PURDUE UNIVERSITY

PURDUE EXTENSION

CFS-727-5-W

Focus on Savings and Investments

EXPERT REVIEWED

Focus on Financial Management Series

Unit 5

Focus on Savings and Investments

Savings are an essential ingredient in everyone's financial plan. Whether your financial goals are long-range, such as establishing a business or buying a home, or short-term such as putting a down payment on a car, saving is the way to reach your objective. Once you get into the habit of putting money away instead of spending it, you'll be surprised at how gratifying it is to watch your savings grow. The habit of saving regularly for future goals is a powerful financial tool, even if the amount saved each payday is small. Making your money work for you is what saving and investing are all about.

Every time you receive a paycheck or other income, you have an important choice to make: Should you spend it all or save some money? Whether your income is small or large, setting aside some of it for savings or investments requires self-discipline. The current savings rate of households, on average, is less than 4 percent of income after taxes.

Saving and investing are often used interchangeably, but there are some differences.

Saving means setting aside money from current income to meet later expenses. Savings include funds set aside for emergencies or specific purchases in the near future. You might think of it as a temporary holding pattern, because you plan to use the money in a month, six months, or a year. The key factors to consider are safety of principal and liquidity, or how quickly you can get the cash.

Investing is using money to purchase something that you expect to provide you with a profit in the future. The term commonly is applied to the purchase of property, stocks, bonds, etc., that are expected to pay interest, dividends, or profits. You intend to use the money for long-term goals. You can expect more ups and downs, because the money is set aside for a longer time. Investing involves return and risk. Investments may produce income while you own the investment through the payment of interest, dividends, or rent payments. When you sell an investment for more than its purchase price, the profit is known as a capital gain, growth, or capital appreciation.

Selecting Savings and Investments

Whether you are saving or investing you need to consider several factors.

Liquidity — The speed and ease with which an asset can be converted into cash.

Risk — The chance you take that you will lose your money. As a general rule, the greater the potential return, the greater the risk. The bigger the risk you are willing to take, the bigger your possible gain or loss. There is no such thing as a risk-free investment.

Risk tolerance — A person's ability to ride out the ups and downs of the market without panicking when the value of investments goes down.

Return — The amount you will gain or lose. The return comes from interest, dividends, and the change in the value of the asset.

Diversification — The process of reducing risk by spreading money among various types of investments, such as stocks, bonds, etc.

Inflation — The steady rise in the general level of the prices of goods and services. It is one risk factor you need to consider, because it reduces the purchasing power of money.

Taxes — Before selecting an investment, consider the tax consequences based on your tax situation. Money will grow faster in a tax-deferred savings or investment plan because you earn money on the investment that would otherwise have been paid in taxes. See Chart 1 on the following page for more details.

- Taxable means you pay taxes yearly on interest, dividends, and capital gains distributions from investments.
- Tax-exempt investments are exempt completely from federal — and sometimes state and local — income taxes.
- Tax-deferred investments are those where taxes on earnings are deferred until the investment is sold or the earnings are withdrawn. Some examples are Series EE savings bonds (EE bonds are exempt from state and local income taxes), Individual Retirement Accounts (IRAs), 401k plans, Self-Employed Plans (SEP), SEP-IRAs, Keoghs, and teacher's pension plans.

Stages in the life cycle — As you move through your life cycle, your financial goals and investment strategies will change. You should make financial decisions based on your household situation and the current economic conditions.

Chart 1: Tax-Deferred Savings Grow Faster than Taxable Savings

	Taxable Savings	Tax-Deferred or Tax-Exempt Savings
$15,000 Invested today	$15,000	$15,000
Value in 20 years if earning 10% annual interest	$60,254	$100,912

In a taxable savings account, you pay taxes on the earnings each year. This reduces the amount of money available to earn interest. With a tax-deferred savings instrument, you pay taxes when you redeem or withdraw the money. With a tax-exempt investment, you never pay taxes on what you earned.

Source: *Consumer Approach to Investing* by National Institute of Consumer Education, 1998.

