik will probably spend most of the remaining $2,000. There are several ways for Erik to allocate this spending. For example, he may decide to devote some of his spending to giving. He may also invest in his own human capital by spending on such things as education and training. Of course, the majority of Erik's spending will be in the general category of the goods and services that represent typical consumer expenditures.

Giving

One kind of spending is actually **giving.** In other words, Erik may decide to give some money to his church, a charity, or another non-profit organization, to name just a few options. Each year, US citizens give away an enormous amount of money. The Giving USA Foundation reported that in 2008, individuals (always the largest source of giving) gave away $229 billion, accounting for 75 percent of all estimated giving. On a practical note, experts often recommend that it usually works best for people to make a charitable donation *immediately after* they get paid and not wait until the "end of the month." But also remember that people who are experiencing financial problems should be very careful about the amount they give.

Investing in Human Capital

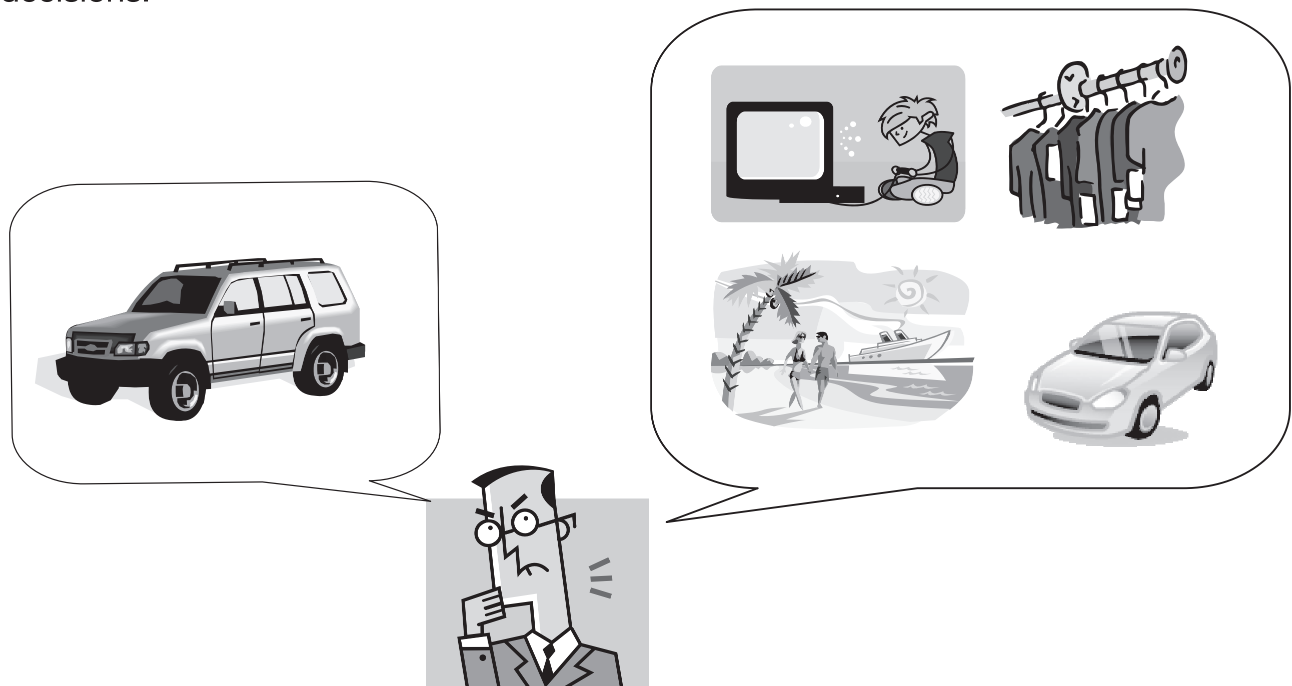
Another very important kind of spending decision is whether or not to spend one's income on investing in human capital, which usually also involves some level of saving or borrowing. This might involve spending more on education, training, or skill development. For example, Erik (like Sheila earlier) may choose to spend money on tuition to attend a technical school or college. This means he may have to cut back on some of the goods and services he has in his typical consumer budget. But the increase in his skills, education, and knowledge should lead to a better paying and/or more satisfying job in the future.

