

Save and Invest—Risk and Return

Lesson Overview

Description

This lesson begins with a brainstorming session in which students identify the risks involved in playing a sport or driving a car. From these responses, the concept of risk is defined as the possibility of a loss or injury. After narrowing the discussion to the concept of financial risk—the possibility of a monetary loss—students explore different traits that impact the amount of risk an investor might be willing to take. Next, students work to analyze case studies and identify the risk factors. The lesson concludes with students creating a role-play presentation that explains recommended changes to their client’s investment portfolio based on their client’s goals, risk tolerance and time horizon.

Standards

- [National Standard in K-12 Personal Finance Education](#)
- [Texas State Social Studies Standards](#)
- [Texas State CTE Standards](#)

Instructional Objectives

- Explain the relationship between risk and return.
- Describe different types of financial risk.
- Analyze investment scenarios to identify types of financial risk.
- Analyze the impact of inflation on personal financial decision-making.
- Evaluate investment goals as they relate to risk tolerance.

Time Required

- One 90-minute class period.
- Two 45-minute class periods.

Materials Required

- PDF slides
- Copies of Handout 1: Guided Notes
- Copies of Handout 2: Risk and Return of Wealth-Building Assets

- Copies of Handout 3: Building a Portfolio with Building Wealth Funds
- Copies of Assessment 1: Investment Role-Play

Lesson Procedures

1. **Display slide 1.** Tell students the topic of this lesson is risk and return.
 - Distribute copies of Handout 1: Guided Notes.
2. **Display slide 2.** Review the instructional objectives for the lesson.
3. **Display slide 3.** Display the discussion question and ask students to share their ideas about the risks of playing a sport or driving a car. Answers will vary but might include: injury, dehydration, wrecks, repairs, tickets and high gas prices.

Suggested questions for student discussion:

- Does a person playing a sport or driving a car know what risks are possible? Answers will vary but might include: yes, risks are possible, but nothing bad will happen to me.
- Is the risk different or the same for participating in school sports versus extreme sports? Answers will vary but might include: bungee jumping, surfing, free diving and BASE jumping have higher degrees of risk.

Classroom response strategy:

- Have students record their responses in their guided notes and then share with the class.
4. **Display slide 4.** Introduce the definitions of risk and financial risk. Explain to students that people invest with the expectation that assets will increase over time, or produce what is known as a return. However, this is not guaranteed, and there is financial risk in many investments.
 - Return is the profit or loss from an investment.
 5. **Display slides 5–6.** In the discussion of financial risk, review types of assets from Lesson 1: Budget to Save—The Balance Sheet.

Suggested questions for student discussion:

- Ask students to name other assets and write examples on the board. Examples might include: collectible items, gaming consoles, money in a piggy bank, sports equipment and bicycles.
- What are some events or conditions that can cause wealth-building assets to lose value or fail to produce a return? Answers will vary but might include: inflation, recession and falling real estate values.
 - Inflation is when there's a sustained rise in the prices of goods and services.
 - Inflation risk is when the rate of return on an investment is less than the rate of inflation.
 - Recession is when U.S. gross domestic product falls for two consecutive quarters.

Classroom response strategies:

- Have students write the names of assets on a virtual board or on sticky notes to place on the classroom board.
- Sort the assets that were named and written on the board, as directed in the previous slide, into wealth-building assets versus depreciating assets.
- Wealth-building assets are called appreciating assets and generally increase in value over time or provide a rate of return.
- Depreciating assets are assets that decrease in value over time.

6. **Display slide 7.** Explain to students that assets have varying degrees of financial risk. Explain that the bottom of the pyramid is considered low risk, while the top of the pyramid is considered high risk. High-risk assets are not listed in the examples on the slide but could include: venture capital investments, currency trading and crowdfunding. Ask students where in the pyramid they would categorize the investments listed.

Classroom response strategies:

- Have students work in pairs to sort the list.
- Type responses on the slide.

7. **Display slide 8.** Review the answers, which will vary. For example, some students might consider a mutual fund less risky since it is a diversified investment.

Classroom response strategy:

- Have students sort the assets listed into the investment pyramid in their guided notes.

8. **Display slides 9–11.** Review the different types of financial risk that investors face.

Capital-loss risk:

- An investor faces capital loss when the value of an asset falls below the purchase price.

Default risk:

- Default risk occurs when the borrower fails to make payments as promised.
- Companies that issue bonds can default on interest and bond payments. This can happen due to circumstances such as changing market conditions, recession or increased competition.