Time Value of Money

The old saying that "time is money" applies to everyday decisions people make about whether to spend or save money and how much to save to meet specific goals. Factors that affect the future value of money include:

- Amount of money invested.
- Rate of return or yield.
- Length of time the money is invested.
- Rate of inflation.

The more *time* you have to save initially, the more money you will have at the end of the time period. The more *money* you have to save, the more money you will have at the end of the time period. The higher the *rate of return* you can earn, the more money you will have at the end of the time period. The increase in an amount of money over time as a result of invested earnings is known as the time value of money. See Chart 2 on the following page for one example.

Chart 3 (page 147) shows examples of the impact of the rate of return on the amount of money you have at the end of various time periods.

Chart 2: How Time Affects the Value of Money

Investor A invests $2,000 a year in an IRA for 10 years, beginning at age 25. Investor B waits 10 years, then invests $2,000 a year in an IRA for 31 years. Compare the total contributions and the total value at retirement of the two investments. The calculations assume a 9% fixed rate of return, compounded monthly. All interest is left in the account to allow interest to be earned on the interest paid.

Investor A

Age	Years	Contributions	Year-End Value
25	1	$2,000	$2,188
26	2	$2,000	$4,580
27	3	$2,000	$7,198
28	4	$2,000	$10,061
29	5	$2,000	$13,192
30	6	$2,000	$16,617
31	7	$2,000	$20,363
32	8	$2,000	$24,461
33	9	$2,000	$28,944
34	10	$2,000	$33,846
35	11	0	$37,021
40	16	0	$57,963
45	21	0	$90,752
50	26	0	$142,089
55	31	0	$222,466
60	36	0	$348,311
65	41	0	$545,344

Value at Retirement (pre-tax)	$545,344
Less Total Contributions	($20,000)
Net Earnings (pre-tax)	**$525,344**

Investor B

Age	Years	Contributions	Year-End Value
25	1	0	0
26	2	0	0
27	3	0	0
28	4	0	0
29	5	0	0
30	6	0	0
31	7	0	0
32	8	0	0
33	9	0	0
34	10	0	0
35	11	$2,000	$2,188
40	16	$2,000	$16,617
45	21	$2,000	$39,209
50	26	$2,000	$74,580
55	31	$2,000	$129,961
60	36	$2,000	$216,670
65	41	$2,000	$352,427

Value at Retirement (pre-tax)	$352,427
Less Total Contributions	($62,000)
Net Earnings (pre-tax)	**$290,427**

If Investor A set aside $1,000 per year, instead of $2,000, the investment would grow as follows:

10 yrs — $16,922
21 yrs — $45,376
31 yrs — $111,233
41 yrs — $272,672

Source: *Consumer Approach to Investing* by National Institute of Consumer Education, 1998.

Chart 3: Future Value of Various Savings Strategies

$1,000 Single Deposit

	Annual Percentage Rate of Return		
Year	**5%**	**8%**	**15%**
1	$1,050	$1,080	$1,150
2	$1,102	$1,166	$1,323
5	$1,276	$1,469	$2,011
10	$1,629	$2,159	$4,046
20	$2,653	$4,661	$16,367

$25 Deposited Monthly

		Interest Rate		Total
Year	**5%**	**8%**	**15%**	**Contributions**
1	$308	$313	$325	$300
2	$632	$653	$703	$600
3	$973	$1,020	$1,142	$900
5	$1,707	$1,849	$2,242	$1500
10	$3,898	$4,604	$6,966	$3000
20	$10,319	$14,824	$37,899	$6000

Savings deposit made at beginning of each month, with interest compounded monthly.

$100 Deposited Monthly

		Interest Rate		Total
Year	**5%**	**8%**	**15%**	**Contributions**
1	$1,233	$1,253	$1,302	$1,200
2	$2,529	$2,611	$2,814	$2,400
3	$3,891	$4,081	$4,568	$3,600
5	$6,829	$7,397	$8,968	$6,000
10	$15,593	$18,417	$27,866	$12,000
20	$41,275	$59,295	$151,596	$24,000

Savings deposit made at beginning of each month, with interest compounded monthly.

