



# Personal Investments

## Creating Wealth for a Lifetime

### Student Workbook

#### **Disclaimer**

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## Unit 1 - Introduction

### Future Financial Behavior Evaluation

The goal of all financial education is to get you to adopt important behaviors that will ensure your financial security. Check all the financial behaviors that you engage in. Do this inventory every year.	Check if you will adopt in the next year.
Pay all my bills and loan payments on time.	
Have a recordkeeping system for my financial affairs.	
Balance my checkbook and monitor all my financial transactions monthly.	
Track all my expenses.	
Use a spending plan or budget.	
Have an emergency savings fund. If yes, how many months of expenses: 1-3 months ____ 4-6 months ____	
Save or invest money from every paycheck. If yes, percent paycheck saved ____%	
Save for long-term goals. If yes, which goals: (Check any that apply.) Education ____ Car ____ Home ____ Home upgrade ____ Vacation ____	
Plan and set goals for financial future.	
Have money in more than one type of investment. If yes, check any that apply: Individual stocks ____ Mutual Funds ____ Bonds ____ Real Estate ____ Treasury bills or CDs ____ International ____ Commodities ____	
Calculated net worth in the past two years.	
Participate in employer's retirement plan. 401(k) ____ 403 (b) __ Other: ____	
Have insurance to protect my loved ones. If yes, check any that apply: Health ____ Life ____ Property ____ Auto ____ Disability ____ Umbrella ____	
Put money into other retirement plan: Roth IRA ____ Traditional IRA __ SEP or SIMPLE IRA __	
Review my credit report annually.	
Pay credit card balances in full each month.	
Research and compare offers before applying for a credit card or loan.	
Do my own taxes.	
Read about personal money management to improve how I'm doing.	

### Activity – Cost of College

What is the difference in cost between a public and private university? Check out colleges in Washington State such as Seattle University and Whitman and compare them to the University of Washington and Washington State. <http://cgi.money.cnn.com/tools/collegecost/collegecost.html>

### Activity – Cost of House

Although these sites are not totally accurate, check out [www.zillow.com](http://www.zillow.com) as to the price of a house in a neighborhood that you want to live in. How much will you have to pay for the house?

### Question

When you retire, Medicare takes care of what portion of your medical expenses when you retire?

- a) One quarter
- b) One half
- c) Three quarters

### Question

When you retire, Social Security benefits can cover what portion of your living expenses?

- a) One quarter
- b) One half
- c) Three quarters

### Question

Your life expectancy when you reach age 65 is:

- a) 13 years
- b) 18 years
- c) 23 years

### Activity – What your need for retirement

Estimate how much you will need when you retire. Use a simple rule of thumb. Most people will take out 4% of their retirement fund for annual living expenses. Decide what level of lifestyle you want when you retire (e.g. \$40,000, \$60,000, etc.) and divide by 4%.

## Unit 2 – Tax-advantaged Savings

### Assignment – What you need for retirement

What age do you want to retire?	
What lifestyle do you want at retirement? What will this lifestyle cost?	
What will your health care costs be when you retire?	
Total the two	
What will you need in your retirement account? (Divide the number above by 4%)	
Determine how much you will have to save each year to reach your retirement goal using the calculator: <a href="http://www.bankrate.com/brm/calculators/retirement/401k_retirement_calculator.asp">http://www.bankrate.com/brm/calculators/retirement/401k_retirement_calculator.asp</a> Copy the results into your paper. (Click on report)	

Reflect on what you have to do to achieve your retirement goal. Will you have to reduce your expectations of the lifestyle? Will you have to increase your contributions to retirement? What action will you take to make it happen?

## Unit 3 – Investments

### Question

Why invest in CDs?

### Question

Which CD allows you to increase the interest rate during the term of the CD?

- A. Traditional CD
- B. Bump-up CD
- C. Liquid CD
- D. Zero-coupon CD

**Question**

Is you have to cash in your CD before the specified period of time, can you lose part of your principal?

**Assignment: Class contest for highest CD rate.**

Competitive, higher rate CD interest rates are offered by many financial institutions to attract money to their institution. Check out your local banks, brokerage firms, the online banks or Bankrate.com's survey for the list of the highest CD rates offered by financial institutions, [www.bankrate.com](http://www.bankrate.com).

