Risk and Diversity

SUBMITTED BY: Michael Moore, University of Pennsylvania

SUBJECT(S): Personal Finance

GRADE LEVEL(S): 9, 10, 11, 12

OVERVIEW:

In this lesson, students will continue the conversation about investment and risk. In particular, students will think carefully about how risk applies to different investment opportunities. This lesson uses the Knowledge@Wharton article "Risky Business: Private Equity in China" to introduce students to concepts of investment risk in practice. The lesson ends with a game about investment risk and an introduction to portfolio management.

NBEA STANDARD(S):

- Personal Finance, IV. Saving and Investing
- Personal Finance, VIII. Protecting Against Risk

RELATED ARTICLES:

- "Why Investors Diversify: Spreading Your Wealth Across Assets, Industries and Countries"
- "Understanding Risk and Return: The Roller Coaster Ride of Investing"
- "Strengths, Weaknesses, Opportunities, Threats: The SWOT Analysis"
- "Portfolio Management: Making Decisions about Your Investments"
- "Financial Ratios: Evaluating a Company's Health and Worth"

Common Core Standard(s): S-IC, S-MD

Objectives/Purposes: The purpose of this lesson is to provide students with a deeper understanding of risk. Following this lesson, students should be able to explain the difference between high risk and low risk investments. Moreover, students should think critically about the relationship between risk and return.

Knowledge@Wharton Article: **"**Risky Business: Private Equity in China"

Wharton Global Youth Program Video Clip: What Is Risk?: In this brief video clip, Aberdeen Standard Investments' Paul Atkinson defines risk for WGYP managing editor, Diana Drake.

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Tying It All Together:

The lesson is divided into five parts: (1) Introduction, (2) Risk Continued, (3) Guided Reading, (4) Diversify, and finally (5) Closing

1. Introduction (5 mins)

This lesson builds off of material in the previous lesson, "What's an Investment." Prior to starting this lesson, students should have a working definition of the terms *investment* and *risk*, and how those terms relate to one another.

Open the lesson by asking students to recall the definition of investment. If possible, write the definition up on a chalkboard or dry-erase board. An investment has two key parts: 1) giving up something in the present, and 2) *potentially* gaining something in the future. As a warm-up exercise, put a list of different investments on the board (e.g. a new house, stocks, going to college, a lottery ticket). With each example, have students explain how the example fits the definition.

2. Risk Continued (10-15 mins)

The remainder of this lesson revolves around issues of risk and risk management. Throughout the lesson, we will be encouraging students to recognize that future payoffs are never guaranteed.

Remind students of the previous day's discussion of *risk.* Use the examples on the chalkboard to prompt discussion. Which of these different investments are more risky? How do you know? Again, encourage students to begin creating their own working definition of "risk". If we define an investment as a present sacrifice for a future payoff — where does risk come into the picture? Generally speaking, we can define risk as *the potential for loss.* With this definition in mind, have students work through the examples yet again. What is the potential for loss in each case? (e.g. The potential loss for investing in a savings account? The potential loss for investing in the stock market? The potential loss for investing in college?)

3. Guided Reading (5-10 mins)

Once students grasp the general definition of investing, have the class read through the article "Risky Business: Private Equity in China." Because this article is fairly long, the teacher might need to summarize where appropriate. In general, the point of this exercise is for students to think about risky investments in a practical business setting. The article explains that investing in Chinese companies can be risky because of certain cultural and legal realities. For example, Chinese courts are not always predictable, and it is difficult to work with companies unless one has existing relationships. Why might this make investing in Chinese private equity more risky than other investments? Why might this make investing in Chinese private equity *have a greater potential for losses*?

In general, teachers should steer the discussion towards the issue of uncertainty. The article suggests that investments become risky when we are more uncertain about the outcome. For example, if we are uncertain how Chinese courts might rule, or uncertain about how other firms will work with us, then there is more risk. Greater uncertainty leads to a greater probability of losses.

4. Diversify (10-15 mins)

The remainder of class time will be dedicated to a risk-themed investment game. For this game, the teacher will need a pair of dice and several "tokens." (Use coins, buttons or paper strips as "tokens"). Here is the game printed on a separate Worksheet, if needed.

Give each student 10 tokens. Next, put three different "investments" on the chalkboard or dry-erase board.

Investment 1

You will win one token each time the total of the dice adds up to an even number. You will lose one token if the dice add up to an odd number.

Investment 2

You will win 10 tokens each time the dice land on two of the same number. You will lose a token if the dice do not both land on the same number.

Investment 3

You will win 2 tokens each time both die land on the number 1. You will lose a token if the dice land in any other combination.

Investment 4

You will win 30 tokens each time the dice lands on double sixes. You will lose a token if the dice land in any other combination.

Throughout this game, students can use tokens to buy different investments. After students buy their investments, the teacher will roll the dice. Based on the outcome of the dice, students will earn different returns (or losses) on their investments.

After playing the game for 5-10 rounds, ask students to think about which of the four investments have the most *risk*.

Next, have the students think about how risk is related to reward. Would you make a risky investment if the reward were low? Why or why not? Did anyone invest in Investment 3 (high risk, low reward)?

5. Closing (5 mins)

Introduce students to the idea of risk management. Is it wrong to invest in a risky investment? Why or why not? How might you manage risky investments? Next lesson students will think more closely about risk assessment in terms of portfolio management and investment life cycles.

Practice Outside of the Classroom:

Outside of the classroom, ask students to look up their local lottery. How much does a ticket cost? How much could you win? Ask students to think about two related questions. 1) How risky is the lottery? 2) Is the lottery a good investment?