Source: *Consumer Approach to Investing* by National Institute of Consumer Education, 1998.

The Rule of 72

A simple way to determine how long it will take for an investment to double in value is known as the Rule of 72. To use the Rule of 72, divide the interest rate into 72. The answer is the number of years it will take for money to double in value. Dividing 72 by the number of years in which you want money to double gives you an estimate of the interest rate required to reach that goal.

You can use financial charts, calculators, and computers to find answers to typical questions such as how much money you need to save to have a specific amount of money at a future date. One site that offers several financial calculators is: http://www.choosetosave.org/tools/fincalcs.htm.

Calculating Simple Interest

Let's look at two hypothetical situations that deal with interest:

1. Ray just got a full-time job and wants to start saving money so he can raise a family. His brother Bart tells Ray to open a savings account so it can accumulate interest.
2. Beth does not have enough money to pay for college. She will have to take out student loans from the government. As long as she qualifies, there is no limit to how much she can borrow, but she will have to pay back the loans with interest when she graduates.

Beth and Ray's situations both deal with interest. Interest formulas can be quite complicated and difficult to understand. But interest plays a major role in our everyday lives. The simple interest formula is a basic formula that we can use to study interest.

Three things are needed to calculate simple interest:

- **Principal** — The amount of money put into an account or the amount borrowed.
- **Rate** — The percent of interest.
- **Time** — How many years the money is in the account or how many years it will take you to pay back the loan.

The formula for calculating interest is very simple:

Simple Interest (I) = Principal (P) x Rate (R) x Time (T) (in years)

The tricky part about calculating the interest is the time aspect. The time must be in years. If the time if given in months, simply divide the months by 12, because there are 12 months in a year.

Example 1: Ray put $1,000 into a savings account. The interest on the account is 3.5 percent. He wants to put the money away for 18 months. How much will Ray have at the end of that time?

I = P x R x T

I = $1,000 x 3.5 percent x 18

I = $1,000 x .035 (change the percent to a decimal) x 18

I = $1,000 x .035 x 1.5 (divide the number of months by 12)

I = $52.50

Adding the interest back on to the principal, Ray now has $1,052.50.

Example 2: Beth owes $38,000 in student loans. The interest rate on her loans is 8.25 percent. She will be paying these loans off for 20 years. How much will Beth pay altogether?

I = P x R x T

I = $38,000 x 8.25 percent x 20

I = $38,000 x .0825 (change the percent to a decimal) x 20

I = $62,700

Adding the interest back on to the principal, Beth has to pay $100,700.

Comparing Savings and Investing Options

Two approaches to investing are available. First is the conservative approach of savings, where you would expect virtually no risk for either the principal (the dollar amount placed in the investment) or the interest (the amount earned on the principal). The goal of saving is to accumulate funds. The second approach is true investing (where higher risk is accepted because neither return of the principal nor earnings are guaranteed). People who place funds in investments must accept occasional losses, setbacks, and unexpected occurrences; over the long term, however, they typically earn much high returns than obtained through savings.

Savings Options

- **Savings account** — The simplest way to earn interest on small amounts of money while keeping that money readily accessible.
- **Interest-bearing checking accounts** — Interest is paid on your checking account, if you keep a minimum balance.

Investment Options

- **Certificate of deposit** — These are purchased for specific amounts of money at a fixed rate of interest for a specified period of time. There is a penalty for early withdrawal. Funds are insured at financial institutions with FDIC.
- **U.S. Savings Bonds** — These are government issued and government backed. There are different types of saving bonds, each with slightly different features and advantages. Savings bonds can be purchased in denominations ranging from $50 to $10,000. There is no state or local tax on the interest earned.
    - √ Series EE bonds sell for half their face or redemption value, which ranges from $50 to $10,000. The bonds must be held for at least five years to receive the minimum rate.
    - √ Series HH bonds are current-income securities. The HH bond itself doesn't increase in value. When an HH bond is issued, you pay the face amount ($500, $1,000, $5,000 or $10,000) for the bond, and interest is paid every six months, providing you with "current income." The interest payments on HH bonds are made by directdeposit to your checking or savings account at a financial institution. You can't buy HH bonds for cash. You can get them only in exchange for series EE/E bonds or upon reinvestment of the proceeds of matured series H bonds.