Go online into any banks or credit unions, websites, or [www.bankrate.com](http://www.bankrate.com) to find what CD types, minimums and rates they offer. **Print out information about the CDs information for two financial institutions, and highlight the type of information listed below to compare CDs at different financial institutions.**

Bank/Credit Union	CD Type	Minimum Deposit	CD Rate	Term	Compounding Method	Annual Percentage Yield	Comments/Description

Present your findings to the class and judge who found the highest rate.

**True or False**

**Question**

If you buy a 12-month Treasury bill (T-bill), will you be paid interest twice a year?

**Question**

Is it true that, T-bills, notes or bonds are not as safe as other types of bonds because you never know when the government will start overspending again and the government will stop paying the interest on the bonds?

## Assignment: Compare Current Treasury Issue Rates

Compare the rates, terms and minimum purchase of T-Bills, or TIPS, T-Notes—print out and highlight the information to compare the 3-month T-bill with the 3-year Treasury Note or TIPS:

Go to TreasuryDirect to check out the latest Treasury rates, terms and price per \$100 of purchase.

<http://www.savingsbonds.gov/RI/OFBills>

Treasury Security Watch at Bankrate.com <http://www.bankrate.com/gookeyword/ratewatch/treasury.asp> or any other website where you can find this information.

Explain the difference in interest rates using your knowledge about bonds.

## Activity – Select a Bond

Go to [www.fidelity.com](http://www.fidelity.com). Look for fixed income products and Individual bonds. Select bonds from the Secondary Market. If for example, you want a corporate bond, you can click on that. This will bring up a query functionality. Just click Search and a chart will come up with all the corporate bond offerings. If you mouse over any one of the points, you will see the bond issuer. Then you can click on the point and all the details will come up for the bond. Be aware that there is an analytic tab that you can click on to get more information. Check out corporate, mortgage, and zero coupon bonds to see how they work.

## Assignment – Check out interest rates

Go to the [www.bloomberg.com](http://www.bloomberg.com), [finance.yahoo.com](http://finance.yahoo.com), [www.bankrate.com](http://www.bankrate.com) and [www.savingsbonds.gov](http://www.savingsbonds.gov). Research the rates for the following income investments:

Vehicle	Range of rates	Explain why the rate is higher or lower than a bank savings account.
Savings Accounts:		
Money Market Accounts:		
Certificates of Deposit (CDs) Specify term.		
Savings Bonds (bonds issued by the U.S. government to help pay its expenses)		
Treasuries (Specify term)		
Inflation protected Treasuries (Specify term)		

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Money Market Mutual Funds		
Corporate Bonds (Specify credit rating)		
Municipal Bonds		
Mortgage-backed Bonds		

### Activity – Compare international rates

Go to [www.bloomberg.com](http://www.bloomberg.com). This site gives you interest rates. Click on Market Data and Bonds and Rates.

Assess how interest rates have moved over the past year. This gives you a good idea of how interest rates do change.

Explain what each of the following are and create a bar chart with interest rates from the following for a 5-year and 10-year maturity:

- Treasury
- Municipal
- Inflation-indexed
- Corporate AAA
- Japan
- Germany
- UK
- Brazil
- Australia

#### Question

Why are stock indexes important?

#### Question

What the Dow Jones Industrial Average is a benchmark for?

#### Question

What is the S&P 500 a benchmark for?

### Activity – Check a fund against its index

Find an international fund on [www.morningstar.com](http://www.morningstar.com). Go to funds, fund categories and then choose an international fund. For the best comparison, choose fund that has been in existence for 10 years. Look at the graph and table which compares its performance against its index. How did it do?

## Unit 4 – Selecting Your Investments

### Activity - Risk Return

Go to [www.morningstar.com](http://www.morningstar.com). Click on the funds tab, and then click on category returns.