Consumer Spending

Erik will probably spend most of his $2,000 of monthly disposable income on the goods and services we typically think of as consumer spending, but Erik has an economic problem — a scarcity problem to be exact. He cannot possibly buy all the goods and services he wants with his limited income. He must make choices. How will Erik know if he is making the "right" consumer choices?

One thing is certain — people are different and have a wide variety of tastes and preferences when it comes to consumer purchases. Economists don't typically differentiate between economic "needs" and "wants." For example, is a car a need or a want? Some might say it is more of a want, and that many people should walk or ride a bicycle instead of purchasing a car. But it's really not that clear since some people live far from work, aren't able to walk to places very easily, engage in many activities in different locations, live in very cold climates, etc. Then what about a large "gas guzzler?" Surely this must be a "want;" people don't *need* gas guzzlers. But there are actually many reasons people choose to have a larger car. Larger cars may be safer, are usually more comfortable, hold more people, can haul heavier loads, etc.

Because of the subjective nature of consumer decisions, economics places more emphasis on helping people think through the *opportunity cost* of their consumer decisions. For example, if Erik is thinking about purchasing a large new car instead of a smaller used one, has he considered what other goods and services he will *not* be able to purchase as a result? Maybe he won't be able to take a vacation or purchase some video games or clothes. Scarcity is real, and all of us have to make tough purchasing decisions. Economics helps people think through the true opportunity cost of their decisions.



The visual below, Major Steps in Making a Purchase Decision, outlines seven steps to take when making important purchases. If Erik follows these steps, he will be much more likely to make wise consumer choices.

Major Steps in Making a Purchase Decision[3]

1. **Identify what you want.**
   - Set priorities.
   - Avoid impulse buying.

2. **Determine how much you can or want to spend.**
   - Develop a budget and stick with it.

3. **Find out what products or services are available in your price range.**
   - Check store ads.
   - Ask your friends.
   - Consult consumer magazines and web sites.
   - Visit on-line vendors.

4. **Choose the features you would most want to have.**
   - List specific characteristics/features the product or service must have and those that would be nice to have.
   - List the characteristics/features you definitely do not want.

5. **Use a decision-making grid to analyze the alternatives.**
   - Use + (plus) for alternatives that have a desired feature, - (minus) for alternatives without the feature.
   - Tally the plusses to determine the best choice.

6. **Watch out for hidden costs.**
   - Check the sales tax. (Sales tax varies by community.)
   - Check for delivery costs or costs of required accessories.

7. **Make your choice.**

3. These steps are explained in *Financial Fitness for Life: Shaping Up Your Financial Future Teacher Guide,* Council for Economic Education, 2001, pages 119-127.

Budgets

A **budget** is a planning tool that can help a person like Erik manage his income and expenses. Given a certain level of income, a budget helps a person think through what purchases are really important, especially in terms of opportunity cost. Careful budgeting can leave more income for saving, giving, and investing in human capital. Budgets are not "fool proof;" they still require personal discipline and careful record keeping. But a person who budgets carefully will be much more likely to make responsible money management decisions and meet financial goals.

Types of Budget Expenses: There are several ways to categorize expenses in a budget. **Fixed expenses** are those that remain essentially the same from month to month, such as rent or a monthly mortgage or car payment. **Variable expenses** change from month to month, like expenses for gasoline, clothing, movie tickets, or food/restaurant purchases. Variable expenses are easier to control than fixed expenses. **Occasional expenses** occur periodically and on a regular basis, such as expenses for holidays, birthdays, or insurance.

Another way to categorize expenses is planned versus unplanned. **Planned expenses** are those that a person expects and plans for. They include *both* fixed and variable expenses. **Unplanned expenses** are for an unexpected emergency or need, such as an unanticipated car repair or medical expense. It is the unplanned expenses that are frequently the "budget busters." To deal with unplanned expenses or unforeseen circumstances, experts recommend that people keep a special "emergency" savings account of three to six months of living expenses. In general, savings should be considered a fixed expense in a budget. Saving regularly allows people to accumulate the money they need for unplanned expenses as well as long-term saving needs such as college expenses or retirement.

Cash or Credit: What About Borrowing?

When people make purchases using their personal financial assets, they are usually in the form of **currency** (bills or coins), **check,** or **debit card.** When a purchase is made with a debit card, a checking account is actually used to make the payment. But what options do we have if we really don't want to use cash, or don't have enough to purchase a good or service? First, money can be freed up by cutting back on other expenses. In this case, our opportunity cost would be purchasing less of something else. Or, perhaps we could work some extra hours and earn more income. The other option is simply to save until there is enough for the purchase.