    - √ Series I bonds are indexed for inflation. The earnings rate on this type of bond combines a fixed rate of return, plus the annualized rate of inflation.
    - √ For more information about savings bonds, go to http://www.savingsbonds.gov
- **U.S. Treasury securities** — The U.S. Treasury sells various securities to pay for an array of government activities; all are backed by the full faith and credit of the federal government.
    - √ Treasury bonds are securities with terms of more than 10 years. Interest is paid semiannually.
    - √ Treasury bills are short-term securities with maturities of three months, six months, or one year. They are sold at a discount from their face value, and the difference between what you paid and what you collect when you cash them in at maturity is the interest you earn.
    - √ Treasury notes are interest-bearing securities with maturities ranging from two to 10 years. Interest payments are made every six months.
    - √ Inflation-indexed securities offer investors a chance to buy a security that keeps pace with inflation. Interest is paid on the inflation-adjusted principal.
    - √ Bonds, bills, and notes are sold in increments of $1,000.
- **Cash value life insurance** — This is insurance with a low return on savings, such as whole life and universal life.
- **Stocks** — Owning shares of stock makes you part owner of a company. Companies may distribute a portion of their profits to shareholders as dividends. Companies issue two types of stock: common and preferred.
- **Bonds** — When you own a bond, you have loaned money to a company or a governmental unit. In return, the borrower promises to repay the amount borrowed plus interest. Corporate bonds are issued by publicly owned companies, while municipal bonds are issued by state or local governments.
- **Mutual funds** — These companies invest the pooled money of their shareholders in various types of investments. The fund manager buys and sells securities for the fund's shareholders. There are many types of mutual funds, such as real estate funds, bond funds, and stock funds, and various funds will have specific objectives.

- **Insured money market accounts** — Savings institutions, such as banks or credit unions, put your savings account money in short-term investments, such as bonds and CDs, which generally earn a higher rate of interest than regular savings accounts.
- **Money market mutual funds** — Your financial institution or broker invests your money in short-term debt obligations issued by government agencies and private corporations. Funds are secure, but not insured.
- **Real estate** —
    - √ Home ownership builds equity in your own home, condo, duplex, etc.
    - √ Rental units and/or commercial buildings can produce income from rent.
    - √ Limited partnerships are arrangements where a general partner buys and manages the investments, and limited partners invest in the project. The participation of the limited partners is limited to sharing in the profits or losses.
    - √ Real estate investment trust (REIT) is a corporation that invests in real estate or mortgages.
    - √ Mortgage-backed securities are investments in pools of mortgages backed by a specific government agency. A Ginnie Mae Fund is an example.

Savings and investments are the financial tools used to accumulate money. There is an art to choosing ways to invest your savings. Good investments will make money; bad investments will cost money. Do your homework. Gather as much information as possible. Read newspapers, magazines, and other publications. Identify credible information sources on the Internet. Join an investment club. Seek advice from trained financial experts, or participate in an online study course, such as "Investing for Your Future" at http://www.investing.rutgers.edu/.

Selecting Your Investment Adviser

Finding the right adviser is well worth the effort. Word-of-mouth recommendation can be an important first step. It's also important that the person you are dealing with knows your objectives and is willing to help you achieve them.

Financial Planners

A financial planner can help you look at your overall financial situation, including insurance, investments, credit management, retirement, and estate planning. If unable to help you directly, the planner can refer you to a specialist.

The fact that a planner is a certified member of a financial planning organization is a good starting point and demonstrates that he or she took the initiative to learn about the diverse field of financial planning.

Many people can benefit from the services of a financial planner. If you have a complex financial planning matter that needs evaluation, a consultation with a planner who is experienced in your particular area of concern may be worthwhile. In addition to evaluating specific concerns, financial planners can comprehensively review your total personal financial situation, either on a one-time or an ongoing basis. Other professionals who practice in specialty areas of financial planning — such as bankers, insurance agents, and stockbrokers, to name a few —also may be able to assist you in attaining your specific financial goals.