Select one fund from each of the following categories:

- Real Estate
- Financial
- Energy
- International
- Bond
- Large cap
- Small cap

Under the Risk Measures (left navigation), find the Mean (return) and Standard Deviation (risk)

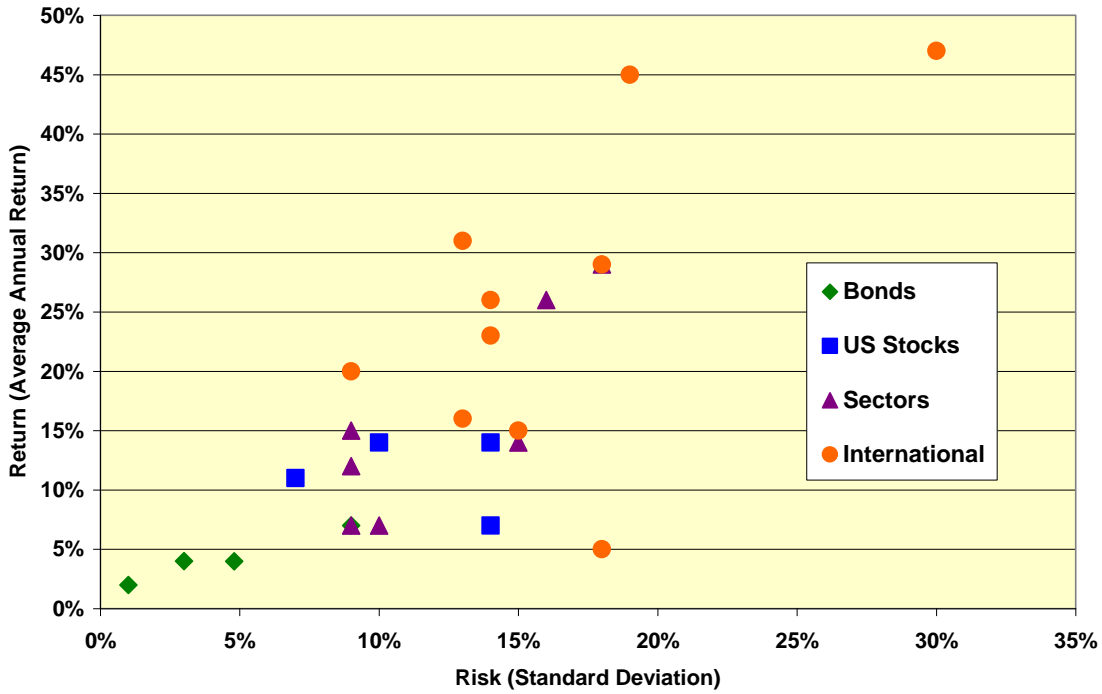
Type of fund	Ticker symbol or name	Return (Mean)	Risk (Standard deviation)

Optional: Plot a risk return graph for your funds. Risk or standard deviation will be on the horizontal axis and return or mean will be on the vertical axis. How did the risk return compare to the table shown above.

Be prepared to present your work in class.

### Question

Explain whether it is easy to pick the next winning category in investments.



Source: Morningstar.com (3 years of data ending Nov 2006)

**Question**

Rank the chart above in order of return:

- Bond
- US Stock
- Sectors
- International

**Question**

Rank in order of risk:

- Bond
- US Stock

Sectors  
International

### Activity – How the pros asset allocate

Go to the California pension website and look at what this \$250 billion pension manager allocates its portfolio for the employees of the state of California in the latest year  
<http://www.calpers.ca.gov/index.jsp?bc=/investments/assets/assetallocation.xml>  
Summarize their strategy.

## Assignment – Asset Allocation

Check all asset classes and subclasses you will invest in and determine what percent of your portfolio you will place in each.

Asset		Risk (High, Medium, Low)	Percent
<b>Cash</b>			
<b>Stock</b>	<b>US</b>	<b>Large Cap</b>	
		<b>Small Cap</b>	
		<b>Sectors</b>	
	<b>International</b>	<b>Developed</b>	
		<b>Emerging</b>	
<b>Bond</b>	<b>US</b>	<b>Corporate</b>	
		<b>Treasury</b>	
		<b>Treasury Inflation-Protected</b>	
		<b>Municipal</b>	
		<b>Mortgage</b>	
		<b>Short, medium, or long</b>	
		<b>Junk</b>	
	<b>Global</b>	<b>Developed</b>	
		<b>Emerging</b>	
<b>Real Estate</b>			
<b>Commodities</b>			
<b>Other (specify)</b>			

1. Go through each category that you selected and explain what you think are the risk and return characteristics of each.
2. Explain why you chose to allocate the percent you did.
3. What benefit do you think that each category you selected will bring to your portfolio.