Inflation risk:

- Inflation risk is when the rate of return on an investment is less than the rate of inflation.
- Explain to students that whenever an investor earns a rate of return less than the rate of inflation, the investor experiences a decrease in purchasing power.

Liquidity risk:

- Not all investments can be sold easily. When an investment is difficult to sell, an investor faces liquidity risk, or the inability to quickly liquidate an asset at an acceptable price.
- Liquidity risk is often associated with art, certificates of deposit and real estate.

Suggested question for student discussion:

- Considering all the risks, why are people willing to invest in anything at all? Answers will vary but might include: with greater risk comes greater return.

9. **Display slides 12–21.** Review the financial-risk scenarios. The answer for each scenario will be displayed on the next slide. An additional slide explains inflation risk.

Classroom response strategy:

- Have students solve for Darius' real interest rate in their guided notes.

Suggested teaching strategies:

- If your students are struggling with the concept of inflation risk, use the additional examples below to calculate the real interest rate once inflation is factored into the nominal (unadjusted) rate. These examples are also included in the guided notes handout for extra practice:
 - Savings account: With a nominal return of .01% and inflation of 2.0%, the real interest rate is -1.99%.
 - Bond: With a nominal return of 2.0% and inflation of 2.0%, the real interest rate is 0%.
 - Mutual fund: With a nominal return of 8.5% and inflation of 2.0%, the real interest rate is 6.5%.
- If you are using the additional examples, ask students what it means to have a negative real interest rate. Answers will vary but might include: a decrease in purchasing power, or savings eroded by inflation.
- Ask students why someone would want to put their money in a savings account if the real interest rate is negative. Answers will vary but might include: safety, convenience or some interest is better than none.

10. **Display slide 22.** Have students brainstorm answers to the question: “How much risk are you willing to take?”

Suggested question for student discussion:

- Will your risk tolerance change as you age? Answers will vary.

11. **Display slide 23.** Review the risk–return relationship. Explain that in general, the greater the risk, the greater the potential return. The lower the risk, the lower the potential return. A higher-risk investment can also have the potential for a greater loss.

Suggested question for student discussion:

- If greater risk yields greater returns, why don't all investors purchase very-high-risk investments? Answers will vary but might include: fear of loss as well as different financial goals, liquidity needs and time horizons (for example, for older and younger investors).

Classroom response strategy:

- Have students answer the following questions in their guided notes and share: What is the risk-return relationship? Do risk and return always move in the same direction? Explain.
12. **Display slide 24.** Ask students how much risk they can afford to take. Explain that the amount of risk you can afford to take is often related to your financial goals, risk tolerance and time horizon.
 13. **Display slides 25–27.** Review how investors determine how much risk they can afford to take.

Financial goals:

- Tell students that when people develop financial goals, they require certain rates of return.

Risk tolerance:

- When people are selecting investments, they should consider the return necessary to meet their goals and try to minimize their financial risk.
- Explain that people differ in their tolerance for financial risk.
- Even when investments perform as expected over long periods, there may be times when investments lose value or fail to perform. When this happens, an investor's risk tolerance will often dictate the response.

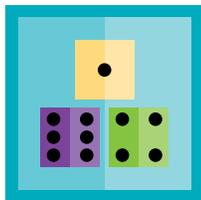
Time horizon:

- The time horizon can affect the ability to take financial risks. If the money is for a vacation next summer, an investor will not have the luxury of time to recover from a year of underperformance. If the money is for retirement in 30–40 years, an investor may be able to take more risks in anticipation of higher long-term returns.
14. **Display slides 28–29.** Review types of returns. Explain to students that returns can either be positive or negative.
 15. **Display slide 30.** Distribute Handout 2: Risk and Return of Wealth-Building Assets. Allow time for students to complete the handout and review the answers.
 16. **Display slides 31–33.** Review learning objectives with students.
 17. **Display slide 34.** Distribute Assessment 1 and Handout 3: Investment Role-Play and Building a Portfolio with Building Wealth Funds. Have students create a presentation or record a video of

their role-play. If students do not have access to technology, they can turn in their script using the template found in Assessment 1: Investment Role-Play.

- Review the instructions on the assessment handout.
- Before students begin their assessment, review the sections found in the Building a Portfolio with Building Wealth Funds handout. Give students a few minutes to read the handout and ask questions about the material.

