

The purpose of this game is to illustrate the connection between risk and return, and to show that there is a degree of luck and skill involved in investing money.

Objective: To have the most money at the end of 10 rounds.

The following categories are available for investments, at beginning prices:

\$10 Stocks
\$50 Mutual Fund
\$10 Bonds
\$20 Foreign Currency
\$100 Real Estate
\$1 Derivative Put Fund (option to buy)
\$1 Derivative Call Fund (option to sell)
\$0-\$200 Savings Account (2%)

Game Procedure:

Each student begins with \$200 in cash. At the beginning of the game, each student will decide how to invest their portfolio. All \$200 must be accounted for. Prices for investments in stocks, mutual funds, bonds, foreign currency and real estate will change over the course of the game.

The game will progress in ten rounds. Each round will consist of 5 phases:

Phase 1: Up or Down Market (coin flip)
Phase 2: Random tick for stocks, bonds, mutual funds, foreign currency and real estate (three-sided dice).
Phase 3: Calculation of individual gains or losses (after inputting data in spreadsheet).
Phase 4: Taxes will be collected on profits (this must also be entered in the spreadsheet).
Phase 5: Asset allocation (students may buy derivatives, and sell and buy investments).

In terms of risk, investments will have the following multiplier effects:

Stocks:	3
Mutual Fund:	2
Foreign Currency:	1.5
Bond:	variable
Real Estate:	.7
Savings:	0

Game Procedures

Each round, the random tick will determine a percentage change, between 0 and 3, up or down. The player will enter this information in the spreadsheet.

The investments will be multiplied by the percent change, and increased or reduced by that amount. For example, a 2% random tick upward will result in an increase of 6% (2x3) in stock values, but an increase of only 1.4% (2x.7) in Real Estate.

Puts and Calls (derivatives) will be exercised after one round and will expire after one round. An expired put or call has a value of 0.

In order to enter a put value (option to buy), a student must have enough money in their savings to exercise the put.

In order to enter a call value (option to sell), a student should have at least as many stocks as the call value—otherwise the extra money will be wasted.

The spreadsheet will use gross profit to calculate any tax based on a percentage, and enter it into the spreadsheet.

Tax Table:

Your tax if your profits are at least:

0	10	20	30	40	50	75	100	200
0	10%	15%	20%	30%	40%	45%	50%	70%

After each round, the students will examine their portfolio and choose to reallocate their investments to suit their desired risk-return combination. The portfolio total (see running total on the spreadsheet) must be equal to the ending balance from the last round.

Risk and Return Game Name _____

Record Sheet

Setup

<i>Quantity</i>	<i>Asset</i>	<i>Value</i>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____

Beginning Net Worth (should equal \$200) _____

Round 1

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<i>Quantity</i>	<i>Asset</i>	<i>Value</i>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____

Beginning Net Worth (should equal previous net worth after taxes) _____

Round 2

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<u>Quantity</u>	<u>Asset</u>	<u>Value</u>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____

Beginning Net Worth (should equal previous net worth after taxes) _____

Round 3

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<u>Quantity</u>	<u>Asset</u>	<u>Value</u>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____

Beginning Net Worth (should equal previous net worth after taxes) _____

Round 4

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<u>Quantity</u>	<u>Asset</u>	<u>Value</u>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____
Beginning	Net Worth (should equal previous net worth after taxes)	_____

Round 5

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<u>Quantity</u>	<u>Asset</u>	<u>Value</u>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____
Beginning	Net Worth (should equal previous net worth after taxes)	_____

Round 6

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<i>Quantity</i>	<i>Asset</i>	<i>Value</i>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____
Beginning	Net Worth (should equal previous net worth after taxes)	_____

Round 7

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<i>Quantity</i>	<i>Asset</i>	<i>Value</i>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____
Beginning	Net Worth (should equal previous net worth after taxes)	_____

Round 8

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<u>Quantity</u>	<u>Asset</u>	<u>Value</u>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____
Beginning	Net Worth (should equal previous net worth after taxes)	_____

Round 9

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Reallocate

<u>Quantity</u>	<u>Asset</u>	<u>Value</u>
_____	Stocks	_____
_____	Mutual Fund	_____
_____	Foreign Currency	_____
_____	Bonds	_____
_____	Real Estate	_____
_____	Derivative Put Fund (option to buy)	_____
_____	Derivative Call Fund (option to sell)	_____
_____	Savings Account (2% Fixed)	_____
Beginning	Net Worth (should equal previous net worth after taxes)	_____

Round 10

Market Direction: UP or DOWN (circle one)

Random Tick: 1 2 3 ____ (circle one)

Gross Profit: _____

Taxes: _____

Net Worth after Taxes: _____

Percent Return for the game _____