## Unit 5 – Selecting Funds

### Activity – Check fund fees

A class investigation of fund fees. Students will be assigned to find one fund in each of the following categories and look for the funds expense ratio and any other fees. It will then be compared to the index expense ratio. What did you find?

Mutual Fund Category	Index Fund Expense Ratio %	Fund name	Fund Expense Ratio %	Other fees
Emerging markets are international stocks of developing countries	0.77			
European large stocks	0.6			
International stocks of developed countries	0.35			
Real estate	0.35			
Small cap stock - Small US companies \$300 M to \$2 B	0.2			
Mid cap stock - Medium-sized US companies \$1.5B to \$5 B	0.2			
S&P 500 - Largest US stocks	0.09			
Bonds	0.2			

### Assignment – Evaluate 529 plan

T Rowe Price a mutual fund company offers a 529 plan to save to college. Its portfolio for a student who will attend college in 2018 consists of the following funds.

Equity Index 500 28%  
 Spectrum Income 26.25%  
 Blue Chip Growth 8.75%  
 Value 8.75%  
 Small-Cap Stock 6.50%  
 International Growth & Income 4.25%  
 International Stock 4.25%  
 Overseas Stock 4.25%  
 Mid-Cap Growth 3.50%  
 Mid-Cap Value 3.50%  
 Emerging Markets Stock 2%

Check out these funds at T Rowe Price's fund page in [www.morningstar.com](http://www.morningstar.com). You can click on the fund name at: <http://quicktake.morningstar.com/FundFamily/FundList.asp?Country=USA&Symbol=75013>

Find each fund's performance as compared to the index and its fees. What is your conclusion about the allocation and choice of funds?

## Unit 6 - When to Buy and Sell

### Assignment – Bond Laddering

You have \$50,000 to put into bonds. Choose one of the maturities (one, two, five or ten) below.

1. Do not ladder your money. Put all your money in one year and then check off every year it matures until you have gone through 20 years.
2. Ladder your money. Average out the interest rates.
3. Compare the results. Did laddering reduce your interest rate risk?

	One-year rate		Two-year rate		Five-year rate		Ten-year rate	
1980	12.06		11.50		10.74		10.80	
1981	14.08		13.26		12.77		12.57	
1982	14.32		14.57		14.65		14.59	
1983	8.62		9.33		10.03		10.46	
1984	9.90		10.64		11.37		11.67	
1985	9.02		9.93		10.93		11.38	
1986	7.73		8.14		8.68		9.19	
1987	5.78		6.23		6.64		7.08	
1988	6.99		7.63		8.18		8.67	
1989	9.05		9.18		9.15		9.09	
1990	7.92		8.09		8.12		8.21	
1991	6.64		7.13		7.70		8.09	
1992	4.15		4.96		6.24		7.03	
1993	3.50		4.39		5.83		6.60	
1994	3.54		4.14		5.09		5.75	
1995	7.05		7.51		7.76		7.78	
1996	5.09		5.11		5.36		5.65	
1997	5.61		6.01		6.33		6.58	
1998	5.24		5.36		5.42		5.54	
1999	4.51		4.62		4.60		4.72	
2000	6.12		6.44		6.58		6.66	
2001	4.81		4.76		4.86		5.16	
2002	2.16		3.03		4.34		5.04	
2003	1.36		1.74		3.05		4.05	
2004	1.24		1.76		3.12		4.15	
2005	2.86		3.22		3.71		4.22	

2006	4.45		4.40		4.35		4.42	
2007	5.06		4.88		4.75		4.76	
2008	2.71		2.48		2.98		3.74	

## Unit 7 - Protecting Your Wealth

### Assignment – Selecting a financial advisor

Map out a plan for how you will find a financial advisor. Where will you find potential advisors? How many will you research?