But as we all know, many people also make consumer purchases using credit. **Credit** means borrowing and spending money that you don't currently have, with the

understanding that it must be repaid in the future. Is borrowing to finance current consumption something to be avoided? Given the potential financial problems with excessive personal debt and the pressures that come with it, most experts say that people should think very carefully before deciding to finance current consumption with credit (debt).

The key idea to understand is this: *The debt will ultimately have to be repaid, almost always with interest.* In other words, other things remaining the same, using credit to finance current consumption means less consumption in the future. Another way of saying this is that the **opportunity cost** of financing *current* consumption with credit is less *future* consumption.

There is another key point to consider when making purchase decisions using credit — the fact that the future is *uncertain.* A person's income could go up, making paying off the debt easier; but the person could also lose a job or have to take a lower paying job. This could make debt repayment difficult or even impossible. In a very real sense, taking on debt presumes that we know the future, which we don't.

Benefits of Borrowing: So, are there any benefits to borrowing? Although experts discourage the use of credit to finance recurring consumer purchases such as food and clothing, there are times when borrowing is helpful and probably even necessary. One example is a **mortgage** on a home purchase. Since houses are very expensive, most people have to take out a mortgage to purchase one. However, care must be taken to make sure that the mortgage is a prudent one, with an adequate down payment and with a monthly payment commensurate with income. As a general rule, mortgage lenders recommend that a person's mortgage payment, including real estate taxes, insurance, and interest, should not exceed 28% of a person's gross monthly income. Mortgage lenders also consider a person's overall debt-to-income ratio, which indicates how much of a person's gross income goes toward all debt obligations, including a mortgage, credit card debt, child support, and student loans. Mortgage lenders recommend that a person's monthly debt obligation should be no more than 36% of monthly gross income.

Since cars, especially new cars, are relatively expensive, many people take out auto loans. To save money, it may be a good idea to consider a used car since the prices are considerably lower, which will free up income for other consumer purchases or for reducing debt.

There are also times in life when an unexpected emergency may force a person to take out a loan. For example, if someone has to get the furnace replaced during the winter months and can't pay for it with savings, that person will need to finance it with credit. And as we have already discussed, borrowing to increase human capital (e.g. spending for education) can be a good decision.

What About Using Credit Cards?

Credit cards can be very helpful. They are useful in emergencies, safer than carrying large amounts of cash, and convenient for travel and making Internet purchases. Some credit cards have benefits such as frequent flyer miles, and for most cards, paying off the balance each month means no interest payment. So a credit card can be like getting a free monthly loan.

The problem, of course, is that it is easy to start using a credit card for day-to-day consumer purchases and build up a card balance that cannot be paid back each month. The credit card company charges interest on the monthly balance, usually at relatively high rates, and this can lead to financial stress and hardship.

For example, if Erik carries a $3,000 balance on a credit card with a 19.8% APR (annual percentage rate) and if he decides to pay the minimum payment each month, it will take 32 years to pay off the balance and he will pay over $9,000 in interest![4]

So when using credit cards, it is best to pay off the balance each month. In situations in which a balance is not paid off each month, use a credit card with a low interest rate, and pay off the balance as quickly as possible, thus lowering interest payments.

Three Important Things To Remember About Using Credit Cards

1. Use a card with a low interest rate.
2. Pay off the balance each month to avoid interest payments.
3. If you can not pay off the entire balance, pay as much as you can each month, which will lower interest payments.

Credit Reports: There is another important reason for using a credit card wisely. If there are late payments, this can cause the interest rate on the card to increase and will probably lower the person's credit score, making it more difficult to obtain credit for important purchases such as a house.

Consumers have the right to receive a free copy of their personal credit report each year from each of three major credit reporting companies: Equifax, Experian, and Trans Union. There is a centralized web site for ordering free reports from all three companies: Annual Credit Report (www.annualcreditreport.com).

