

# PORTFOLIO MANAGEMENT

## CLASS 16

### CLASS WORK COVERAGE

To streamline our learning process, I've categorized the questions we'll tackle in class into four distinct groups:

1. **Classic:** *These questions are exactly as presented in your book, providing a familiar foundation.*
2. **Transformed:** *Here, we've converted book questions into multiple-choice format to enhance your analytical skills.*
3. **Adapted:** *These are similar to book questions but with altered numbers or names, presented as multiple-choice questions for varied practice.*
4. **Original:** *These are entirely new questions not found in your book, designed to challenge and expand your understanding.*

*This structure will help us navigate through a range of problems, ensuring a comprehensive grasp of the material. Looking forward to our next session!*

<b>Q. No.</b>	<b>Type</b>	<b>Book</b>	<b>Page No.</b>
55	<b>Classic</b>	CW Q BOOK	66
56	<b>Classic</b>	CW Q BOOK	66

**PART VI: PORTFOLIO REBALANCING****Topic 22 PORTFOLIO REBALANCING****Question 55: SSEI Book Page No. 66**

Indira has a fund of ₹ 3 lacs which she wants to invest in share market with rebalancing target after every 10 days to start with for a period of one month from now. The present NIFTY is 5326. The minimum NIFTY within a month can at most be 4793.4. She wants to know as to how she should rebalance her portfolio under the following situations, according to the theory of Constant Proportion Portfolio Insurance Policy, using "2" as the multiplier:

1. Immediately to start with.
2. 10 days later-being the 1st day of rebalancing if NIFTY falls to 5122.96.
3. 10 days further from the above date if the NIFTY touches 5539.04.

For the sake of simplicity, assume that the value of her equity component will change in tandem with that of the NIFTY and the risk free securities in which she is going to invest will have no Beta.

**(Source: ICAI)**

**ANSWER:**

$$\text{Maximum decline in one month} = \frac{5326 - 4793.40}{5326} \times 100 = 10\%$$

**i. Immediately to start with**

$$\begin{aligned} \text{Investment in equity} &= \text{Multiplier} \times (\text{Portfolio value} - \text{Floor value}) \\ &= 2 (3,00,000 - 2,70,000) = ₹ 60,000 \end{aligned}$$

Indira may invest ₹ 60,000 in equity and balance in risk free securities.

**ii. After 10 days**

Value of equity = $60,000 \times 5122.96/5326$	₹ 57,713
Value of risk free investment	₹ 2,40,000
<b>Total value of portfolio</b>	<b>₹ 2,97,713</b>
Investment in equity = $\text{Multiplier} \times (\text{Portfolio value} - \text{Floor value})$ $= 2 (2,97,713 - 2,70,000)$	₹ 55,426
<b>Revised Portfolio</b>	
Equity	₹ 55,426
Risk free Securities = ₹ 2,97,713 – ₹ 55,426	₹ 2,42,287

**iii. After another 10 days**

Value of equity = $55,426 \times 5539.04/5122.96$	₹ 59,928
Value of risk free investment	₹ 2,42,287
<b>Total value of portfolio</b>	<b>₹ 3,02,215</b>
Investment in equity = $\text{Multiplier} \times (\text{Portfolio value} - \text{Floor value})$ $= 2 (3,02,215 - 2,70,000)$	₹ 64,430
<b>Revised Portfolio</b>	
Equity	₹ 64,430
Risk Free Securities = ₹ 3,02,215 – ₹ 64,430	₹ 2,37,785

The investor should off-load ₹ 4502 of risk free securities and divert to Equity

**Question 56: SSEI Book Page No. 66**

Ms. Sunidhi is working with an MNC at Mumbai. She is well versant with the portfolio management techniques and wants to test one of the techniques on an equity fund she has constructed and compare the gains and losses from the technique with those from a passive buy and hold strategy. The fund consists of equities only and the ending NAVs of the fund he constructed for the last 8 months are given below:

Month Ending	NAV (₹/unit)	Month Ending	NAV (₹/unit)
December 2018	40.00	April 2019	38.00
January 2019	25.00	May 2019	37.00
February 2019	36.00	June 2019	42.00
March 2019	32.00	July 2019	43.00

Assume Sunidhi has an amount of ₹ 20 lakhs for investment and she has invested equally in the equity fund and a conservative portfolio (of bonds) in the beginning of December 2018 and the total portfolio was being rebalanced each time the NAV of the fund increased or decreased by 15%.

You are required to determine the value of the portfolio for each level of NAV following the Constant Ratio Plan.

Note: Rounded off number of units upto 2 decimal points only.

**(Source: ICAI)**

**ANSWER:**

**Constant Ratio Plan:**

Stock Portfolio NAV (₹)	Value of Conservative Portfolio (₹)	Value of aggressive Portfolio (₹)	Total value of Constant Ratio Plan (₹)	Revaluation Action	Total No. of units in aggressive portfolio
40.00	10,00,000	10,00,000	20,00,000	-	25000
25.00	10,00,000	6,25,000	16,25,000	-	25000
	8,12,500	8,12,500	16,25,000	Buy 7500 units	32500
36.00	8,12,500	11,70,000	19,82,500	-	32500
	9,91,250	9,91,250	19,82,500	Sell 4965.28 units	27534.72
32.00	9,91,250	8,81,111.04	18,72,361.04	-	27534.72
38.00	9,91,250	10,46,319.36	20,37,569.36	-	27534.72
	10,18,784.68	10,18,784.68	20,37,569.36	Sell 724.60 units	26810.12
37.00	10,18,784.68	9,91,974.44	20,10,759.12	-	26810.12
42.00	10,18,784.68	11,26,025.04	21,44,809.72	-	26810.12
43.00	10,18,784.68	11,52,835.16	21,71,619.84	-	26810.12

Hence, the ending value of the mechanical strategy is ₹ 21,71,619.84 and buy & hold strategy is ₹ 21,50,000.