Taking the questionnaire above and the SEC has a list of questions available at [www.sec.gov/consumer/askqinv.htm](http://www.sec.gov/consumer/askqinv.htm). Come up with a list of questions to ask.

- Are you registered with the state securities agency and have you ever been disciplined?
- What training and experience do you have? How long have you been in the business?
- What is your investment philosophy?
- Describe your typical client.
- Will you disclose to me how you get paid in every investment you recommend? Will you disclose to me whenever you are participating in a sales contest?
- What choices do I have in how I pay you?
- Could anyone besides me benefit from your recommendations?

### Activity – How to resist a scam

Role play scam artist and target. Find a partner and each person will be assigned the role of either scam artist or target. The scam artist is to think up an investment and incorporate as many of the persuasion tactics as possible. The target is to develop scripts to say no. This role play will be performed in front of the class and the class must analyze which persuasion tactics were used and how effective the response tactics were.

### Activity – What would you discuss with your significant other about investing?

In addition to being one of the signposts of your emotional life, marriage is also one of the most significant events in your financial life. What will you discuss with your significant other when you are entering into marriage? What is it important to have agreement on? What can you disagree or be separate on?

### Activity – What would you teach your children about investing?

Similar to a will that outlines your wishes for your children, what are the most important financial lessons you want to pass onto your children? When would you start teaching them these concepts?

## Appendix – The Time Value of Money

### Question

Think of that \$1000 you spent on soda and candy in 1996. If you put your money in the bank for 5% interest per year, calculate what you have after 10 years in 2006. If you purchased \$1000 in a stock index fund, what would you have?

What if you did the following in 1996?	Today's value
Bought \$1000 of soda and candy (that's about \$20 a week)	
Put \$1000 in the bank at 5%	
Bought \$1000 of a stock index. (\$1 in a stock index fund in 1996 would be worth \$1.91 in 2006.	

### Question

You have \$2000 into a 529 plan to save for your kid's college and got 8% return, what would you in 20 years?

### Question

You put \$4000 into an IRA to save for your retirement and got 9% return, what would you have for your retirement in 30 years?

**Question**

About 57% of people (especially the younger ones) who leave companies cash out their retirement benefits of \$8445. If you left this money in a retirement plan for 40 years at a return of 8%, calculate what it contributes to your retirement.

Return	Number of Years								
	5	10	15	20	25	30	35	40	45
3%	\$8,626	\$7,441	\$6,419	\$5,537	\$4,776	\$4,120	\$3,554	\$3,066	\$2,644
4%	\$8,219	\$6,756	\$5,553	\$4,564	\$3,751	\$3,083	\$2,534	\$2,083	\$1,712
5%	\$7,835	\$6,139	\$4,810	\$3,769	\$2,953	\$2,314	\$1,813	\$1,420	\$1,113
6%	\$7,473	\$5,584	\$4,173	\$3,118	\$2,330	\$1,741	\$1,301	\$972	\$727
7%	\$7,130	\$5,083	\$3,624	\$2,584	\$1,842	\$1,314	\$937	\$668	\$476
8%	\$6,806	\$4,632	\$3,152	\$2,145	\$1,460	\$994	\$676	\$460	\$313
9%	\$6,499	\$4,224	\$2,745	\$1,784	\$1,160	\$754	\$490	\$318	\$207
10%	\$6,209	\$3,855	\$2,394	\$1,486	\$923	\$573	\$356	\$221	\$137
11%	\$5,935	\$3,522	\$2,090	\$1,240	\$736	\$437	\$259	\$154	\$91
12%	\$5,674	\$3,220	\$1,827	\$1,037	\$588	\$334	\$189	\$107	\$61
13%	\$5,428	\$2,946	\$1,599	\$868	\$471	\$256	\$139	\$75	\$41
14%	\$5,194	\$2,697	\$1,401	\$728	\$378	\$196	\$102	\$53	\$27
15%	\$4,972	\$2,472	\$1,229	\$611	\$304	\$151	\$75	\$37	\$19

**Question**

Here are some typical goals. Estimate how much each costs:

- Down payment on house
- Wedding
- Children's college tuition
- Starting your own business
- Retirement

**Question**

Let's say you want to put \$40,000 down on your first house 10 years from now. You expect an investment rate of 7%. Calculate what you would have to set aside today.