4. Example taken from the *Interest Posters* curriculum found at the *KidsEcon Posters©* web site, www.kidseconposters.com

Get *Your* Credit Report

There are three major credit reporting companies: Equifax, Experian, and Trans Union

The Fair Credit Reporting Act guarantees that you can get a free credit report each year from each of the above companies. To get the reports, go to this one centralized site: Annual Credit Report (www.annualcreditreport.com)

Saving and Investment Decisions

When a person decides to save part of his or her income, the money is usually placed into some sort of investment account that earns interest or yields a stream of returns over time (such as a savings account, certificate of deposit, mutual funds, stocks, or bonds). Economists refer to this as **financial investment,** as opposed to **economic investment** in physical capital, such as machines, tools, buildings, and equipment or investment in **human capital,** as discussed in an earlier section. The term **financial capital** is used frequently and refers to the money that a person or business can use for economic or financial investment.

The Financial Capital Market

The Circular Flow Model (p. 5) shows how **financial institutions,** such as banks, credit unions, and investment banks, help money flow from savers to those who want to use the savings, in this case, businesses. The businesses then use the money to invest in physical capital and in other ways to improve or expand business operations. This investment helps our economy to grow. The interaction of savers and borrowers in this financial capital market largely determines **interest rates.**

So let's consider Erik's situation again. Remember that he decided to save $300 each month. If Erik goes to his bank and puts money into a savings account, he is actually participating in the financial capital market. He might receive 3% interest on his savings account and the bank would try to lend the savings at a higher rate, say 4.5%, to hopefully earn a profit for the bank.

But Erik has many financial investment options besides a bank savings account. There are certificates of deposit (CDs), stocks, bonds, mutual funds, real estate, collectibles, commodities, etc. Which investment option should he choose?

Setting Financial Goals

Before any decision is made, Erik should carefully consider his saving and investing **goals.** These can act as an **incentive,** helping Erik to stay focused on saving the amount he needs to purchase his economic wants.

Short-term goals are those that can typically be met in less than two months. An example could be a nice shirt Erik wants to buy. **Medium-term goals** take from two months to three years to achieve, such as a goal Erik might have to purchase a high-quality stereo system. **Long-term goals** require more than three years to achieve. Examples are saving for college, retirement, or home ownership. Remember, goals can be short-, medium-, or long-term depending on the dollar amount of the goal and the amount that can be saved during a specific time period (week, month, year).

Reaching Our Financial Goals

What are some of the factors that determine if we are meeting our financial goals? The three main factors are time, investment size, and rate of return. **Time** refers to how long we are saving towards a financial goal. The earlier we begin saving, the more the savings will grow, especially because of the power of **compound interest.** Compound interest refers to the fact that, over time, people earn interest not only on the amount they save but also on the interest they earn. That is, they earn interest on interest. Remember, the earlier people begin saving, the more compound interest works for them.

The **investment size** is the amount a person saves each year out of his or her income. Obviously, the more people save, the more quickly they will reach their financial goals. The **rate of return,** expressed as an interest rate, is also very important. The higher the interest rate, the faster the savings will grow.

The **Rule of 72** is a handy tool to determine how long it will take for an investment to double. Simply divide 72 by the rate of return (interest rate), expressed in percentage form, and this will give the approximate number of years it takes for savings to double. For example, if Erik earned a 4% rate of return on $1,000, he would have $2,000 in 18 (72 ÷ 4) years. If he could earn 6%, it would take only 12 years.

Three Key Factors That Influence How Your Savings Will Grow

1. **Time:** The earlier and longer you save, the more savings you will have.
2. **Investment Size:** The more you save each year, the larger your savings will become.
3. **Rate of Return:** The higher the interest rate or rate of return, the more your savings will grow.

Financial calculators are useful for determining how long it will take to reach investment goals. A popular financial calculator comes with the *Learning, Earning, and Investing®* curriculum, published by the Council for Economic Education. By adding different variables for monthly savings, starting age, and interest rate, a dynamic graph shows how investment growth will vary. To use the calculator, go to http://lei.councilforeconed.org/interactives/compound/.

Making Financial Investment Decisions

There are many types of financial investment options, such as simple savings accounts, certificates of deposit, stocks, bonds, real estate, collectibles, and commodities. But which one is best? Which ones should be in a person's investment portfolio?