Financial planners are compensated for their efforts on your behalf through fees, commissions, or a combination of the two. A fee-only planner is paid an hourly or fixed fee for a particular service. If a fee-only planner spends 10 hours devising an investment strategy for you, you are billed for 10 hours work at an hourly fee.

A commissioned planner earns his or her income by commissions that you pay on investments and insurance products that you buy through the planner.

Some planners combine these two sources of compensation, earning income through both fees and commissions. They earn fees by providing a review of your financial situation together with specific recommendations. If you decide to accept them, the planner will then earn commissions on the investment and insurance products that you purchase.

A good financial planner can be an important part of your financial team. He or she can keep you current on economic trends that may affect the market, as well as keep a watchful eye over your investments' performance.

Source: National Association of Personal Financial Advisors, http://www.napfa.org.

Savings and Investments Action Box

- Establish or continue contributing to an emergency fund.
- Contribute regularly to savings and/or investments.
- Develop a plan to help you save the money needed to reach your goals.
- Review savings and investments annually and make needed changes.

Worksheet 19: Evaluate Your Savings and Investments

Savings and investments are the financial tools used to accumulate money. If you don't win the lottery or inherit a fortune, you can build financial resources by saving and investing. Saving money requires adjusting cash flow so your income is greater than your expenses.

The following questions will help you determine if you need to begin or revise your savings and investment plan.

1) Do you contribute regularly to savings and investments ? (weekly, bi-monthly, monthly)

   Yes ______ No ______ Don't know _______ If yes, how much? _________

2) Do you contribute money from each paycheck to savings and/or investments? (weekly, bi-monthly, monthly)

   Yes ______ No ______ Don't know _______ If yes, how much? _________

3) Do you pay yourself first? Do you put money in savings before you pay your other bills?

   Yes ______ No ______ Don't know _______

4) Do you have savings or investments automatically deducted from your paycheck or checking account?

   Yes ______ No ______ Don't know _______ If yes, how much? _________

5) Do you save more than, less than, or equal to 10% of your income?

   (Amount saved $ _________ / income __________ = __________ % saved)

   More than 10% _________ Less than 10% _________ 10% _________

6) How much money do you have set aside for the following?

   A. Seasonal expenses _______________

      If you haven't set any money aside, add up your seasonal expenses for the year, divide by your number of paychecks. Set that amount aside each pay period.

      Seasonal expenses include school supplies and clothes; car license plate; insurance premium payments; summer child care; summer camp; registration for children's athletics; family vacation; holiday, birthday, graduation and wedding gifts; taxes; newspapers and magazines; professional dues; athletic tickets; cultural tickets.

   B. Emergency fund _______________

      Your emergency fund should amount to two to six month's worth of take-home pay. If you can't set aside two month's take-home pay, work toward setting aside one month's take-home pay.

      Unexpected emergencies include car repairs; medical expenses; insurance deductible for car accident or medical bills; house or appliance repairs; or loss of job.

(Continued)

(Worksheet 19 continued)

C. Long-term goals

a. Goal ________________________________ Amount ________________

b. Goal ________________________________ Amount ________________

c. Goal ________________________________ Amount ________________

D. Intermediate goals

a. Goal ________________________________ Amount ________________

b. Goal ________________________________ Amount ________________

c. Goal ________________________________ Amount ________________

E. Short-term goals

a. Goal ________________________________ Amount ________________

b. Goal ________________________________ Amount ________________

c. Goal ________________________________ Amount ________________

7) Steps I want to take to begin/revise a savings plan.

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8) Steps I want to take to begin/revise an investment plan.