18. **Additional resource:** Federal Reserve Bank of Atlanta, Risk and Return Grab Bag: Bell Ringer Activity



Lesson 7—Handout 1

Guided Notes

Vocabulary

Risk—The possibility of loss or injury.

Financial risk—The possibility that an asset will fail to produce a return or will lose value over time.

Asset—Anything you own that has commercial or exchange value.

Wealth-building assets—Possessions that generally increase in value over time.

Depreciating assets—Possessions that decrease in value over time.

Default risk—An interest-bearing investment that fails to pay the promised interest or return on the original investment.

Inflation—A sustained rise in the prices of goods and services.

Inflation risk—The rate of return on an investment that is less than the rate of inflation.

Liquidity risk—The inability to quickly sell an asset at an acceptable price.

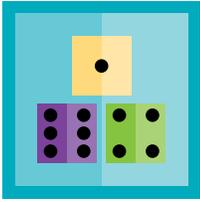
Return—The profit or loss from an investment.

Dividend—A share of profits paid to a stockholder.

Interest payment—The rate of return paid to the saver/investor.

Capital gain—The increase in value of an asset (such as stock or real estate) from the time it is bought to the time it is sold.

Brainstorm and write down answers to the question: What are the risks of playing a sport or driving a car?

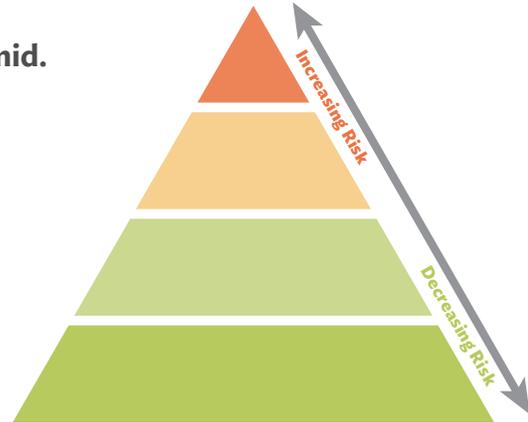


Lesson 7—Handout 1

Guided Notes (Cont.)

Sort the assets listed into the investment pyramid.

- Stock.
- Certificate of deposit.
- Mutual fund.
- Bond.
- Savings account.
- Real estate.



Use the formula below to solve for the real interest rate.

Nominal interest rate - Inflation = Real interest rate

If Darius earned 1% interest (nominal interest rate) on his certificate of deposit and inflation was 2%, what was the real interest rate Darius earned while keeping his money in a CD?

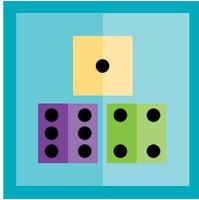
_____ %.

Extra practice: Solve for the real interest rate.

Savings account example: With a nominal return of .01% and inflation of 2.0%, the real interest rate is _____ %.

Bond example: With a nominal return of 2.0% and inflation of 2.0%, the real return is _____ %.

Mutual fund example: With a nominal return of 8.5% and inflation of 2.0%, the real return is _____ %.



Lesson 7—Handout 1

Guided Notes (Cont.)

What is the risk–return relationship?

Do risk and return always move in the same direction? Explain.



Lesson 7—Handout 2

Risk and Return of Wealth-Building Assets



Try it on your own

Identify potential rewards and risks associated with each financial asset and list them in the appropriate column.

Return Interest, dividend, capital gain	Financial asset	Risk Default, capital loss (falling market price), inflation (lost purchasing power), liquidity
	Savings account	
	Money market account	
	Certificate of deposit (CD)	
	Corporate bond	
	Municipal bond	
	Savings bond	
	Treasury bond, bill and note	
	Stock	
	Mutual fund	
	House and/or real estate	
	Your own business	
	Collectibles such as rare coins, antiques or art	



Lesson 7—Handout 2

Risk and Return Suggested Answers



Try it on your own

Identify potential rewards and risks associated with each financial asset and list them in the appropriate column.

