

Chapter 2—Fundamental Economic Concepts

MULTIPLE CHOICE

1. A change in the level of an economic activity is desirable and should be undertaken as long as the marginal benefits exceed the ____.
- a. marginal returns
 - b. total costs
 - c. marginal costs
 - d. average costs
 - e. average benefits

ANS: C PTS: 1

2. The level of an economic activity should be increased to the point where the ____ is zero.
- a. marginal cost
 - b. average cost
 - c. net marginal cost
 - d. net marginal benefit
 - e. none of the above

ANS: D PTS: 1

3. The net present value of an investment represents
- a. an index of the desirability of the investment
 - b. the expected contribution of that investment to the goal of shareholder wealth maximization
 - c. the rate of return expected from the investment
 - d. a and b only
 - e. a and c only

ANS: B PTS: 1

4. Generally, investors expect that projects with high expected net present values also will be projects with
- a. low risk
 - b. high risk
 - c. certain cash flows
 - d. short lives
 - e. none of the above

ANS: B PTS: 1

5. An closest example of a risk-free security is
- a. General Motors bonds
 - b. AT&T commercial paper
 - c. U.S. Government Treasury bills
 - d. San Francisco municipal bonds
 - e. an I.O.U. that your cousin promises to pay you \$100 in 3 months

ANS: C PTS: 1

Test Bank Chapter 2

6. The standard deviation is appropriate to compare the risk between two investments only if
- the expected returns from the investments are approximately equal
 - the investments have similar life spans
 - objective estimates of each possible outcome is available
 - the coefficient of variation is equal to 1.0
 - none of the above

ANS: A PTS: 1

7. The approximate probability of a value occurring that is greater than one standard deviation from the mean is approximately (assuming a normal distribution)
- 68.26%
 - 2.28%
 - 34%
 - 15.87%
 - none of the above

ANS: D PTS: 1

8. Based on risk-return tradeoffs observable in the financial marketplace, which of the following securities would you expect to offer higher expected returns than corporate bonds?
- U.S. Government bonds
 - municipal bonds
 - common stock
 - commercial paper
 - none of the above

ANS: C PTS: 1

9. The primary difference(s) between the standard deviation and the coefficient of variation as measures of risk are:
- the coefficient of variation is easier to compute
 - the standard deviation is a measure of relative risk whereas the coefficient of variation is a measure of absolute risk
 - the coefficient of variation is a measure of relative risk whereas the standard deviation is a measure of absolute risk
 - the standard deviation is rarely used in practice whereas the coefficient of variation is widely used
 - c and d

ANS: C PTS: 1

10. The ____ is the ratio of ____ to the ____.
- standard deviation; covariance; expected value
 - coefficient of variation; expected value; standard deviation
 - correlation coefficient; standard deviation; expected value
 - coefficient of variation; standard deviation; expected value
 - none of the above

ANS: D PTS: 1

Test Bank Chapter 2

11. Sources of positive net present value projects include
- buyer preferences for established brand names
 - economies of large-scale production and distribution
 - patent control of superior product designs or production techniques
 - a and b only
 - a, b, and c

ANS: E PTS: 1

12. Receiving \$100 at the end of the next three years is worth more to me than receiving \$260 right now, when my required interest rate is 10%.
- True
 - False

ANS: B PTS: 1

13. The number of standard deviations z that a particular value of r is from the mean \bar{r} can be computed as $z = (r - \bar{r}) / \sigma$. Suppose that you work as a commission-only insurance agent earning \$1,000 per week on average. Suppose that your standard deviation of weekly earnings is \$500. What is the probability that you zero in a week? Use the following brief z -table to help with this problem.

<u>Z value</u>	<u>Probability</u>
-3	.0013
-2	.0228
-1	.1587
0	.5000

- 1.3% chance of earning nothing in a week
- 2.28% chance of earning nothing in a week
- 15.87% chance of earning nothing in a week
- 50% chance of earning nothing in a week
- none of the above

ANS: B PTS: 1

14. Consider an investment with the following payoffs and probabilities:

<u>State of the Economy</u>	<u>Probability</u>	<u>Return</u>
Stability	.50	1,000
Good Growth	.50	2,000

Determine the *expected return* for this investment.

- 1,300
- 1,500
- 1,700
- 2,000
- 3,000

ANS: B PTS: 1

Test Bank Chapter 2

15. Consider an investment with the following payoffs and probabilities:

<u>State of the Economy</u>	<u>Probability</u>	<u>Return</u>
GDP grows slowly	.70	1,000
GDP grow fast	.30	2,000

Let the expected value in this example be 1,300. How do we find the standard deviation of the investment?