To guide investment choices, it helps to consider four basic criteria: liquidity, risk, return, and tax treatment. **Liquidity** refers to how easily an investment can be turned into cash. Some financial investments, such as savings accounts, stocks, and bonds, can be turned into cash easily, while others, such as real estate or collectibles, are more difficult to turn into cash. There are many forms of **risk,** but in its simplest form, risk refers to the chance that people might lose some or all of the money they have invested. As we might suspect, the higher the possible rate of return on an investment, the greater the risk. **Return** refers to the earnings from an investment. Some financial investments, such as savings accounts or certificates of deposit, have relatively low returns, while others, such as stocks, have a better chance of higher returns, albeit with more risk. Some financial investments receive favorable **tax treatment.** For example, some bonds, such as **municipal bonds,** earn interest that is usually exempt from federal, state, and local income taxes. In addition, earnings on some retirement accounts are not taxed until they are used for retirement.

Four Criteria for Guiding Financial Investment Decisions

Liquidity: How easily an investment can be turned into cash.

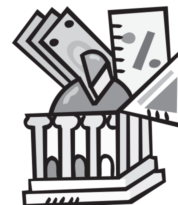
Risk: The chance an investor might lose some or all of the money invested.

Return: The earnings from an investment.

Tax Treatment: The extent to which the earnings from an investment are taxed.

Financial Investment Options

To make wise financial investments, it is important to understand the various investment options.



Regular (Passbook) Savings Accounts: These accounts are very safe because depositors are currently insured up to $250,000 by the Federal Deposit Insurance Corporation (FDIC). The maximum amount of deposit insurance is sometimes changed, so customers should always check with their banks to determine the current insurance limit. The interest rate on savings accounts is lower than for other investments, but accounts can be opened with very little money and people can usually withdraw funds whenever they like. **Money market deposit accounts** are like regular savings accounts and typically pay a rate of interest similar to that of money market mutual funds. But there is a larger minimum deposit, and if the balance falls below that amount, there may be a fee. People can write checks on a money market deposit account, but to avoid fees, the total number of checks and/or withdrawals is limited to no more than three per month.

Certificates of Deposit (CD): These are special types of savings accounts that must be left in the bank for a set period of time. The longer the time period, the higher the interest rate. During the time period, depositors receive a fixed rate of interest, which is usually higher than for a savings account. A depositor must forgo some of the interest earned on a CD if it is cashed out prior to maturity. As with savings deposits, depositors are currently FDIC-insured up to $250,000 of their total deposits in a bank.

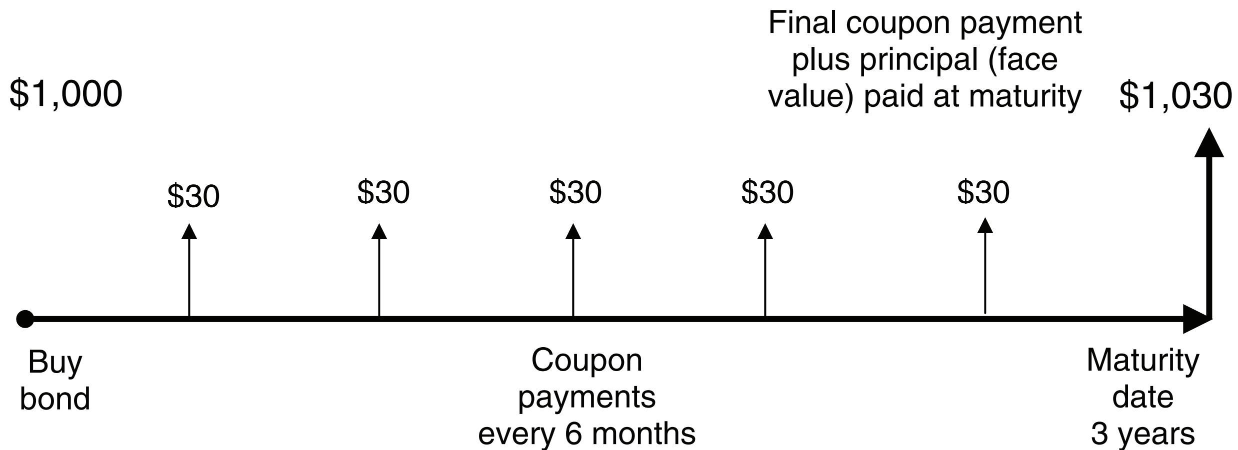
Stocks: Stocks represent shares of ownership in a company and are issued to finance business operations. Stocks are first issued by using an **IPO** — an **initial public offering.** After that, stocks are traded on various stock exchanges (secondary markets), such as the New York Stock Exchange (NYSE) and the NASDAQ (National Association of Securities Dealers Automated Quotation system). Stock owners hope that the value of their shares will increase as a company grows and prospers. Stock owners may also receive **dividends,** although some stocks (such as **growth stocks**) seldom or never pay dividends. Growth stocks usually represent smaller, faster-growing companies that reinvest all their profits into the company. **Income stocks,** on the other hand, pay dividends regularly and represent larger, more established companies.