Return Interest, dividend, capital gain	Financial asset	Risk Default, capital loss (falling market price), inflation (lost purchasing power), liquidity
Interest	Savings account	Inflation
Interest	Money market account	Inflation
Interest	Certificate of deposit (CD)	Inflation, liquidity
Interest, capital gain	Corporate bond	Inflation, liquidity, default
Interest, capital gain	Municipal bond	Inflation, liquidity, default
Interest	Savings bond	Inflation, liquidity
Interest	Treasury bond, bill and note	Inflation (if interest not indexed to inflation), liquidity
Capital gain, dividend	Stock	Liquidity, default, inflation, capital loss
Capital gain, dividend	Mutual fund	Liquidity, capital loss
Capital gain	House and/or real estate	Liquidity, capital loss
Capital gain, dividend	Your own business	Liquidity, default (if company goes bankrupt), capital loss
Capital gain	Collectibles such as rare coins, antiques or art	Liquidity, capital loss



Lesson 7—Handout 3

Building a Portfolio with Building Wealth Funds

Building Wealth Investments

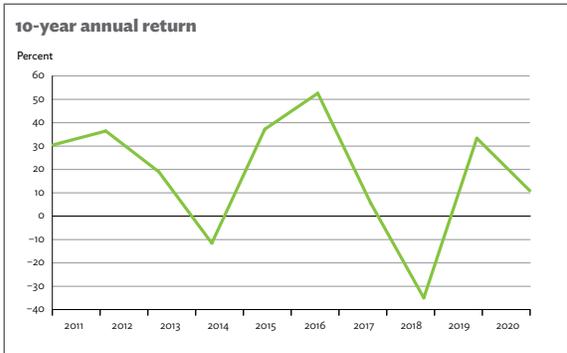
Investment objective:

The Building Wealth Large Cap Fund seeks to track the performance of the Building Wealth Large Cap Index, an index that measures the return of many large companies traded on the Building Wealth Domestic Stock Exchange.

Ticker symbol: **BWLCF**

- 1** Inception date: June 8, 1996
- 2** Standard deviation: 20.28%
- 3** Maximum one-year return: 53.99%
- 4** Minimum one-year return: -43.34%
- 5** Average lifetime return: 11.74%

Building Wealth Large Cap Fund



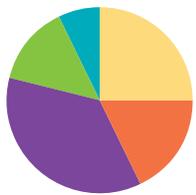
Average annual total returns (percent)

	1 Yr	3 Yrs	5 Yrs	10 Yrs
	10.88	3.07	13.464	17.882

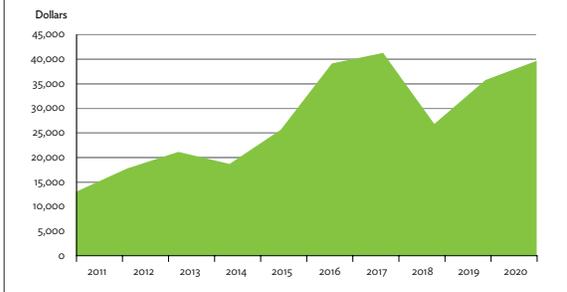
Average annual total returns (percent)

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
30.47	36.44	18.98	-11.59	37.2	52.62	5.49	-35.03	33.36	10.88
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
-8.19	-4.92	5.71	-8.42	43.61	5.5	-9.11	10.08	31.73	26.68

7 Portfolio breakdown



6 Growth of a \$10,000 initial investment



- 1 Inception date**
The date the fund was created.
- 2 Standard deviation**
A measure of volatility, or how much a stock goes up and down, that shows how much the fund varies from the mean.
- 3 Maximum one-year return**
The fund's best one-year performance.
- 4 Minimum one-year return**
The fund's worst one-year performance.
- 5 Average lifetime return**
The average return since the inception date.
- 6 Growth of a \$10,000 initial investment**
The compound growth of an initial investment (\$10,000) over 10 years yields the average annual total return.
- 7 Portfolio breakdown**
A description of the fund allocation by industry/sector.



Lesson 7—Handout 3

Building a Portfolio with Building Wealth Funds (cont.)

Building Wealth Investments

Investment objective:

The Building Wealth Large Cap Fund seeks to track the performance of the Building Wealth Large Cap Index, an index that measures the return of many large companies traded on the Building Wealth Domestic Stock Exchange.