- $\sigma = \sqrt{\{ (1000-1300)^2 + (2000-1300)^2 \}}$
- $\sigma = \sqrt{\{ (1000-1300) + (2000-1300) \}}$
- $\sigma = \sqrt{\{ (.5)(1000-1300)^2 + (.5)(2000-1300)^2 \}}$
- $\sigma = \sqrt{\{ (.7)(1000-1300) + (.3)(2000-1300) \}}$
- $\sigma = \sqrt{\{ (.7)(1000-1300)^2 + (.3)(2000-1300)^2 \}}$

ANS: E

PTS: 1

16. An investment advisor plans a portfolio your 85 year old risk-averse grandmother. Her portfolio currently consists of 60% bonds and 40% blue chip stocks. This portfolio is estimated to have an expected return of **6%** and with a standard deviation **12%**. What is the probability that she makes less than 0% in a year? [A portion of Appendix B1 is given below, where $z = (x - \mu)/\sigma$, with μ as the mean and σ as the standard deviation.]

- 2.28%
- 6.68%
- 15.87%
- 30.85%
- 50%

Table B1 for Z

<u>Z</u>	<u>Prob.</u>
-3	.0013
-2.5	.0062
-2.	.0228
-1.5	.0668
-1	.1587
-.5	..3085
0	.5000

ANS: D

PTS: 1

17. Two investments have the following expected returns (net present values) and standard deviations:

<u>PROJECT</u>	<u>Expected Value</u>	<u>Standard Deviation</u>
Q	\$100,000	\$20,000
X	\$50,000	\$16,000

Based on the Coefficient of Variation, where the C.V. is the standard deviation dividend by the expected value.

- All coefficients of variation are always the same.
- Project Q is riskier than Project X
- Project X is riskier than Project Q
- Both projects have the same relative risk profile
- There is not enough information to find the coefficient of variation.

ANS: C

PTS: 1

PROBLEMS

1. Suppose that the firm's cost function is given in the following schedule (where Q is the level of output):

Output Q (units)	Total Cost
0	7
1	25
2	37
3	45
4	50
5	53
6	58
7	66
8	78
9	96
10	124

Determine the (a) marginal cost and (b) average total cost schedules

ANS:

Output	Total Cost	(a) Marginal Cost	(b) Average Total Cost
Q		$\frac{\Delta(TC)}{\Delta Q}$	$\frac{TC}{Q}$
0	7	--	--
1	25	18	25.00
2	37	12	18.50
3	45	8	15.00
4	50	5	12.50
5	53	3	10.60
6	58	5	9.67
7	66	8	9.43
8	78	12	9.75
9	96	18	10.67
10	124	28	12.40

PTS: 1

2. Complete the following table.

Output	Total Profit	Marginal Profit	Average Profit
0	-48	0	
1	-26		
2	-8		
3	6		
4	16		
5	22		
6	24		
7	22		
8	16		
9	6		
10	-8		

ANS:

Output	Total Profit	Marginal Profit	Average Profit
0	-48	0	---
1	-26	22	-26.
2	-8	18	-4.
3	6	14	2.
4	16	10	4.
5	22	6	4.40
6	24	2	4.
7	22	-2	3.14
8	16	-6	2.
9	6	-10	0.67
10	-8	-14	-0.80

PTS: 1

3. A firm has decided to invest in a piece of land. Management has estimated that the land can be sold in 5 years for the following possible prices:

Price	Probability
10,000	.20
15,000	.30
20,000	.40
25,000	.10

Test Bank Chapter 2

- (a) Determine the expected selling price for the land.
- (b) Determine the standard deviation of the possible sales prices.
- (c) Determine the coefficient of variation.

ANS:

(a)

$$\begin{aligned}\bar{r} &= \sum_{j=1}^n r_j P_j \\ &= 10,000(.20) + 15,000(.30) + 20,000(.40) + 25,000(.10) \\ &= \$17,000\end{aligned}$$

(b)

$$\begin{aligned}\sigma &= \left[\sum_{j=1}^n (r_j - \bar{r})^2 P_j \right]^{.5} \\ &= [(10,000 - 17,000)^2(.20) + (15,000 - 17,000)^2(.30) + (20,000 - 17,000)^2(.40) \\ &\quad + (25,000 - 17,000)^2(.10)]^{.5} \\ &= [21,000,000]^{.5} \\ &= \$4583\end{aligned}$$

(c) $v = \sigma / \bar{r}$

$$\begin{aligned}&= \frac{4583}{17,000} \\ &= 0.270\end{aligned}$$

PTS: 1