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Focus on Financial Management

Resources

Unit 5: Focus on Savings and Investments

1) Ball Park Estimate
American Savings Education Council
2121 K Street NW Suite 600
Washington, DC 20037-1896
202-775-9130
http://www.asec.org/ballpark/

2) *Building Financial Freedom*, 2000
Metropolitan Life Insurance Company
One Madison Avenue
New York, NY 10010
http://www.metlife.com/Lifeadvice/
(Click on “Building Financial Freedom” on the right side of the page)

3) *Building Wealth: A Beginner’s Guide to Securing Your Financial Future*
Federal Reserve Bank of Dallas
800-333-4460 ext-5254
http://www.dallasfed.org

4) Bureau of the Public Debt
Savings Bond Operation Office
Parkersburg, WV 26106-1328
800-487-2663
http://www.publicdebt.treas.gov/sav/sav.htm

5) Garman, E Thomas & Xiao, Jing
The Mathematics of Personal Finance: Calculators & Computers, 1997
Dame Publishing
Houston, TX

6) *Investing for Your Future*
Rutgers Cooperative Extension
New Brunswick, NJ 08901-8525
732-932-9306
http://www.investing.rutgers.edu/

7) *Making Sense of Savings*, 2000
Board of Governors of the Federal Reserve System
Washington, DC 20551-0001

8) National Association of Personal Financial Advisors
1-888-333-6659
www.napfa.org

9) *Savings Fitness – A Guide to Your Money & Your Financial Future*
U.S. Department of Labor, Pension and Welfare Benefits Administration
800-998-7542

10) U.S. Securities and Exchange Commission
Office of Investor Education and Assistance
450 5th Street NW
Washington, DC 20549-0213
http://www.sec.gov/investor/pubs/roadmap/goals.htm

11) U.S. Treasury
Office of Public Correspondence
1500 Pennsylvania Ave, NW
Washington, DC 20220
202-622-6415
www.ustreas.gov

12) *What Every Woman Needs to Know About Money and Retirement*
WISER Center
1201 Pennsylvania Avenue NW, Suite 619
Washington, DC 20004
202-393-1990
http://www.wiser.heinz.org/articles_publications.html

Materials available in the *Focus on Financial Management* series

Focus on Financial Management Workbook, CFS-727 ($25)

This printed workbook contains eight chapters designed to help middle-income adults increase their financial management knowledge. It is designed either for self-directed study or for participants who enroll in a *Focus on Financial Management* program. The workbook contains 24 worksheets to help participants conduct self-assessments and compile appropriate records.

Focus on Financial Management Coordinator's Guide, CFS-726 ($75)

This package contains the Coordinator's Guide and Workbook in print and on a CD so that a coordinator can present the eight 2½-hour sessions. The program coordinator is expected to organize and present the sessions and provide materials to the participants. The CD is available separately (CD-CFS-726) for $50.

Order online at www.extension.purdue.edu/store
or by e-mail to media.order@purdue.edu
or by telephone to (765) 494-6794 or 888-EXT-INFO (398-4636)
or by fax to (765) 496-1540
or by postal mail to:

Purdue Extension • The Education Store
231 S. University St.
West Lafayette, IN 47907-2094

The following individual chapters of the workbook are available free online.

- CFS-727-1-W, Unit 1: Focus on Getting Organized
  www.extension.purdue.edu/extmedia/CFS/CFS-727-1-W.pdf
- CFS-727-2-W, Unit 2: Focus on Money Personalities
  www.extension.purdue.edu/extmedia/CFS/CFS-727-2-W.pdf
- CFS-727-3-W, Unit 3: Focus on Your Net Worth
  www.extension.purdue.edu/extmedia/CFS/CFS-727-3-W.pdf
- CFS-727-4-W, Unit 4: Focus on Risk Management
  www.extension.purdue.edu/extmedia/CFS/CFS-727-4-W.pdf
- CFS-727-5-W, Unit 5: Focus on Savings and Investments
  www.extension.purdue.edu/extmedia/CFS/CFS-727-5-W.pdf
- CFS-727-6-W, Unit 6: Focus on Credit Cards
  www.extension.purdue.edu/extmedia/CFS/CFS-727-6-W.pdf
- CFS-727-7-W, Unit 7: Focus on Life's Challenges
  www.extension.purdue.edu/extmedia/CFS/CFS-727-7-W.pdf
- CFS-727-8-W, Unit 8: Focus on Retirement
  www.extension.purdue.edu/extmedia/CFS/CFS-727-8-W.pdf

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