Ticker symbol: BWLCF

Inception date: June 8, 1996

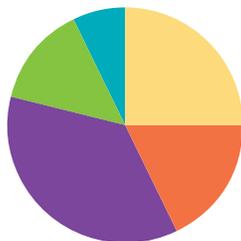
Standard deviation: 20.28%

Maximum one-year return: 53.99%

Minimum one-year return: -43.34%

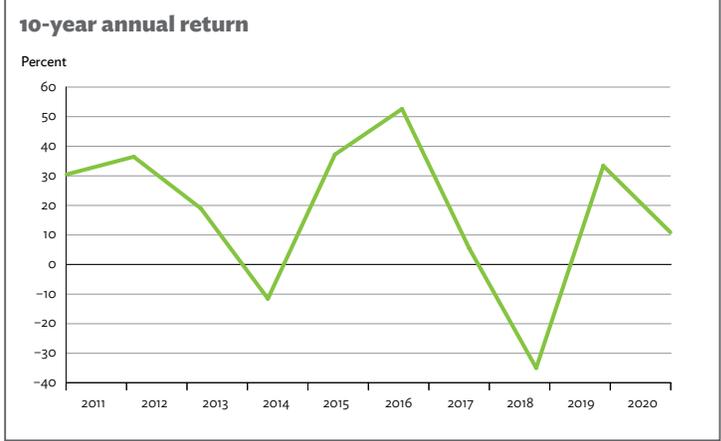
Average lifetime return: 11.74%

Portfolio breakdown



- Manufacturing
- Mining/extraction
- Technology
- Financial services
- Other

Building Wealth Large Cap Fund

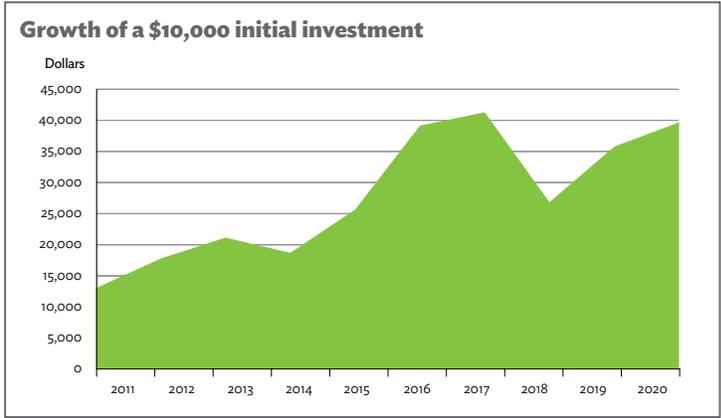


Average annual total returns (percent)

	1 Yr	3 Yrs	5 Yrs	10 Yrs
	10.88	3.07	13.464	17.882

Average annual total returns (percent)

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
30.47	36.44	18.98	-11.59	37.2	52.62	5.49	-35.03	33.36	10.88
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
-8.19	-4.92	5.71	-8.42	43.61	5.5	-9.11	10.08	31.73	26.68





Lesson 7—Handout 3

Building a Portfolio with Building Wealth Funds (cont.)

Building Wealth Investments

Investment objective:

The Building Wealth Mid Cap Fund seeks to track the performance of the Building Wealth Mid Cap Index, an index that measures the returns of many mid-sized companies traded on the Building Wealth Domestic Stock Exchange.