Another term used to describe some stocks is **value stock.** A value stock represents a company that is believed by analysts to be underpriced relative to the stock's fundamentals (earnings, dividends, sales, etc.), usually because of underlying problems or limited growth prospects. A **penny stock** generally refers to a low-priced (under $5), speculative security of a very small company. Penny stocks are, of course, very risky.

To summarize, stocks can be risky, but they have the potential for significant long-term gain.

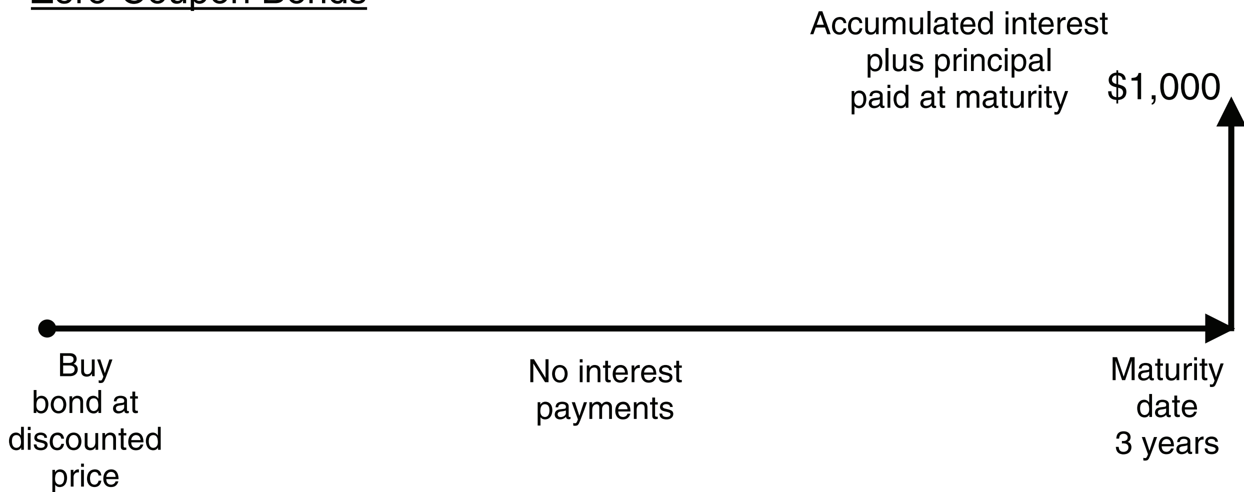
Bonds: Companies and various levels of government often raise money by issuing bonds. After they are initially issued, bonds, like stocks, can be traded on exchanges. A **bond** is basically an IOU certificate. The most common type of bond is a **coupon bond,** in which the borrower promises to pay the bondholder a fixed rate of interest (coupon rate) on the face value (principal) of the bond over a fixed time period (term to maturity). At the end of the time period (maturity date), the borrower receives back the entire face value of the bond. The figure below illustrates how a coupon bond works.[5]

5. From *Learning, Earning, and Investing®,* Council for Economic Education, 2004, p.76.



A 3-year coupon bond with a coupon rate of 6.0% and a face (par) value of $1,000

With a **zero coupon** bond, the purchaser buys the bond at a **discount.** At the end of a fixed time period, the borrower receives back an even numbered payment, such as $1,000 or $5,000. Thus, the actual interest a borrower receives is implied by the difference between the price received at maturity and the purchase price paid at initial issuance. For any given time period, the lower the discounted price, the more interest the borrower receives. (See figure below.)



Zero-coupon bonds are sold at a discount and mature at an even amount such as $1,000, $5,000, or $10,000. This figure simplifies the process.

