

## Unit 10 - Week 7: Non-Mean-Variance Portfolio Theory- III

Course outline
How does an NPTEL online course work?
MATLAB
Week 0: Prerequisite
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Week 2: Basics of Financial Markets
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<input type="radio"/> Lec 1: Semi-variance framework <input type="radio"/> Lec 2: Stochastic dominance; First order stochastic dominance <input type="radio"/> Lec 3: Second order stochastic dominance and Third order stochastic dominance <input checked="" type="radio"/> Quiz : Assignment 7 <input type="radio"/> Feedback form <input type="radio"/> Assignment Solution
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# Assignment 7

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

**Due on 2020-11-04, 23:59 IST.**

1) If the returns  $r_t$  are 10%, 8%, 7%, 12% and 11%, with  $h = 10\%$ , then the semi-variance of the returns (in percentage) equals :

**Hint**

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
(Type: Range) 2.58,2.62

1 point

2) In the context of the CML formula, which of the following holds true :

1 point

$\frac{\sigma_p}{\sigma_m} = \frac{\bar{\sigma}_p}{\bar{\sigma}_m}$

$\frac{\sigma_p}{\sigma_m} > \frac{\bar{\sigma}_p}{\bar{\sigma}_m}$

$\frac{\sigma_p^2}{\sigma_m^2} = \frac{\bar{\sigma}_p^2}{\bar{\sigma}_m^2}$

$\frac{\sigma_p}{\sigma_m} = \frac{\bar{\sigma}_p}{\bar{\sigma}_m}$

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
 $\frac{\sigma_p}{\sigma_m} = \frac{\bar{\sigma}_p}{\bar{\sigma}_m}$

3) Consider an asset  $a_i$ , with  $\beta_i = 0.8$  and  $\bar{\beta}_i = 0.6$ , with  $E(r_m) = 8\%$  and  $r_f = 4\%$ .  
If  $ER$  and  $ER_i$  are the excess return over the riskfree rate, in the usual CML and semi-variance CML, respectively, then  $ER - ER_i$  (in percentage) equals :

**Hint**

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
(Type: Range) 0.78,0.82

1 point

4)

1 point

Consider two assets  $A$  and  $B$ , with

Return on $A$	Probability of return on $A$	Return on $B$	Probability of return on $B$
5	$\frac{1}{3}$	4	$\frac{1}{3}$
6	$\frac{1}{3}$	6	$\frac{1}{3}$
8	$\frac{1}{3}$	7	$\frac{1}{3}$

If  $r_A$  and  $r_B$  denote the return of assets  $A$  and  $B$ , respectively, then  $P(r_A \leq 6) - P(r_B \leq 6)$  equals:

- $\frac{1}{3}$
- $-\frac{1}{3}$
- 0
- $\frac{2}{3}$

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
0

1 point

5) Consider the Table in Question Number 4. Which of the following is TRUE :

- $B$  dominates  $A$  in FSD
- $A$  dominates  $B$  in FSD
- No clear dominance in FSD

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
 $A$  dominates  $B$  in FSD

1 point

6) Which of the following conditions is/are applicable to SSD, but not to FSD, if  $A$  dominates  $B$ .

- $U'(r) > 0$
- $U''(r) < 0$
- $\int_a^r [F_A(x) - F_B(x)] dx \leq 0$  for all  $r \in [a, b]$
- $\int_a^r [E_A(x) - E_B(x)] dx \leq 0$  for all  $r \in [a, b]$ , with strict inequality holding for atleast one value of  $r \in [a, b]$

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
 $U''(r) < 0$

$\int_a^r [F_A(x) - F_B(x)] dx \leq 0$  for all  $r \in [a, b]$ , with strict inequality holding for atleast one value of  $r \in [a, b]$

1 point

7)

Consider two assets  $A$  and  $B$ , with

Return on $A$	Probability of return on $A$	Return on $B$	Probability of return on $B$
5	$\frac{1}{2}$	4	$\frac{1}{2}$
6	$\frac{1}{3}$	6	$\frac{1}{3}$
7	$\frac{1}{3}$	8	$\frac{1}{3}$

Then state whether the following statement is TRUE or FALSE:

Asset  $B$  dominates  $A$  in SSD.

- TRUE
- FALSE

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
FALSE

1 point

8) State whether the following statement is TRUE or FALSE :

TSD can be applied in case of  $U(r) = -e^{-3r}$ .

- TRUE
- FALSE

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
TRUE