Ticker symbol: BWMCF

Inception date: Nov. 15, 1983

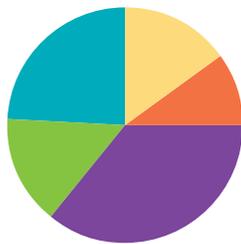
Standard deviation: 17.75%

Maximum one-year return: 37.38%

Minimum one-year return: -36.23%

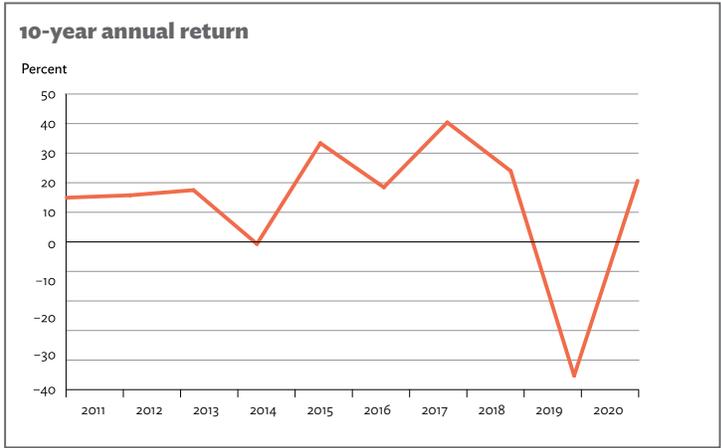
Average lifetime return: 12.50%

Portfolio breakdown



- Manufacturing
- Mining/extraction
- Technology
- Financial services
- Other

Building Wealth Mid Cap Fund

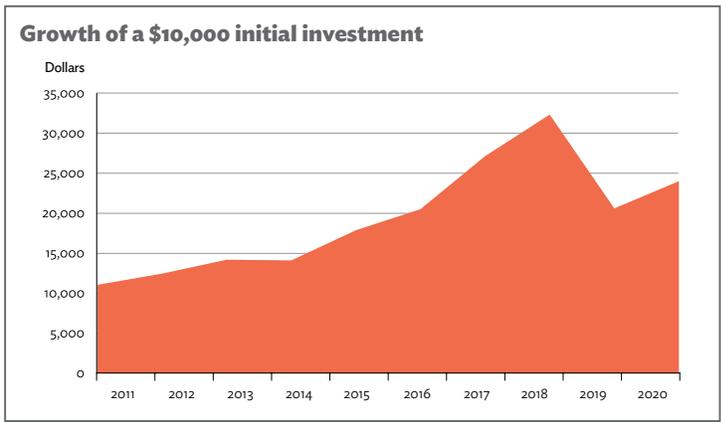


Average annual total returns (percent)

	1 Yr	3 Yrs	5 Yrs	10 Yrs
	16.48	-0.21	9.268	11.08

Average annual total returns (percent)

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
2011	11.91	12.56	13.95	-0.6	26.64	14.72	32.25	19.12	-36.23	16.48
2001	-3.58	10.32	30.95	-14.51	19.2	-1.73	37.38	7.98	35.62	17.51





Lesson 7—Handout 3

Building a Portfolio with Building Wealth Funds (cont.)

Building Wealth Investments

Investment objective:

The Building Wealth Small Cap Fund seeks to track the performance of the Building Wealth Small Cap Index, an index that measures the returns of many small companies traded on the Building Wealth Domestic Stock Exchange.

Ticker symbol: BWSCF

Inception date: Dec. 20, 1974

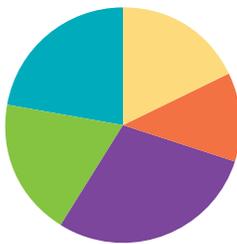
Standard deviation: 19.15%

Maximum one-year return: 47.25%

Minimum one-year return: -33.79%

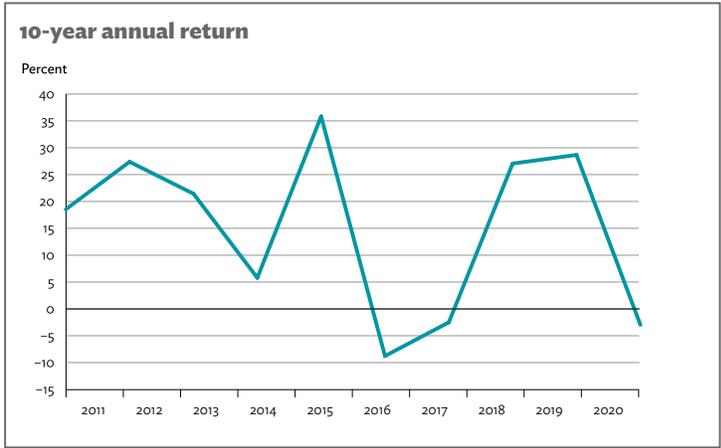
Average lifetime return: 11.99%

Portfolio breakdown



- Food services
- Retail
- Technology
- Financial services
- Other

Building Wealth Small Cap Fund

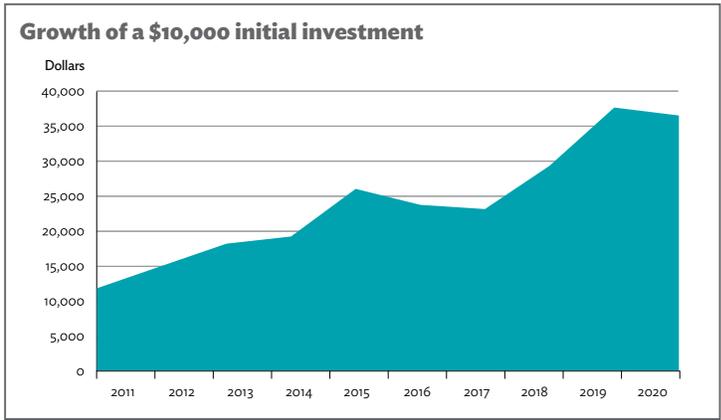


Average annual total returns (percent)

	1 Yr	3 Yrs	5 Yrs	10 Yrs
	-3.02	17.43	8.19	14.90

Average annual total returns (percent)

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
2011	18.37	27.17	21.26	5.68	35.58	-8.8	-2.55	26.85	28.45	-3.02
2001	24.95	4.55	-1.57	-7.13	-33.79	18.41	47.25	16.49	31.05	25.02





Lesson 7—Handout 3

Building a Portfolio with Building Wealth Funds (cont.)