Bonds have traditionally been thought of as a rather safe investment. *However, bonds can lose value quickly if market interest rates rise.* For example, suppose Jarrod bought a newly issued $1,000 20-year corporate bond with a coupon rate of 4%. Each year, assuming the company stays in business, he will get $40 in interest payments. But suppose a year later, interest rates in the economy have risen significantly and new corporate bonds are now being offered with an 8% coupon rate. If Kristy purchases one of these new bonds, she will receive $80 a year in interest payments. If you were in the market to purchase a bond, whose bond would you rather purchase? Right — Kristy's! The only way you would purchase Jarrod's is if the bond price were low enough so that the interest payments resulted in a return of 8%. In our example, the price of Jarrod's bond would have to fall to $500 to equal an interest rate of 8% — and that's a big loss for Jarrod, if he sold it. Of course, he could wait 19 years and it would be worth $1,000 again, but that's a long time, and he is still experiencing an opportunity cost — the lost opportunity to sell the bond at the price he paid for it. Bonds can also be risky if the issuer is not creditworthy. Remember, there is always the risk that the company (or other entity) issuing the bond will go out of business.

There are other types of bonds besides corporate bonds. **Municipal bonds** are issued by state and local governments or their agencies. Municipal bonds are called "tax exempts" because the interest paid is usually exempt from federal, state, and local income taxes. **U.S. Treasury bills, notes,** and **bonds** are considered very safe investments because the principal and interest is backed by the full faith, credit, and taxing authority of the U.S. government. **Savings bonds** are also U.S. Treasury securities which are issued at a set, non-negotiable price. Savings bonds are not as liquid as many other securities since they aren't traded in an organized secondary market after they have been issued. In addition, savings bonds that are cashed out too early often incur an interest penalty. They can be attractive to many small investors because of the ease with which they can be purchased and the small denominations in which they are issued.

Third-party sources such as Moody's Investors Service or Standard & Poor's rate bonds according to credit worthiness and are very helpful when people make bond purchases. The Moody's ratings are below.

Moody's Investor Service Bond-Rating Codes

Code	Rating
Aaa	Highest quality
Aa	High quality
A	Upper-medium quality
Baa	Medium grade
Ba	Somewhat speculative
B	Low grade, speculative
Caa	Low grade, default possible
Ca	Low grade, partial recovery possible
C	Default, recovery unlikely

Mutual Funds: A **mutual fund** is a diversified, professionally managed portfolio of securities invested on behalf of a group of investors. Individual investors own a percentage of the value of the fund represented by the number of units they purchased and thus, they share in any gains or losses of the fund. In general, the riskiness of the fund is determined by the riskiness of the securities managed by the fund. Thus, a mutual fund that invests in high-risk small cap stocks is obviously more risky than a fund that invests in short-term U.S. government securities. Owning shares in a mutual fund is less risky than owning one particular security since the diversified mutual fund portfolio spreads the risk over many securities/companies.

Real Estate: **Real estate** is basically property consisting of houses and land. Most investors in real estate buy the house they live in, although some people purchase properties and rent them to others as investments. Houses can increase in value, but housing prices can also fall, sometimes significantly, as they did in 2008-09. It also can be costly to maintain a piece of property. Real estate is not as liquid as a stock or bond since it is usually more difficult to find a buyer and finalize the sale. Real estate can be a good investment, especially since a person receives the benefit of living in the home. The interest paid on the mortgage loan that finances a home purchase may also be tax deductible. Real estate investment typically affords protection from inflation. Real estate has many advantages, but it is not necessarily a “sure thing.”

Commodities, Precious Metals, and Collectibles: Some people invest in commodities, precious metals, and other collectibles, such as rare coins, stamps, and art. These investments are often purchased as a hedge against inflation. All of them carry a significant amount of risk, and this should be taken into account when adding them to a portfolio.

What About Risk?

There is **risk** associated with any financial investment; no investments are “risk-free.” However, not all risk is the same. There are various kinds of risk associated with different investments.[6]

Financial Risk: This is the risk that a business or government will not be able to return someone’s money, much less pay interest or dividends. While governments don’t usually go “bankrupt” since they can print money, it is not uncommon for a business to do so, leaving investments in the business worthless.

6. From *Financial Fitness for Life: Bringing Home the Gold Student Workouts,* Council for Economic Education, 2001, pages 58-59.

Market Price Risk: This is the risk that the price of an investment will go down. While this rarely happens to money in savings accounts or money market funds, it happens routinely with other types of investments.

Liquidity Risk: Some investments, such as savings accounts, stocks, and bonds, are very liquid. Others, such as real estate, collectibles, and precious metals are much less so. The Internet is making it easier to buy and sell investments, but there is no guarantee that buyers and sellers can get together and agree on a transaction price and other terms of sale.