**Question**

Let's say you want to start a business with \$50,000 in 15 years. You expect a return rate of 8%. What you would have to set aside today?

**Question**

You save \$1000 every year at a 10% return. Look at the table and find the amount you will have in 5 years.

**Question**

You save \$300 every year at a 5% return. Calculate the amount you will have in 45 years.

**Question**

You are 25 years old and plan to retire at age 65 with \$1 M. Calculate what you have to save every year at 8% return if you start at age 45.

**Question**

Calculate what you have to save every year at 8% return if you start at age 35.

**Question**

Calculate what you have to save every year at 8% return if you start at age 25.

**Question**

Which is more?

At age 25, you save \$4000 a year for 20 years. Then let the money sit for the next 20 years until age 65.

Starting at age 45, you save \$8000 a year for 20 years until age 65.

**Question**

You want to buy a house in 10 years that costs \$200,000 today. You think inflation will be 3% over the next 10 years. How much will the house cost?

**Question**

You want to have a wedding that will cost \$10,000 in 5 years. You think that you'll invest in bonds at 8%. Calculate the annual savings needed.

**Question**

You want to save \$75,000 for your kid's college education in 20 years. You think that you'll invest in stocks at 8%. Calculate the annual savings needed.

**Question**

You are working 20 hours a week at \$10 an hour and have been taking 15 credits. You decide to increase to 40 hours a week so you don't have to skimp on living expenses as much but now you are taking 10 credits. Are you making a good financial decision?

**Question**

Which is more? Assume that you earn 8%.

- a) Saving \$4000 a year from 25 to 45 years old and then not adding any more savings but allowing the account to grow.
- b) Saving \$8000 (double) a year from 45 to 65 years old.

**Question**

How much is the soda and candy you buy everyday worth in long-term savings? Assume you spend \$25 a week on soda and candy. For simplicity sake, multiply this by 50 for a full year. If you cut your candy and soda for 20 years and invest at 7%, what will you have?

**Question 1**

How much is that new HDTV worth in long-term savings? Prices have gone down on HDTVs and you want to buy one for \$1500. It seems a bargain because only a year ago it was \$3000. How much is this HDTV costing you in long-term savings? Use 5 years and 8%.

**Question**

For each of the following financial goals, calculate the effect of inflation on the goal and then calculate the annual savings required on the inflated goal.

To calculate the inflated financial goal, use Table 1.

To calculate the annual savings required, use Table 2 and multiply by inflation goal divided by \$1000.

Goal	Amount	Years to Goal	Inflation Rate	Return
House	\$ 75,000.00	15	2%	7%

	\$ 50,000.00	10	3%	9%
	\$ 40,000.00	5	3%	8%
Education	\$ 50,000.00	20	4%	8%
	\$ 40,000.00	15	3%	7%
	\$ 20,000.00	10	3%	6%
Retirement	\$ 800,000.00	40	2%	8%
	\$ 800,000.00	30	2%	8%
	\$ 800,000.00	25	2%	8%
	\$ 1,500,000.00	30	3%	7%
	\$ 1,500,000.00	30	2%	8%
	\$ 1,500,000.00	30	2%	6%

## Activity – Creating a simple saving plan.

List all your financial goals.

Cost out each.

Determine how many years to each goal. Bring it to the nearest 5 years so we can use the tables.

Select an inflation rate. Historically inflation has averaged 2% to 4%.

Select a return. Historically investments have returned 4% to 11%.

After you complete this, list at what age you have to save the most money.

Reflect on what you have to do to meet your financial goals.

Goal	Amount	Years to Goal	Inflation Rate	Return	Inflated Financial Goal	Annual Savings Required

Do a sensitivity analysis using a higher inflation rate and lower return.

Goal	Amount	Years to Goal	Inflation Rate	Return	Inflated Financial Goal	Annual Savings Required