Building Wealth Investments

Investment objective:

The Building Wealth Bond Index Fund seeks to track the performance of the Building Wealth Bond Index, an index that measures the returns of many bonds issued by sovereign entities, municipalities and corporations.

Ticker symbol: BWBIF

Inception date: July 25, 1975

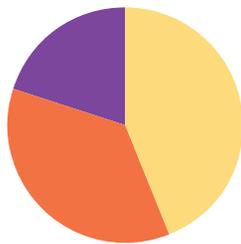
Standard deviation: 6.9%

Maximum one-year return: 32.60%

Minimum one-year return: -2.92%

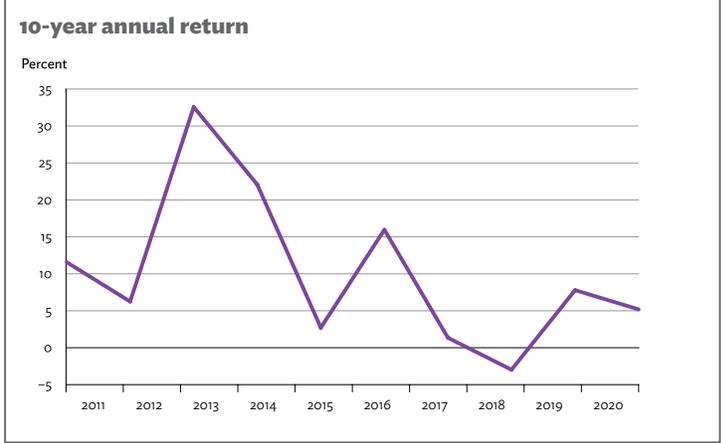
Average lifetime return: 8.51%

Portfolio breakdown



- Sovereign debt
- Corporate debt
- Municipal debt

Building Wealth Bond Index Fund

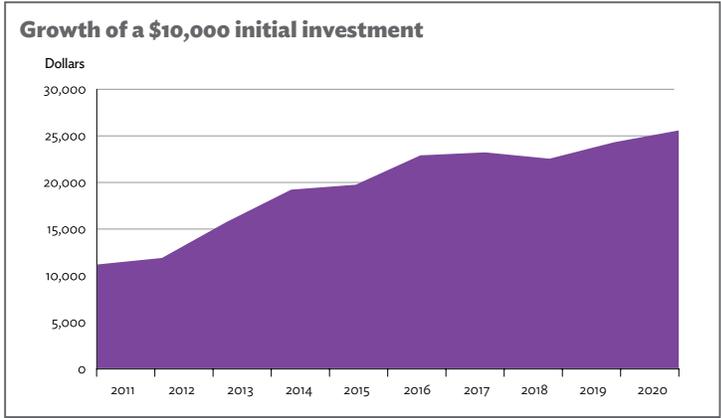


Average annual total returns (percent)

	1 Yr	3 Yrs	5 Yrs	10 Yrs
	5.24	3.39	5.51	10.30

Average annual total returns (percent)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
2011	11.63	6.30	32.60	22.11	2.76	16.00	1.40	-2.92	7.84	5.24
2001	9.65	-0.82	6.54	7.89	4.10	8.40	1.90	15.26	4.34	7.40





Lesson 7—Handout 3

Building a Portfolio with Building Wealth Funds (cont.)

Building Wealth Investments

Investment objective:

The Building Wealth Bond International Index Fund seeks to track the performance of the Building Wealth International Index, an index that measures the returns of large companies traded on exchanges located outside of the Building Wealth domestic market.