Inflation Risk: There is a real risk that inflation will reduce the value of an investment, especially that of savings accounts and bonds. When figuring the **real return** on an investment, the rate of inflation must be factored in. For example, if someone earns 4% on a 12 month certificate of deposit, but the annual inflation rate is 3%, the real (inflation-adjusted) return is actually only 1%.

Fraud Risk: Unfortunately, people are sometimes defrauded when purchasing investments. Fancy brochures and slick promotions may actually promote scams with imaginary or misrepresented investments. As a rule of thumb, it is always wise to “investigate before you invest.” The best place is often a state’s securities regulator.

Watch Out For Investment Scams![7]

1. Remember that investing involves risk: There’s no such thing as a completely safe investment.
2. Investigate before you invest.
3. Call your state’s securities regulator.
4. Don’t be pressured into a quick investment decision.
5. Be cautious when investing your money in response to unsolicited offers.
6. Beware of fantastic promises of easy profits.

7. From the *Financial Literacy Posters,* Indiana Council for Economic Education, revised 2009, www.kidseconposters.com.

Building a Balanced Portfolio

As a practical matter, how much risk *should* a person incur when making investment choices? Not surprisingly, this varies from person to person. Some people are naturally more risk averse than others. They usually avoid riskier investments, even conservative stocks and stock mutual funds. Other people are comfortable with risk, and their portfolios reflect this. Remember that people may be willing to take on more or less risk depending on their stage of life. As people approach retirement, they tend to become more risk averse in order to protect their retirement savings. A younger person has more time to ride out the ups and downs of riskier investments. But also remember, all investments involve some form of risk. For example, even “safe” investments, such as savings accounts and government bonds, are susceptible to inflation risk.

To manage investment risk, advisors recommend that people **diversify** their portfolios, and not put “all their eggs in one basket.” The financial pyramid below ranks investments according to risks and rewards.[8] In moving up the pyramid, there is a greater risk, but also more chance for investment reward. At the bottom of the pyramid, there is generally less risk, but investment returns are lower. In other words, people are **trading off** income security to get more reward, and vice versa.

8. Adapted from *Financial Fitness for Life: Bringing Home the Gold Student Workouts,* Council for Economic Education, 2001, page 61.

The Pyramid of Risk and Reward

Insurance

Life is full of other kinds of risks besides investment risk. There are risks to health, income, damage to property, and even death. Virtually every decision we make involves some level of risk, however slight. Examples of low risk choices are walking down the sidewalk or drinking tap water. Higher risk choices are drinking while driving, smoking, using drugs, sky-diving, or living in a flood plain.

While we can't avoid risk altogether, we can take steps to limit our risk. One obvious way is to take specific *actions* to reduce risk, such as quitting smoking, choosing not to drink and drive, exercising, or installing locks on doors. Another way to manage risk is through **insurance.** The purpose of insurance is to spread risks over many people. An insurance company charges a **premium** to each insurance policy holder. The premium

covers the chance that only some of many policy holders will incur a loss. The premium should not only cover the losses of policyholders but also cover the insurance company's operating costs and provide a normal economic profit to the insurance company.

The **deductible** is the amount of the loss that the insured person pays when he or she experiences an insurable event. Deductibles can differ depending on the insurance policy. The higher the deductible (i.e. the higher the amount that the insured person might potentially pay), the lower the insurance premium. The lower the deductible, the higher the insurance premium.

Types of Insurance

There is insurance to cover almost any kind of risk. The most common types of insurance are listed below.[9]

Auto: Provides financial protection to the owner, operator, and occupants of an automobile in case of accident.

Health: Protects against financial loss due to illness or accident.

Renter's: Protects renters from loss due to fire, theft, storms, etc.

Homeowner's: Protects homeowners from loss due to fire, theft, storms, etc.

Life: Provides financial protection to those who depend on a wage earner when that wage earner dies.

Disability: Provides income over a specified period of time when a person is ill or unable to work.

Conclusion

In this increasingly complex world, it is crucial for people to understand the basics of personal finance. But remember, this understanding is most effective when a person applies the principles of economics to day-to-day, practical life choices. People who are able to do so will have a much better chance of making wise financial decisions that can lead to a more fulfilling life.

9. From *Financial Fitness for Life: Bringing Home the Gold Teacher Guide,* Council for Economic Education, p.108.