Ticker symbol: BWIIF

Inception date: April 8, 1979

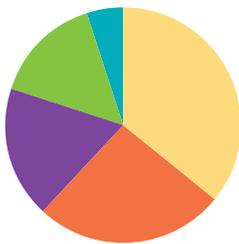
Standard deviation: 22.84%

Maximum one-year return: 69.46%

Minimum one-year return: -43.38%

Average lifetime return: 11.14%

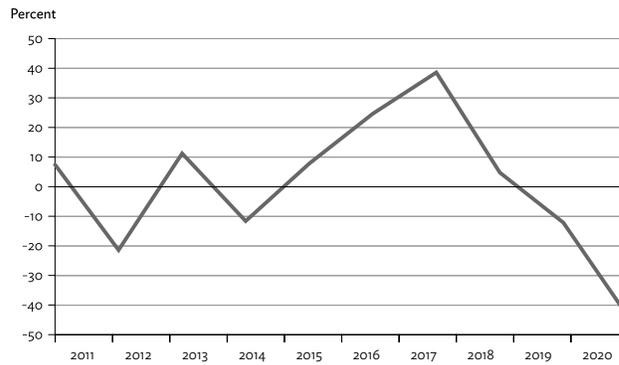
Portfolio breakdown



- Europe
- Asia
- Australia
- South America
- Africa

Building Wealth International Index Fund

10-year annual return



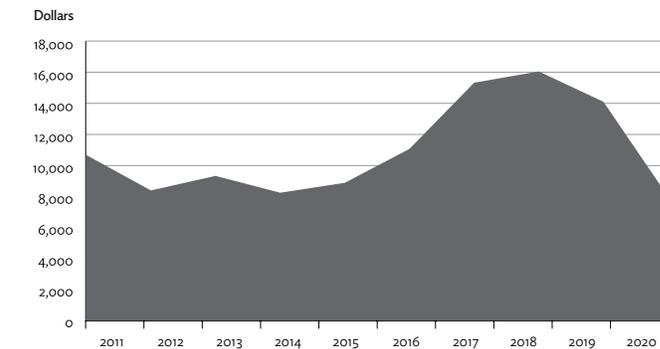
Average annual total returns (percent)

1 Yr	3 Yrs	5 Yrs	10 Yrs
-43.38	-16.94	2.48	0.06

Average annual total returns (percent)

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
7.41	-21.44	11.21	-11.66	7.78	24.64	38.59	4.75	-12.18	-43.38
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
-2.27	12.14	-15.94	11.17	29.59	-14.82	35.39	69.46	31.78	36.35

Growth of a \$10,000 initial investment





Lesson 7—Assessment 1

Investment Role-Play

Role-play scenario

You will assume the role of a certified financial planner working for Building Wealth Investment Corp. As an investment adviser, you advise your clients on retirement and investment planning, which can include asset selection, allocation and diversification. Next week, you have a meeting scheduled with two of your clients, Reyna and Martin. During this meeting, you will present recommendations for adjusting their retirement portfolios to meet their retirement goals and risk profile.

Instructions

- Review your clients’ needs and risk tolerance.
- Pick either Reyna or Martin and prepare a presentation for adjusting the client’s investment portfolio.
- Use Handout 3: Building a Portfolio with Building Wealth Funds to balance the risk and return to meet your client’s goals.
- Use the template starting on the second page of Assessment 1 to outline and prepare your presentation.

Reyna, 45

Years to retirement: 20

Risk tolerance: Moderate—balanced investments between risky and safe.

Investment goals: Reyna began saving for retirement in her late 30s. She would like to retire by the age of 65. However, she is not on track to reach that goal given the current projected growth of her investment portfolio. Reyna is willing to take more risk in the market to meet her goals. Develop a plan to adjust the allocation of Reyna’s investment portfolio to meet her needs and risk tolerance. Below is the current allocation of her investment portfolio.

BWLCF 5% **BWMCF** 5% **BWSCF** 5%
BWIIF 70% **BWBIF** 15%

Martin, 62

Years to retirement: 3

Risk tolerance: Conservative—prioritize avoiding losses above making gains.

Investment goals: Martin has enough money set aside to retire by the age of 65. However, he is concerned about fluctuations in the market during the next three years and how those fluctuations might affect his money saved for retirement. Develop a plan to adjust the allocation of Martin’s investment portfolio to meet his needs and risk tolerance. Below is the current allocation of his investment portfolio.

BWLCF 25% **BWMCF** 25% **BWSCF** 5%
BWIIF 10% **BWBIF** 35%



Lesson 7—Assessment 1

Investment Role-Play (cont.)

Instructions

Follow the steps below to create a script for your role-play presentation.

1. Review the scenario that includes the purpose of the meeting and your client's investment goal and risk tolerance.
2. Review how your client's investment portfolio is currently allocated.
3. Explain the portfolio breakdown and performance of each Building Wealth fund.

